AL KUT JOURNAL OF ECONOMIC AND ADMINISTRATIVE SCIENCES
Publisher: College of Economics and Management - Wasit University

The effect of Quality Circles in Enhancing Organizational Reputation: The Mediating Role of Organizational Commitment

An Applied Study on the General Company for Hydraulic Industries in Baghdad

Mohammed Thaer Ali ALBayati

Mustansiriyah University/ College of Science, Iraq

mohammedalbayati@uomustansiriyah.edu.iq

Abstract:

Quality circles play a pivotal role in enhancing organizational reputation by improving internal performance, increasing employee commitment, and fostering a culture of quality and continuous development. To validate this, the study aimed to measure the impact of implementing quality circles on the level of organizational reputation at the General Company for Hydraulic Industries in Baghdad, considering organizational commitment as a mediating variable in the relationship between the two variables. The research problem was embodied in the following main question: “Is there an effect of quality circles in enhancing the organizational reputation of the organization under study through the mediating role of organizational commitment?” To achieve this, the study employed a questionnaire as the primary data collection tool, distributed among all managerial levels within the company, totaling 150 managers. The final sample consisted of 123 respondents, representing 82% of the study population. Utilizing various statistical methods, the study found that the actual level of the study variables was relatively high from the respondents' perspective. Furthermore, the implementation of quality circles had a direct positive impact on the company's organizational reputation, in addition to an indirect positive effect through organizational commitment. Specifically, a one-unit increase in the implementation of quality circles led to a direct increase

of 0.358 in organizational reputation and an indirect increase of 0.450 through organizational commitment. Consequently, the total impact of quality circles on organizational reputation amounted to 0.529, combining both direct and indirect effects. Based on Baron & Kenny's approach, Zhao, Lynch & Chen's methodology, and the Sobel test, organizational commitment was found to play a partial mediating role in the relationship between quality circles and organizational reputation. The proportion of the effect of quality circles on organizational reputation through organizational commitment (the mediating variable) was 0.557. Moreover, the mediating effect of organizational commitment was approximately 1.259 times greater than the direct effect of quality circles on organizational reputation.

***Keywords*:** Quality Circles, Organizational Reputation, Organizational Commitment, Mediating Role.

1. The Introduction

Quality Circles were first introduced by Kaoru Ishikawa (1915–1989) and are also known as Quality Control Circles. They initially emerged in Japanese industries and later expanded into banking and retail sectors before being adopted worldwide (Blaga & Jozsef, 2014). Quality Circles are essential techniques referred to as "Quality Circles" in the United States and "Small Committees" in Japan. They represent a structured effort by employees to become aware of workplace challenges and devise appropriate solutions (Dilworth, 1998). The primary goal of Quality Circles is to provide employees with the necessary tools to control their personal performance, both individually and as part of a workgroup (TelSang, 2007).

In 1962, thanks to Kaoru Ishikawa and his experience gained from Deming and Juran, small groups comprising direct workers and supervisors were formed in organizations to explore ways to improve quality. These groups were later named "Quality Circles." Initially, in 1962, there were 400 members, and this number surged to 20,000 (Abdel Malik & Al-Qazzaz, 2002). The first company to adopt Quality Circles in Japan was Nippon Wireless & Telegraph (Shireen, 2014). This transformation led to a digital shift in markets and business operations, with media playing a crucial role for individuals and organizations alike (Berg & Blomqvist, 2019). The effectiveness of Quality Circles depends on having employees who are committed and loyal to their organization, a concept known in management as organizational commitment.

This commitment aligns employees' goals and needs with the organization's interests (Devece *et al*., 2016). Organizational commitment reflects an individual's identification with the organization's values and their willingness to work and remain within the organization.

Generally, employees who actively participate in their work tend to exhibit higher levels of organizational commitment, and vice versa (Li *et al*., 2017). Additionally, an organization's reputation and product reputation are among the most critical factors for its success (Araci, 2015). Reputation is a key element in gaining a competitive advantage and enhancing an organization's market position. Competitors often struggle to replicate the recognition and prestige associated with an established reputation (Carmeli & Cohen, 2001). A positive organizational reputation is achieved when a company meets consumer needs and desires, offers high-quality products at competitive prices, and utilizes honest promotional campaigns and efficient distribution channels (Ronald, 2020).

2. Research Problem, Objectives, and Significance

2.1 Research Problem

Since their inception, organizations have traditionally relied on top management to address and solve problems. Although this approach was effective in the past, it is no longer sufficient in today's competitive business environment (Syla & Rexhepi, 2013). Modern organizations face complex challenges that require more advanced problem-solving strategies. Consequently, many organizations have adopted Total Quality Management (TQM) techniques, including Quality Circles, to enhance performance and strengthen their organizational reputation. However, achieving this goal necessitates high levels of performance, which in turn requires strong organizational commitment. Based on this, the research problem is encapsulated in the following main question: **"Do Quality Circles contribute to enhancing the organizational reputation of the studied organization through the mediating role of organizational commitment?"**. This primary question is further broken down into the following sub-questions:

1. What is the level of Quality Circle implementation in the studied organization?
2. To what extent do employees exhibit organizational commitment in the studied organization?

3. What is the level of organizational reputation in the studied organization?
4. Does organizational commitment act as a partial or full mediator in the relationship between Quality Circles and organizational reputation?

2.2 Research Objectives

The study's objectives are aligned with the research questions and are as follows:

1. To assess the feasibility of implementing Quality Circles in the studied organization.
2. To determine the level of organizational commitment among employees in the studied organization.
3. To examine the nature of the relationships (correlation and impact) between the research variables and identify the indirect effect of the independent variable on the dependent variable through the mediating variable.
4. To derive conclusions and recommendations that can help the studied organization improve its performance and address its weaknesses.

2.3 Research Significance

The significance of this study stems from the following aspects:

1. **Research Variables:** The study focuses on Quality Circles, Organizational Commitment, and Organizational Reputation, which are modern management concepts that play a crucial role in the sustainability, growth, and success of organizations.
2. **Study Context:** The research is conducted in the General Company for Hydraulic Industries, a vital sector in the country that contributes to national income and economic development.
3. **Importance of Implementing Quality Circles:** Implementing Quality Circles enhances employee awareness, fosters a spirit of teamwork, and provides effective solutions to workplace challenges. This leads to improved efficiency and effectiveness while reducing the knowledge gap that the present study aims to address.

3. Theoretical Framework

3.1 Quality Circles

3.1.1 Concept of Quality Circles Approach

The Quality Circles approach is one of the scientific methods that contributes to providing proposed solutions to quality problems in an organization. This approach was first recognized and became widely known through its application in Japanese industry, followed by American and European industries (Al-Taie *et al*., 2009).

They have also been defined as a technique for increasing productivity and involving management in solving technical and non-technical problems that arise during work processes and formulating solutions (Shireen, 2014). Additionally, they are described as small groups of employees (10 or fewer) who voluntarily engage in tasks to improve the workplace within the organization's quality control program, increasing production, education, and self-development. The nature and role of these Quality Circles vary from one organization to another (Blaga & Jozsef, 2014). Similarly, Quality Circles are defined as a small group of employees in the same work area performing similar tasks, voluntarily meeting regularly for about an hour each week to identify, analyze, and solve work-related problems (Dasgupta, 2014).

Based on the above, the operational definition of Quality Circles in this research is: A group of employees working in the same field who voluntarily and periodically (weekly for one or two hours or more) discuss work-related problems, propose solutions, and submit them to management for approval after necessary modifications.

3.1.2 Characteristics of Quality Circles

These characteristics are defined as follows (Kalpana, 2013):

1. **Voluntary Group:** A voluntarily formed group of employees who join based on their personal choice.
2. **Circle Team Size:** The circle typically consists of 6–12 members, usually from the same work area.

3. **Regular Meetings:** Members meet periodically to discuss work problems, usually outside regular working hours, either once a week or every two weeks, with meeting times determined in consultation with the manager.

4. **Unique Agenda:** Each circle has its own agenda, expressions, and tools used to identify and select problems and make recommendations to improve work processes.

