

## The Role of Environmental Performance Evaluation in Achieving the Requirements of a Green University: An Applied Study at Mosul University

Lecturer. Amal Sarhan SulaIman Al – tai<sup>1</sup>, Prof. Dr. Kossay Kamaladeen Al-Ahmady<sup>1</sup>, Prof. Dr. Alaa Haseb Abdul Hadi Aljalely<sup>1</sup>

<sup>1</sup> College of Administration and Economics, University of Mosul, Iraq

\* Corresponding author: [Amal\\_sarhan@uomosul.edu](mailto:Amal_sarhan@uomosul.edu).

Received: 29/05/2023

Accepted:30/06/2023

### Abstract

The study aimed to **understand** the role of environmental performance assessment in achieving the requirements of the Green University and representing the field of study at the University of Mosul. The study relied on the **analytical** descriptive approach, with the use of the questionnaire as the main tool for collecting data related to the field aspect. The main and sub-variables were **described** and the correlations of influence were **analyzed** to answer questions related to the problem of the study and reach the objective goals. In order to process data and information, **statistical** methods were used. The study adopted the ready-made statistical software package (AMOS.V24) to test the study hypotheses and ensure their validity. Based on the results of the statistical analysis, the study reached a number of conclusions, the most important of which is the existence of a **significant** correlation between environmental performance assessment and Green University at the **macro** level. This indicates the interest of the university in having the respondents evaluate the environmental performance that enables them to enhance the green university. In light of the results of the study, a number of proposals were made, the most important of which was that the university administration should **pay attention to** evaluating environmental performance and **promoting** its concept within the field under study. This would enable them to achieve an **effective** impact on society and give them a **positive** view from it, given that the university is an edifice of thought, science, and **development** of communities.

**Keywords:** Environmental performance assessment, Green University, University of Mosul.

### 1. Introduction:

The exacerbation of environmental problems witnessed by the world over the past three decades, and the resulting risks posed by the expansion of all organisms alike, have made it imperative for everyone to actively participate in addressing these issues. This has led to the organization of numerous conferences and seminars aimed at mitigating the escalating problems caused by pollution. Environmental protection associations, governmental and non-governmental organizations have worked together to implement the decisions made in global conferences. As a result, economic institutions have incorporated environmental review into their management practices and emphasized the assessment of environmental performance. This is done to avoid the pressures exerted by environmentally concerned parties who seek to evaluate the extent to which these institutions fulfill their environmental obligations, which have gained significant importance within organizations due to the environmental changes and developments resulting from the increasing focus on conservation and protection against various damages that may occur.

When literature has been reviewed so far, universities have integrated various approaches to incorporate sustainability into different dimensions of their activities, including campus operations, teaching, scientific research, and community engagement. From a theoretical perspective, scholars have determined that when a university applies and assesses its environmental performance in all of these dimensions, it can be considered "sustainable" or, in a similar sense, "green."

Few studies have explored the comprehensive application of green concepts in universities, taking into account all four dimensions. We believe that it is necessary to conduct a collective analysis of these dimensions, along with a case study, and to explore the implementation of a green university, where its environmental performance is assessed in higher education management. Consequently, there is a gap in the literature on the investigation of the simultaneous integration of green issues across all major dimensions within higher education institutions.

In pursuit of the research objectives, the study was divided into four sections. The first section presented the research methodology, while the second section focused on the theoretical aspect. The third section represented the practical aspect of the research, and the fourth section concluded with the findings and recommendations.

## **The First Chapter: Research Methodology**

### **Section 1: Research Problem**

Universities are considered one of the most important primary sources for developing societal culture in various aspects of life and their impact on individuals and the environment. On the other hand, universities play an active and distinguished role in achieving sustainable development, and their role in this regard is enhanced with the accelerated advancement of scientific and technological progress worldwide. This highlights the significance of achieving a green university and its connection to the environment and society in terms of their mutual influence, requiring local attention to elevate and develop universities to reach global standards associated with achieving a green university.

The research problem crystallizes through an intellectual debate and lack of consensus among researchers regarding the relationship of study variables with each other and their impact on one another. This pertains to the green university's connection to concepts and the environment, as well as the university's ability to preserve natural resources and reduce environmental pollution that affects the campus environment.

