

## ASSESSING ENVIRONMENTAL SUSTAINABILITY PRACTICES AT BASRA UNIVERSITY: A PATH TO CONTINUOUS IMPROVEMENT

<sup>1</sup>Hassan Ahmed Farid

### Article Info

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### Abstract

**Abstract:** The pursuit of a sustainable environment within universities necessitates a holistic and systematic approach to sustainable development in higher education. This approach revolves around the integration of environmental concerns into all facets of university operations and activities. This integration serves as a fundamental framework for the formulation and execution of environmental strategies within universities. However, the expansion of these strategies and their successful implementation necessitates concerted efforts in forging partnerships with various stakeholders, including society, industry, and environmental groups. Moreover, universities must possess the capability to continually enhance their overall performance. Achieving sustained improvement without prior knowledge of potential environmental changes becomes a formidable challenge. Hence, the development of a comprehensive strategy for environmental sustainability becomes imperative. Such a strategy ensures that universities can continually respond to improvement opportunities by gaining insights into potential changes in their environment. This article sheds light on the importance of developing a comprehensive environmental sustainability strategy for universities and underscores its role in fostering continuous improvement.

### Introduction:

The sustainable environment in universities depends on the systemic and comprehensive approach to sustainable development in higher education, which includes the integration of environmental problems into the operations and activities of universities .which in turn constitutes general framework for building the environmental strategy in university, but the expanding in these strategy concept and its implementation requirement need work for building partnership with society and industry and environmental groups ,as well as their capability for support continuous improvement of university overall performance . there is a difficult in achieving co tenuous improvement without university prior knowledge of possible changes in its environment ,from this comes the importance of developing comprehensive strategy for environmental sustainability, because its ensure university continuous respond to improvement ,through understanding any potential changes, in line of foregoing was the reason of choosing

<sup>1</sup> Al-Maaqal University

(The impact of the university's environmental sustainability strategy on the continuous improvement of the overall university performance )title for research paper ,the reason of select Basra university as a field study ( because it's one of the oldest universities in Iraq ), It has its scientific reputation nationally and internationally, and it needs university environmental sustainability to face the rapid changes in the Iraqi environment in the social, economic and political fields). The research adopted a hypothesis that (there is a statistically significant effect of the university environmental sustainability strategy on the continuous improvement of the overall university performance), The research organized its methodology in its theoretical and field aspects to answer the questions of the problem by focusing on its main question, which is (to what extent can the environmental sustainability strategy of the University of Basra contribute to achieving continuous improvement in the overall performance of the University of Basra?). The research was conducted on a sample of teachers specialized in the environment at the University of Basra, because they have more theoretical and field knowledge of the sustainable university environment. And the requirements of full response to it, and for the purposes of data collection, a checklist was used to explore the role that the university's environmental sustainability strategy can be play in the continuous improvement of its overall performance. The research reached several results, the most important of which are(There is a relationship and a statistically significant effect of the university environment sustainability strategy on the continuous improvement of the overall performance at the University of Basra ), The research is structured on the basis of an introduction and (six parts) Part one: reviewing some previous literature, part two: research methodology, part three: theoretical framework, part four: design of the study and its method, part five: field study, and part six: discussion of results, conclusions and recommendations.

#### **First: review of some previous literature**

A study of (University of Leicester, 2010) indicated that environmental sustainability is “the ability to maintain the things or qualities that are evaluated in the physical environment.” (Afriyie, 2015) study showed that environmental and social responsibility leads to the sustainability of society in general. Therefore, university sustainability requires increasing the university's participation in processing the environmental, social and economic situations that affect it, Study of (Ching-Wei Ho 1, 2015 ) indicated that (Higher education institutions are the main driver of change in achieving a sustainable environment inside and outside the university campus, i.e. in society in general), The results showed that inspire of a great deal of awareness among students about university sustainability, they lack interest and willingness to participate in initiatives that seek to achieve sustainability, The study (Amos Oppong Afriyie, 2015) directed towards the importance of environmental sustainability in higher education, with the aim of increasing financial returns as a result of the internal operations of the higher education institution. The study (Traci R. Rider, 2015) focused on the impact of university education on the level of designers' contribution to achieving sustainable design. As well as the role of environmental attitudes and personal relationships on ensuring sustainability. Environmental education shows many of them, And (Andy Johnston, 2007) explained in his study (Partnership in Higher Education for Sustainability). The coherent and comprehensive approach to sustainable development in higher education provides confidence among decision makers, leaders, managers, academic bodies and students, in the possibility of implementing sustainable development in its economic, social and environmental dimensions. The study of ( Scott Reilly, 2008 ) titled (the role of environmental education in sustainable development) focused on the role that sustainable education plays in developing students' skills by focusing on the human and natural resources of society. Which enhances the student's ownership of the educational process, and enables him to respond to its requirements efficiently, as well as the importance of paying attention to the structure of the sustainability program, and the long-term commitment, The study (Abu-Bakr et al, 2016) stated that the importance of promoting sustainability

