

---

## **The impact of green quality management on increasing employee productivity**

### **An Analytical Study of the Opinions of a Sample of Employees at Al-Joud Company for Modern Agricultural Technology**

**Wasan Jawad Kadhim**

Affiliation: Technical Institute of  
Amara, Southern Technical University  
Email: [wasan.jawad@stu.edu.iq](mailto:wasan.jawad@stu.edu.iq)

**Shaker Aboud Alawi**

Affiliation: Technical Institute of  
Amara, Southern Technical University  
Email: [shakeralradi9@gmail.com](mailto:shakeralradi9@gmail.com)

**Rafal Hamzi Naji Alhajji**

Affiliation: College of Administration  
and Economics, University of Maysan  
Email: [rafalhamzi@uomisan.edu.iq](mailto:rafalhamzi@uomisan.edu.iq)

---

**Abstract :** This research seeks to examine the effect of the green quality management on employee productivity. It is based on the issue of lack of awareness in some industrial companies about the importance of this strategy in achieving a balance between productivity and environmental concern, and its insufficient systematic implementation in a way that leads to improving the performance of institutions. A case study of the Al-Joud Company for Agricultural Technology was conducted. The importance of this study is that it focuses on one of the modern management approaches known as green quality management. Green quality management is introduced as a holistic approach to improve process and product quality while minimising environmental and resource waste, thus increasing sustainability. The present study is descriptive-analytical; the researcher used a questionnaire as data collection instrument. A sample of 61 employees was asked to respond to the questionnaire and 54 responses were deemed usable (88.5% response rate). The questionnaire sought to assess the dimensions of green quality management, including green quality performance, green quality reliability, service viability, conformity and durability, and the dimensions of employee productivity, which are work motivation, work knowledge and work ability. The statistical results show that green quality management has a statistically significant effect on employee productivity, which refers to the importance of this approach in improving individual and organisational productivity. The research findings suggest that the concept of green quality management should be embraced as an integrated management approach within organizations and its dimensions should be institutionalized and implemented to enhance employee productivity and deliver sustainable performance that integrates economic and environmental sustainability.

**Keywords:** *Green quality management, employee productivity, Al-Joud Company for Modern Agricultural Technology.*

---

#### **1.INTRODUCTION**

Modern business world is also experiencing a blistering change towards incorporation of environmental concerns into the corporate management style and a developing concern on the significance of sustainability and conservation of natural resources. Green Quality Management (GQM) is in this regard an evolutionary concept of the conventional approaches of quality management. GQM is aimed at engaging quality practices that take into consideration the environmental aspect and steering the production and service processes in the pursuit of high environmental efficiency without affecting organizational fundamental targets. GQM is important because it can enhance the quality of output, minimize waste, and enhance the efficiency of operations, which positively affect the overall organizational performance the productivity of the employees and their behavior in the work environment. (Ridha & Soror, 2021) Recent investigations show that the application of GQM practices can help to improve the capacity of organizations to satisfy the customers demands in the context of sustainable development requirements and the quality of products and services that have a distinct competitive edge in the market. Indicatively, it has been

---

established that application of GQM practices can lead organizations to enhance the quality of their products and environmental conservation at the same time thereby contributing to their competitiveness and sustainability in business.

## **2.THE SCIENTIFIC AND EPISTEMOLOGICAL METHODOLOGY OF THE STUDY**

### **2.1. THE PROBLEM OF THE STUDY**

Green quality management (GQM) is a modern management concept that thrives in contemporary business environments. Organizations strive to integrate environmental considerations with quality practices to achieve greater resource efficiency, reduce waste, and improve overall performance. However, the adoption of GQM remains limited in many organizations, and its impact on human capital, particularly employee productivity, is still a subject requiring further investigation and field research.

Research indicates a scarcity of studies examining the relationship between green management practices and employee performance outcomes, especially within local organizational contexts. This makes understanding and defining the impact of GQM on employee productivity insufficiently clear in the current scientific literature. Furthermore, a research gap exists in clarifying how the dimensions of GQM—such as green quality performance, green quality reliability, green service validity, and green quality conformity and durability—contribute to enhancing employee productivity factors like motivation, knowledge, and ability. Therefore, the central research question of this study is: What is the impact of green quality management on increasing employee productivity at Al-Joud Modern Agricultural Technology Company?

### **2.2.THE IMPORTANCE OF THE STUDY**

The significance of this study is based on the fact that it presents green quality management as a contemporary management methodology that helps to enhance the performance of institutions and individuals, taking into account the environmental aspect and resource sustainability. The significance of the study may be explained at the three levels:

#### **2.2.1. AT THE INDIVIDUAL LEVEL (EMPLOYEES)**

The research aids in the realization of the impact of the green quality practices on the productivity of workers, such as work motivation, the knowledge of the task, and the capacity to fulfill the task efficiently. It also helps to make people more aware of the value of the contribution of every employee to the quality and waste reduction, which will raise self-motivation and job satisfaction. Moreover, it allows employees to learn new skills that concern sustainable practices, thus, making them more efficient and capable of adjusting to the current working conditions.

#### **2.2.2. AT THE COMMUNITY LEVEL**

The paper has affirmed the need to build the environmental aspect into the work practice of institutions such that it fosters environmental sustainability and minimizes wastefulness of natural resources. The results of the study are also valuable in the dissemination of the culture of green quality to other institutions, which fosters the realization of sustainable development and improvement of corporate social responsibility. Lastly, it also aims at raising awareness among the community about the relevance of sustainable operational efficiency and its contribution to the environment and the services it offers.

