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Impact of environmental quality on designing green jobs in solid waste treatment projects in Jordan

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***Abstract*---**Most countries tend to develop solid waste treatment projects in order to reduce the waste problem and increase their interest in the environmental issues, in order to preserve the rights of its future generations. This prompted them to enhance the presence of green jobs in the projects and to find a job specification and description consistent with the environmental quality. The study aimed to identify the impact of the environmental quality represented by the dimensions (top management commitment, employee empowerment, and continuous improvement) on designing green jobs in solid waste treatment in Jordan. I adopted the descriptive approach and analytical approach, depending on a questionnaire that was administrated to (3) projects. A sample of (66) individuals was selected, and the sample consisted of (project managers, treatment department managers, human resources managers, and environmental quality managers) working at the waste treatment projects in Jordan. The study also relied on the statistical methods such as descriptive statistics represented by (percentages and frequencies, arithmetic means and standard deviations), the analytical statistics represented by (multiple regression test), and the hypotheses of the study. The most important finding of the study is the existence of a statistically significant impact of environmental quality on the design of green jobs. The study recommended the need to enhance the contribution of the project management to holding meetings with successful entrepreneurs in order to benefit from their experiences and support the proposed ideas.

***Keywords*---**environmental quality, green jobs design, solid waste treatment projects.

Introduction

Interest in the green economy has recently become one of the sustainable development strategies that all countries of the world seek in order to achieve a balance between stimulating economic growth and developing the sustainability of natural and environmental resources, as the green economy requires development to find new models for economic development that is characterized by rapid growth (Adjei-Bamfo et al., 2020). This requires the creation of green jobs in various fields such as the renewable energy and renewable water sources, the reuse of treated water (greywater) and the treatment of solid waste (Pham and Paillé, 2020). The shift to the green economy requires a shift in designing the jobs to suit the green economy and its sustainability. Therefore, the Jordanian government launched the National Green Growth Plan in 2016. Moreover, in 2021 the European Bank for Reconstruction and Development and the European Union, in cooperation with the Jordanian government, launched the first comprehensive internationally backed program for the green economy in Jordan (Going Green, 2021), as part of its effort to encourage green investments. The interest in designing green jobs in Jordan has become a national strategy at the economic, social and environmental levels, due to the limited natural resources and the need for stable economic growth (Liu et al., 2021). Therefore, the Jordanian government is always seeking to search for all the economic and developmental alternatives and options that contribute to creating sustainable green economic future (Manyati and Mutsau, 2021).

The term Total Quality Environment Management (TQEM) is one of the contemporary terms, which has been widely used in recent years (Sen and Abedin, 2021). It came into existence officially in (1990) when the International Institute of Environmental Management offered the International Environment Management Initiative. In this initiative more than twenty companies from large companies in the United States participated voluntarily for the purpose of adopting the TQEM concept in its field of work (Sh et al., 2021), as the adoption of environmental quality in the operational processes secures sustainable success for the projects and ensures the achievement of strong economic growth for the projects (Nuhu et al., 2021). At the same time, it will help reduce the damage caused to the environment by the activities of these projects, as the International Organization for Standardization (ISO), in cooperation with many bodies, launched the initiative of a series of international standards (ISO) in 1996. ISO, as a specification of the environmental quality system, was developed in 2014 and 2015 (Hamdoun, 2020), and then it had become a general requirement for projects of all kinds and sizes, (Aboramadan, 2022). Moreover, it is the most widely applied in the world. After meeting the ISO requirements, the project can obtain an international certificate confirming its commitment to the terms and standards of this specification (Afum et al., 2021).

According to the International Labor Organization, 18 million new jobs can be created worldwide by 2030 if countries turn into a more green economy, and if green jobs are properly designed in all countries that are heading towards the green economy with real strategies. With 1.2 billion jobs in the world depend that on the environment (New Job Opportunities Survey Report, 2020), it has become necessary for employees to possess a high level of skill and be stimulated to work

to occupy green jobs in the projects that will be established within the new green growth strategies. Moreover, their green jobs should be adaptable to future changes to reach a healthy world that guarantees a decent work, productive projects and sustainable livelihoods. The size of the solid waste in Jordan reached 30 million cubic meters, but recycling reached only 15% of the total amount, which indicates a real problem in green jobs in solid waste treatment projects. This means that 85% of the waste is not treated (Future of Jobs in the Middle East, 2020).