3.1.3 Steps to Establish Quality Circles

According to (Al-Darraka, 2008; Khairuddin & Husseini, 2011; Al-Tawil & Al-Sabawi, 2012), the fundamental steps for establishing Quality Circles, which will be adopted in this research, include:

1. **Planning for Quality Circles Implementation:** This step involves creating an appropriate organizational work environment, convincing employees of the importance of Quality Circles, and highlighting their positive impact on the organization. Employees should participate in conferences and seminars to familiarize themselves with this philosophy. Senior management support is crucial for the success of these circles, along with the belief that individuals are responsible for operational processes and problem-solving. The management should also monitor results and provide guidance.

2. **Executing the Quality Circles Plan:** Some organizations start with a pilot program comprising 3–8 circles, while others prefer initiating a single circle before expanding based on the results. During execution, facilitators should be trained to enhance their social and leadership skills, and circle members should develop their skills, organize meetings, and access necessary information for problem-solving and decision-making. Effective communication should also be ensured.

3. **Evaluating Quality Circles:** This involves assessing the efficiency of Quality Circle members in achieving their tasks by collecting, analyzing, and interpreting data. Evaluation has several advantages, such as allowing self-comparison for corrective actions, benchmarking against other circles in the organization, and assessing factors such as job satisfaction and organizational commitment.

3.1.4 Organizational Structure of Key Elements in Quality Circles

To achieve optimal efficiency and effectiveness, Quality Circles should be integrated within the organizational structure, though the exact structure may vary across organizations. However, the essential framework of Quality Circles consists of the following components (Al-Darraka & Al-Shibli, 2002; Alwan, 2005):

1. **Coordinator:** A member of the organization responsible for supervising all Quality Circles. Organizations implementing Quality Circles emphasize the coordinator's role in ensuring the program's success, as they are well-trained and knowledgeable employees.
2. **Leader:** Responsible for training circle members in problem-solving techniques using statistical methods, fostering teamwork, identifying problems requiring study, proposing appropriate solutions, and implementing them after obtaining management approval.
3. **Facilitator:** The selection of facilitators and circle leaders is crucial for the success of Quality Circles. They are directly responsible for directing weekly meetings and guiding discussions.
4. **Quality Circle Members:** These are employees (often from the production line) who are expected to attend all meetings, provide suggestions, participate actively in group processes, and undergo relevant training.

3.1.5 Mechanism of Quality Circles

The mechanism of Quality Circles consists of a series of sequential steps that must be followed to achieve their intended objectives (Vishal, 2009):

1. **Problem Identification:** Circle members identify problems to be addressed by preparing a problem list.
2. **Problem Selection:** Members prioritize the listed problems and select the most pressing issue.
3. **Problem Analysis:** The selected problem is classified and analyzed using fundamental problem-solving techniques such as brainstorming and Pareto analysis.
4. **Generating Alternative Solutions:** Identifying the causes of the problem helps in generating multiple alternative solutions.

5. **Choosing the Most Suitable Solution:** The best solution is selected from the proposed alternatives.

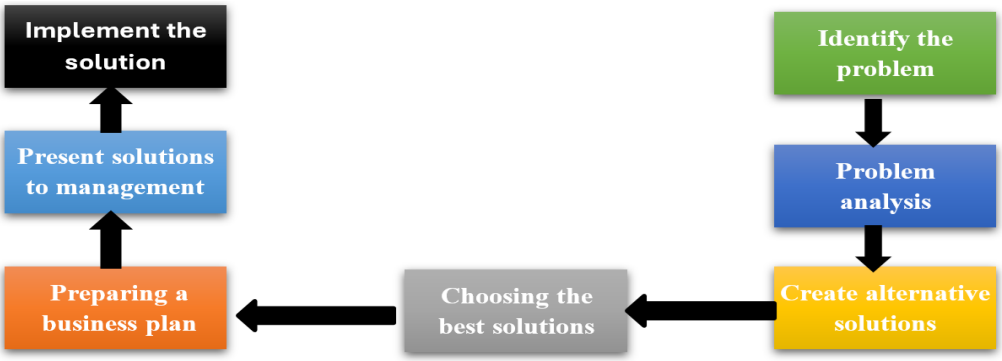
6. **Preparing an Action Plan:** Members develop a plan for implementing the chosen solution, specifying the scope and timeframe.

7. **Management Approval:** The best solution and action plan are submitted for management approval before implementation.

8. **Implementation and Follow-up:** Management evaluates the proposed solution before execution and may consider corrective actions if necessary.

The following diagram (Figure 1) illustrates the mechanism of Quality Circles.

Figure 1. Quality circles working mechanism



Source: Rohilla, S., & Chaudhary, R. (2016). Quality circle in organization and its implementation. *International Journal of Current Engineering and Technology, 6*(3), p888.

3.1.6. Methods Used in Quality Circles

Several methods are employed in studying and solving problems, as identified by (Tayel, 2012):

1. **Brainstorming:** A technique that relies on gathering the largest number of ideas from a group of individuals.

2. **Pareto Diagram:** Used to identify major recurring problems, based on the principle of the "vital few" versus the "trivial many."
3. **Scatter Diagram:** Demonstrates the causal relationship between two variables, where one represents the quality measure and the other its value.
4. **Control Charts:** A graphical tool used for decision-making regarding the production process by randomly sampling a batch of production after identifying a variable that represents product quality.
5. **Process Analysis:** Involves analyzing inputs, processes, and outputs to diagnose all issues affecting production and eliminate non-value-adding steps.
6. **Checklists:** Identify recurring causes of defects and damage.
7. **Histograms:** A tool for displaying data distribution, helping to determine the extent of variation in the production process based on the final shape of the distribution.
8. **Fishbone Diagram (Cause-and-Effect Diagram):** Used to identify problems and determine their causes, whether primary or secondary.

3.2 Organizational Commitment

3.2.1 Concept of Organizational Commitment

Interest in organizational commitment began in the mid-20th century and continues today. However, studies and research have struggled to provide a clear definition due to its overlap with other psychological and behavioral concepts. One of the earliest definitions was proposed by Becker (1960), who described it as the tendency of individuals in organizations to adopt behaviors that align with staying in the organization (Dahi & Mohamed, 2024).

Organizational commitment remains a widely studied topic, as researchers aim to better understand employee behavior and drive effective workplace changes. Its significance stems from its strong correlation with key organizational outcomes, such as increased employee effort, motivation, job satisfaction, reduced absenteeism, lower turnover rates, and higher

employee retention (Little, 2017). It is also described as the psychological attachment that binds individuals to their companies, influencing their decision to stay or leave (Serhan *et al*., 2022).

3.2.2 Importance of Organizational Commitment

According to Suharto *et al*. (2019), the importance of organizational commitment lies in the following points:

1. It serves as a key predictor of various behavioral aspects, particularly employee turnover; highly committed individuals tend to stay longer and work toward organizational goals.
2. Enhances cohesion among employees, fosters trust in the organization, and promotes organizational stability.
3. Increase productivity and performance levels.
4. Greater alignment between employees' values and organizational goals leads to higher morale.
5. Reduces conflicts between employees and management.

3.2.3 Dimensions of Organizational Commitment

According to the three-component commitment model by Allen & Meyer, there are three "mental states" that can characterize an employee's commitment to an organization (Wargborn, 2008):

1. **Affective Commitment:** is considered the strongest form of organizational commitment as it is based on intrinsic rather than extrinsic motivation. This type of commitment develops over time as a result of positive treatment by the organization. It grows when an individual becomes involved in perceiving the organization's value or derives their identity from it (Alrowwad, *et al*., 2020). Affective organizational commitment can be seen as a willingness to align with the organization, understand and accept its goals, and exert effort in this regard while remaining a part of the organization for a longer period (Pasha, 2022). In simple terms, affective commitment refers to an employee's emotional attachment to the organization they work for.
2. **Continuance Commitment:** refers to employees who are willing to continue working in the organization and feel that if they leave, they may lose more than they gain (Thakur, *et al*.,

2020). This type of commitment arises from employees' evaluation of the opportunities associated with staying in their organization compared to the costs of leaving and working elsewhere (Lima & Allida, 2021).