Based on the above, the research problem can be summarized in the following main question:

#### **Does environmental performance assessment have an impact on achieving the requirements of a green university at the University of Mosul?**

Colleges are considered one of the most important and essential sources for creating societal culture in different aspects of life and their impact on people and the environment. On the other hand, colleges play an active and recognized role in achieving economic advancement, and their role in this respect is enhanced with the accelerated progression of scientific and technological advancement around the world. This highlights the significance of achieving a green university and its connection to the environment and society in terms of their mutual influence, requiring local attention to elevate and develop universities to reach global standards associated with achieving a green university. The research problem crystallizes through an intellectual debate and lack of consensus among researchers regarding the relationship of study variables with each other and their impact on one another. This pertains to the green university's connection to concepts and the environment, as well as the university's ability to preserve natural resources and reduce environmental pollution that affects the campus environment. Based on the above, the research problem can be summarized in the following main question: Does environmental performance assessment have an impact on achieving the requirements of a green university at the Mosul University?

### Secondly: Research Significance

The research aims its significance through directing the University of Mosul towards implementing social responsibility in the green university. The importance of the current study lies in its ability to elucidate the successful impact of environmental performance assessment and the data it provides on success, enhancing stakeholders' perception of the green university. The significance of this study is highlighted in the following aspects:

1. Attempting to form a contemporary conceptual vision by providing a theoretical framework to increase knowledge and acquire a new conceptual perspective that enhances its future capacity to identify the researched variables.
2. Exploring the nature of the correlational relationship between environmental performance assessment and the green university in the study sample.
3. Benefiting from the impact of environmental performance assessment in achieving the requirements of the green university to develop the field under investigation and work on increasing its awareness in a way that positively reflects on the quality of its outputs within its environment and society's needs.
4. Identifying the level of capabilities and capacities of the researched organization in the field of environmental performance assessment, the green university.

### Fourthly: Research Hypotheses

Based on the stated problem of the study, the following main hypotheses were formulated:

**Main Hypothesis 1:** There is a significant **correlation** between environmental performance evaluation and green university at a statistical significance level of  $\alpha = 0.05$  from the perspective of the employees in the researched organization.

**Main Hypothesis 2:** There is a significant **causal relationship** between environmental performance evaluation in the green university and the perspective of the employees in the researched organization at a statistical significance level of  $\alpha = 0.05$ .

### Fifthly: Research Methodology

The researcher adopted the **descriptive-analytical** methodology in writing the theoretical and field aspects, as it assists researchers in **gathering** data and information while **finding** various means to **interpret** them. Additionally, it **aids** in **deriving** results based on **diverse** evidence and **indicators**. The researcher **utilized** a **questionnaire** as a **data collection tool** to study and **analyze** the data and information, **aiming** to reach **conclusive** results regarding the study's **problem**.

### Sixthly: Research Scope

The research is characterized by the following limitations:

- Time limitations: The study's time frame extends from the approval date of the research title and concludes with the initial submission date of the thesis in 2023.
- Geographic limitations: The research is confined to the Mosul University.
- Subject limitations: The evaluation of environmental performance and the concept of a green university are the main focus of this study.

**Section Two: Theoretical Aspect**  
**Firstly: Environmental Performance Evaluation**

**1- Concept of Environmental Performance Evaluation**

Due to the importance of the environment and the necessity to protect and develop it through adopting the concept of sustainable development, organizations have increased their focus on their environmental performance. This is achieved by implementing environmentally conscious management practices.

Environmental performance aims to fulfill the environmental obligations set forth by laws, regulations, and policies. It also aims to make the organization operate responsibly towards preserving biodiversity, ensuring efficient resource utilization, reducing waste generation and disposal, promoting energy efficiency, minimizing risks and losses, obtaining environmental insurance coverage, implementing environmental management and disclosure, achieving environmental efficiency by accurately addressing environmental activities and efficiently assessing environmental commitments.

The following table illustrates some of the concepts addressed by researchers and the global standards used in environmental performance evaluation:

table(1)  
Contributions of researchers on the concept of environmental performance assessment

No	researcher and year	Concept
1	)UNEP,2004,9(	<b>Using environmental performance standards, methods, and indicators to measure the environmental performance of projects within the value chain.</b>
2	)Martini et.al , 2013,6(	The optimal performance that the organization achieves and maintains over time by achieving short and long-term goals, as well as its continuous need to improve its strategy.
3	)Mohron, 2017, 3(	A system aimed at ensuring the utilization of available resources by comparing actual performance with planned performance and verifying compliance with environmental laws and regulations.
4	)Aziz, 2021, and others(	Optimal utilization of natural resources means that the economic unit operates responsibly towards protecting the ecosystem, using resources efficiently, and reducing waste or disposal.