Development of theory and hypothesis

Green jobs aim to achieve sustainable development while preserving the environment and reducing the risks of its degradation, which is known as the "green economy" (Liu et al., 2021). One of the principles of the green economy is the optimal use of natural resources to preserve their availability for future generations (Rayan et al., 2020), to reduce waste and pollution and to achieve the greatest development for society. The green economy is expected to play a major role in changing the future of jobs around the world, as by 2030, about 14 million green jobs will be created in Asia alone (Future of Jobs in the Middle East, 2020).

In the twenty-first century, two challenging issues emerged related to achieving Sustainable Local Economic Development (SLED) and the transition to environmental sustainability through Green Job Creation (GJC). Both challenges are closely interrelated and must be addressed together. Other challenges were also discovered such as Management Effectiveness (ME) and Public Policy Effectiveness (PPE) that influence Green Job Creation (Rayan et al., 2020).

Green jobs contribute to a more sustainable world, and work to support, enhance, preserve and restore environmental quality (Khan et al., 2019), while designing green jobs is the process of defining the tasks, duties, responsibilities, qualifications and relationships necessary to perform business in solid waste treatment projects (LaVan et al., 2022). Solid waste treatment projects sort and recycle solid waste collected by municipalities, and then reuse it (Shafaei et al., 2020).

This study aims to demonstrate the impact of environmental quality on designing green jobs in solid waste treatment projects in Jordan, to design green jobs that comply with environmental quality standards (Moon, 2021) and to measure the level of designing the green jobs in the solid waste treatment projects in Jordan. The study also aims to make recommendations that would help decision-makers in Jordan to re-design green jobs in solid waste treatment projects in Jordan, which would help create new jobs that conform to environmental quality standards.

Environmental quality is applied to the projects within the international standards, including the British Standard (BS 7750) initiated by the British Standards Institute in 1992. This British Standard is still applied in the United Kingdom, and it was the basis for the issuance of the International Standard Organization (ISO 14001) (Gomes et al., 2022). It is also characterized by its difficult conditions, which sometimes cannot be applied. Another international

standard is the *Eco-Management and Audit Scheme* (*EMAS*) issued by the European Union in 1993 and implemented it in 1995, which comprised strict regulations because it was modeled on the German legislations. A third one is the international standard (ISO) issued by the International Organization for Standardization, which is considered the most widespread and accepted in the international projects. It is the system of the international standard ISO 14001 series (Thakur and Sharma, 2021).

Environmental quality is considered an organized and comprehensive methodology that combines total quality management and environmental management in order to limit the defects and reduce waste resulting from joint operations in the production of products and the provision of services (Zimon et al., 2022). Environmental quality requirements are represented in the top management commitment, continuous improvement, teamwork and customers focus (Bananuka et al., 2021).

First: The impact of top management commitment on job design

The top management commitment is represented in the authorities and powers it has in waste treatment projects to implement the project, to perform the environmental policies, to execute its programs and to provide material and human capabilities (Katepe et al., 2022). Also, this commitment revolves around adherence to the regulations and laws and the prevention of pollution, which is a prerequisite for the successful application and promotion of the environmental quality to achieve safe and eco-friendly products (Hameed et al., 2020).

H01. There is no statistically significant effect at the level of significance (a≤ 0.05) between the top management commitment and the design of green jobs in solid waste treatment projects in Jordan.

Environmental quality management is considered one of the modern concepts of management, as it seeks the improvement and continuous development to meet the requirements and achieve expectations of customers (Baird et al., 2021). This can be done by knowing those requirements and working to achieve them without any harmful effects on the environment (Garza-Reyes et al., 2018). It includes all administrative levels in projects, and it works to bring about a change in the project activities and transform them from projects that cause environmental pollution to eco-friendly projects. Moreover, it is considered pivotal in the principles of the environmental control and environmental planning for projects (Yasmeen et al., 2021).

Environmental quality is a comprehensive methodology that combines the principles of the environmental management and total quality, and it aims to develop projects from the environmental aspect by controlling the negative effects resulting from its activities (Gomes et al., 2022). It also indicates the suitability of the products for the environmentally safe and healthy use for humans (Dang et al., 2020). Furthermore, it is a set of specifications that are mainly based on reducing pollution resulting from the activities and operations of solid waste treatment projects through the method of follow-up, control and laying the foundations for reducing pollution resulting from them (Sen and Abedin, 2021). It

contributes to benefiting from the remaining activities, and it is concerned with the operational, economic and environmental aspects of solid waste treatment projects.