3. **Normative Commitment:** represents an employee's attachment to the organization based on the concept of a psychological contract, which consists of a set of unspoken mutual expectations between the employee and the organization. This relationship is described as an implicit contract between the individual and their organization, where both parties have expectations of each other. It is a sense of obligation that encourages individuals to continue working for their organization (Bouachouch & Lamrabet, 2022). Normative commitment is also considered a motivational process driven by the internalization of norms regarding loyalty to organizations and includes reciprocal benefits (Messner, 2017).

3.3 Organizational Reputation

3.3.1 Concept of Organizational Reputation

In today's highly competitive market, organizations must meet the expectations of multiple stakeholders. They compete with one another, which can impact their reputation. In this context, organizational reputation plays a crucial role, as stakeholders make decisions based on it. The selection of employees to work in an organization and investors' decisions to invest are all influenced by the organization's reputation. Given the importance of reputation as a strategic asset, organizations must carefully manage factors that shape it (Maguen, *et al*., 2020). Organizational reputation is a fundamental issue that requires explanation, clarification, and attention from all organizations, as it represents one of the organization's fragile and dynamic resources throughout its lifecycle. The organization's reputation reflects the sum of its investments in various capabilities and resources—whether material, human, financial, or informational—to develop and improve its performance to satisfy stakeholders (Carroll, 2015).

Organizational reputation can be defined as a reflection of a set of judgments, evaluations, and assessments made by relevant individuals, those interacting with and benefiting from the organization's services. In other words, it refers to how people generally evaluate the organization's performance, whether positively or negatively (Irfan, *et al*., 2020). Agarwal, *et al*. (2015) define organizational reputation as a stable, overall cognitive representation of past

organizational actions and future prospects in the minds of stakeholders, measured against certain standards. Similarly. (Awasthi, *et al*., 2023) define it as the consensus of perceptions, viewpoints, and opinions of both internal and external stakeholders regarding the organization.

3.3.2 Elements of Organizational Reputation

The elements of organizational reputation reflect essential aspects of an organization's performance and interactions with various stakeholders, as follows (Klaavu, 2009):

1. **Knowledge and Expertise:** Employees determine the success of an organization, and utilizing their skills is crucial.
2. **Emotional Connections:** Many organizations may be similar, but if stakeholders do not feel emotionally connected to the organization and its services, it loses its competitive advantage.
3. **Management, Vision, and Willingness:** High value is placed on organizations with strong vision and willingness to achieve goals. Organizations must not only have a vision but also be aware of it.
4. **Quality:** Organizations must continuously meet customer needs to maintain their reputation.
5. **Financial Credibility:** This is the most common method of evaluating an organization’s performance through strong and up-to-date documentation of profits for stakeholders.
6. **Social Credibility:** Organizations can increase their credibility in society by fostering goodwill.
7. **Environmental Credibility:** Organizations must be environmentally responsible and mindful of their carbon footprint to maximize their value.

Figure (2) illustrates the seven elements of organizational reputation.

Figure 2. Elements of organizational reputation

Source: Klaavu, M. (2009). Company reputation and image analysis: case Game Central.

3.3.3 Dimensions of Organizational Reputation

The model proposed by Sontaite & Kristensen (2009) has been adopted based on three key dimensions: innovation, product quality, and social responsibility. This model is comprehensive and aligns well with the context of the present study.

1. **Innovation:** refers to the use of imagination and new ideas to achieve greater efficiency and success (Khodabakhsh-Zadeh *et al*., 2018). It encompasses novel ideas and practices introduced by individuals aimed at developing more effective and efficient work methods to achieve the organization's desired goals (Vally *et al*., 2019).

2. **Product Quality:** High product quality is one of the most essential means for organizations to grow and sustain their market reputation. Delivering high-quality products and services positively impacts market share, profitability, and productivity. To achieve this, organizations must continuously listen to customer feedback and work on continuous improvement while maintaining strict quality control (Paryani, 2011). Additionally, organizational management plays a crucial role in improving product quality by fostering a supportive work environment for employees. Human resource management also contributes by preparing a workforce capable of delivering products that enhance customer satisfaction and reinforce the organization's reputation (Díaz & Martínez-Medianom, 2018).

3. **Social Responsibility:** refers to an organization's commitment to the society in which it operates. It involves managing organizational behavior ethically and legally, extending beyond the mere production of goods or services to consider the impact of its activities and practices on customers and society at large (Omar & Larbi, 2020). Organizations strive to build a positive

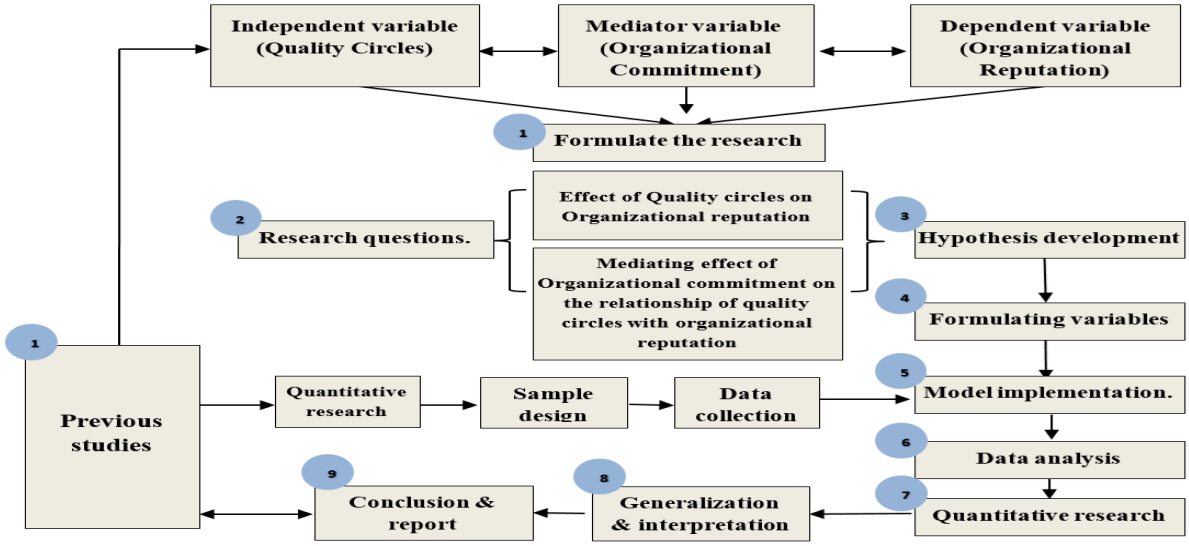
image in the minds of customers through their corporate activities and social responsiveness. Social responsibility is one of the most effective factors in strengthening the positive relationship between stakeholders and the organization while enhancing its influence on society (Lee *et al*., 2017). According to Rupp *et al*. (2024), social responsibility entails organizations analyzing social, environmental, and economic issues and responding by going beyond the fundamental legal, technical, and economic requirements. It includes policies and programs that reflect a commitment to social and environmental well-being, varying according to the organization's discretion.

4. Research Design and Methodology

Research methodology is a crucial element in any scientific study. It represents a systematic and structured approach that integrates fundamental concepts to address specific business or economic problems that require solutions (Raza, 2021). Research design serves as a general blueprint or roadmap guiding researchers on how to collect the necessary data to answer their research questions. According to Bickman & Rog (2008), "Research designs act as an architectural plan for a research project, linking design activities, data collection, and analysis to research questions." The significance of research design lies in its role as a critical bridge connecting the theoretical framework, supporting arguments, data collection, and conclusions drawn from the study.

Therefore, when developing a research design, researchers must make well-reasoned decisions regarding key aspects of the research process (Saunders, 2014). Figure (3) illustrates the research design for this study, ensuring that the research questions are appropriately addressed, and that the investigation is conducted effectively and accurately.

Figure 3. Research design



4.1 Measurement Scales

This study utilized a questionnaire as the primary data collection tool. The questionnaire consisted of six questions, along with an attitudinal scale comprising 73 items, formulated based on a five-point Likert scale. The theoretical concepts were translated into operational terms to ensure clarity and relevance. Additionally, the development of the measurement scales was guided by recommendations from previous researchers. Wherever applicable and feasible, existing measurement scales were adapted for use in this study (Sekaran & Bougie, 2016). Based on this approach, the measurement scales used in this study were derived from the existing literature, as outlined in Table (1).

