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THE ROLE OF GREEN LEADERSHIP IN GREEN CREATIVITY OF EMPLOYEES

Fatima Jafar Habeeb
Associate Professor, Technical College of Management, Mosul, Northern Technical University, Iraq
Fatimajh@ntu.edu.iq

Abstract. Here, the purpose of the researcher was to look at green leadership and green creation. The current research aimed to reflect the reality of green leadership and green creativity at the Director of Electricity Distribution Center Nineveh. And to advocate the role of green leadership in green innovation. A descriptive approach was used in the study and a questionnaire was sent on a sample of 80 employees that were selected as study respondents. The results indicated that green leadership had favourable and significant effects on green creativity of employees. The practical ramifications of these findings demonstrated the need to establish green leadership as a strategy to enhance the green creativity of employees in the public organisational settings. These implications can improve the effectiveness of the employees in the organisations.

Keywords: Green creativity, Green leadership, Director of Electricity Distribution Center Nineveh

Introduction

Given the current circumstances, there is growing pressure from regulatory bodies, investors, and consumers for organizations to demonstrate tangible and actionable environmental performance. This has compelled organizations to adopt a proactive and innovative approach to environmental management [1]. "Employee green creativity" which encompasses the generation, promotion, and implementation of eco-friendly ideas and practices by staff is a critical factor in this transition. This is a vital function in shaping the environmental performance of a business; nevertheless, this is a process that cannot be managed and controlled by top management alone [2]. Thus, the individual green-unrelated creative behaviour is motivated by the employee's own openness and creativity, and the topic of the organisational and leadership circumstances for eco-friendly creative behaviour is attracting increasingly trippingly and practical interest.

In this regard, the style of the leadership ("green leadership") expected to promote the employees' green innovation has been much discussed in the literature. It involves leaders articulating a clear environmental vision, actively participating in environmental initiatives, and encouraging environmentally responsible behaviors among their staff [3]. It has been established that green leadership influences employees' attitudes and workplace behaviors. Furthermore, it has been found that environmentally committed leaders who articulate a clear environmental vision exert a tangible impact on shaping employees' attitudes and behaviors toward the environment [4]. The past studies have only looked at the relationship between green leadership and green creativity from the perspective of the effect of green leadership on green creativity with minimal knowledge of the relationship between green leadership and the green creativity of employees in light of the psychological mechanisms that stimulate the green leadership and green creativity of employees [5], [6], [7], [8].

Thus, this study throws light on green leadership and green creativity of employees.

Theoretical Issues and Hypothesis

Green leadership:

Green leadership refers to a leader's ability to define realistic environmental policies and their capacity to support those policies. This entails rotating members of an organization in support of environmental policy and environmental initiatives. The green leadership plays a significant role in establishing a sustainable environment and promoting the adoption of environmental policies in a company [9].

Such green leadership also yields the resources for people to be part of the society of future green innovations by understanding themselves, what they can do, and their motivations. For management, fostering green creativity among employees is crucial for driving organizational innovation [10].

Green creation of employees

Academic discussions highlight creativity as a key employee attribute in aligning human skills with organizational objectives in specific contexts [10]. Green creativity provides a chance for employees to produce an idea on products and services and even urge the employees to come up with alternatives and more custody of the environment [11]. Moreover, investigations into intrinsic motivation [12] and employee behaviour and innovation [13] also show that motivated employees with their intrinsic job satisfaction have been likely to be more creative in problem solving and driving work behaviours, e.g., environmental ones. Moreover, green creation is the innovation of hardware and software for green product or process, such as innovation in energy saving, pollution avoidance, waste recycling, green product designs, or corporate environmental management. Therefore, green creation is far-reaching in satisfying environmental protection and conservation needs. It places significant emphasis on practices that reduce environmental impact and foster a clean work environment, utilizing green manufacturing processes alongside eco-friendly and recyclable products [14].

The relationship between green leadership and green creativity of employees:

The sustainability and green care is gradually conversed and has become a very related topic now. Green stability occurs as a very significant element in the corporate world in the 21st century [15]. Pollution is seen growing from year to year until the development of a green which offers an method to the use of incomes professionally with savings and green care [2].

In addition, Along with global tests from resource lack and environmental pollution, green leadership has involved widespread attention.