### 2.2.3. AT THE COMPANY LEVEL

This study offers scientific measures to Al-Joud Modern Agricultural Technology Company for the impact of green quality management on employee productivity, which assists to enhance institutional performance. It also enables top management to understand good practices for improving quality and minimising waste, which supports improving the company's efficiency and competitiveness. It allows for decisions to be made based on information about the effect of green quality on employee performance, which contributes to delivering high-quality services to customers to gain a competitive advantage.

### 2.3. STUDY OBJECTIVES

The study has the following sub-objectives:

The objectives that this research intends to reach are the following sub-objectives:

- 2.3.1. To measure the impact of green quality performance on enhancing employee productivity.
- 2.3.2. To calculate the impact of green quality reliability on enhancing employees' motivation.
- 2.3.3. To measure the impact of the validity of green quality services on developing employee awareness of their work responsibilities.
- 2.3.4. To test the impact of green quality compliance on improving employees' ability to perform their tasks efficiently.

### 2.4. STUDY HYPOTHESES AND HYPOTHETICAL FRAMEWORK

The main hypothesis states that "There is a statistically significant positive relationship between green quality management and employee productivity."

The sub-hypotheses of the main hypothesis are as follows:

- H1-1 There is a statistically significant positive relationship between green quality performance and employee productivity.
  - H1-2 There is a statistically significant positive relationship between the reliability of green quality and employee productivity.
  - H1-3 There is a statistically significant positive relationship between the suitability of green quality services and employee productivity.
  - H1-4 There is a statistically significant positive relationship between green quality compliance and employee productivity.
  - H1-5 There is a statistically significant positive relationship between the robustness of green quality and employee productivity.
- Figure (1) Hypothetical Study Plan

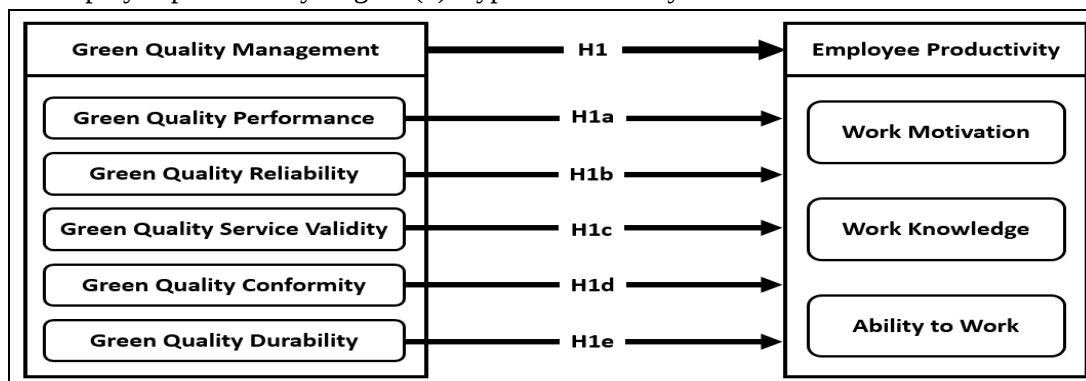


Figure (1) Hypothetical Study Plan

### 2.5. STUDY LIMITATIONS

2.5.1. The study is limited to Al-Joud Company for Modern Agricultural Technology in Karbala Governorate, where data was collected from the employees of this company, which makes the results specific to this institutional and spatial context.

2.5.2. Temporal Limitations: The study is conducted between the time frame of data collection and data analysis, i.e. between February 20, 2025, and January 26, 2026, i.e. the timeline of questionnaire administration and analysis of the results.

---

## 2.6. STUDY POPULATION AND SAMPLE

The population of this study is all the employees of Al-Joud Company for Modern Agricultural Technology in Karbala Governorate, which represents the population of interest through which the research aim and purpose of this study is achieved, which is to evaluate the effect of green quality management (GQM) on employee productivity. There are 61 individuals in the population, which includes all the administrative and technical departments of the company. Simple random sampling was used to provide a fair representation of the population. The study handed out 61 questionnaires and received 54 valid responses, resulting in a response rate of around 88.5%. This rate is considered sufficient for conducting statistical analysis and deriving reliable results.

## 2.7. STUDY TOOLS AND MEASURES

In this study, the study uses the questionnaire as the main method of gathering data of the study sample. The questionnaire was formulated in accordance to the nature of the research topic and quantification of the two primary variables that included: the quality management of green and the level of employee productivity. The measures of the variables were specified according to the literature. According to what is fitting to Al-Joud Company for Modern Agricultural Technology in the Iraqi context, the variables of the study, their dimensions and the measures employed in the creation of the study scale appear as follows in Table (1):

**Table No. (1) Study variables, dimensions, and sources used to determine them**

|                 | <b>Dimensions of the measuring instrument</b> | <b>Number of paragraphs</b> | <b>encoding</b> | <b>Sources</b> |
|-----------------|-----------------------------------------------|-----------------------------|-----------------|----------------|
| <b>Firstly</b>  | Green Quality Management                      | 20                          | SSR             | [12]           |
| 1               | Green quality performance                     | 4                           | ST              |                |
| 2               | Green quality reliability                     | 4                           | SU              |                |
| 3               | Green Quality Service Validity                | 4                           | SB              |                |
| 4               | Green quality conformity                      | 4                           | SC              |                |
| 5               | Green quality durability                      | 4                           | SU              |                |
| <b>secondly</b> | Worker productivity                           | 15                          | AGH             | [25]           |
| 1               | Willingness to work                           | 5                           | RT              |                |
| 2               | Knowledge of the work                         | 5                           | DF              |                |
| 3               | Ability to work                               | 5                           | GH              |                |