in higher education institutions was the result of calling on many universities around the world during the past two decades to implement initiatives that help sustainability such as (universities restructuring, their curricula, scheduling their research work, and community services). to ensure more focus on sustainable development), Where universities are currently making the necessary adjustments to reduce the negative impact of campus operations on the environment, and to integrate sustainability with university systems, The study contained in ([http://greenuni.ntnu.edu.tw/en\\_about01.htm](http://greenuni.ntnu.edu.tw/en_about01.htm)) explained that the main objective of the Green University is (to maintain the sustainable development of human society being , The direction that determines the path of development in higher education. Among its main requirements is the integration of appropriate steps for the university administration, development plans, education and research, environmental protection and student life). This requires the development of a comprehensive strategy for the sustainability of the university's environment in order to ensure an appropriate and successful response to environmental changes and pressures. And a study (SANDRA PARK, 2013) linked environmental sustainability with continuous improvement through organizing and maximizing environmental resources that contribute to improving academic results. The availability of the atmosphere and conditions that promote the process of continuous improvement, As well as developing effective relations between the university educational institution and the local community, And building a strong partnership with business organizations in the environment of the university educational institution, Adapting the continuous improvement program to ensure the preservation of the sustainable environment development for the university educational institution. The following can be deduced from the foregoing:-

- The sustainable environment in universities depends on the systemic and comprehensive approach to sustainable development in higher education. This includes the integration of environmental problems into the operations and activities of universities.
- This constitutes a general framework for building an environmental sustainability strategy in universities.
- The development and implementation of this strategy is enhanced by building partnerships with society, industry, and environmental groups.
- - It also contributes to achieving continuous improvement of the overall university performance.
- The information extracted from previous studies constitutes an information base that ensures a balance between the theoretical and field aspects of the study.

## **Second: Research Methodology**

- 1 - The purpose: to ensure continuous improvement of university performance by using the university's environmental sustainability strategy.
- 2 – Problem statement: The development and growth of Iraqi universities requires pursuing environmental changes and improving internal capabilities that help achieve a full and effective response to these changes. Because the developed world began in the eighties and beyond to pay attention to the serious environmental problems arising from human development and There is an urgent need to remedy this situation. Therefore, the universities' oriented was towards improving the sustainability of the campus, until reaching the "Green University", However, the reality of Iraqi universities reveals the lack of interest of many Iraqi universities in this subject. But most of these universities focus on internal resources and processes, This often creates a gap between the university outputs, and the university's physical and human environment needs for the present and the future, Therefore, it has become necessary for universities to take care of the sustainability of their environment, and to maintain a balance with the continuous changes in the environment. In order to ensure the improvement of the overall performance of the university, In order to ensure the improvement of the overall performance of the university, Therefore, it is necessary to search for methods and treatments that contribute to the continuity of the

relationship between the environmental sustainability of the university and the continuous improvement of its performance. In order to make it respond efficiently to these changes, the problem was defined by the following questions: -

- To what extent can be developed a strategy to ensure environmental sustainability at Basra University?
- To what extent can be explore the possibilities that help to develop the environmental sustainability strategy at the University of Basra?
- To what extent can the environmental sustainability strategy of the University of Basra contribute to achieving continuous improvement of the overall performance of the University of Basra?