Green creativity refers to employees' ability to generate new and useful ideas for solving environmental problems and improving environmental performance. Through the influence of leadership, it has been demonstrated that leaders who provide employees with autonomy, resources, and psychological safety within a context that encourages experimentation contribute to greater creative engagement by employees in addressing environmental issues and enhancing environmental performance [16].

Hence, further research needs to be carried out for determining the presence/absence of a relationship between green leadership and green creativity of employees in organizations generally and researched organization epically.

Based on the above discussion, the researcher investigated the relationship between the green leadership and green creativity of employees in Director of Electricity Distribution Center Nineveh in Iraq.

Hence, the below-mentioned hypotheses were proposed:

H1: There is a significant correlation between green leadership and green creativity of employees in the researched organization.

H1.1: There is a significant correlation between green leadership (combined) and green creativity of employees (individually) in the researched organization.

H2: There is a significant effect of the green leadership on the green creativity of employees in the researched organization.

H2.1: There is a significant effect of the dimensions of green leadership (combined) on the green creativity of employees (individually) in the researched organization.

Proposed Conceptual Framework

Developing a theoretical model required a thorough investigation of the literature related to the specific topics and formation of speculative suppositions. As a single model cannot clarify the state of the study, the researchers developed a notional model in this study using the configuration proposed by framework included the green leadership and green creativity of employees (Figure 1). Furthermore, the green leadership items were derived from [17], [18]. The green creativity items were derived from the study conducted by [19].

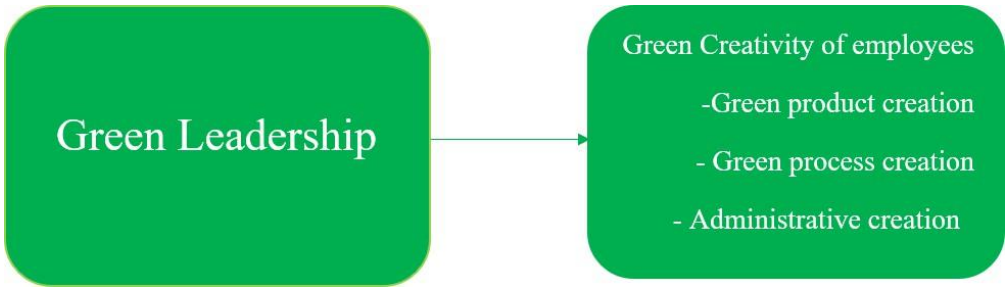


Figure 1. Conceptual Framework

Methods

The researcher implemented a quantitative research technique in the study. All data was collected from the employees working in the Director of Electricity Distribution Center Nineveh in Iraq. The researcher implemented a conceptual framework for determining the relationship between the green leadership and green creativity of employees. They distributed the survey questionnaires physically to the randomly-selected respondents. The questionnaires were written in the Arabic languages. The questionnaires included 4 sections; Section 1 included questions related to the demographic information of the respondents; Section 2 covered the green leadership (10 items); Section 3 highlighted the green creativity of employees (24 items). These questionnaires were distributed amongst 90 employees. Out of the 80 questionnaires that were collected, 3 were filled (i.e., 89%)

Thereafter, these were categorized and analyzed. Thus, it was concluded that the employees were willing to share information with the researcher which increased their trust in the data.
Frequencies, percentages, arithmetic means, standard deviations, and relative importance for all items across the questionnaire's dimensions will be extracted using the SPSS, 26.

Results and Discussion

First: Descriptive analysis

A. Descriptive Analysis of Green Leadership Variable Items as shown in the tables below:

Table 1. Description and Diagnosis of Green Leadership Items

Items	Response Scale										Mean	Standard Deviation	Relative Importance (%)
	Strongly Agree (5)		Agree (4)		Neutral (3)		Disagree (2)		Strongly Disagree (1)				
	F	%	F	%	F	%	F	%	F	%			
GL_1	58	72.5	18	22.5	4	5.0	0	0.0	0	0.0	4.675	0.569	93.5
GL_2	47	58.7	30	37.5	3	3.8	0	0.0	0	0.0	4.550	0.571	91.0
GL_3	22	27.5	55	68.7	3	3.8	0	0.0	0	0.0	4.237	0.509	84.8
GL_4	17	21.3	58	72.5	4	5.0	0	0.0	1	1.2	4.125	0.603	82.5
GL_5	22	27.5	46	57.5	11	13.8	1	1.2	0	0.0	4.112	0.675	82.3
GL_6	27	33.8	40	50.0	13	16.2	0	0.0	0	0.0	4.175	0.689	83.5
GL_7	33	41.3	33	41.2	14	17.5	0	0.0	0	0.0	4.237	0.733	84.8
GL_8	37	46.3	34	42.5	9	11.2	0	0.0	0	0.0	4.350	0.677	87.0
GL_9	38	47.5	29	36.2	10	12.5	3	3.8	0	0.0	4.275	0.826	85.5
GL_10	32	40.0	33	41.3	12	15.0	1	1.2	2	2.5	4.150	0.901	83.0
GL	41.6%		47.0%		10.4%		0.6%		0.4%		4.289	0.675	85.8%
	88.6%						1.0%						