Table 1. Questionnaire construction scale

Variables	Dimensions	No. of Items	Measures
Quality Circles	Planning for Quality Circles	9	(Al-Taweel & Al-sebai, 2012)
	Implementation of Quality Circles	9	

	Evaluation of Quality Circles	9	
Organizational Commitment	Affective Commitment	8	(Meyer & Allen, 1991)
	Continuance Commitment	8	
	Normative Commitment	8	
Organizational Reputation	Creativity	7	(Sontaite & Kristensen, 2009)
	Product Quality	7	
	Social Responsibility	8	

4.2 The Study's Hypothetical Model and Hypotheses

Figure (4) illustrates the nature of the relationships between the research variables, based on the research problem and objectives. This model is constructed according to the theoretical framework of the study variables.

Figure 4. Hypothetical diagram of the study model

From the figure, it is evident that the study seeks to validate four main hypotheses, which are as follows:

1. Quality circles positively influence organizational reputation in the General Company for Hydraulic Industries in Baghdad.
2. Quality circles support increased organizational commitment in the General Company for Hydraulic Industries in Baghdad.
3. Organizational commitment enhances organizational reputation in the General Company for Hydraulic Industries in Baghdad.
4. Organizational commitment mediates the relationship between quality circles and organizational reputation in the General Company for Hydraulic Industries in Baghdad.

4.3 Study Population and Sample

The study population generally refers to the total group of individuals or organizations (or other entities of interest) that share a set of relevant characteristics related to the research topic (Clark & Creswell, 2010). In this study, the population consists of managers at all administrative levels at the General Company for Hydraulic Industries in Baghdad, totaling 150 managers. Given the relatively small population size, the study employed a comprehensive survey approach, distributing 150 questionnaires to company managers.

After analyzing the questionnaires received, 27 responses were excluded due to either lack of seriousness in responses or missing data exceeding 10% of the questionnaire items. Consequently, the final sample size was 123 respondents, resulting in a response rate of 82%. Table (2) presents the distribution of the study population and sample based on managerial level, while Table (3) displays the general characteristics of the study sample, including personal and educational background, job position, and professional experience within the company.

Table 2. Study population and sample distribution according to administrative level

	Study Population	**Study Sample**			
		Distributed Questionnaires	Excluded Questionnaires	Final Sample	Response Rate
Top Management	17	17	4	13	76.5
Middle Management	49	49	7	42	85.7
Supervisory Management	84	84	16	68	80.95
Total	**150**	**150**	**27**	**123**	**82**

Table 3. Demographic characteristics of the respondent's sample

Factors	**Dimensions**	**No.**	**Percentage (%)**
Gender	Male	98	79.7
	Female	25	20.3
Age	Less than 40 years	2	1.63
	From 40 to less than 50	48	39
	From 50 to less than 60	64	52
	60 years and above	9	7.37
Educational Level	Intermediate	6	4.9
	Bachelor's	74	60.2

	Master's	30	24.4
	PhD	13	10.5
Managerial Level	Top Management	13	10.6
	Middle Management	42	34.1
	Supervisory Management	68	55.3
Job Experience	Less than 5 years	4	3.25
	From 5 to less than 10 years	21	17.1
	From 10 to less than 15 years	41	33.3
	15 years and above	57	46.4

Table (3) reveals that the majority of the surveyed managers are male (79.7%), compared to only 20.3% female managers. This reflects the low representation of women in leadership positions within the company. Regarding age distribution, the largest segment of respondents falls within the 50 to under 60-year-old category (52%). Additionally, 7.37% of managers are above retirement age (over 60 years old), while the remaining respondents represent younger age groups. In terms of educational level, most respondents hold a university degree (60.2%), followed by 34.9% with a postgraduate degree, and 4.9% with a secondary education level. Regarding professional experience, the sample includes a balanced range of expertise: 46.4% have more than 15 years of experience, 50.4% have between 5 and 15 years of experience, Only 3.25% have less than 5 years of experience. As for managerial level, the majority of respondents (55.3%) are from the executive management level, followed by 34.1% from middle management, while only 10.6% are top-level executives and their assistants.

4.4 Questionnaire Validation (Psychometric Properties)

To ensure the reliability of the collected data and the suitability of the data collection methods for achieving the research objectives, the validity and reliability of the questionnaire were tested as follows:

- **Validity Testing**

The researcher assessed the validity of the questionnaire items through: Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Face Validity. The results confirmed convergent validity, as the factor loadings for the questionnaire items exceeded the standard (0.40) but did not reach 1.00.

Additionally, the Average Variance Extracted (AVE) was calculated, with values exceeding 0.50, indicating that the three study constructs (quality circles, organizational commitment, and organizational reputation) possess strong convergent validity. The correlations between the latent variables were found to be high but remained below 0.90, confirming discriminant validity (i.e., each construction is distinct and represents a unique concept). Furthermore, the Chi-square differences test was statistically significant at the 1% level, and the Heterotrait-Monotrait Ratio (HTMT) was below 0.90, supporting discriminant validity among the study variables.

It is worth noting that 11 items were excluded from different measurement scales despite having factor loadings above 0.40. This was done to increase the AVE value above 0.50, in line with Hair *et al*. (2017) guidelines. Thus, CFA and EFA are essential tools for researchers aiming to validate their measurement models, ensuring that the data aligns with theoretical constructs and enhancing the reliability and validity of subsequent analyses.

- **Reliability Testing**

The Cronbach's Alpha reliability coefficient for all constructs of the instrument is presented in Table (4).

Table 4. Reliability of the instrument's constructs (Cronbach's Alpha)

Variables	No. of phrases	Cronbach's alpha
Independent variable (Quality Circles)	37	0.944
Mediator variable (Organizational Commitment)	20	0.786
Dependent variable (Person- Environment Fit)	10	0.660
The total questionnaire	**67**	**0.948**

The results in Table (4) indicate that the questionnaire, along with all its variables, exhibits high reliability, as the Cronbach's Alpha coefficient for the questionnaire variables significantly exceeds the standard threshold of (0.7). This means that the measurement tool used will produce the same results when applied repeatedly in the study, thus confirming the reliability of the questionnaire. Consequently, the researcher has ensured the validity and reliability of the questionnaire items, which provides full confidence in the accuracy of the questionnaire and its suitability for analyzing results, answering the study's questions, and testing its hypotheses.

5. Measurement Analysis and Results

5.1 Descriptive Analysis

Table (5) summarizes the relevant descriptive statistics, including the mean, which is one of the measures of central tendency, the standard deviation, which represents a measure of dispersion, and the relative importance index. These statistics are used to describe all the study model variables, namely quality circles, organizational commitment, and organizational reputation.

Table 5. Descriptive Analysis of Study Variables

	Descriptive statistics					Correlation matrix		
	Mean	**Std. Dev.**	**RII**	**Rank**	**Importance level**	**1**	**2**	**3**
1. Quality Circles	3.5424	0.533	0.7085	2	Medium - High	1		
2. Organizational Commitment	3.7077	0.474	0.7415	3	Medium - High	0.698**	1	
3. Organizational Reputation	3.5041	0.395	0.7008	1	Medium - High	0.636**	0.697**	1

***Note*:** ** indicates statistical significance at the 1% level.

By examining the key characteristics of the data, it can be observed that the average responses of the respondents regarding the study variables were relatively close, with all of them having a relative importance above average, reaching 74.2% for organizational commitment, 70.9% for quality circles, and 70.1% for organizational reputation. This reflects a relatively high level of awareness among the sample surveyed regarding the elevated levels of the study variables in the General Company for Hydraulic Industries in Baghdad.

To preliminarily verify the strength and direction of the hypothesized relationships between the variables, zero-order bivariate Pearson correlations were analyzed (Kremelberg, 2011). The results indicate a statistically significant positive correlation at the 1% level between the study variables, as quality circles correlate with organizational commitment at 69.8% and with organizational reputation at 63.6%, while organizational commitment correlates with organizational reputation at 69.7%. This suggests that an increase in the level of quality circles and organizational commitment is strongly associated with a corresponding increase in organizational reputation, and vice versa.