### 3- Objectives:

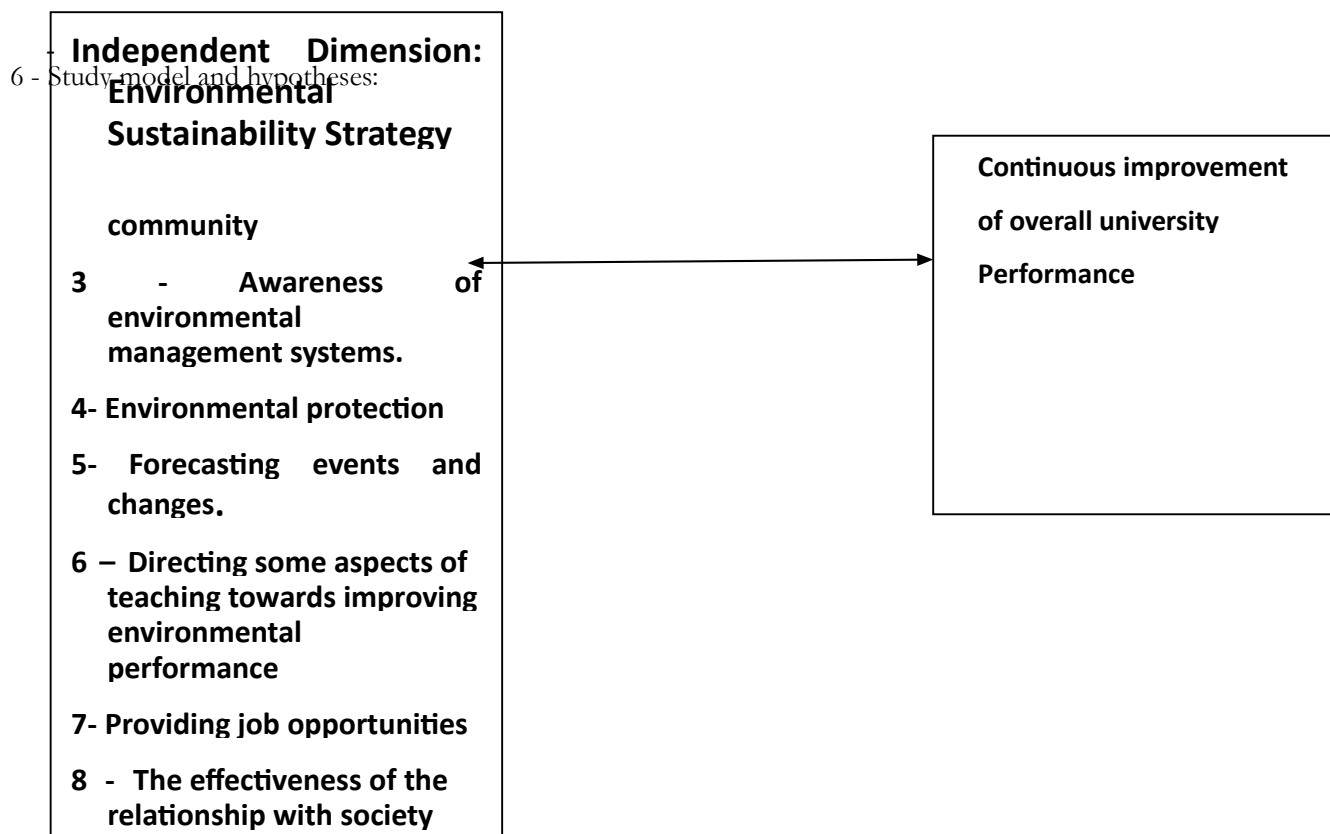
- Explore the possibility of developing a strategy to ensure environmental sustainability in Iraqi universities.
- Explore the possibilities that help the effective implementation of the environmental sustainability strategy in Iraqi universities.
- Explore the possibility of the contribution of the environmental sustainability strategy for Iraqi universities in achieving continuous improvement of the university's overall performance.

### 4- Importance:

- Directing the university administrations' attention towards the role played by environmental sustainability in improving the performance of the university institution and ensuring its continuity of survival and growth.
- Providing researchers and scholars with information about the concept of sustainability, environmental sustainability, and its importance to the organization and society, and how they can be used to support the development of university educational institutions.

### 5- Determinants:

- The limited awareness of the university administrations' to the requirements of university sustainability and the methods of implementing them.
- The scarcity of research and field studies concerned with the implementation of environmental sustainability in Iraqi universities.



- The scarcity of environmental sustainability assessment models for Iraqi universities, which makes it difficult for the researcher to choose the correct way to study environmental sustainability in these universities.

**1 - Relationship with the H1:** The main hypothesis: There is a statistically significant effect of the university's environmental sustainability strategy on the continuous improvement of the overall university performance.