As shown in Table (1), the Green Leadership (GL) variable signified by items GL_1 through GL_10 established an agreement rate ("strongly agree" and "agree") of 88.6% of the total responses from the sample, while the disagreement rate ("disagree" and "strongly disagree") was 1.0%, and the proportion of neutral responses was 10.4%. This is extra supported by a mean score of 4.289, a standard deviation of 0.675, and a response rate of 85.8%. Item GL_1, which states, "It enhances employees' awareness regarding environmental protection," recorded the highest mean score at 4.675, with a standard deviation of 0.569 and a response rate of 93.5%.

B. Green Creativity of Employees

1. Analysis of Green Production creativity Items

Table 2. Description and diagnosis of green production creativity items

Items	Response Scale										Mean	Standard Deviation	Relative Importance (%)
	Strongly Agree (5)		Agree (4)		Neutral (3)		Disagree (2)		Strongly Disagree (1)				
	F	%	F	%	F	%	F	%	F	%			
GDC_1	31	38.8	25	31.2	22	27.5	2	2.5	0	0.0	4.062	0.876	81.3
GDC_2	24	30.0	39	48.7	15	18.8	2	2.5	0	0.0	4.062	0.769	81.3
GDC_3	21	26.3	40	50.0	18	22.5	1	1.2	0	0.0	4.013	0.738	80.3
GDC_4	44	55.0	32	40.0	4	5.0	0	0.0	0	0.0	4.500	0.595	90.0
GDC_5	42	52.5	33	41.3	4	5.0	0	0.0	1	1.2	4.438	0.709	88.8

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Items	Response Scale										Mean	Standard Deviation	Relative Importance (%)
	Strongly Agree (5)		Agree (4)		Neutral (3)		Disagree (2)		Strongly Disagree (1)				
	F	%	F	%	F	%	F	%	F	%			
GDC_6	32	40.0	40	50.0	8	10.0	0	0.0	0	0.0	4.300	0.644	86.0
GDC_7	31	38.8	38	47.5	10	12.5	1	1.2	0	0.0	4.237	0.716	84.8
GDC_8	32	40.0	39	48.8	7	8.8	1	1.2	1	1.2	4.250	0.771	85.0
GDC	40.2%		44.7%		13.7%		1.1%		0.3%		4.233	0.727	84.7%
	84.9%						1.4%						

As shown in Table (2), the dimension of Green Product Creativity (GDC) represented by items GDC_1 through GDC_8 achieved an agreement rate (combining "strongly agree" and "agree") of 84.9% of the total responses from the sample, while the disagreement rate ("disagree" and "strongly disagree") stood at 1.4%, and neutral responses accounted for 13.7%. This is supported by a mean score of 4.233, a standard deviation of 0.727, and a response rate of 84.7%. Item GDC_4, which states, "Management improves the efficiency of the facilities and reduces their environmental impact," recorded the highest mean score at 4.500, with a standard deviation of 0.595 and a response rate of 90.

2. Analysis of Green Process Creativity Items

Table 3. Description and Diagnosis of Green Process Creativity Items

Items	Response Scale										Mean	Standard Deviation	Relative Importance (%)
	Strongly Agree (5)		Agree (4)		Neutral (3)		Disagree (2)		Strongly Disagree (1)				
	F	%	F	%	F	%	F	%	F	%			
GCC_1	35	43.8	28	35.0	17	21.2	0	0.0	0	0.0	4.225	0.779	84.5
GCC_2	33	41.3	31	38.8	14	17.5	1	1.2	1	1.2	4.175	0.854	83.5
GCC_3	26	32.5	44	55.0	10	12.5	0	0.0	0	0.0	4.200	0.644	84.0
GCC_4	27	33.8	40	50.0	11	13.8	1	1.2	1	1.2	4.138	0.791	82.8
GCC_5	23	28.8	48	60.0	8	10.0	1	1.2	0	0.0	4.162	0.645	83.3
GCC_6	29	36.2	40	50.0	11	13.8	0	0.0	0	0.0	4.225	0.675	84.5
GCC_7	30	37.5	38	47.5	12	15.0	0	0.0	0	0.0	4.225	0.693	84.5
GCC_8	33	41.2	30	37.5	15	18.8	2	2.5	0	0.0	4.175	0.823	83.5
GCC	36.9%		46.7%		15.3%		0.8%		0.3%		4.191	0.738	83.8%
	83.6%						1.1%						