Cabral and Dhar (2021) talked, in their study "Green competencies: insights and recommendations from a systematic literature review", about building a conceptual framework in green competencies and the use of descriptive analysis as well as objective analysis. They examined the descriptive analysis of (66) articles with the classification of framework. They also stressed the need to employ green competencies in organizations and projects. In this study, the dimensions of green knowledge, green skills, green capabilities, green attitudes, green behaviors, and green awareness were chosen.

In their study “Managing environmental quality in Pakistan through sustainable development of energy–economy–environment (3E): insights from graph model of conflict resolution (GMCR)”, Yasmeen and Ismail (2021) pointed out the development of a graph model for conflict resolution strategy (GMCR) for the sustainable development of 3E to ensure better environmental quality. The study used the GMCR strategy and designed a mechanism for the sustainable development of 3E to ensure better environmental quality. GMCR results indicated that the sustainable development of 3E to ensure better environmental quality should focus on sustainable growth of the economy through the environmental policies and use of renewable energy. This study provided policy insights for the sustainable development of energy and environmental economics to ensure better environmental quality in the country. This study presented a method to achieve the conflicting goals for the sustainable development of 3E to ensure better environmental quality.

Second: The impact of employee empowerment on job design

Employee empowerment refers to the process of providing workers in the project with more knowledge and skills in order to raise their level of performance, to grant them the necessary powers to manage the business entrusted to them and to increase their participation in decision-making (Cabral and Dhar, 2021).

H02. There is no statistically significant effect at the level of significance (a≤ 0.05) between employee empowerment and green job design in solid waste treatment projects in Jordan.

Pham and Paillé (2020) showed, in their study "Green recruitment and selection: an insight into green patterns", how job candidates are selected in line with the pro-environmental position of the organizations, and what is the impact of the environmental sustainability practice of the organization on attracting job seekers. In this study, twenty-two articles published in the period (2008-2017) were reviewed and studied through two aspects. Firstly, how do organizations select candidates in line with their pro-environment position? Second, what impact does the CES practices of the company have on attracting pro-environmental job seekers when selecting job candidates? It was studied from four dimensions (anticipated pride, perceived value fit, expectation of favorable treatment, perceived organizational green reputation/prestige). These dimensions are affected

by five mediating variables (pro-environmental attitude, socio-environmental consciousness, desire to have a significant impact through one's work, environmental-related standard registration expertise, job seeker's). The study found that (12) articles proved that organizations did not apply any common standards for selecting environmental-related candidates, and the candidates' skills and experiences related to the environment were evaluated. Moreover, (one) article confirmed that green competencies are linked to personal competencies, while (11) articles and (8) quantitative studies dealt with the impact of CES practices of the company on attracting pro-environmental job seekers. These articles concluded that it is useful to implement CES that can be used interchangeably with corporate environmental responsibility, corporate environmental performance, or the environmental dimension of corporate social responsibility). In addition, the performance of CES practices is beneficial to the company in gaining a green reputation, which is closely related to the green standing.

In his study "The development of green skills across companies in the institutional context of Thailand", Napathorn (2021) discussed the development of the green skills across companies located in an institutional context, specifically the National Education and Skills Formation System, where this study contributed to the exploration of the two types of education system and skills formation. He emphasized that the companies should be responsible for helping their employees obtain the green knowledge and skills needed to perform green jobs through their Highway Human Resources (HR) practices.

Also, in his study "The role of strategic environmental orientation in environmental design practices", Yang (2021) investigated the role of strategic environmental orientation (SEO) in implementing environmental design practices (EDPs). He used the structural equation modeling and regression analysis to test the research proposed model. The study also highlighted that EDP of the company plays an important role in enhancing the environmental as well as operational performance.

Third: The impact of continuous improvement on job design

Continuous improvement is a management philosophy that aims to develop the approved activities and processes in solid waste treatment projects (Afum et al., 2021) to increase the efficiency and effectiveness of the environmental quality. It is considered one of the most important pillars of the environmental policies because it seeks to reach zero pollution (Yang, 2021).

H03. There is no statistically significant effect at the significance level (a≤ 0.05) between continuous improvement and green job design in solid waste treatment projects in Jordan.