**Source:** Prepared by the researcher based on the aforementioned sources.

## 3. THE PHILOSOPHICAL FRAMEWORK OF THE STUDY

### 3.1. THE CONCEPT OF GREEN QUALITY MANAGEMENT

#### 3.1.1. GREEN QUALITY MANAGEMENT

The notion of Green Quality Management (GQM) is regarded as a valuable environmental factor in the conventional approach to quality management that encourages sustainable development and competitive edge. It focuses on making green products, green processes, and harmonizing business operations to its goals of environmental sustainability. This strategy is becoming more crucial because the world is becoming more aware of issues related to environmental concerns and businesses are aiming at satisfying the increasing demand to have products and practices that are sustainable. The shift of the old Total Quality Management (TQM) to the GQM takes into account a number of significant elements and approaches. (Sui et al., 2019)

Green Quality Management is a sophisticated management method that transforms the traditional quality principles to fit the demands of the global green, which guarantees the environmental friendliness and sustainability in the overall work of the organization and the product lifecycle.

further incorporating that green quality management is a dynamic concept that combines the environmental interest with the conventional concept of quality management to attain sustainable competitiveness. It is not merely a case of satisfying a customer and business owner with a financial gain to meet the needs of the society and environment, which can be encapsulated in the 3P concept, which include profit, people, and planet. (Bejtović et al., 2022)

The researcher also mentioned that green quality management was an intro of strategic shift where environmental responsibility and social considerations are integrated into fundamental quality and

---

operational processes especially at the supply chain, as a way of improving long-term sustainable competitiveness.

Although (Jie, 2010) defines Green Quality Management (GQM) as a management process that combines the environmental factors with the conventional quality management discipline, green quality management is mostly supported by sustainable development strategy and is geared towards addressing the increasing demand of environmentally friendly products and services.

According to (Giram et al., 2015) Green Quality Management (GQMS) is a part and parcel of the larger concept of the green revolution and the motivation to environmental protection and sustainable development. Companies in different industries are adopting these systems to keep up with the rising trend regarding the environmental awareness.

The author of the research has remarked that in the modern competitive and global markets with increasing concerns over social and environmental matters, the issue of productivity improvement gains more significance than ever before. GQMS, as well as green purchasing and green productivity, is a business instrument that companies use to mitigate these issues by inculcating the environmental factors in their business models.

According to (Chen et al., 2024) the Green Quality Management is one of the most important parts of the contemporary organizational processes, especially of the specialized, improved, and innovative organizations. It involves total quality management which incorporates environmental concerns in the management process. The overall green quality management monitoring system has been an indispensable instrument of total quality management in organizations meaning its increasing significance in the business world in the context of achieving sustainable and responsible business behaviors.

further stipulated that green quality management (GQM) is a comprehensive approach that incorporates the aspect of the environment in conventional principles of quality management. It will work to attain sustainable development, striking a balance between the economical, social and environmental factors of the product lifecycle. GQM pushes innovation of technology and management towards better products, processes and efficiency to make production clean, flexible and waste free. It also assists the economic units to capture green opportunities, cut environmental pollution losses, enhance their social image, and also gain high benefits. (Durgham et al., 2024)

The researcher thinks that the green quality management can be seen as a strategic framework that allows the companies not only to be in compliance with the quality standards but also to take the initiative to solve the environmental issues, to develop the innovations and to eventually achieve the competitive advantage in the market that can be considered more environmentally conscious.

(Albloushi et al., 2023) established that Green Quality Management (GQM) is a system that is meant to address the increasing need to have environmentally friendly practices at the same time, the sustainable competitiveness of an industry. It is mainly aimed at adopting and enforcing an effective management system that is economically efficient in terms of resource usage and an environmental friendly approach.

As proposed by the researcher, Green Quality Management is a hybrid strategy with the principles of environmental sustainability and conventional quality management strategies. It seeks to reduce the environmental effects of the products, services and processes of an organization, and at the same time enhance quality of the same and fulfill customer expectations. This is not just to comply with the environmental regulations but aim at ensuring that the best way to enhance environmental performance and resource efficiency in all operations are sought.

### **3.1.2. THE IMPORTANCE OF GREEN QUALITY MANAGEMENT**

Green quality management is significant in the present business and industrial environment as it incorporates the element of the environment into the customary quality management approaches, fosters sustainability and lowers environmental effects. The method is becoming more significant as globalization is spreading awareness about environmental concerns and sustainable development is required. The green quality management improves the environmental performance and is also linked with competitive advantage and business long term success. It is very important to organizations to integrate green management systems and more so when it is coupled with performance evaluation. This is crucial to present-day business and environmental management, and it comprises: (Mingyi & Hong, 2023)

---

3.1.2.1. green management, as well as performance evaluation, has become an important factor in the modern project management. It is in line with the modern management standards of the industries and meets the changing demands of environmental protection.

3.1.2.2. The application of the concept of green management and general performance outcomes in organizations show that the introduction of environmentally friendly approaches could also achieve positive outcomes that are not limited to environmental influence.

3.1.2.3. The combination of performance evaluation and green management systems is a significant step towards the implementation of green management in companies and will serve as the basis of future studies in the sphere.

3.1.2.4. Green management systems should be integrated with performance evaluation to help organizations keep up with the current standards of the industry, enhance their environmental protection, positive performance outcomes, and in the end sustainable business activities.

### **3.1.3. GREEN QUALITY MANAGEMENT OBJECTIVES**

The concept of green quality management, especially in the manufacturing industry, is inherently connected with the concept of green practices and is set to produce multiple essential goals: (Chithra, 2023)

3.1.3.1. The Total Quality Management (TQM) in manufacturing industry can only be actualized once the introduction of green practices in the manufacturing processes. This means that green practices do not just add to TQM, but they form part of this strategy.