Third: Theoretical framework: the university's environmental sustainability strategy and improving overall performance

1 - University environmental sustainability strategy (presentation and analysis):

Environmental sustainability is defined as (the ability to retain qualities that are considered valuable in the physical and social environment). Including the preservation of (human life, the life of people and other living things in the environment), by maintaining the sustainability of water, air and an appropriate atmosphere, which ensures the continuity of community life and movement, despite the depletion of non-renewable resources, Because the quality of life for all people should be characterized by renewal and aesthetics (Philip. Sutton, 2004), Environmental sustainability serves sustainable development,

Sometimes it means (development that meets the needs of the present without compromising the ability to meet the special needs of future generations), This requires focusing on the three main pillars of sustainability, which are (environmental sustainability, economic sustainability, and social sustainability), ( Brundtland Commission of the United Nations ,1987), Therefore, organizations concerned with environmental sustainability work on (merging the environmental needs and expectations of society with their strategies, plans and policies) (Mohsen, 2016: 175). Achieving environmental sustainability in general requires some important steps that are summarized below (Mohsen, previous source: 175-185),

- Predicting the environmental changes for the future, and identifying the methods and practices that prevent the occurrence of environmental problems.

- Adopting systems and applications that guarantee the successful management of the environment in order to maintain a clean and safe environment, focusing on environmental management systems.

- Integrating environmental systems and practices with the needs and expectations of society.

These constitute a general framework that can be used when planning the university's sustainability strategy. University sustainability means (the sustainable development of human society as the main orientation towards the development of higher education, In light of integrating the appropriate steps for the university administration with (development plans, education and research, environmental conservation, and student life) (Ching-Wei Ho et al. 2015), The phrase “sustainability of the university environment” is often replaced by the phrase “green university”. It means integrating the requirements of sustainability into the university's operations (planning the curriculum and daily life on campus). As well as providing assistance to (the university itself, the local community, and society in general), through teaching, research, innovation and campus activities, which contribute to ensuring sustainability for the future, (Perrini, F.; Vurro, 2010), The environmental sustainability strategy is developed through (the strategic framework that will influence the formation of the organization), To enable it to demonstrate the best practices in the field of environmental excellence and sustainability. The strategy was based on the following activities: - (Glyndŵr University, 2014).

- Predicting the environmental changes for the future, and identifying the methods and practices that prevent the occurrence of environmental problems.

- Adopting systems and applications that guarantee the successful management of the environment in order to maintain a clean and safe environment, by focusing on environmental management systems.

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- Integrating environmental management with the university governance system.

- Improving the procedures for the effective use of resources.

- Establishing effective management systems that contribute to driving performance.

- Forming and consolidating a culture of sustainability among students, staff and the local community.

Through the foregoing, the university's environmental sustainability strategy will be developed along with other sub-strategies such as the education and teaching strategy, the communication strategy, and other strategies that perpetuate the relationship with the community and government, And since the strategic framework includes (the vision, mission, policy, the main values of the university, and the strategic and annual objectives), All of these, when formulated, should take into account the relationship with the surrounding environment and society, in order to ensure the university's ability to respond to expected and unexpected future environmental changes. As well as paying attention, - when building a strategy for the sustainability of the university environment- , to each of (commitment to the principles of environmental, social and economic sustainability and their role in improving understanding and achieving sustainable outcomes for all areas of the university's work), Although the environmental strategy mainly focuses on the elements of environmental sustainability (City of Swan, 2012),



The success of the university's environmental strategy work requires the essential link between environmental, social and economic sustainability through the introduction of a wide range of measures parallel to the university's responsibility towards the public.

This means that the main objective of the university's environmental sustainability strategy is (building sustainable local communities that contribute to improving the quality of life in the city in which the educational institution is located), through (participation, sustainability, justice in the distribution of wealth, creativity, and one team). Which ultimately leads to:-

- Protecting and preserving the natural environment of the university and society.
- Generating and promoting societal awareness that contributes to encouraging responsible environmental behavior.
- Effective management of resource consumption, including water and energy, by reducing waste and gases emitted from various university operations, and improving air quality.
- Building partnerships with universities and organizations that make environmental goals at the forefront of their goals.