In a study by Adjei-Bamfo and Kusi-Sarpong (2020) entitled "Green candidate selection for organizational environmental management", they proposed a new environmentally sustainable (HRM) assessment framework to aid the green candidate selection process for environmental management in developing the economy and local government agencies. This has been done by presenting an

account of the context of local governments with a developing economy. The study relied on a review of the literature related to green human resource management (GHRM), employment and green selection. This study provided a framework for the process of selecting the green candidate for projects, starting with setting the appropriate conditions for their selection, and this falls within the foundations of designing green jobs. The study reached set of results, the most prominent of which is enhancing the efficiency of organizations, reducing the cost of production and minimizing the waste of available resources. This study made two main contributions to the GHRM literature. First, the paper proposes a new evaluative framework for environmentally sustainable human resource management. Second, the paper focuses on the framework on developing economies and the context of local government organizations. This applies to Jordan because it has a developing economy and needs to make a framework for green jobs.

Garza-Reyes and Upadhyay (2018), in their study "Total quality environmental management: adoption status in the Chinese manufacturing sector", shed light on key issues related to the application of Total Quality Management in the manufacturing sector in China. This exploratory study was conducted on surveying (119) Chinese manufacturing companies. The data were analyzed using the statistical package (SPSS) program using a combination of descriptive and inferential statistics. The study found that there is less awareness of TQEM in the Chinese manufacturing sector compared to other environmental and quality / other process such as improvement approaches such as Green Supply Chain Management, Reverse Logistics, ISO 9000, Six Sigma and Lean Six Sigma. Thus, the degree of its implementation is also lower than these methods as well as ISO 14001. The size of the company is not related to the implementation of TQEM. The study provided extensive knowledge of TQEM and useful findings for managers who aim to adopt TQEM effectively to improve the environmental, operational and financial performance of their organizations.

Importance of the study

This study contributes to shedding light on the impact of environmental quality on designing green jobs in solid waste treatment projects in Jordan, and achieving high levels of designing green jobs that are consistent with the general orientation of the year towards a green economy. Furthermore, this study considers the environmental quality as a modern guiding management philosophy and a continuous motivating factor to restore designing green jobs in projects.

Green jobs are considered as the cornerstone of sustainable development, a response to the global challenges to protect the environment from risks and a good indicator of the economic development (Shafaei et al., 2020). Therefore, the International Labor Organization (ILO) encourages "greening" projects and practices within the work environment and the labor market as a whole. Greening works to improve the efficiency of energy and raw materials (Alavi and Aghakhani, 2021). In doing so, it reduces pollution and contributes to the adaptation of projects to climate change. Moreover, green jobs can produce goods or provide services that benefit the environment. They are characterized by their contribution to more eco-friendly processes by reducing water consumption and improving recycling systems in waste treatment projects (Song and Xie, 2020). The main

areas of the green jobs are (renewable energy, green chemistry, resources and waste, sustainable mobility, agrifood industry, environmental finance, green buildings, forests, regional safety, green marketing and advertising, green fashion, natural well-being, environmental journalism and publishing, and sustainable tourism) (Pham et al., 2020).

Research design, sample size, and procedures

This study followed the descriptive and analytical approach using the comprehensive survey technique. The study sample is (66) items consisted of and composed of (project managers, treatment department managers, human resources managers, and environmental quality managers) working at (3) waste treatment projects in Wadi Al-Ordon (Jordan Valley). The study sample also included a group of supervisory, executive and administrative jobs. The response rate was (94.2%), depending on the data obtained by the Ministry of Industry and Trade, where the adopted significance level was **(**α≤ 0.05), which corresponds to a confidence level (95%) to explain the results of the tests.

Table (1) Summary of community size and number of distributed and retrieved questionnaires valid for analysis

Community	Community no.	No. of non-refundable questionnaires	No. of questionnaires invalid for analysis	No. of excluded questionnaires	No. of questionnaires valid for Analysis
Project Employees	70	3	1	0	66

Analyze data and results

Validity of the study tool

The validity of the tool means to make sure that the content of the questions are comprehensive, accurate in the description of its items and understandable to everyone who uses it. The questionnaire was presented to a number of specialists in the subject of study (business administration, quality management, project management, and human resources management), who affiliated to the (University of Jordan, Al-Hussein Bin Talal University, Al-Balqa' Applied University, Middle East University). Based on their observations, the study tool

Reliability Test

Cronbach's alpha coefficients were used to assess the reliability of the study tool, measure internal consistency between the questions, and verify that the questionnaire is reliable. It was found that all questions had a Cronbach's alpha coefficient greater than (60%).