**Source: Prepared by researchers based on the sources mentioned in the table above.**

The researchers **define** environmental performance evaluation **as** an administrative tool for **assessing** the environmental performance within organizations. It is designed to provide management with **reliable** and **assessable** information **regarding** the actual environmental performance and whether it meets the **standards** set by the organization's **management** or not.

### 1. The Importance of Environmental Performance Evaluation

Environmental performance evaluation (EPE) serves as a tool used by human resource management to assist other departments and branches within the organization in fulfilling their responsibilities and duties. This evaluation process enables departments to operate more actively and dynamically. Top management is compelled to continuously monitor and follow up on individual performance, making this process a crucial and significant factor in the success and progress of any project within the organization, aiming to achieve high levels of efficiency and effectiveness (Al-Hadrawi and Hassoun, 2021, 187) .

The importance of the performance appraisal process can be demonstrated through the following: (Hafez and Al-Saeed, 2018, 89), (Mahdi and Hassan, 2020, 73), (Maktouf and Hussein, 2020, 197):

- 1- Identifying necessary education and training programs **for** development, promotion, and achieving efficiency and effectiveness.
- 2- Assisting **departments** in **adopting** realistic and measurable goals that can be easily and conveniently **communicated** to all individuals.
- 3- Motivating **individuals** within the organization to work **individually** and perform their tasks and duties **correctly**.
- 4- The evaluation process is an important **means** to identify areas of **failure** and correct the course of action to ensure the success of administrative tasks within the organization.
- 5- Performance evaluation can assess the **alignment** and **consistency** between the organization's objectives and its strategies.
- 6- The evaluation process helps organizations build a competitive advantage by comparing their performance, strengths, and weaknesses with similar organizations.
- 7- It aids the organization in the planning process, strategic plan **reform**, and necessary decision-making.
- 8- Limiting the **increase** and accumulation of errors, which may start small but can **magnify** over time if not addressed promptly. Accumulated errors may lead to complex issues that become difficult to resolve in the future, resulting in **critical** situations for the organization.
- 9- Performance evaluation reflects the **developments** achieved by the organization in the course of its business activities through **actual** implementation results, periodically **comparing** these results with those of similar organizations.

### 2- Objectives of Environmental Performance Evaluation

The objectives of environmental performance evaluation can be summarized as follows: (Aouja, 2017, p. 231)

- 1- Identifying deviations and weaknesses within the organization through a comprehensive evaluation, analyzing their causes, and providing effective solutions to correct and prevent them from occurring in the future.
- 2- Assessing the organization's performance levels in comparison to its planned objectives.
- 3- Adjusting the planning budgets and steering indicators towards a balanced approach between available resources and the organization's aspirations.
- 4- Evaluating the utilization and efficiency of available resources in a manner that maximizes the organization's returns while minimizing costs without compromising output quality.
- 5- Assigning responsibilities within the organization's departments for any deviations in the processes they oversee by measuring the productivity of each department or branch separately and identifying both positive and negative achievements. This creates healthy competition among them to improve the organization's overall performance.

## Secondly: The Green University

### 1. Concept of the Green University

The concept of the Green University emerged from the necessity of preserving the environment and its resources, as well as raising awareness about environmental issues and their impact on life on Earth. (Mujahid, 2020, p. 64) It is based on the understanding that environmental threats not only endanger natural habitats but also hinder economic development in society. Therefore, education becomes the focal point in addressing environmental issues and raising awareness among individuals responsible for achieving economic development. This is done by creating a qualified workforce capable of working in various economic fields and enhancing their productivity in addressing sustainability across all sectors of society.

The Green University works to **cultivate** individuals' appreciation for nature and **transfer** knowledge related to the environment, **empowering** them to develop a friendly relationship with nature by reinforcing environmentally-friendly behaviors. The Green University **embraces** comprehensive environmental topics and remains **dynamic** through its curriculum, teaching strategies, classroom and extracurricular activities, adapting them to the specific needs of each region where the university is located. Furthermore, it establishes close relationships with environmental organizations, making environmental issues a **central** focus of its attention. (Somwaru, 2016, p. 5)

The following table presents perspectives of various authors and researchers on the concept of the Green University.