Thus, the correlation coefficients between the study variables align with administrative logic and theoretical expectations. This supports the hypothesis of a positive effect of quality circles on organizational reputation, as well as the positive impact of organizational commitment. Furthermore, organizational commitment may serve as a mediating variable in the relationship between quality circles and organizational reputation. As shown in the table above, the correlation analysis provides strong relevant indicators. Therefore, to further investigate and analyze the proposed relationship pathways in the study model, the Structural Equation Modeling (SEM) approach will be adopted, as it provides the best predictive model for the current relationship between independent and dependent variables.

5.2 Analysis of Variance

This section aims to compare different groups by examining whether there are significant differences in the respondents' average responses to the study variables based on demographic characteristics such as gender, age, educational level, professional experience, and administrative position. In other words, this analysis assesses whether these demographic characteristics influence the respondents' perceptions and responses to the applied measurement scales, leading to varying opinions among respondents based on their individual characteristics. Accordingly, the study sample was divided into subgroups based on each demographic characteristic (MacFarland, *et al*., 2016).

Since the data is non-normally distributed, non-parametric tests were utilized, including the Kruskal-Walli's test, which was used to examine differences in means across more than two independent groups, and the Mann-Whitney U test, which was used to examine differences between only two independent groups, such as gender (male vs. female) (Gleason, 2013). Table 6 summarizes the results of the variance analysis in respondents' perceptions of the study variables based on demographic characteristics.

Table 6. Variance Analysis of Respondents' Perceptions of Study Variables

Factorial variables	Category	Quality Circles	Organizational Commitment	Organizational Commitment

Gender	Male Female	-0.532 (0.595)	-0.180 (0.857)	-1.730 (0.084)
Age	Less than 40 years From 40 to less than 50 From 50 to less than 60 60 years and above	46.752 (0.000)**	19.276 (0.001)**	26.973 (0.000)**
Educational Level	Intermediate Bachelor's Master's PhD	13.924 (0.003)**	21.727 (0.000)**	24.623 (0.001)**
Managerial Level	Top Management Middle Management Supervisory Management	11.645 (0.009)**	18.526 (0.004)**	11.984 (0.007)**
Job Experience	Less than 5 years From 5 to less than 10 years From 10 to less than 15 years 15 years and above	22.087 (0.001)**	39.329 (0.000)**	39.329 (0.000)**

***Note*:** ** indicates statistical significance at the 1% level.

The previous table shows that the Z-statistic value for the Mann-Whitney test was not statistically significant for the gender variable. This indicates the acceptance of the null hypothesis of the Mann-Whitney test, meaning that there are no statistically significant differences in respondents' perceptions of the study variables based on their gender (male or female). This is evident from the rank averages between male and female respondents, which were very close. In contrast, the Chi-square (χ^2) statistic was statistically significant at the 1% level for all study variables (quality circles, organizational commitment, and organizational reputation). This suggests the rejection of the null hypothesis of the Kruskal-Walli's test and, consequently, the acceptance of the alternative hypothesis, confirming the existence of statistically significant differences in respondents' perceptions of these variables based on their demographic characteristics (age, educational level, managerial position, and work experience).

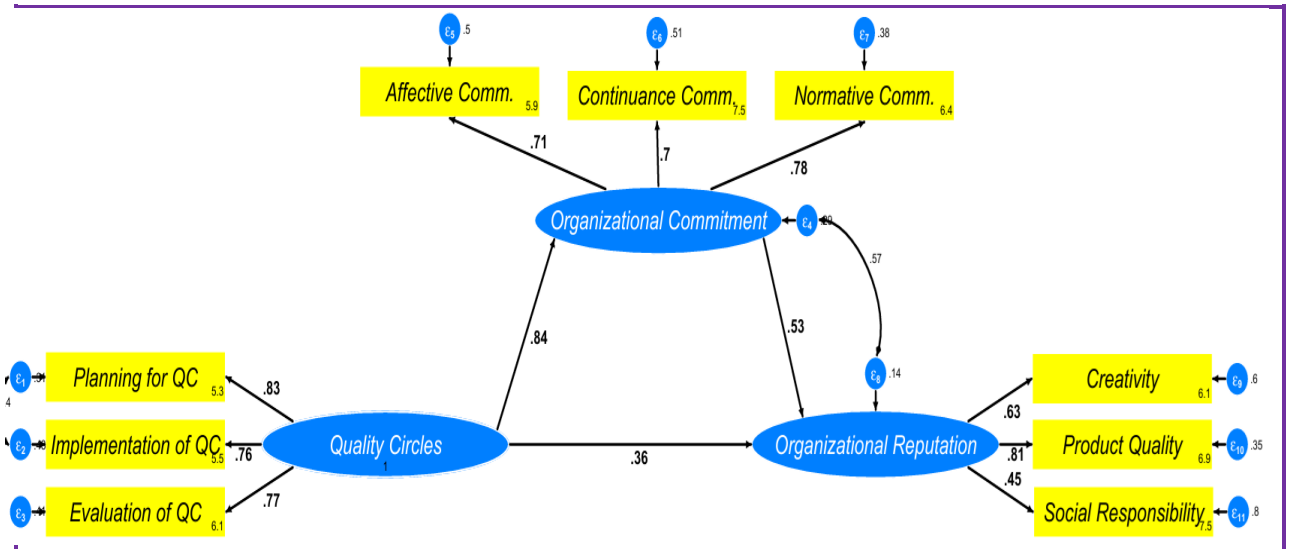
It was found that the respondents who were most aware of these variables—those who tended to agree more with the questionnaire statements—were older respondents, those with postgraduate education, those with low to moderate work experience, and those in lower managerial positions. This means that younger and less educated respondents, as well as those with higher work experience or in senior management positions, tend to be more conservative in their agreement with the questionnaire statements compared to other respondents.

5.3 Inferential Analysis (Hypothesis Testing)

The study model aims to answer the questions raised by the paper's title by examining the impact of quality circles as an exogenous variable on organizational reputation as an endogenous variable, either directly or indirectly through organizational commitment as a mediating variable in this relationship. In this structural model, quality circles are represented as a latent variable measured by three indicators: planning for quality circles, implementing the quality circles plan, and evaluating quality circles' performance. Organizational commitment is also represented as a latent variable measured by three indicators: affective commitment, continuance commitment, and normative commitment. Similarly, organizational reputation is represented as a latent variable measured by three indicators: innovation, product quality, and social responsibility.

To test the study's hypotheses, structural equation modeling (SEM) path analysis will be employed, using one of the most well-known estimation methods—Maximum Likelihood. In this method, model parameters are estimated by maximizing the likelihood function, ensuring that the observed data are most probable given the assumed statistical model. The logic of Maximum Likelihood is both intuitive and flexible, making it the dominant approach for statistical inference (Song & Lim, 2015). Furthermore, goodness-of-fit indicators rely on the assumption of multivariate normality of the observed variables. Since the study variables do not follow a normal distribution, adjusted versions of the goodness-of-fit indicators will be used, with their statistics calculated using Satorra-Bentler corrections (Kline, 2023). The final version of the study model, after modification to achieve goodness fitness, will be presented as follows:

Figure 2. Impact of quality circles on organizational reputation in the context of organizational commitment mediation: Econometric results.



Path analysis for Hypothesis

Standardized Estimates

Chi-square (model vs. saturated)= 33.421, *df*= 22, Prob.= 0.056, χ^2/df= 1.519

Chi-square (baseline vs. saturated)= 491.027, *df*= 36, Prob.= 0.000

CFI= 0.975, ***TLI***= 0.959, ***SRMR***= 0.042, ***CD***= 0.906, ***RMSEA***= 0.065, ***PCLOSE***= 0.266

AIC= 1496.409, ***BIC***= 1586.399

The fit indices shown below the figure indicate that the structural model is appropriate and consistent with the data and evidence, providing preliminary support for the plausibility of the causal assumptions underlying the model. The chi-square statistic (χ^2) for the original model compared to the saturated model is not statistically significant, suggesting that the model is well-fitted. Additionally, the minimum discrepancy ratio (χ^2/df) is below the standard threshold of 3, reflecting an excellent fit. This is further confirmed by the Root Mean Square Error of Approximation (RMSEA), which does not exceed the good-fit threshold. Furthermore, the Pclose statistic is not statistically significant, indicating that the sample observations closely resemble the population observations. Other fit indices further confirm the model's strong compatibility with the data, including the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), also known as the (Non-Normed Fit Index), and the Standardized Root Mean Square Residual (SRMR), all of which fall within the excellent-fit thresholds. Moreover, the Coefficient of Determination (CD) is remarkably high at 90.6%, suggesting a superior model fit.