3.1.3.2. The green management practices are supposed to facilitate constant enhancement in the organization. This is furthered into the improvement of the overall sustainability, whereby processes become more environmental responsible and efficient in the long run.

3.1.3.3. Green manufacturing reduces environmental effects and waste, which is one of the main elements of green management. Green manufacturing involves all issues that seek to reduce the impacts on the environment. This is done by maximizing the use of the resources available and substantial decrease in wastage generated in the production processes.

3.1.3.4. Green practices and compliance to requirement and sustainable practices among the employees are promoted. Such group effort is influential on the performance of an organization.

### **3.1.4. BENEFITS OF GREEN QUALITY MANAGEMENT**

Green Quality Management (GQM) has many advantages that comply with the Sustainable Development Goals (SDGs) to improve environmental and economic performance. Through implementing green practices as part of quality management, an organization can gain competitive advantages, cut costs and have better environmental results. The change to GQM is associated with the implementation of the practices, aimed at reducing wastes, using resources more efficiently, and satisfying the needs of green consumers, which can be considered as the means of sustainable business activity. The advantages of using Green Quality Management can be summarised as follows: (Mert, 2022)

3.1.4.1. Improved Business Performance: Green management policies are a key to the successful business performance and the further vision of the organization. By maintaining the inclusion of green in the quality management, then the organizations can enhance their performance and competitiveness.

3.1.4.2. Greater Competitiveness: Companies which competently use green policies may gain competitiveness in terms of being distinctly different in their performance as compared to their business counterparts. This may make the market stronger and result in customer loyalty.

3.1.4.3. Sustainability and Environmental Responsibility: Green quality management is directly related to the sustainability practices of an organization since it helps to lower its environmental impact and enhance the responsible usage of resources.

3.1.4.4. Cost Reduction: Organizations can be aware of a large amount of cost reduction by enhancing operations, minimizing waste, and lowering energy usage.

3.1.4.5. Improved Brand Image and Reputation: Expressing the desire to be environmentally responsible and of high quality can help make an organization have a better image and reputation.

Green quality management is a strategic model that allows an organization to seek not only environmental stewardship, but also operational excellence that leads to their success and sustainability in the long run.

### **3.1.5. DIMENSIONS OF GREEN QUALITY MANAGEMENT**

The dimensions of Green Quality Management were adopted according to (Al-Khaqani, 2024). These dimensions can be explained as follows:

3.2.1. Green Quality Performance: Green quality performance is the efficiency with which a product achieves its intended purpose. This may be the return on investment in mutual funds, where better performance is usually synonymous with better quality.

---

3.2.2. Green Quality Reliability: Reliability refers to the probability of product failure within a specific time frame. Traditionally, product reliability is expressed using the average time to failure, which is the average time between breakdowns and failures per unit of time. Reliability has become an important characteristic for durable products, especially for heavy and expensive machinery that operates around the clock, such as servers in the IT industry and drilling rigs in oil refineries.

3.2.3. Green Quality Service Validity: This plays a crucial role in organizations that adopt green quality. It is described as the speed, accuracy, and efficiency of repair services. Subjective and objective opinions play a significant role in determining service validity.

3.2.4. Green Quality Conformance: This is defined as the process of comparing specifications with their implementation. Specifications are often presented as a system under test, and this test can be used to verify that the program's behavior matches the established specifications and, therefore, that it possesses all the characteristics that have proven its effectiveness.

3.2.5. Green Quality Durability: Durability is the degree to which a product can withstand stress or impact without failure.

## **3.2. EMPLOYEE PRODUCTIVITY**

### **3.2.1. THE CONCEPT OF EMPLOYEE PRODUCTIVITY**

Employee productivity is a complex concept that has many variables that affect the performance of an employee in terms of efficiency and effectiveness towards the goal achievement of the organization. It is a very essential factor influencing the organizational prosperity, profitability and employee satisfaction. The productivity of the employees is not just the amount of work done but also the quality and efficiency of the work that is done. Consequently, the issue is affected by numerous factors, such as motivation, working conditions, leadership, remuneration, and so forth. Learning about these factors can assist organizations to put strategies on how to improve productivity. (Mustafakulova et al., 2024) view the productivity of employees as a complex phenomenon that contributes to the health of organizations and the welfare of employees, which is caused by a complex of personal, managerial, and systemic factors. Employee productivity has been cited as a key factor to consider as it plays a significant role in the success and profitability of the organization and the level of satisfaction of the employees. Productivity may be viewed as a state of the mind which leads to the desire of the individual to learn, grow, and continuously work at enhancing their working potential and doing everything possible to get more results than the day before. It is used as a benchmark in efficiency and effectiveness of production. It is the ratio of outputs (outcomes) to resources (inputs) of the process of production of goods or services. The better is the skilled worker the more productive he or she is. It is one of the signs that can be used to assess the productivity of employees based on their skills and professionalism which enables them achieve results by enhancing the outputs of work, personal continuous development, working in high-quality and finishing work with minimum number of resources. The combination of these indicators leads to general rise in productivity of employees in terms of work. (Bachtar & Anshori, 2024)

(Singh et al., 2022) further added that productivity of employees is a well-known concept and is believed to be the key to the success of the business in the long run. The high level of staff productivity is a priority to organizations because it is effective in the attainment of sustainable success. The high employee productivity is considered to be a key to sustainable success of any business. Due to its significance, organizations are on the pursuit to improve and give priority to the productivity of employees. Employee productivity is the output of employees in terms of effectiveness and efficiency in which they execute their duties and this goes directly towards the overall organizational goals and successful organizational sustainability. This has made it significant resulting in its prioritization by the companies and growing interest in its academic study.