**Table) 2(  
Contributions of researchers on the concept of a green university**

no	researcher and year	Concept
1	)Atici et al, 2020, 10(	A contemporary concept is associated with <b>implementing</b> sustainability and eco-friendly <b>strategies on campus</b> , as well as <b>updating</b> the

		<b>curriculum</b> to include <b>courses</b> on <b>the environment</b> and sustainability
2	(Momani,2019,22)	Modern education seeks <b>sustainable development, keeping up with technological advancements, and efficiently utilizing them in all other educational elements to produce distinguished products</b> that meet <b>eco-friendly standards</b> .
3	(Jacob & Abbas, 2019, 10)	The educational institution that <b>works to integrate</b> sustainability principles and requirements into its <b>mission and future vision, considering itself a cradle of academic knowledge that grants its graduates knowledge infused with sustainability</b> .
4	(Sonetti et al, 2016, 2)	An educational institution that engages, addresses, and enhances at both regional and global levels, <b>aiming to minimize</b> the negative environmental, economic, social, and health impacts <b>resulting from the use of its resources</b> to achieve its functions of teaching, research, awareness-raising, partnership, and supervision <b>in ways that assist society in transitioning towards sustainable behavioral patterns</b> .
5	(Touch, 2015, 2)	Universities that adopt <b>environmentally friendly</b> practices and <b>utilize</b> natural resources <b>without harming them</b> or the rights of <b>future generations; the green campus</b> is one of the measures of the <b>United Nations Conference on Sustainable Development</b> .
6	(Nejati, 2013, 105)	The university with a <b>high level of social responsibility</b> and a <b>capacity to reduce negative impacts on the environment</b> while making <b>significant contributions to economic and social development</b> . It aims to achieve <b>academic excellence by integrating human values into the university environment</b> and the practices of its members.

source :prepared by the researcher based on the sources mentioned above

Based on the above, the researcher finds that the concept of the **green university** embodies a **higher education community** where an **environmentally friendly educational institution** is established, supporting a **healthy environment, livelihood, and education** to achieve **better energy efficiency, resource conservation, and improved environmental quality**. Moreover, it is a **university** that **advocates for sustainable development goals**, capable of **reducing its ecological footprint and environmental impacts** resulting from its **various activities**, while **responsibly benefiting from natural resources** without **compromising the rights of future generations**. This is accomplished

through **increasing environmental awareness within the university community and promoting an environmentally friendly educational, research, and service-oriented approach.**

### **The importance of the green university:**

The higher education sector faces the impacts of several emerging factors resulting from the advancement of high technology during the Fourth Industrial Revolution. The specific challenges confronting academic institutions involve the development of artificial intelligence, robots, self-driving vehicles, augmented reality, virtual reality technology, as well as students' access to numerous high-speed internet-connected smart devices. Other changes have arisen concerning students' transportation preferences, with a growing inclination towards green transportation options like electric bicycles. Universities are actively attempting to promote sustainable transportation methods, which not only affect the environment and economy but also students' education.

Furthermore, contemporary students' interests increasingly focus on problem-solving and issues such as climate change mitigation, energy conservation, and other resource-related concerns. Additionally, they are keen on proper waste management, alongside promoting environmental awareness among both university students and faculty members. Different teaching concepts and methods have been employed to enhance environmental protection in education.

Considering that higher education institutions, particularly universities, play a pivotal role in sustainable development, the concept of "green education," also known as the "green university," holds utmost importance. (Okanovic et al., 2021, p. 3; Battour & Al-Wafi, 2020, p. 844) :

A. Keeping up with technological advancements and effectively utilizing them in all other elements of educational management to deliver exceptional outcomes that meet eco-friendly standards. This involves two main aspects:

- Focusing on green building programs, energy, and services.
- Emphasizing the educational process with green education concepts, technologies, applications, strategies, and practices.

B. Promoting sustainable transportation methods, which have a significant impact not only on the environment and economy, but also on students' education.

C. Addressing issues and challenges such as climate change mitigation, energy conservation, proper waste management, and the responsible use of resources.

D. Enhancing environmental awareness among university students and faculty members, using various teaching concepts and methods to foster environmental protection.

### **2- The benefits of green university**

The environmental and social benefits of green buildings lie in adopting **energy-saving technologies** that result from the use of computers, lighting, air conditioning, and other devices. Additionally, it involves employing **educational technologies** in an environmentally and economically **sound** manner, which may take **considerable** time. Furthermore, there is a **radical shift** towards electronic services to eliminate the use of paper and textbooks, embrace **remote learning**, and make **efficient** use of modern educational technologies.