Table 7. Impact of quality circles on organizational reputation in the context of organizational commitment mediation: Econometric results.

Endogenous variables: Organizational Commitment, Organizational Reputation.

Exogenous variable: Quality Circles.

Measurements: Planning for Quality Circles, Implementation of Quality Circles, Evaluation of Quality Circles, Affective Commitment, Continuance Commitment, Normative Commitment, Creativity, Product Quality, Social Responsibility.

Method: Maximum Likelihood (ml) with Satorra-Bentler.

Paths	Expected signal	Standardized Coefficient	Std. Err.	z stats.	p > |z|
Organizational Commitment equation:					
Quality Circles → Organizational Commitment	+	0.84309	0.0711	11.86	0.000**
Organizational Reputation equation:					
Organizational Commitment → Organizational Reputation	+	0.53404	0.1602	3.330	0.001**
Quality Circles → Organizational Reputation	+	0.35791	0.1774	2.020	0.044*
Measurements to create the "Quality Circles" variable					
Quality Circles → Planning for Quality Circles		0.82866	0.0579	14.29	0.001**
Quality Circles → Implementation of Quality Circles		0.75549	0.0665	11.36	0.001**
Quality Circles → Evaluation of Quality Circles		0.76516	0.0617	12.40	0.001**
Measurements to create the "Organizational Commitment" variable					
Organizational Commitment → Affective Commitment		0.71014	0.0541	13.14	0.001**

Organizational Commitment → Continuance Commitment	0.70174	0.0574	12.23	0.001**
Organizational Commitment → Normative Commitment	0.78449	0.0595	13.18	0.001**
Measurements to create the "Organizational Reputation" variable				
Organizational Reputation → Creativity	0.63089	0.0753	8.380	0.001**
Organizational Reputation → Product Quality	0.80840	0.0613	13.18	0.001**
Organizational Reputation → Social Responsibility	0.44957	0.0886	5.070	0.001**

***Note*:** **, * indicate statistical significance at the 1% and 5% levels, respectively.

On the other hand, the chi-square statistic (χ^2) for the baseline model compared to the saturated model is statistically significant at the 1% level, indicating that the baseline model is poor. This is the only indicator suggesting model inadequacy. This result is likely due to the chi-square fit index's high sensitivity to violations of the multivariate normality assumption. Overall, the model can be deemed acceptable as it aligns well with the field data collected to test the study hypotheses. Having confirmed the model's robustness, the analysis proceeds to estimate the path coefficients, as shown in Table (7).

The table clearly illustrates the direct positive impact of quality circles on the level of organizational commitment at the General Company for Hydraulic Industries in Baghdad. According to the standardized regression coefficient, a one-unit increase in the application of quality circles leads to an average increase of 0.843 units in organizational commitment. Additionally, organizational commitment positively influences the company's organizational reputation, with an impact of 0.534 units. Finally, quality circles have a direct positive effect on organizational reputation, with an average impact of 0.358 units. This finding aligns with the

correlation matrix, which indicates strong positive correlations among the three study variables. Furthermore, this result supports the confirmation of the first three study hypotheses.

Regarding the results of the path analysis for the measurement scales used to construct the study variables, the path coefficients of these measures can reflect the weighting factors used in forming the latent variable. Using standardized coefficients (which indicate the relative importance of the variables), the most significant dimension in constructing the quality circles scale was planning for quality circles with a coefficient of 0.829, followed by evaluating quality circles' performance with a coefficient of 0.765, and finally, implementing the quality circles' plan with a coefficient of 0.755. Similarly, the most critical dimension in forming the organizational commitment scale was normative commitment with a coefficient of 0.784, followed by affective commitment (0.710) and continuance commitment (0.702). Lastly, the most influential variable in constructing the organizational reputation scale was product quality with a coefficient of 0.808, followed by innovation (0.631) and social responsibility (0.450).

Moving on to Table (8), it presents the decomposition (or breakdown) of the structural model paths, showcasing The direct impact of quality circles on the organizational reputation of the General Company for Hydraulic Industries. and the indirect impact of quality circles on organizational reputation through organizational commitment. finally, the total effect, which represents the sum of both direct and indirect effects. This table helps determine whether organizational commitment acts as a mediating variable or not.

Table 8. Decomposition of the impact of quality circles into direct, indirect, and total.

Path	Direct effect	Indirect effect	Total effect
Quality Circles → Organizational Reputation	0.3579 [2.020]**	0.4503 [2.589]**	0.5292 [5.080]**

***Note*:** ** indicates statistical significance at the 1% level.

The table clearly demonstrates a direct positive impact of quality circles on the organizational reputation of the General Company for Hydraulic Industries, as previously explained. Additionally, there is also an indirect positive effect of quality circles on

organizational reputation through the organizational commitment variable, at a 1% significance level. A one-unit increase in the application of quality circles leads to a direct increase of 0.358 units in organizational reputation and an indirect increase of 0.450 units. Consequently, the total impact of quality circles on organizational reputation amounts to 0.529 units, combining both direct and indirect effects.

To analyze mediation, we turn to Table (9), which presents the three-step Baron & Kenny test, designed to informally examine the mediating role of a variable. This test explores three key pathways: *i*) The first path; The effect of the independent variable (X) on the proposed mediator (M), *ii*) The second path; The effect of the mediator (M) on the dependent variable (Y), finally, *iii*) The third path; The effect of the independent variable (X) on the dependent variable (Y). For mediation to occur, there must be a statistically significant effect in both the first and second paths at a minimum (If either effect is absent, the mediating role disappears). The type of mediation is then determined based on the third path, If no significant effect is found in the third path, the mediator (M) is classified as a full mediator, If a significant effect still exists, the mediator (M) is considered a partial mediator.

Table 9. Baron & Kenny approach to testing mediation to SEM

Path	**Step (1)**	**Step (2)**	**Step (3)**
	X → M	***M → Y***	***X → Y***
Quality Circles → Organizational Commitment → Organizational Reputation	[β = 0.843]**	[β = 0.534]**	[β = 0.358]*

***Note*: **, *** indicate statistical significance at the 1% and 5% levels, respectively.

The table indicates that there is a significant effect in both the first path ($X \rightarrow M$) and the second path ($M \rightarrow Y$). Additionally, there is also a significant effect in the third path ($X \rightarrow Y$). This suggests that quality circles influence organizational commitment through the first path, while organizational commitment, in turn, affects organizational reputation through the second path. Moreover, quality circles have a direct impact on organizational reputation through the third path. Accordingly, the Baron & Kenny test suggests that organizational commitment serves as a partial mediator in the relationship between quality circles and organizational

reputation. In other words, quality circles influence organizational reputation both directly and indirectly through organizational commitment. This implies that organizational commitment transmits part of the effect of quality circles on organizational reputation.

To formally assess the mediating variable, we will estimate the Sobel test and the Zhao, Lynch & Chen test, in addition to the RIT and RID statistics, as presented in Table (10) below.

Table 10. Formal mediation testing for the SEM

Path	Sobel test	Zhao, Lynch & Chen's	RIT	RID	Mediation type
Quality Circles → Organizational Commitment → Organizational Reputation	0.450 [3.208]**	0.458 [3.287]**	0.557	1.258	Partial mediation

***Note*:** *** indicates statistical significance at the 1% level.

The table shows that the results of both the Sobel test and the new Zhao, Lynch & Chen test confirm the findings obtained using the three-step Baron & Kenny test. Both test statistics are statistically significant at the 1% significance level, thereby supporting the validation of the fourth study hypothesis. Furthermore, based on the RIT statistic, the proportion of the impact of quality circles on organizational reputation that is mediated through organizational commitment (the mediating variable) is 0.557. Additionally, the RID statistic indicates that the mediated effect of organizational commitment is approximately 1.258 times larger than the direct effect of quality circles on organizational reputation. Finally, moving to Table (11), it presents key structural model statistics, including the Coefficient of Determination (R^2), the Wald test statistic, and the model stability test.