Describe the demographic variables of the study population

Social gender: The percentage of males in the community was (75.8%), while that of females was (24.2%). Through these numbers, the researcher notes that the percentage of males is higher than the percentage of females, and this is

consistent with the nature of the Jordanian society, especially in the Balqa' Governorate, and also with the nature of the work in the projects that require more physical strength that is more pertinent to the males than the females. Therefore, these percentages reflect the reality of the nature of these projects that focus directly on the physical effort in the field follow-up.

Age group: Employees (31- 40 years or less) formed the largest percentage (45.4%), followed by the age group (41- less than 50 years) (30.3%), over the age of 51(9.1%), and those under the age of 30 (15.2%). Through the previous percentages, the researchers note that the youth category is the largest category. This suits the nature of the society and the nature of work in the projects. On the other hand, the researchers note that the lowest percentages are the ages of 51 years old group. This is also consistent with the nature of the projects that requires high physical effort to practice project work, resulting in a low percentage for this age group.

The academic level: The percentage of the study community members with a Bachelor's degree is (30.3%), high school and less (3%), technical school (15.2%) and postgraduate studies (51.5%). The researchers found that these ratios are compatible with the nature of society because the Bachelor's degree is mainly responsible for determining the future of young people in the Jordanian society, whereas postgraduate studies rank the second due to the high costs of postgraduate studies in proportion to the income of the employees, and this corresponds to the nature of society. However, the least percentage was found among of those have got high school. This reflects the culture of the Jordanian society, which is primarily keen on education and highly interested in the first place in obtaining the first academic degree, the Bachelor, to secure a future.

Years of experience: The majority of the study community members who have more than 15 years of experience reached (45.5%), less than 5 years (15.2%), between 11 to 14 years (36.4%) and between 5-10 years or less (3%). The researchers noted that these ratios are consistent with the nature of the expertise required to work in projects; in addition to that the youth group is the most appropriate to work in such projects, and this is also consistent with the largest age group among project employees.

Job title: The percentage of the study community members from the heads of departments was (30.3%), project managers (21.2%), engineers or supervisors (36.4%) and project managers assistants (12.2%). The researchers observed that the largest percentage was the share of supervisors or engineers, because the educational qualification of this job is a bachelor’s degree that the majority of the youth group in Jordanian society is keen to obtain. In addition, the nature of the supervisor’s work is close to the nature of the engineer’s work, especially in projects. The majority of the supervisors is engineers, who have a technical and scientific background in the field of managing project sites, and this is consistent with the largest age group and years of experience.

Arithmetic mean and standard deviations of study data

Rank	Variable	Arithmetic mean	Standard deviation	Relativity
	Top management commitment	3.79	0.974	75.86%
	Employee empowerment	3.62	0.929	72.42%
	Continuous improvement	3.54	0.981	70.71%
	Green job design	3.79	0.897	75.76 %

Test of the study hypotheses

The main hypothesis: What is the impact of the environmental quality (top management commitment, employee empowerment, continuous improvement) on improving the design of green jobs in the projects at the level of significance (α≤ 0.05). To answer this hypothesis, the simple linear regression test was conducted as shown in tables from (10) to (12).

Table (6) Results of the linear regression test to reveal the impact of the top management commitment on improving job design in projects

Summary model			
Standard deviation error	Adjusted R-squared	R-squared	(R) value
0.49	0.364	0.383	0.617

Table (7)

ANOVA[b]						
Statistical significance	(F) value	Mean square	Degree of Freedom	Sum of square		
0.000 [a]	19.280	4.580	1.000	4.580	Explained sum	1
		0.238	31.000	7.364	Residual sum	
			32.000	11.943	Total sum	
a. [a] Dependent variable: Job designing in projects b. [b] Independent variable: Top management commitment						

Table (8)

Coefficients[a]						
		Standard coefficients	Non-standard Coefficients			
Statistical significance	(T) value	(Beta) Value	Standard deviation	(B) value		
0.000	4.681		0.422	1.974	(Constant)	1
0.000	4.391	0.619	0.109	0.478	Top management commitment	
[a] Dependent variable: Job designing in projects						

The researchers noted from the previous table that there is a direct relationship between the top management commitment and the design of green jobs in the projects. It is also noted that Pearson correlation coefficient (R-value) is (0.617), the (F) value (19.280) and the statistical significance (0.000) which is less than 0.05. Also it is shown in the graph of the normal distribution of values that they are all on the line of the direct relationship or close to it, which indicates the strength of the relationship. Based on the previous data, we reject the null hypothesis, which indicates that there is no impact of the top management commitment career on the design of green jobs in the projects and accept the alternative hypothesis that there is an impact of the top management commitment on the design of green jobs in the projects.