The summarized environmental and social benefits of green buildings, which have the most significant impact, can be achieved through the following (Momani, 2019, 22):

1. **Transforming traditional lectures into a virtual world that simulates reality.**
2. **Developing creativity, exploration, and moving away from the routine of traditional learning.**
3. **Enhancing the quality of education, expanding student awareness, and fostering direct and active communication between students and instructors.**
4. **Creating an interactive space with stimulating student thinking and knowledge acquisition in a healthy and safe environment.**
5. **Achieving energy efficiency by providing verifiable operational cost savings, reducing environmental impact, and using relatively effective technologies.**
6. **Enhancing the environment by involving and inspiring students; the building itself can educate the next generation about their role in preserving resources and reducing waste.**
7. **Supporting students by providing a more conducive learning environment through improved acoustics, lighting, temperature, and air quality.**

In addition to the aforementioned benefits, there are several motivations that drive universities to seriously consider adopting the concept of the green university, including:

- **Cognitive motivations:** Universities are beacons of knowledge and learning, and as sustainability is an ever-evolving issue that requires finding solutions to its ongoing challenges, they need the knowledge provided by such universities.
- **Social responsibility motivations:** Universities are integral parts of society, and as such, they bear a significant responsibility to create contemporary paths and graduate a knowledgeable and competent generation.
- **Administrative motivations:** Universities are institutions that consume substantial resources, which can impact their surrounding environment. Therefore, it is their responsibility to mitigate the negative effects on society.
- **Legal motivations:** Given that countries around the world are implementing legislation and laws in support of sustainable development, universities must comply because sustainability has become a societal imperative.
- **Community support motivations:** The university needs to be clear and explicit in its commitment to achieving sustainable development. By doing so, it will receive broad support and backing from external entities such as the business sector, government, media, and the community at large.

### **"Chapter Three: Practical Aspect"**

The hypotheses formulated by the researchers regarding the relationships between study variables and their impact are an integral part of the analysis and testing process. These hypotheses will be tested using the statistical software AMOS. The impact of the hypotheses was tested as follows:

#### **Correlation analysis:**

The correlation coefficient is used to determine the **direction, strength, and nature** of the relationship between two variables. The course of the relationship, whether positive or negative, is indicated by the sign of the correlation coefficient. The **strength** of the relationship is inferred by how close the correlation coefficient value is to  $\pm 1$ . The closer it is to 1, the more grounded the relationship between the variables. Finally, the **significance** of the relationship (statistical significance) is determined by observing the associated **p-value**. Studies indicate that if the **p-value** is less than 0.05, it indicates a statistically significant relationship between the variables.

**Main Hypothesis 1:** There is a **statistically significant positive** relationship between the local environmental performance evaluation and the green university, with a **significance level** of ( $\alpha = 0.05$ ) from the perspective of the organization's employees under study.

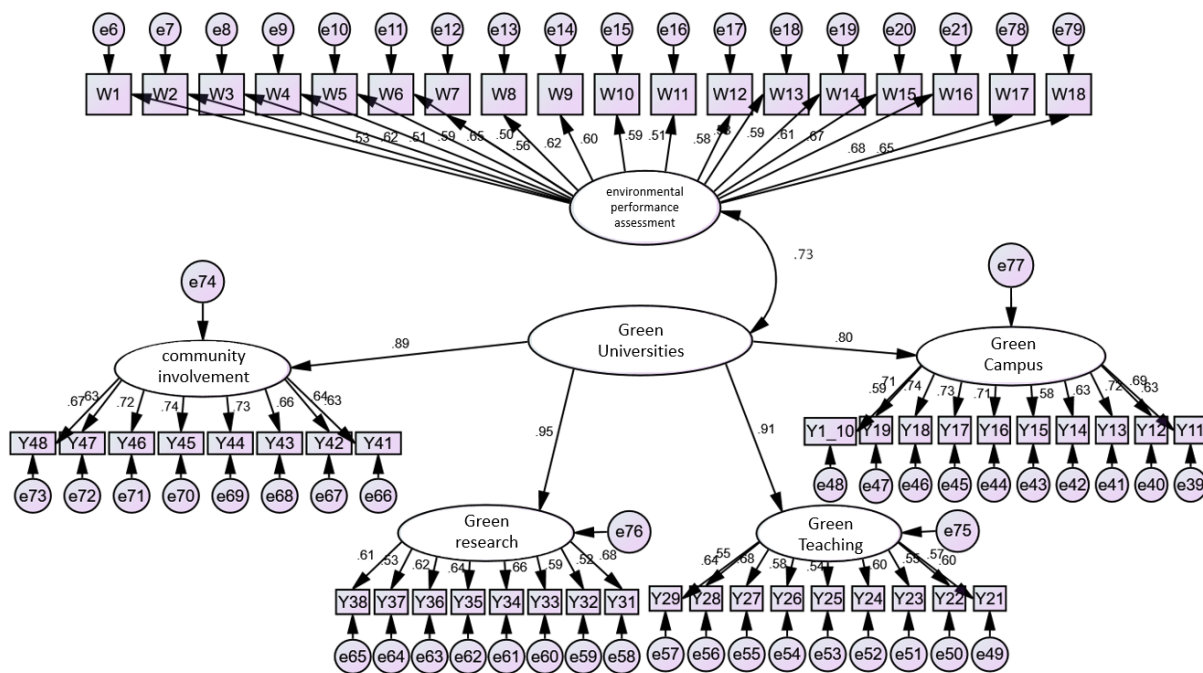
The results in **Table 3** and **Figure 1** show a **significant positive correlation** between the local environmental performance evaluation and the green university, as evidenced by the correlation coefficient value, which is equal to **0.731**. This relationship is **statistically significant**, as indicated by the **p-value**, which is equal to **0.015**, less than 0.05. Additionally, the lower and upper bounds of the **95% Confidence Interval** also show consistency at a significance level of 0.05.