In an attempt to clarify the reality of the university's environmental strategy and the requirements for its construction, we briefly present the strategic framework for the sustainability strategy of HARPER ADAMS University, (HARPER ADAMS UNIVERSITY COLLEGE, 2010): -

- Building a sustainable environmental strategy includes a clear definition of university environmental goals and objectives and the effectiveness of their managing and implementation it.
- The main headings targeted by the environmental sustainability strategy are summarized in (the location of environmental sustainability in the current situation of the university or college, what should the university or college target in the future field of environmental sustainability), identifying ways and means that help the university or college achieve its goals and objectives related to environmental sustainability).
- The environmental sustainability strategy includes the plan that documents and identifies the main priorities for the components of environmental sustainability. The strategy also includes the main features that define the responsibility and implementation requirements of the administrative and academic bodies in the university or college.
- The environmental sustainability strategy includes the plan that documents and identifies the main priorities of the components of environmental sustainability. The strategy also includes the main features that define the responsibility and implementation requirements of the administrative and academic bodies in the university or college.
- The university determines its vision, mission, and long-term goals depending on the type of its specializations and the type of service it provides to the community. According to each of:-
  - (activities that are closely related to the needs of the local economy, the industries on which this economy is based, and activities that contribute to sustainable production and consumption, generation of renewable energy, protection of natural resources, and human and animal wealth),.
  - Searching for new job markets for students who come from different educational and scientific backgrounds, and supporting them with appropriate development and training courses.
  - Providing an educational environment and promoting student culture that helps provide job opportunities.
  - Strong association with industry, which adds importance to business in the field of higher education, and encourages lifelong learning.

□ Show the central role of the university in providing higher education that serves the local economy, during and after the planning period.

- The extent of the environmental sustainability strategy is determined by the time required to preserve precious environmental resources in the context of human development. And in the field of a sustainable educational environment strategy that focuses on pursuing the needs and desires of society, and developing the internal resources of the university that help achieve a full response to this main trend.

- Focusing on research and activities related to environmental sustainability laws, in order to enrich the educational curricula that provide students with practical aspects that complement the theoretical dimensions that the student is provided with in the classroom.

- Developing the relationship between the university's sustainable environmental strategy and the sub-strategies of its faculties.

- Sustainability should be an important element in planning for the four main areas on which the university's environmental sustainability strategy is based, which are (money, people, equipment, and buildings), and it should work to unify and enhance the elements of environmental sustainability for the university or college.

- The sustainability strategy in higher education should use a plan that includes the curricula required for environmental sustainability to be publicly included in all classroom contents.

Based on the foregoing, when we trying to develop an environmental sustainability strategy in Iraqi universities, the following should be taken into account: -

- A clear definition of the university's environmental goals and objectives and their relationship to the university's strategic goals, and the effective way of its management and implementation.

- The university or college defines its vision, mission, and long-term goals, in relation to the requirements of achieving university environmental sustainability,

- Developing the internal resources of the university or college that help to achieve a full response to this orientation above, Taking into account the requirements of the human and physical environments. - When developing a university environmental sustainability strategy, other sub-strategies that contribute to the sustainability of the relationship with society and the government should be taken into account, such as the education and teaching strategy, the communication strategy, and the like.

- Put into account the commitment to the principles of environmental, social and economic sustainability, which support the achievement of sustainable outcomes for all fields of work of the university and its faculties, and to understand them well.

- When developing a university environmental sustainability strategy Taking into account participation, sustainability, justice in the distribution of wealth, creativity, and one team.

- The university's environmental sustainability strategy should follow two directions, The first: searching for job opportunities for students in the local community and government, and the second: qualifying students with field experiences that complement their theoretical knowledge and transform it into practical practices. - The university's environmental sustainability strategy should also focus on research and activities related to environmental sustainability laws, which contribute to strengthening the developing relationship between the university and the environment.

- And should use the university's sustainability strategy, a plan that includes curricula that are concerned with environmental sustainability to be listed in all classroom content.



- Develop operational plans, procedures and mechanisms that make the university's environmental sustainability strategy feasible for implementation.

The above points form the basis upon which determine the variables that describe environmental sustainability in Iraqi universities.