According to (Zaki et al., 2013) , employee productivity (EP) is a complicated and the topic of discussion especially in the service field. Conventionally, EP is more readily quantified in the manufacturing industry because of its physical outputs and unified processes. The unique measurement challenges are however in the service sector which encompasses industries like the hotels. It involves taking into consideration the custom character of services and uniting both customer feedback and employee performance to obtain a holistic vision.

---

According to (Bachtiar & Anshori, 2024), employee productivity is characterized by efficiency, optimal use of resources and improvement. It is largely affected by the mental health and competency of the labor force. Productivity of employees is highly important to companies and when it drops, profits and even survival can be greatly affected by that. They also describe the output of the workers (whether by individuals or groups) as a product of work as the ratio of the resources (input) and the output (output) in an effective way. Productivity can be described using the goods and services manufactured in consideration of the labor, capital and equipments employed. According to (Sainger, 2019) one of the most important goals of many organizations is employee productivity since it brings a lot of benefits to the organization and employees themselves. Some of the greatest of these advantages include:

3.2.1.1. Organizational Benefits: This has high level of employee productivity which leads to economic growth as well as more profitability to the organization.

3.2.1.2. Employee Benefits: To the employees, high productivity may result in better working conditions, salary increments or pay increases, and job creation.

According to (Aziz & Osman, 2025), employee productivity is the efficiency and effectiveness of the contribution made by the employees to organizational objectives. The level of employee participation and organizational design can determine the impact the working environment, stress levels and training would have on productivity in the end.

(Dhawan, 2024) holds that productivity of the employees is the effective utilization of resources by a particular worker. It is one of the performance indicators in manufacturing and necessary to propel and control the production enhancements. Employee productivity is associated with the effectiveness of a single worker in transforming inputs into outputs, which leads to the overall organizational efficiency and effectiveness and finally customer satisfaction and product cost. The quality of services offered by an employee within a given period also defines employee productivity. It involves the productivity of a single employee or a team of employees in a particular period. The successful organizations are focused on the productivity of employees and introduce the measures of its periodic review, making all the required steps to allow its maintenance or increase. The most common evaluation tools are employee satisfaction surveys, assessment forms, and a general conversation with managers. (Attygalle & Abhayawardana, 2021)

According to (Jayeoba et al., 2025) the overall effect of employees in terms of the overall contribution to the output or organizational targets is what is called employee productivity in the broadest sense. They also highly highlight its character as they speak of what enhances its connection with other facets of an organization. Promotion and understanding of productivity is a key subject to several stakeholders which include policymakers, businesses, academic fields and labor unions.

The researcher maintains that employee productivity is understood as the efficiency in the conversion of the labor inputs into outputs. It is an important element of socio-economic development and contributes greatly to different spheres of societal development. The researcher also adds that one of the most important economic concepts, which quantifies labor efficiency, is employee productivity. It is crucial to the national competitiveness, living standards and economic sustainability where the technological advancement and human capital development are key factors. Strategic policies in addressing the challenges are vital in ensuring the economic growth in the long-term.

### **3.2.2. THE IMPORTANCE OF EMPLOYEE PRODUCTIVITY**

The productivity of the employees is a very decisive factor and it has a great influence on the organizational success, satisfaction of employees as well as the general economic growth. The levels of high productivity and not only improve the level of profitability but also lead to better working conditions and employment. Individual performance is closely related to productivity because the active involvement of employees and their motivation are the key to achieving the best outcomes, which is proved by the following: (Triyani et al., 2023)

3.2.2.1. Promoting Company Sustainability and Advancement: The productivity of employees is the key to the survival and the development of a company in the long run. It has a direct impact on the organizations capability in ensuring that it sustains its operations and moves forward in the market.

3.2.2.2. The Influence of the Individual Performance: Good performance of employees is one of the major factors that influence the productivity of the company. Individual performance was revealed to have a close connection with the productivity of employees meaning that, when employees perform well it motivates more company productivity.

---

(Dobrowolska, 2024) continues to explain the significance of the productivity of the employees stating that the following is the significance:

3.2.2.3. Labor productivity is of utmost significant to every employer, whether he is using conventional or nimble solutions, indicating the universal relevance of the value of labor productivity in any business set up.

3.2.2.4. This is an indicator of employee productivity as a direct route to the realization of the wider organizational objectives and hence, greater organizational effectiveness and productivity as well.

3.2.2.5. The productivity is a major variable within the psychology of work and organisations. It is tied to all the other psychological dimensions due to the constant quest of efficiency at the workplace. This implies that the productivity of employees is not a single indicator but is closely associated with psychological health and labour participation.

3.2.2.6. Concisely, employee productivity is paramount as it is a universally accepted aspect of employers, a major result of HR practices of organizational effectiveness, and is inherently associated with numerous psychological dimensions at the workplace.

### **3.2.3. EMPLOYEE PRODUCTIVITY GOALS**

The productivity of the employees is an important dimension to the success of a company because it directly determines the success of the organizational objectives. The concepts of learning about and enhancing productivity of employees presuppose a number of important points: (Kholik & Suryati, 2023)

3.2.3.1. To accomplish certain productivity target that is prescribed by the organization, the input of human resources is integrated that necessitates the use of different factors of production. The above functions are dependent on the human factor in the effective management of natural and capital resources to ascertain the realization of these objectives.

3.2.3.2. The organization strives towards making sure that employees are constantly motivated and to spur them to invest their time, efforts as well as intellectual and practical energies in fulfilling its strategic objectives especially those that bring about the increase of the work productivity level.