These findings lead to rejecting the **null hypothesis** and accepting the **alternative hypothesis**, which suggests a **significant positive relationship** between the local environmental performance evaluation and the green university, with a **significance level** of ( $\alpha = 0.05$ ).

Table (3) The relationship between environmental performance assessment and the green university

probability value P-value	95% Confidence Interval		Correlation value	The second variable	relationship direction	The first variable
	Upper	Lower				
0.015	0.810	0.614	0.731	Green University	<-->	environmental performance assessment

**Source:** Prepared by the researcher in the light of the results of the statistical analysis using AMOS V24 n=259



**Figure (1) The correlation between environmental performance assessment and green university**

**Source: Prepared by the researcher in the light of the results of the statistical analysis using AMOS V24 n=259**

1. Analysis of the causal relationship: The essence of this analysis reflects the testing of the causal relationships of each independent variable on the dependent variable as follows:

Main Hypothesis 2: There is a statistically significant positive causal relationship for the environmental performance evaluation at the green university at a significance level of ( $\alpha = 0.05$ ) from the perspective of the organization's employees under study.

Table 4 and Figure 2 indicate the presence of a significant positive causal relationship for the environmental performance evaluation at the green university in the organization under study. This is evidenced by the regression coefficient estimate ( $\beta$ ) value, which amounted to (1.157), with a probability value of (0.009), which is less than (0.05). Additionally, the lower and upper bounds of the confidence interval show consistency at a significance level of (0.05).

**Table (4) Results of the impact of environmental performance assessment in the Green University**

P-value	95% Confidence Interval		SRW	Estimate( $\beta$ )	dependent variable	direction of influence	intermediate variable
	Upper	Lower					
0.009	1.533	0.794	1.056	1.157	Green University	←	environmental performance assessment