Table 11. Goodness-of-fit statistics for the SEM

	R squared	Wald test for goodness fit	Stability analysis

		χ^2 Stats.	df	p-value	Eigenvalue	Modulus
Organizational Commitment	71.08%	30.86	1	0.000**	0	0
Organizational Reputation	85.83%	50.09	2	0.000**	0	0
Overall	**90.64%**				**Stability index = 0**	

***Note*:** ** indicates statistical significance at the 1% level.

The table indicates that quality circles explain 71.08% of the variation in the level of organizational commitment at the General Company for Hydraulic Industries. The remaining 28.92% is attributed to random error, which may be due to various managerial factors that were not accounted for in the structural model. Additionally, quality circles and organizational commitment together explain 85.8% of the variation in the company's organizational reputation. Based on the coefficient of determination (R^2) for both equations, it is evident that the overall structural model's coefficient of determination is 90.6%, which is relatively high. This indicates a precise model specification and reflects a good level of model fit.

Furthermore, the chi-square test (χ^2) is statistically significant at the 1% level for both equations in the study model. This implies the rejection of the null hypothesis, which assumes that all path coefficients (except for the intercept) are zero, and the acceptance of the alternative hypothesis, confirming that all path coefficients are significantly different from zero. In other words, the study model is statistically significant at the 1% level. Lastly, the model stability test in the table confirms that the model meets the stability condition, as the stability index is equal to zero.

6. Conclusions

6.1. Quality circles play a pivotal role in enhancing organizational reputation through organizational commitment by fostering a work environment based on continuous improvement and high quality. By engaging employees in problem identification and solution development,

their sense of responsibility and belonging increases, which strengthens their commitment to the organization's objectives. When employees feel involved in decision-making and recognize that their efforts contribute directly to overall performance improvements, this positively impacts the organization’s reputation. Organizations that implement quality circles tend to retain employees more effectively, as employees develop a strong motivation to stay and contribute to workplace development. This ultimately leads to an improved corporate image in the minds of customers and stakeholders.

6.2. Moreover, organizational commitment resulting from the implementation of quality circles helps establish a corporate culture based on mutual trust and continuous collaboration, thereby enhancing the organization's competitiveness in the market. Committed employees are more likely to deliver high performance, which in turn improves the quality of products and services offered by the company. When customers and stakeholders observe that the organization operates under high-quality standards and enjoys strong employee loyalty, this strengthens its credibility and reputation in the market. Thus, quality circles not only enhance internal performance but also contribute positively to corporate image, making them an effective strategic tool for achieving sustainable success.

6.3. Accordingly, the current study aimed to measure the impact of quality circles on the organizational reputation of the General Company for Hydraulic Industries in Baghdad, considering organizational commitment as a mediating variable between these two factors. The study relied on a final sample of 123 surveyed managers from various administrative levels, representing 82% of the total study population. The findings indicate a relatively high level of implementation of quality circles, organizational commitment, and organizational reputation, as perceived by the company's respondents. Additionally, strong positive correlations were observed among the three study variables, suggesting that an increase in the implementation of quality circles is significantly associated with higher levels of organizational commitment and organizational reputation—and vice versa. Furthermore, respondents’ perceptions of these variables did not differ based on gender, but varied according to demographic characteristics such as age, educational level, managerial level, and work experience.

6.4. The study also found a direct positive effect of quality circles on organizational reputation, as well as a direct positive effect of quality circles on organizational commitment. Similarly,

organizational commitment had a direct positive impact on organizational reputation. These findings align with established management theories. Regarding the mediating role, the study confirmed that quality circles influence organizational reputation both directly and indirectly through organizational commitment. Using the Baron & Kenny informal approach, the Zhao, Lynch & Chen modern approach, and the Sobel test, it was confirmed that organizational commitment serves as a "partial mediator" in the relationship between quality circles and organizational reputation. Specifically, the proportion of quality circles' impact on organizational reputation through the mediating variable (organizational commitment) is 0.557. Additionally, the mediated effect of organizational commitment is approximately 1.259 times greater than the direct effect of quality circles on organizational reputation.

7. Recommendations

7.1. Senior management should create a supportive environment that encourages employees to participate in quality circles by promoting a culture of open dialogue and empowering them to make quality-related decisions.

7.2. Continuous training programs should be provided to enhance employees' skills in problem analysis and innovative solution development, thereby increasing organizational commitment and improving overall institutional performance.

7.3. Organizations should develop a comprehensive evaluation system to assess the impact of quality circles on employee commitment and its effect on organizational reputation. *iv*) Integrating quality practices into the organization’s strategic framework is crucial, ensuring they become an essential part of its operational culture.

7.4. Implementing incentive mechanisms that encourage employees' ongoing participation in quality circles, such as reward systems and public recognition, will ensure long-term engagement.

By achieving a strong integration between quality circles and organizational commitment, companies can enhance their reputation in the market, thereby gaining a sustainable competitive advantage and strengthening the trust of customers and stakeholders.

References

1. Carroll, Craig E, 2013, “The handbook of communication and corporate reputation”, 1st Edition, john Wiley &Sons Inc, USA
2. Abdel Malik, Adel et Al-Qazzaz, Ismail Ibrahim, « Formation à la qualité selon la norme internationale ISO 10015 », première édition, Bagdad, 2002.
3. Agarwal, J., Osiyevskyy, O., & Feldman, P. M. (2015). Corporate reputation measurement: Alternative factor structures, nomological validity, and organizational outcomes. Journal of business ethics, 130, 485-506.
4. Al-Daradkeh, Maamoun et Al-Shibli, Tariq, (2002), « Quality in Modern Organizations », première édition, Dar Safaa pour l'édition et la distribution, Amman.
5. Al-Daradkeh, Mamoun Suleiman, (2008) « Total Quality Management », Dar Al-Safaa pour l'édition et la distribution, Amman.
6. Allen, N.J. & Meyer, J.P. (1991) A Three-Component Conceptualization of Organizational Commitment. Human Resource Management Review, 1, 61-89. http://dx.doi.org/10.1016/1053-4822(91)90011-Z.
7. Alrowwad, A., Almajali, D., Masa’deh, R., Obeidat, B. & Aqqad, N. (2020). The role of organizational commitment in enhancing organizational effectiveness. Education Excellence and Innovation Management through Vision 2020; 2019.
8. Al-Taweel, Akram Ahmed et Al-Sabaawi, Israa Waad Allah, (2012), Corrélation et relations d'influence entre les dimensions du climat organisationnel et les étapes de mise en œuvre des anneaux de qualité : une étude d'enquête sur les opinions des dirigeants d'une usine de filature et de tissage - Mossoul, Tanmiya Al-Rafidain Magazine, Collège d'administration et d'économie, Université de Mossoul, numéro 109, volume 34, pages 134-157.
9. Alwan, Qasim Nayef, (2005), « Gestion de la qualité totale et exigences de la norme ISO 9001 : 2000 », première édition, Dar Al-Thaqafa pour l'édition et la distribution, Amman.
10. Araci, Ö. (2015). The perceptual structure of corporate reputation: gladness graded organization deserves reputation. Journal of Global Strategic Management, 9(2), 107-117.
11. Awasthi, M., Ingole, M., & Qureshi, M. (2023). The Psychological Role of Human Resources Management Strategy in Enhancing Organizational Reputation an Exploratory Study. Journal for ReAttach Therapy and Developmental Diversities, 6(10s (2)), 814-826.