3.2.3.3. The organization aims at nurturing the capabilities and competencies of individuals to support them in the professional development. Higher knowledge and skills levels among the employees will definitely result into increased efficiency and effectiveness in carrying out their duties due to having a more comprehensive understanding and broader base of knowledge as well.

3.2.3.4. The productivity of employees is a key aspect of organizational success because it is significant in attaining the best levels of production, which helps in enhancing the performance of the entire organization in different dimensions, and helps in the growth of an individual career.

3.2.3.5. Organizations seek optimal production of goods or services and it is a primary requirement of success of organization and much related to the overall organizational performance.

3.2.3.6. Greater organizational productivity leads to increased organizational success, which in turn has a positive economic growth and profitability and also allows the organization to realize a high degree of efficiency and competitive advantage in the market.

3.2.3.7. Productivity will help in attainment of organizational goals and objectives that may reduce cost, better quality of output, and overall efficiency of the operations.

### **3.2.4. DIMENSIONS OF EMPLOYEE PRODUCTIVITY**

The dimensions of employee productivity in this study consisted of three aspects: (Kalaf & Abdala, 2022)

a. Desire to Work: This is the level of motivation, positive feelings, preference, choice, and dedication to work.

b. Work Knowledge: This encompasses the employee's educational level, theoretical understanding, familiarity with technological components, practical skills, and efficient use of production tools to increase productivity.

c. Work Ability: This is a set of physical and mental capabilities, skills in building relationships with colleagues, specialized abilities, the ability to face risks, and ethical qualities.

4. Statistical aspect

## **4.1. Descriptive Analysis of Study Variables (Green Quality Management and Employee Productivity)**

The results of the analysis in Table (3) indicate that there is agreement in the opinions of the research sample regarding this variable in general, as the agreement rate recorded (85%), with an arithmetic mean of (4.67), and a standard deviation of (0.776) for the dimensions of green quality management, while the agreement rate recorded (81%), with an arithmetic mean of (4.74), and a standard deviation of (0.73).

**Table (2) Results of the descriptive analysis of the dimensions of green quality management and employee productivity**

| Contrast        | standard deviation | arithmetic mean | Paragraph  |
|-----------------|--------------------|-----------------|------------|
| 0.432           | 0.75               | 4.66            | ST         |
| 0.456           | 0.88               | 4.76            | SU         |
| 0.590           | 0.92               | 4.98            | SB         |
| 0.543           | 0.65               | 4.41            | SC         |
| 0.543           | 0.68               | 4.54            | SK         |
| <b>0.5128</b>   | <b>0.776</b>       | <b>4.67</b>     | <b>SSR</b> |
| 0.436           | 0.76               | 4.87            | RT         |
| 0.587           | 0.74               | 4.48            | DF         |
| 0.451           | 0.69               | 4.87            | GH         |
| <b>0.491333</b> | <b>0.73</b>        | <b>4.74</b>     | <b>AGH</b> |

Source: SmartPLS program outputs

#### 4.2. TESTING THE MAIN HYPOTHESIS

The main hypothesis stated that “there is a significant positive relationship of green quality management to employee productivity.” To test this hypothesis, the results are shown in Table No. (3).

**Table No. (3): Results of the evaluation of the structural model for the main hypothesis**

| Hypothesis | The path  | VIF | Path coefficient | t Value | p Value | Result     | f2 Impact size | R2 Coefficient of determination | R2 Rate |
|------------|-----------|-----|------------------|---------|---------|------------|----------------|---------------------------------|---------|
| H1         | SSR → AGH | 1   | 0.789            | 25.47   | 0.000   | Acceptance | 3.443          | 0.79                            | 0.772   |

Source: SmartPLS program outputs

Table (3) presents the results of the structural model evaluation for the main hypothesis. The path coefficient reached (0.789), which meets the required criteria for t and p values, indicating a significant effect and thus supporting the main hypothesis. The coefficient of determination (R<sup>2</sup>) reached 79%, meaning that the independent variable explains 77% of the variation in the dependent variable, while the remaining percentage is attributed to other factors not addressed in the study.

#### 4.3 TESTING SUB-HYPOTHESES

The sub-hypotheses of the main hypothesis state the following:

- H1-1 There is a statistically significant positive relationship between green quality performance and employee productivity.
- H1-2 There is a statistically significant positive relationship between the reliability of green quality and employee productivity.
- H1-3 There is a statistically significant positive relationship between the suitability of green quality services and employee productivity.
- H1-4 There is a statistically significant positive relationship between green quality compliance and employee productivity.
- H1-5 There is a statistically significant positive relationship between the robustness of green quality and employee productivity.

To test hypotheses (H1-1, H1-2, H1-3, H1-4, and H1-5), the researcher constructed a structural model, the results of which are presented in Table 4.