## 2- Environmental Sustainability and Continuous Improvement Strategy

The concept of continuous improvement appeared in Japan, and it is known as (Kaizen), Its meaning is (the improvement in which all employees participate in the organization, and the state of improvement is gradual for the better with time, and it depends on the hypothesis: that qualitative improvements come through small chains of continuous gradual improvement) (Shibli, 2014: 152), It means in another field: it is the improvement that takes place on a situation with the intention of reaching a better condition than it, until reaching the highest possible state of maturity or the level of complete improvement, this process may take time (A. Van Aartsengel and S. Kurtoglu, 2013), it becomes clear From the foregoing:-

- Continuous improvement is an end and a means at the same time, an end that organizations are working to achieve, and a means to be achieved through the same continuous improvement strategies.
- Continuous improvement depends on gradual standards, and means that help to achieve these standards, in order to reach the target standards.
- It is achieved through the comprehensive capabilities and efforts of the organization or university in its comprehensive capacity

Continuous improvement in universities means (continuous improvement of the performance of the university institution, which makes it able to effectively respond to the needs and desires of society, present and future). (SANDRA PARK, 2013) This case requires: -

- Organizing and maximizing university resources to improve academic results.
- Curricula, teaching achievement, and assessment should be parallel to the continuous improvement of students' performance.
- Development and expansion in the areas of continuous improvement, and the introduction of initiatives based on improving the conditions and atmosphere of the process of continuous improvement in universities.
- Development, initial planning, and expansion of improvements in secondary education, and programs that support student participation in diverse learning activities.
- Using students, faculty, university, and performance appraisal system data to monitor and improve student achievement
- Incubating and maintaining systems that support and improve the effectiveness of university employees.
- Strengthening the relations between the university and the family, and continuing to expand the relationship with business organizations, and the partnership with the community that all contribute to improving the university's student outcomes.

The last point above refers to the role that a university environmental sustainability strategy can play in emphasizing the need for continuous improvement at the university, Because the university environment is in continuous change, Responding to such change requires continuous improvement in the University's operations and performance. The various strategies for the sustainable university environment constitute an important means in meeting the success of the university educational institution in achieving its main objectives. Representing by the promotion of awareness of sustainability issues between the university and the community, And the use of technology that allows reducing the environmental loads at the local community level, which constitutes obstacles that prevent the university from achieving continuous improvement, Which gives it the

ability to respond quickly and effectively to expected and sudden environmental changes,( . Jenks-Jay N, 2000. p. 165).

#### **Fourth: Study design and method**

The research relied in its study on the integration between the deductive and inductive approaches. The research used analysis and synthesis based on logical evidence in the theoretical aspect of the research. And quantitative analysis in the field side of it, the research was conducted on a sample of teachers specialized in the environment at the University of Basra and its colleges, Because they have more theoretical and field knowledge of the sustainable university environment, and the requirements for a full response to it, Because the research is exploratory, a checklist was used to explore the role that the university's environmental sustainability strategy can play in the continuous improvement of its overall performance. The research used some appropriate statistical methods for the purposes of quantitative analysis and to prove the validity of the hypotheses.

Fifthly, the field study

##### **1- Tests of validity and reliability.**

- The test of face and content validity (the opinions of the reviewers): the method of the opinions of reviewers was used in the test of validity (face and the content), which is common in these tests. Some simple comments were made about some of the paragraphs, and the appropriate modification was made. Reliability test (the internal homogeneity test of the scale or Cronbach Alpha): The (Cranach Alpha) test is one of the most important tests of the scalar reliability, because it reveals the internal homogeneity between the items of the scale, including the general homogeneity of the scale, and the homogeneity of each individual item in relation to the other items of the scale. (Gliem & Gliem, 2003: 87), The value of (Alpha) for the scale items as a whole was approximately (91%), The value for the individual items of the scale ranged between (0.91 - 0.90), They are all higher than the standard alpha value (0.70), indicating the strong homogeneity between the scale items, And both tests insure the validity of the scale for measurement purposes.

##### **2 - Descriptive statistics (estimating the importance of variables from the point of view of the sample members):**

		N	Mean		Std. Deviation	Comment
Variable Description	Variable Code	Statistic	Statistic	Std. Error	Statistic	
1 - Relationship with the community	VAR00001	40	4.575	0.07916	0.50064	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
2 - Participation in the strategy.	VAR00002	40	4.275	0.0715	0.4522	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy

3 - Awareness of environmental management systems	VAR00003	-40	3.9	0.09337	0.59052	The interest of the sample members in the variable, as one of the measures of the university environment
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						sustainability strategy
4 - protect the environment	VAR00004	40	3.7	0.13493	0.85335	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
5- Forecasting events and changes.	VAR00005	40	3.875	0.09599	0.60712	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
6 - Search On the best use of resources.	VAR00006	40	4.25	0.08586	0.54302	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
7- Directing some aspects of teaching towards improving environmental performance	VAR00007	40	3.875	0.11428	0.7228	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
8- Directing student outputs towards developing the local economy and industry	VAR00008	40	4.1	0.11209	0.70892	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
9 - Compatibility of specializations with the needs of the environment	VAR00009	40	3.875	0.125	0.79057	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
9 - Compatibility of specializations with the needs of the environment	VAR00010	40	3.925	0.09732	0.6155	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy

11 - Field practice to solve environmental problems.	VAR00011	40	4.025	0.11029	0.69752	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
12 - Multiple communication channels with the community.	VAR00012	40	3.925	0.12083	0.76418	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
13 - Providing job opportunities for graduates.	VAR00013	40	3.225	0.14091	0.8912	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
14 - Working to reach the Green University	VAR00014	40	3.75	0.14654	0.92681	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
15 - The effectiveness of the relationship with the community.	VAR00015	40	4.025	0.11029	0.69752	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
16 - Improving performance according to the needs of the environment.	VAR00016	40	4.075	0.075	0.47434	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
17 - Continuous review of plans and curricula in accordance with environmental changes.	VAR00017	40	3.725	0.17537	1.10911	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
18 - Continuous improvement of the performance of academic and administrative bodies.	VAR00018	40	3.85	0.1047	0.66216	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy

19 - Deepening the partnership with the community.	VAR00019	40	4.225	0.09798	0.61966	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
20 - Pursuing development according to the principles of continuous improvement.	var20	40	3.9533	0.06882	0.43526	The interest of the sample members in the variable, as one of the measures of the university environment sustainability strategy
	40				Valid N (listwise)	

Note: The hypothetical mean value of the scale = 3, what is above this value indicates acceptance of the variable by the sample members, and what is below this value indicates the sample members' rejection of the variable.

Result 1:

-The possibility of developing an environmental sustainability strategy for the University of Basra based on the variables in the -above table. ,As well as the compatibility of developing the sustainable environment for the University of Basra with the continuous improvement of the overall performance of the universities themselves.

2- Causal statistics (using multiple regression analysis to verify the validity of the study hypothesis):

- Multiple regression analysis of the main dependent variable, (the overall university performance) on (the main independent variable, the university environmental sustainability strategy and its sub-variables).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig	التعليق
1	.915 <sup>a</sup>	.837	.735	.24251	0.00	There is a statistically significant effect of the university environmental sustainability strategy on the continuous improvement of the overall university performance at the University of Basra .

3- Beta values of the regression model: The purpose is to know the significant effect of the independent sub-variables on the dependent variable through the joint effect among them.

Variable description	ble	Beta	t	sig	comment
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1 - Relationship with the community	Var00001	.597	2.120	.045	The significance of the model, and the emergence of a clear and strong effect in the dependent dimension, through interaction with other subvariables
2 - Awareness of environmental management systems	VAR00003	.623	2.290	.031	The significance of the model, and the emergence of a clear and strong effect in the dependent dimension, through interaction with other subvariables
3 - protect the environment	VAR00004	.825	2.297	.031	The significance of the model, and the emergence of a clear and strong effect in the dependent dimension, through interaction with other subvariables
4 - Forecasting events and changes.	VAR00005	.631	2.238	.035	The significance of the model, and the emergence of a clear and strong effect in the dependent dimension, through interaction with other subvariables
5 - Directing some aspects of teaching towards improving environmental performance	VAR00007	1.062	2.173	.040	The significance of the model, and the emergence of a clear and strong effect in the dependent dimension, through interaction with other subvariables
6 - Directing student outputs towards developing the local economy and industry	VAR00008	.733	2.057	.05	The significance of the model, and the emergence of a clear and strong effect in the dependent dimension, through interaction with other subvariables
7 - Providing job opportunities for graduates	VAR00013	1.011	2.221	.036	The significance of the model, and the emergence of a clear and strong effect in the dependent dimension, through



					interaction with other subvariables
8 - The effectiveness of the relationship with the community.	VAR00015	.882	2.814	.010	The significance of the model, and the emergence of a clear and strong effect in the dependent dimension, through interaction with other subvariables
Note: If the significance index of the (Beta) coefficient is significant, it indicates the positive effect of the independent sub-variable in the dependent dimension through interaction with other sub-variables, regardless of the value of the positive or negative Beta.					
Result 2: The clear and strong impact of the independent variables (relationship with					

society, awareness of environmental management systems, environmental protection, forecasting of events and changes, directing some aspects of teaching towards improving the environment, directing student outcomes towards developing the local economy and industry, providing job opportunities for graduates, effectiveness of relationship with society),

Which documents the relationship between the university's environmental sustainability and the university's overall performance strategy in the approved dimension (improving overall university performance). Which documents the relationship between the university's environmental sustainability and the university's overall performance strategy in the dependent dimension (improving overall university performance).