**Source: Prepared by the researcher in the light of the results of the statistical analysis using AMOS V24 n=259**

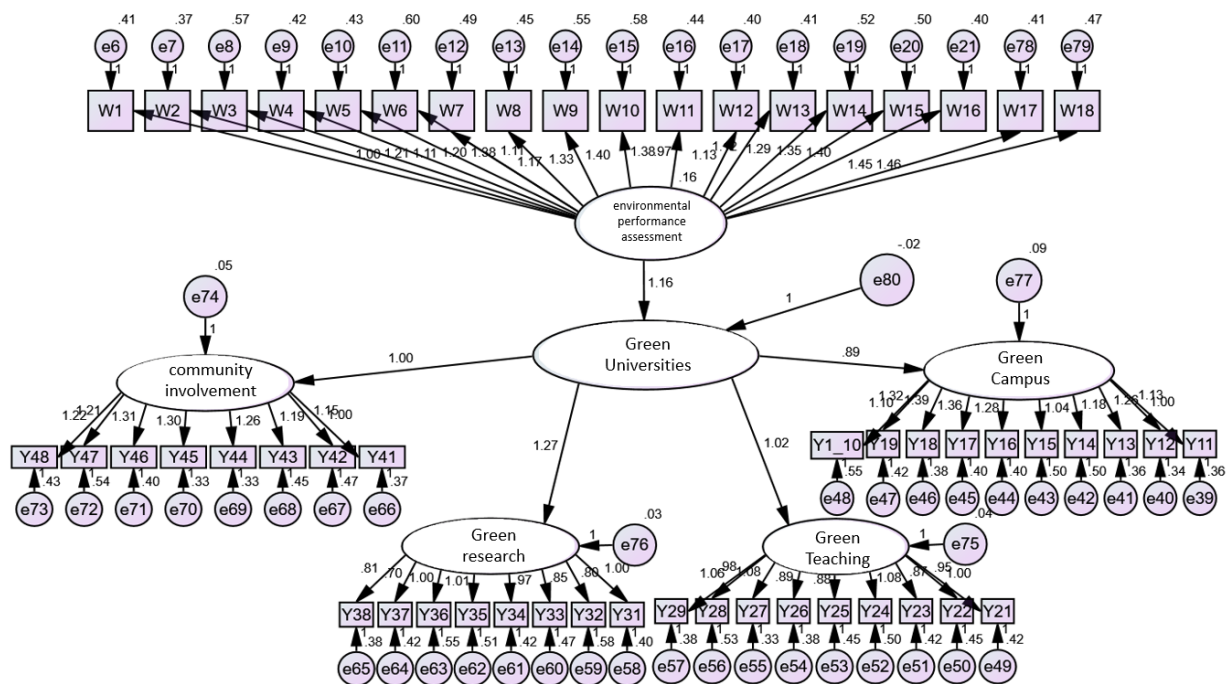


Figure (2) The impact of environmental performance assessment in the Green University

Source: Prepared by researchers in light of the results of statistical analysis using AMOS V24  
n=259

#### Chapter Four: Conclusions and Recommendations

This chapter presents the conclusions and recommendations reached by the researchers based on the theoretical framework and the results of the practical analysis, as follows:

##### Firstly: Conclusions

The University of Mosul adopts approved criteria and measures to assess green initiatives across various activities. This continuous evaluation enables the university to achieve a competitive position compared to other universities within Iraq.

Green universities achieve sustainability by focusing on various aspects related to energy, sustainable procurement, transportation, and waste management.

Despite the University of Mosul's efforts towards sustainability, it still needs to enhance its capacity and readiness to achieve the fundamentals of a green and sustainable university.

Through the statistical analysis of the relationship-building rates, a significant positive correlation was found between the environmental performance evaluation and the green university as a whole. This indicates that the measurement and evaluation methods employed are aligned with the objectives of a green campus, green teaching, green research, and community engagement, all of which aim to achieve a green university.

The results of the structural equation modeling demonstrate a significant impact of the environmental performance evaluation on the green university. This suggests that enhancing the level of environmental performance evaluation contributes to establishing a green university.

##### Secondly: Recommendations

The university administration should prioritize environmental performance evaluation and reinforce its significance within the research field. This will enable the university to have a positive impact on society, as universities are centers of knowledge and development.

The University of Mosul should keep up with global developments to improve its international standing and establish alliances with international universities to exchange experiences and benefit from their practices in building a sustainable green university.

It is essential for the University of Mosul to incorporate environmental performance evaluation as one of its primary goals.

Implementation Mechanisms:

- Adopting an integrated environmental management system.
- Raising awareness about environmental issues and mitigating them.

The University of Mosul should continuously develop its environmental performance as an ongoing process to achieve a competitive advantage.

Implementation Mechanisms:

- Organizing training sessions for those involved in environmental performance.
- Learning from successful organizations in the environmental and conservation field.

Encouraging the use of bicycles and reducing the use of carbon-emitting transportation means.

Implementation Mechanisms:

- Providing designated areas for bicycles.
- Relying on buses as a means of public transportation within the campus.

Ensuring the availability of green spaces within the university to reduce carbon emissions and pollution.

Implementation Mechanisms:

- Encouraging and motivating everyone within the campus to engage in tree planting initiatives.
- Organizing workshops and seminars to introduce the concept of a green university.

These conclusions and recommendations are aimed at enhancing the green and sustainable initiatives of the University of Mosul and contributing positively to the broader community and environment.