As shown in Table (3), the dimension of Green Process Creativity (GCC) represented by items GCC_1 through GCC_8 achieved an agreement rate (combining "strongly agree" and "agree") of 83.6% of the total responses from the sample, while the disagreement rate ("disagree" and "strongly disagree") stood at 1.1%, and neutral responses accounted for 15.3%. This is supported by a mean score of 4.191, a standard deviation of 0.738, and a response rate of 83.8%. Items GCC_1, GCC_6, and GCC_7 recorded the highest mean score an identical 4.225 with standard deviations of 0.779, 0.675, and 0.693, respectively, and a response rate of 84.5% for each. These items state: "Providing creative solutions and sustainable technologies to improve the department's environmental performance,"

"Using clean technology to reduce the impacts of pollution," and "Encouraging green creativity by establishing a robust strategy to motivate employees."

3. Analysis of Administrative Creativity Items:

Table 4. Description and Diagnosis of Administrative Creativity Items

Items	Response Scale										Mean	Standard Deviation	Relative Importance (%)
	Strongly Agree (5)		Agree (4)		Neutral (3)		Disagree (2)		Strongly Disagree (1)				
	F	%	F	%	F	%	F	%	F	%			
AC_1	37	46.2	35	43.8	7	8.8	0	0.0	1	1.2	4.338	0.745	86.8
AC_2	31	38.8	36	45.0	13	16.2	0	0.0	0	0.0	4.225	0.711	84.5
AC_3	29	36.3	41	51.2	10	12.5	0	0.0	0	0.0	4.237	0.661	84.8
AC_4	29	36.3	45	56.3	5	6.2	1	1.2	0	0.0	4.275	0.636	85.5
AC_5	29	36.3	41	51.2	10	12.5	0	0.0	0	0.0	4.237	0.661	84.8
AC_6	30	37.5	35	43.8	14	17.5	0	0.0	1	1.2	4.162	0.803	83.3
AC_7	23	28.8	38	47.5	16	20.0	1	1.2	2	2.5	3.987	0.879	79.8
AC_8	28	35.0	43	53.8	9	11.2	0	0.0	0	0.0	4.237	0.641	84.8
AC	36.9%		49.1%		13.1%		0.3%		0.6%		4.212	0.717	84.3%
	86.0%						0.9%						

As shown in Table (4), the dimension of administrative creativity (AC) represented by items AC_1 through AC_8 achieved an agreement rate (combining "strongly agree" and "agree") of 86.0% of the total responses from the sample, while the disagreement rate (combining "disagree" and "strongly disagree") was 0.9%, and the proportion of neutral responses was 13.1%. It has a standard deviation of 0.717 and a mean score of 4.212 with a response rate of 84.3%. Separating into Item AC_1 All the areas of the organization operate in environmentally friendly and sustainable mode: mean score = 4.338; standard deviation = 0.745, response rate = 86.8%

Model Evaluation Methods

Descriptively, the data is processed, and the Partial Least Squares Structural Equation Modelling (PLS-SEM) statistic is used to analyse the study model to test the interrelations between the latent variables. The assessment comprises of two major parts. The first is a measurement model evaluated for the validity and reliability of the measuring instruments by studying the extent of the quality of the link between the latent variables and the indicators. The second stage involves assessing the structural model, which aims to test the causal relationships between latent variables, estimate the strength and direction of these relationships, and test the hypotheses upon which the study model is based, using the Smart-PLS 3 software.

1. Measurement Model Evaluation:

This stage helps in the determination of the validity and stability of the variables and indicators forming the model. Tables (5) and (6) provide the reliability tests of the items and dimensions studied.