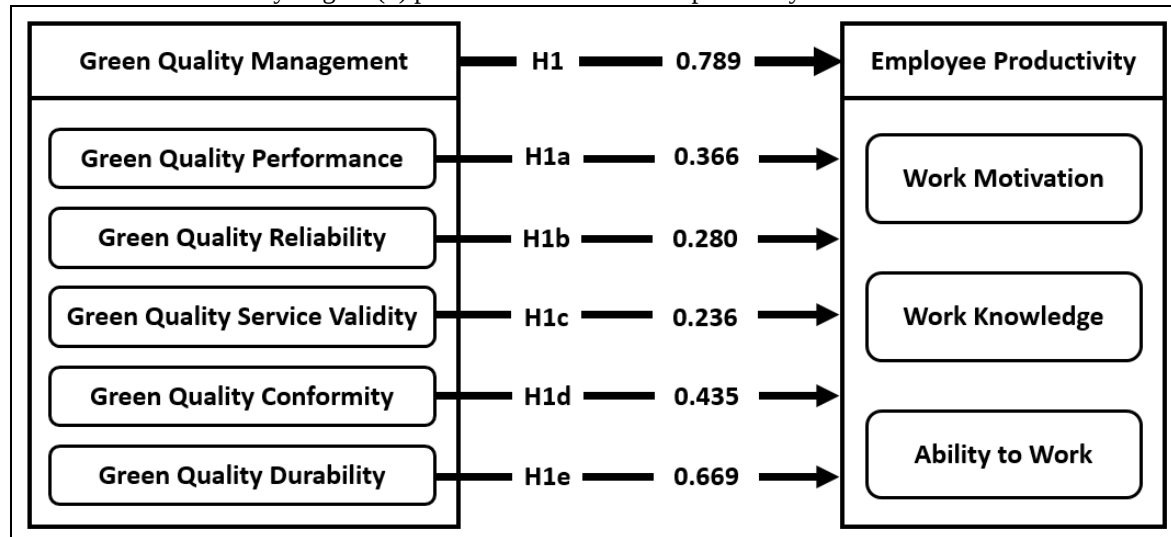
**Table No. (4): Results of the evaluation of the structural model for the sub-hypotheses**

| Hypothesis | The path | VIF   | Path coefficient | t Value | p Value | Result     | f2 Impact size | R2 Coefficient of determination | R2 Rate |
|------------|----------|-------|------------------|---------|---------|------------|----------------|---------------------------------|---------|
| H1-1       | ST → AGH | 1.121 | 0.366            | 4.098   | 0.000   | Acceptance | 0.072          |                                 |         |

|      |          |       |       |       |       |            |       |       |       |
|------|----------|-------|-------|-------|-------|------------|-------|-------|-------|
| H1-2 | SU → AGH | 1.327 | 0.280 | 3.056 | 0.000 | Acceptance | 0.166 | 0.788 | 0.783 |
| H1-3 | SB → AGH | 1.277 | 0.236 | 3.222 | 0.000 | Acceptance | 0.269 |       |       |
| H1-4 | SC → AGH | 1.348 | 0.435 | 2.316 | 0.000 | Acceptance | 0.276 |       |       |
| H1-5 | SK → AGH | 1.398 | 0.669 | 3.764 | 0.000 | Acceptance | 0.226 |       |       |

**Source:** SmartPLS program outputs

Table (4) presents the results of the structural model evaluation for the sub-hypotheses. The path coefficients for the sub-hypotheses (H1-1, H1-2, H1-3, H1-4, H1-5) met the required criteria for t and p values, indicating the significance of these relationships and thus the acceptance of the sub-hypotheses. The coefficient of determination ( $R^2$ ) reached 78%, meaning that the dimensions of the green quality management variable explained 77% of the factors affecting employee productivity. The remaining percentage is attributed to factors not addressed in the study. Figure (2) presents the results of the path analysis.



**Figure (2) Results of path analysis**

## 5. CONCLUSIONS AND RECOMMENDATIONS

### 5.1. CONCLUSIONS

5.1.1. The findings showed a positive significant effect of green quality management on employee productivity, supporting the hypothesis of this study and the role of this approach to enhance productivity performance of individuals within the organisation.

5.1.2. The findings revealed that the dimension of green quality performance contributes to increasing employee productivity, reflecting the importance of successfully implementing of green processes in improving job performance.

5.1.3. The results showed that the stability of green quality dimension has a positive impact on employee motivation, reflecting that the quality and continuity of green systems contribute to increasing motivation and job satisfaction.

5.1.4. The results showed that the green quality service validity dimension has a significant impact on the employees' job knowledge, reflecting that the support service quality enhances the understanding and knowledge of job roles.

5.1.5. The findings showed that the validity and robustness of green quality services are factors that help in improving the knowledge of employees concerning their work and how they are capable of executing their work effectively and consistently.

5.1.6. The findings revealed that green quality compliance has a positive effect on the improvement of employees' ability to complete tasks, indicating that compliance with specifications and standards is an effective way to improve job performance.

5.1.7. The results also indicated that the green quality robustness dimension is a facilitating factor for the sustainability of performance and improving employee adaptability to work requirements.

5.1.8. Descriptive results showed a high degree of adoption of green quality management in the case study company, indicating a favourable attitude of management towards integrating the environmental aspect into its management practices.

---

5.1.9. The findings suggest that increasing employee productivity does not rely only on classical factors, but is also affected by the adoption of contemporary management practices such as green quality management.

## **5.2. RECOMMENDATIONS**

Considering the results of the study, the researcher suggests the following:

- 5.2.1. The importance of integrating green quality management as a holistic strategic approach in firms, rather than adopting it in parts or stages.
- 5.2.2. Improving emphasis on green quality performance through the establishment of operational processes that achieve environmental and productive efficiency.
- 5.2.3. Working to improve the reliability of green quality systems by building stable and trustworthy systems, thereby contributing to increased employee confidence and motivation.
- 5.2.4. Creating supportive green quality services to improve employee awareness of their individual roles through ongoing training and information.
- 5.2.5. Focus on the importance of following green quality standards in operations, and understand that it improves personal and organisational performance.
- 5.2.6. Improve the green quality system through the adoption of the latest technologies and sustainable infrastructure for sustainable performance.
- 5.2.7. Engage employees in a green quality culture through awareness programs and integrate it into reward and incentive plans.
- 5.2.8. Encourage senior management to integrate environmental considerations into human resources policies to contribute to long-term sustainable productivity.