12. Berg, J. E., & Blomqvist, S. (2019). Managing Corporate Reputation: Management Challenges to Communicate the Corporate Identity in a SME.
13. Bickman, L., & Rog, D. J. (Eds.). (2008). The SAGE handbook of applied social research methods. Sage publications.
14. Blaga, P., & Jozsef, B. (2014). Human resources, quality circles and innovation. Procedia Economics and Finance, 15, 1458-1462.
15. Blaga, P., & Jozsef, B. (2014). Human resources, quality circles and innovation. Procedia Economics and Finance, 15, 1458-1462.
16. Bouachouch, M & Lamrabet, H.(2022), Organizational Commitment in the Cross-functional Relation: Case of the Moroccan Hospital Supply Chain, European Journal of Humanities and Social Sciences, Vol.2, Issue.1, PP. 4-56.
17. Carmeli, A., & Cohen, A. (2001). Organizational reputation as a source of sustainable competitive advantage and above-normal performance: an empirical test among local authorities in Israel. Public Administration & Management: An Interactive Journal, 6(4), 122-165.
18. Clark, V. L. P., & Creswell, J. W. (2010). Understanding research: A consumer's guide. Merrill/Pearson Educational.
19. Dahi, Karim Jaber et Mohamed, Ahmed Badin, (2024), Le rôle du leadership serviteur dans l'amélioration de l'engagement organisationnel, une étude exploratoire des opinions d'un échantillon d'employés du Centre du ministère de l'Enseignement supérieur et de la Recherche scientifique, Journal of Management and Economics, Volume 49, Numéro 142, Pages 42-62.
20. Dasgupta, R. (2014). Successful implementation of quality circles in an Indian Maharatna Unit: the driving factors. Decision, 41(1), 33-50.
21. Devece, C., Palacios-Marqués, D., & Alguacil, M. P. (2016). Organizational commitment and its effects on organizational citizenship behavior in a high-unemployment environment. Journal of Business Research, 69(5), 1857-1861.
22. Díaz, J. A. A., & Martínez-Mediano, C. (2018). The impact of ISO quality management systems on primary and secondary schools in Spain. Quality Assurance in Education.
23. Dilworth, James, B., Operation management, U.S.A., McGraw, Hill Co., inc., 1998.
24. Gleason, J. (2013). Comparative power of the ANOVA, randomization ANOVA, and Kruskal-Wallis test.

25. Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. International Journal of Multivariate Data Analysis, 1(2), 107-123.
26. Irfan, M., Hassan, M., Hassan, N., Habib, M., Khan, S., & Nasruddin, A. M. (2020). Project Management Maturity and Organizational Reputation: A Case Study of Public Sector Organizations. IEEE Access, 8, 73828-73842.
27. Kalpana Koneru & Hymavathi, (2013), Understanding and Managing Quality Circles: A Theoretical Perspective.
28. Khairuddin, Jumaa et Hosseini, Ibtisam, (2011), Cycles d'amélioration de la qualité dans l'institution, expériences de certains pays, Journal of Administrative and Economic Research, n° 9, pages 121-139.
29. Khodabakhshzadeh, H., Hosseinnia, M., Moghadam, H. A., & Ahmadi, F. (2018)." EFL Teachers' Creativity and Their Teaching's Effectiveness: A Structural Equation Modelling Approach" . International Journal of Instruction. 11(1).
30. Kline, R. B. (2023). Principles and practice of structural equation modeling. Guilford publications.
31. Kremelberg, D. (2011). Pearson'sr, chi-square, t-test, and ANOVA. Practical statistics: A quick and easy guide to IBM® SPSS® statistics, STATA, and other statistical software, 119-204.
32. Lee, J., Kim, S. J. & Kwon, I., (2017) , "Corporate Social Responsibility as a Strategic Means to Attract Foreign Investment: Evidence from Korea", Sustainability, Vol. 9, No.11, pp. 2-11.
33. Li, P., Liu, Y., Yuan, P., & Ju, F. (2017). The Study on the Relationship between University Faculties' Job Stress and Organizational Commitment in China. Procedia computer science, 122, 642-648.
34. Lima, W. & Allida, D.(2021), The Relationship between Job Satisfaction and Organizational Commitment among Employees of a Selected Tertiary Educational Institution in Northwest Haiti, East African Journal of Education and Social Sciences, Vol.2, No.1, PP.33-40.
35. Little, M. E. (2017). The Moderating Effect of Gender and Tenure on the Relationship between Perceived Supervisor Support and Organizational Commitment, In Partial Fulfillment of the Requirements for the Degree Master of Science, University San Jose.
36. MacFarland, T. W., Yates, J. M., MacFarland, T. W., & Yates, J. M. (2016). Mann–whitney u test. Introduction to nonparametric statistics for the biological sciences using R, 103-132.

37. Maguen, S., Cohen, B., Cohen, G., Madden, E., Bertenthal, D., & Seal, K. (2012). "Gender differences in health service utilization among Iraq and Afghanistan veterans with posttraumatic stress disorder" . Journal of Women's Health, 21(6).
38. Messner, W. (2017). The role of gender in building organisational commitment in India's services sourcing industry. IIMB management review, 29(3), 188-202.
39. Omar, B. E. N. D. J. I. M. A., Larbi, B. M., & Zakariya, N. E. F. F. A. H. (2020). The Impact of Adopting the Social Responsibility on Marketing Performance an Applied Study on NAFTAL Company.
40. Paryani, Kioumars, (2011), Product quality, service reliability and management of operations at Starbucks, International Journal of Engineering, Science and Technology,VOL.3, NO. 7, PP. 1-14.
41. Pasha M.(2022), Personality Traits as Antecedents of Organizational Commitment; Moderating Effect of Workplace Spirituality , Journal of Behavioral Sciences, Vol. 32, No. 1, pp. 56-76.
42. Raza, H. (2021). Determinants of share price among non-financial listed firms across sectors in Pakistan (Doctoral dissertation, Universiti Teknologi Malaysia).
43. Rohilla, S., & Chaudhary, R. (2016). Quality circle in organization and its implementation. International Journal of Current Engineering and Technology, 6(3), 887-889.
44. Ronald, H. S., 2020, “The Strategic of Organization in 2020”, 2th edition, special Book for Business trade, U.S.A.
45. Rupp, D. E., Aguinis, H., Siegel, D., Glavas, A., & Aguilera, R. V. (2024). Corporate social responsibility research: an ongoing and worthwhile journey. Academy of Management Collections, 3(1), 1-16.
46. Saunders, M. (2014). Research Methods for Business Students (6th edh).
47. Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill building approach. john wiley & sons.
48. Serhan, C., Nehmeh, N. & Sioufi, I. (2022). Assessing the effect of Organizational commitment on turnover intentions amongst Islamic bank employees. ISRA International Journal of Islamic Finance.
49. Shireen, N. (2014). Quality circle: a fundamental unit of increase profitability. International Journal of Management and Commerce Innovations, 2(1), 30-34.

50. Sontaite, M., Kristensen, 2009, "Aesthetics Based Corporate Reputation Management in the Context of Higher Education", Organizaciju Vadyba: Sisteminiai Tyrimai, Issue 51.
51. Suharto1, Suyanto2, Hendri, Nedi (2019) "The Impact of Organizational Commitment on Job Performance" International Journal of Economics and Business Administration Volume VII, Issue 2, pp. 189-206.
52. Syla, S., & Rexhepi, G. (2013). Quality circles: what do they mean and how to implement them?. International Journal of Academic Research in Business and Social Sciences, 3(12), 243.
53. Tayel, Mustafa Kamal, (2012), « Comprehensive Quality Standards, Management, Statistics, and Economics », Osama Publishing House, première édition, Amman.
54. TelSang, M. (2007). Industrial Engineering and Production Management, New Delhi: S. Chand & Company LTD.
55. Thakur, M. B., Vetal, J. B., & Bhatt, L. (2020). The relationship between Organizational Commitment and Job satisfaction. Our Heritage, 68(1), 1220-1229.
56. Vally, Zahir, Salloum, Leen , Alqedra, Dina , Elshazly, Sara, 2019, "Examining the Effects of Creativity Training on Creative Production,Creative Self Efficacy, and Neuro– Executive Functioning", Journal of Thinking Skills and Creativity, Vol. 3, Issue 1.
57. Vishal V. Gaikwad, Anita V. Gaikwad, (2009), Quality Circle as an Effective Management Tool: A Case Study of Indira College of Engineering and Management Library.
58. Wargborn, C. (2008). Managing motivation in organizations. Why employee relationship management matters (Doctoral dissertation).