Table (9) Results of the linear regression test to reveal the impact of the employee empowerment on job design in projects

Summary model			
Standard deviation error	Adjusted R-squared	R-squared	(R) Value
0.452	0.452	0.469	0.685

Table (9)

ANOVA[b]						
Statistical significance	(F) value	Mean square	Degree of freedom	Sum of square		
0.000 [a]	27.417	5.605	1.000	5.605	Explained sum	1
		0.238	31.000	0.204	Residual sum	
			32.000	11.943	Total sum	
a. [c] Dependent variable: Job designing in projects b. [d] Independent variable: Employee empowerment						

Table (9)

Coefficients[a]						
		Standard coefficients	Non-standard coefficients			
Statistical significance	(T) value	(Beta) Value	Standard deviation	(B) value		
0.000	5.531		0.370	1.896	(The stable)	1
0.000	5.236	0.685	0.100	0.522	Employee empowerment	
[b] Dependent variable: Job designing in projects						

X is employee empowerment Y is job design in projects

That is the higher of the employee empowerment by one degree, the greater the design of green jobs in projects by (0.522). The illustrative graph of the impact of top management commitment on designing green jobs in projects and the relationship between them

It is noted from the previous tables that there is a direct relationship between employee empowerment and job design in projects. We noted that Pearson correlation coefficient (R-value) is (0.685), the (F) value (27,417) and the statistical significance (0.000) which is less than 0.05. Moreover, it is noted that from the graph of the normal distribution of values, they are all on the line of the direct relationship or close to it, which indicates the strength of the relationship. Based on previous data, we reject the null hypothesis that there is no impact of the entrepreneurial culture on job design in projects and we accept the alternative hypothesis that there is an impact of the entrepreneurial culture on job design in the projects.

Table (10) Results of the linear regression test to reveal the impact of the continuous improvement on improving job design in projects

Summary model			
Standard deviation error	Adjusted R-squared	R-squared	(R) Value
0.450	0.457	0.474	0.689

Table (10)

ANOVA[b]						
Statistical significance	(F) value	Mean square	Degree of Freedom	Sum of square		
0.000 [a]	27.953	5.663	1.000	5.666	Explained sum	1
		0.203	31.000	6.280	Residual sum	
			32.000	11.943	Total sum	
a. [e] Dependent variable: Job designing in projects b. [f] Independent variable: Continuous improvement						

Table (10)

Coefficients[a]						
		Standard coefficients	Non-standard coefficients			
Statistical significance	(T) value	(Beta) Value	Standard deviation	(B) value		
0.000	5.624		0.351	1.977	(The stable)	1
0.000	5.287	0.689	0.097	0.512	Employee empowerment	
[c] Dependent variable: Job designing in projects						

The researchers note from the previous table that there is a direct relationship between continuous improvement and job design in projects, where they note that Pearson correlation coefficient (R-value) is (0.689), (F) value is (27.953) and the statistical significance is (0.000) which is less than 0.05. It is shown in the graph of the normal distribution of value that they are all on the line of the direct relationship or close to it, which indicates the strength of the relationship. Based on the previous data, we reject the null hypothesis which says that there is no effect for the entrepreneur employee on job design in projects and we accept the

alternative hypothesis that there is an impact for the entrepreneur employee on job design in projects.

Through statistical analysis using the SPSS program, the study questions and study hypotheses were answered in detail as previously mentioned. As for the hypotheses, we will present them in a brief, illustrative table as follows in Table (13).

Table (13) Answering the study hypothesis

Null hypothesis	(F) value	Statistical function	Hypothesis effect
(H01): There is no effect of the of top management commitment on the design of green jobs in projects	19.280	0.000	Negative
(H02): There is no effect of employee empowerment on designing green jobs in projects	27.417	0.000	Negative
(H03): There is no effect of continuous improvement on the design of green jobs in projects	27.953	0.000	Negative

Table (11) shows that there is an impact of entrepreneurship (top management commitment and employee empowerment, continuous improvement) on improving the design of green jobs in projects at the level (α=>0.05). This results in the following table.