## **References:**

1. Albloushi, B., Alharmoodi, A., Jabeen, F., Mehmood, K., & Farouk, S. (2023). Total Quality Management Practices And Corporate Sustainable Development In Manufacturing Companies: The Mediating Role Of Green Innovation. *Management Research Review*, 46(1), 20-45.
2. Attygalle, D., & Abhayawardana, G. (2021). Employee Productivity Modelling On A Work From Home Scenario During The Covid-19 Pandemic: A Case Study Using Classification Trees. *Journal Of Business And Management Sciences*, 9(3), 92-100.
3. Aziz, A. M., & Osman, Z. (2025). Conceptual Framework Development Of Employee Productivity Among The Employees In Electrical And Electronic Manufacturing Industry. *International Journal Of Academic Research In Business And Social Sciences*, 15(1).
4. Bachtiar, M. A., & Anshori, M. I. (2024). Productivity And Psychology Well. *Jurnal Mutiara Ilmu Akuntansi*, 2(3), 50-59.
5. Bejtović, M., Andjelković, A., & Radosavljević, M. (2022). Green Quality And Supply Chain Management As A Factor Of Sustainable Competitiveness. *Facta Universitatis, Series: Economics And Organization*, 297-308.
6. Chen, Z., Yuan, J., Liu, Q., Liu, H., & Liu, M. (2024). Statistical Monitoring Of Green Quality And Immune System Resilience In Specialized, Refined, And Innovative Enterprises.
7. Chithra, M. (2023). 12 Green Management Practices By Small And Medium Enterprises. *Sustainability, Green Management, And Performance Of Smes*, 211.
8. Dhawan, A. P. (2024). Productivity Improvement Tools Used In The Industry-An Overview. *International Journal Of Scientific Research In Engineering And Management*, 8(05), 1-5.
9. Dirgham Muhammad Shatei Al-Khaqani. (2024). The Role Of Strategic Awareness In Promoting Green Quality Management: An Applied Study At Al-Joud Company For Modern Industrial Technology. *Tasnim International Journal For Human, Social And Legal Sciences*, 3(2), 214-232.
10. Dobrowolska, M. (2024). The Significance Of Work Productivity In The Context Of Non-Standard Employment. *Iza Journal Of Labor Policy*, 14.

11. Durgham, A. A. R., Islam, A. A. R., & Doaa, A. A. R. (2024). Green Quality Management And Green Target Costing And Their Role In Achieving Competitive Advantage. *Eximia Учредители: Plus Communication Consulting Srl*, 13, 799-814.
12. Giram, P. S., Gaikwad, V. V., Thonte, S. S., Rajurkar, M. R. M., Gholve, S. B., & Bhusnure, O. G. (2015). Environmental Protection By Implementation Of Green Purchasing, Green Productivity, Green Marketing And Green Quality Management Systems. *Environmental Management*, 1, 2.
13. Jayeoba, F. I., Genty, K. I., & Adeoye, A. O. (2025). Ethical Compensation And Employee Productivity. In *Advances In Ethical Work Climate And Employee Well-Being* (Pp. 171-190). Igi Global Scientific Publishing.
14. Jie, C. (2010). Study on Green Quality Management of Enterprise. *Commercial Research*, 397, 76-80.
15. Kalaf, S. H., & Abdala, A. M. (2022). The Impact Of Critical Success Factors On Improving Employee Productivity Analytical Study In Al-Mishraq Sulfur Plant. *Tikrit Journal Of Administrative And Economic Sciences*, 18(58, 2), 215-234.
16. Kholik, J. R. A., & Suryati, A. (2023). Peranan Faktor-Faktor Yang Dapat Mempengaruhi Produktivitas Kerja Karyawan Pada Pt. Damar Resources. *Aliansi: Jurnal Manajemen Dan Bisnis*, 18(2).
17. Mert, G. (2022). Green Management Policies For Corporate Success. In *Handbook Of Research On Current Trends In Asian Economics, Business, And Administration* (Pp. 384-401). Igi Global.
18. Mingyi, Y., & Hong, T. S. (2023). The Importance Of Integrate Green Management System Based On Performance Evaluation In Enterprise: A Systematic Literature Review. *International Journal Of Academic Reserach In Economics And Management Sciences*, 12(3).
19. Mustafakulova, S., Asrorova, A., & Ibragimov, K. (2024). How To Improve Employee Motivation And Productivity.
20. Ridha, D. A. A., & Soror, M. J. (2021). *INTERNATIONAL JOURNAL OF RESEARCH IN SOCIAL SCIENCES & HUMANITIES*.
21. Sainger, G. (2019). Building Engagement In The Workplace For Employee Productivity: A Conceptual Review.
22. Singh, S., Solkhe, A., & Gautam, P. (2022). What Do We Know About Employee Productivity?: Insights From Bibliometric Analysis. *Journal Of Scientometric Research*, 11(2), 183-198.
23. Sui, L., Shao, H., & Wang, Y. (2019). Study On Green Enterprise Quality Management Based On Sustainable Development. *International Journal Of Natural Resource Ecology And Management*, 4(5), 129-135.
24. Triyani, L., Zulfa, N., Adilla, D., Mahardika, A., & Afnes, S. (2023). Individual Performance As A Factor For Increasing Employee Productivity. *Journal Of Psychology And Social Sciences*, 1(3), 98-107.
25. Zaki, K. G. M., Jones, E., Morsy, M. A., & Abdelmabood, A. E. (2013). Using The Delphi Technique To Develop A Conceptual Model For Employee Productivity In The Egyptian Hotel Industry. *J Tourism Res Hospitality* 2, 4, 2.