Sixth: Discussing the results, conclusions and recommendations.

#### 1 - Discussing the results

- Universities are the main engine of the economic and social development of the country, and the efficiency of their outputs helps the continuity of this development, The continuity of providing efficient university outputs depends on the change aimed at achieving environmental sustainability within the university, whose positive effects extend to the local and national communities However, achieving sustainability on the campus is not possible without the participation of all stakeholders from inside and outside the university, as well as the need to link the requirements of environmental sustainability with the needs for continuous improvement of the overall university performance This requires to developing of a comprehensive strategy for the university, focusing in its orientations and components, on the objectives and practices that ensure the preservation of environmental sustainability, and that provide better conditions for improving the overall university performance, The theoretical side of the research showed the possibility of developing a university environmental sustainability strategy along with other sub-strategies such as the education and teaching strategy, the communication strategy, and other strategies that perpetuate the relationship with society and government, The field side showed the possibility of developing the environmental sustainability strategy for the University of Basra based on the variables that were tested in the previous analyzes, with some modifications to the requirements for developing the university's environmental sustainability strategy to suit the nature of the

environment of the University of Basra. The result shows the answer to the first question of the problem, which is: (To what extent can a strategy be developed to ensure environmental sustainability at Basra University?).

- The results of the field analysis showed the clear impact of the components of the university's environmental strategy: (relationship to society, awareness of environmental management systems, environmental protection, forecasting events and changes, directing some aspects of teaching towards improving the environment, directing student outcomes towards developing the local economy and industry, providing job opportunities for graduates, the effectiveness of the relationship with society), These constitute the driving forces of the strategy upon implementation. Explaining the answer to the second question of the problem, which is (disclosing the possibilities that help the effective implementation of the environmental sustainability strategy in Iraqi universities). - The field side revealed (the positive impact of the university's environmental sustainability strategy on the continuous improvement of the overall university performance at the University of Basra). This is consistent with the study (Jenks-Jay N , 2000. p. 165 ), which indicates the application of the sustainable university model is a process of continuous improvement in environmental, social and economic performance that must be done through gradual steps.

## **2 – Conclusions: the results showed the following:-**

- Most Iraqi universities and colleges lack clear and practical knowledge of the concept of the sustainability of the university environment and its role in influencing the improvement of overall university performance.

-The possibility of developing an environmental sustainability strategy at the University of Basra.

- Taking into account the environmental and social conditions of the University of Basra when developing a sustainable environmental strategy.

- The environmental, economic and social capabilities that enable the effective implementation of the sustainable environment strategy are available at the University of Basra.

- Relationship and a statistically significant effect of the university environment sustainability strategy at the University of Basra on the continuous improvement of its overall performance.

## **2- Recommendations**

The first recommendation: building and implementing a sustainable environmental strategy at the University of Basra.

Implementation mechanisms:

- Gathering information on the environmental, social and economic aspects related to the University of Basra.

- Improving procedures for the effective use of available university resources.

- Forming and consolidating a culture of sustainability among students, staff and the local community.

Second recommendation: To develop and strengthen the relationship between the sustainability strategy and the continuous improvement of the overall performance of the University of Basra.

Implementation Mechanisms:-

- Detecting and employing components and mechanisms that help in the effective implementation of the environmental sustainability strategy at the University of Basra.

- Forming a specialized team supervised by the university presidency, to implement the above paragraph.

- Setting standard specifications that guarantee the positive and continuous relationship between the environmental sustainability strategy and the continuous improvement of the overall performance of the University of Basra.

The third recommendation: Provide the requirements for maintaining continuous improvement at the University of Basra.

Implementation mechanisms:

- Predicting environmental and social changes, especially local and national ones, before they occur.
- Directing student outputs towards developing the economy and industry in the local and national environments.
- Expanding and strengthening the channels of exchange of the relationship between the environment and society

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