Hypothesis no.	Null Hypothesis	Hypothesis acceptance	Alternative acceptance	Hypothesis acceptance
(H01)	(H01): There is no effect of the of top management commitment on the design of green jobs in projects	Rejected	There is an effect of the of top management commitment on the design of green jobs in projects	Accepted
(H02)	(H02): There is no effect of employee empowerment on designing green jobs in projects	Rejected	There is no effect of employee empowerment on designing green jobs in projects	Accepted
(H03):	(H03): There is no effect of continuous improvement on the design of	Rejected	There is no effect of continuous improvement on the design of green jobs in projects	Accepted

	green jobs in projects			

Discussion of the results

The top management commitment to apply environmental quality in projects: The study showed that top management commitment has a high degree of arithmetic mean where (m= 3.79). This indicates the presence of an impact of the top management commitment on the design of green jobs in the solid waste treatment projects. This brings to light that the top management in the project is aware of the importance of applying environmental quality in its operations. It is also interested in diagnosing the environmental problems resulting from solid waste treatment. This also demonstrates that it seeks to find permanent solutions to these problems by monitoring the environmental quality standards applied in project operations through the responsibilities and tasks that fall within the jurisdiction of the jobs in the project and to use eco-friendly technology. This increases the efficiency of solid waste treatment in the project.

Employee empowerment in the environmental quality in projects: The study showed that employee empowerment has a high degree of arithmetic mean (m= 3.62), and this indicates the presence of an effect of the employee empowerment on designing green jobs in solid waste treatment projects. This also elucidates that employee empowerment in solid waste projects requires entitlement of sufficient powers and authorities to complete the job tasks in the project, with granting workers the freedom to organize work, and encourage them to address the problems they face and take appropriate decisions for them.

Continuous improvement of environmental quality in projects: The study showed that Continuous improvement has a high degree of arithmetic mean (m= 3.54), and this indicates the presence of an effect of continuous improvement on the design of green jobs in solid waste treatment projects. This requires re-designing jobs through work developments and modernization, in order to ensure that the tasks and responsibilities of green jobs include everything that is modern and developed. This manifests that the top management in solid waste projects is always endeavoring to continuous improvement, by taking the suggestions of the authorities pertinent to the outputs and inputs of the project and reviewing environmental policies on an ongoing basis to keep pace with developments in the field of environmental quality. This can be done through relying on feedback, constantly monitoring environmental data and information, and working on implementing training programs for project personnel to train them on new developments in the field of environmental quality.

Designing green jobs in projects: The study showed that designing green jobs has a high degree of arithmetic mean (m=3.79), indicating that the design of green jobs is affected by the environmental quality in solid waste treatment projects. This explains that designing green jobs requires high skills for its performance, where the administrative and technical jobs in the project are linked to each other through a set of tasks and responsibilities performed by the workers on the project, which constitute an integrated work.

Results

The findings of the study are the following:

1. The management of solid waste treatment projects is keen to meet the environmental requirements in its activities, and is aware of the importance of implementing the environmental quality systems in the projects. It is also concerned with diagnosing environmental problems as well as providing standards for environmental quality.
2. The management of solid waste projects grants employees sufficient powers to accomplish the job tasks assigned to them, and gives them complete freedom to organize the work they are doing.
3. The management of solid waste projects takes into consideration the suggestions of the relevant authorities to improve the project outputs, and works on reviewing the environmental policies on a permanent basis to ensure continuous improvement.
4. The performance of green jobs requires high skills to be completed effectively, so the results of work affect the work of other employees.
5. Green jobs give feedback to workers – a thing that contributes to the development of work because feedback contains diversity of job duties and tasks.

Recommendations: The study recommends the following

1. To monitor the environmental quality operations (for outputs and inputs), through the use of the eco-friendly technology.
2. To grant workers the power in light of the laws and regulations used in the project, with a follow-up by the managing director.
3. To improve the faith of the management of solid waste projects in the ability of the employees to perform the job tasks assigned to them, and encourage them to address the problems related to their work.
4. To develop the project operations based on feedback from the relevant authorities, aiming at continuous improvement, and implementing training programs for environmental quality to achieve continuous improvement.
5. To improve the support of the top management of solid waste projects for the ideas pertinent to protecting society from environmental risks, aiming to achieve continuous improvement and provide opportunities for creativity and excellence in work.

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