#### Sources:

##### First: Arabic sources

1. Batourah, F., Wafula, A., & Al-Wafi, A. (2020). "Successful Global Models in Green Economy Activation through Green Universities for Sustainable Development: A Case Study of (Wageningen-Oxford) Universities, Ranked First Worldwide." *Al-Bahith Journal*, Volume (20), Issue (01).
2. Hafiz, A. A. A., & Al-Saeed, A. A. S. (2018). "Strategic Performance Evaluation of Agricultural Projects Using International Indicators." *Journal of Economic and Administrative Sciences*, Volume (24), Issue (107).
3. Aziz, K. A., Obeid, A. J., Ghadir, I. M., & Obeid, Q. A. (2021). "Measuring the Environmental Performance of Al-Kufa University Using the Sustainable Balanced Scorecard." *Al-Ghari Journal of Economic and Administrative Sciences*, Volume (1), Issue (4).
4. Aouje, H. K. (2017). "Accounting Conservatism and Its Impact on Evaluating the Performance of Private Iraqi Banks: An Applied Study on a Sample of Iraqi Banks Listed on the Iraq Stock Exchange." *Al-Qadisiyah Journal of Economic and Administrative Sciences*, Volume (19), Issue (1).
5. Mujahid, A. (2020). "Sustainability of Arab Universities and Achieving Sustainable Development: Experiences of 'Newcastle and Maribor' Universities." *Egyptian Journal of Development and Planning*, Issue (13).
6. Marhoon, A. G. (2017). "Using Balanced Scorecard Indicators in Evaluating Environmental Performance." *Journal of Business Research*, Volume (2), Issue (39).
7. Maktouf, H. S., & Hussein, A. A. (2020). "Organizational Performance Evaluation: Maysan Water Directorate as a Case Study." *Journal of Economic and Administrative Sciences*, Volume (26), Issue (120).

8. Mahdi, S. A., & Hassan, S. B. (2020). "Institutional Performance Evaluation Using the European Model for Quality Management." *Journal of Economic and Administrative Sciences*, Volume (26), Issue (122).
9. Yakoub, I. I., & Abbas, Z. K. (2019). "The Sustainable University: The Roadmap to Achieving Sustainable Development - An Analytical Study of the Opinions of a Sample of University Professors in the Iraqi Environment." *Journal of Baghdad College of Economic Sciences University*, Special Issue of the Eighth International Scientific Conference.

### Second: English sources

1. Atici, Kazim Baris, Gokhan Yasayacak, Yilmaz Yildiz, Aydin Ulucan, (2020), "Green University and academic performance: An empirical study on UI Green Metric and World University Rankings", *Journal of Cleaner Production*, Vol. 23.
2. Martini, A., Laugen, B.T., Gastaldi, L., & Corso, M. (2013). Continuous 29 innovation: Towards a paradoxical, ambidextrous combination of exploration and exploitation. *International Journal of Technology Management*, vol.61(1), 1–22.
3. Momani, Kamelia Moh'd Khier, Nour, Abdul Naser Ibrahim & Nurasyikin Jamaludin, (2019), "Global Approaches to Sustainability Through Learning and Education", First Edition, IGI Global Advisory USA.
4. Momani, Kamelia Moh'd Khier, Nour, Abdul Naser Ibrahim & Nurasyikin Jamaludin, (2019), "Global Approaches to Sustainability Through Learning and Education", First Edition, IGI Global Advisory USA.
5. Nejati, M. (2013), "Assessment of sustainable University factors from the perspective of university students", *Journal of Cleaner Production*, vol. (48)
6. Okanović, Andrea Jelena Jessić Vladimir aković, Simonida Vukadinović, and reā Andrejević Panic, (2021), "Increasing University Competitiveness through Assessment of Green Content in Curriculum and Eco Labeling in Higher Education", *Journal of Sustainability*. Vol. 13 (12).
7. Somwaru, Lalieta, (2016), "The Green School a sustainable approach towards environmental education Case study", *Brazilian Journal of Science and Technology* (Somwaru Braz J Sci Technol), vol. 3 (16).
8. Sonetti, Giulia, et. al, (2016), "True Green and Sustainable University Campuses? Toward a Clusters Approach", *Sustainability*, 8, 83; doi:10.3390/su8010083.
9. Touch, S., (2015), "Applied Green University Policies Towards Practical Implementation in Mahasarakham University", Mahasarakham University, Thailand.
10. UNEP, (2004), Mineral Fertilizer Production and the Environment, Part 2, Environmental Management System.