Table 5. Evaluation Criteria for the Green Leadership Variable Model

Latent Variables	Items	Outer Loading		Internal Consistency		
		≥ 0.7	Remain?	AVE≥0.5	Cronbach's Alpha ≥0.7	Composite Reliability ≥0.7
Green Leadership	GL_1	0.825	Yes	0.640	0.937	0.947
	GL_2	0.785	Yes			
	GL_3	0.741	Yes			
	GL_4	0.767	Yes			
	GL_5	0.771	Yes			
	GL_6	0.885	Yes			
	GL_7	0.824	Yes			

Latent Variables	Items	Outer Loading		Internal Consistency		
		≥ 0.7	Remain?	AVE≥0.5	Cronbach's Alpha ≥0.7	Composite Reliability ≥0.7
	GL_8	0.824	Yes			
	GL_9	0.758	Yes			
	GL_10	0.811	Yes			

Table 6. Measurement requirements of the green creative variable of the model.

Latent Variables	Items	Outer Loading		Internal Consistency		
		≥ 0.7	Remain?	AVE≥0.5	Cronbach's Alpha ≥0.7	Composite Reliability ≥0.7
Green Product Creativity	GDC_1	0.830	Yes	0.705	0.940	0.950
	GDC_2	0.838	Yes			
	GDC_3	0.882	Yes			
	GDC_4	0.835	Yes			
	GDC_5	0.840	Yes			
	GDC_6	0.795	Yes			
	GDC_7	0.845	Yes			
	GDC_8	0.850	Yes			
Green Process Creativity	GCC_1	0.825	Yes	0.674	0.931	0.943
	GCC_2	0.834	Yes			
	GCC_3	0.814	Yes			
	GCC_4	0.798	Yes			
	GCC_5	0.858	Yes			
	GCC_6	0.779	Yes			
	GCC_7	0.810	Yes			
	GCC_8	0.850	Yes			
Administrative Creativity	AC_1	0.745	Yes	0.658	0.925	0.939
	AC_2	0.831	Yes			
	AC_3	0.755	Yes			
	AC_4	0.831	Yes			
	AC_5	0.799	Yes			
	AC_6	0.832	Yes			
	AC_7	0.871	Yes			
	AC_8	0.817	Yes			
Green Creation				0.596	0.970	0.973

Tables (5) and (6) suggest that the measurement model is reliable and valid. All outside loadings of items are greater than 0.70; the minimum level is 0.741 and the maximum is 0.885. This implies that we would retain all items because of reasonable associations between the indicators in the study and the latent variables. Also, the average variances extracted for all dimensions and main variables were within the allowed ranges of above 0.50 (0.596-0.705), indicating convergent validity of variables in the measurement model.
The Cronbach's alpha and composite reliability ratings of all dimensions and variables (Table 1) support internal consistency. Cronbach's alpha coefficients ranged from 0.925 to 0.970, while composite reliability values ranged from 0.939 to 0.973, all beyond the recommended threshold of 0.70. These figures suggest good internal consistency and reliability of the measures in the study. This demonstrates the minimum thresholds of reliability and convergent validity in PLS-SEM for the measurement model. This indicates the validity of used measures and allows to proceed to the following steps of analysis, i.e. measurement and

structural model assessments and testing study hypotheses. One of the most important criteria for evaluating a measurement model is the discriminant validity. It seeks to ensure that each latent variable is different from others, that is, indicators used to assess a given latent variable do not measure another. Accordingly, we adopted Heterotrait-Monotrait (HTMT) Ratio, which is a common approach in discriminant validity of PLS-SEM approach. The results of this criterion are shown in Table (7) where all HTMT values are below 0.90. This verifies the presence of discriminant validity between the research variables; hence, each latent variable is sufficiently independent from the others and measures what it was intended to measure.

HTMT criteria results in **Table 7**

Variables	GL	GDC	GCC	AC	GC
GL	—				
GDC	0.836	—			
GCC	0.805	0.789	—		
AC	0.804	0.873	0.863	—	
GC	0.809	0.789	0.798	0.819	—

2. Evaluation of the Structural Model

After meeting the requirements of reliability and validity of the measuring model, the next step is the analysis of the structural model. Therefore, the approach is used to test the assumed causal relationships between the latent variables and to confirm the hypotheses of the investigation. This entails testing the explanatory and predictive power of the model through a set of statistical indicators: i.e., coefficient of determination (R^2) and effect size (f^2) and testing multicollinearity between the variables calculated by Variance Inflation Factor (VIF). The results of these indicators are:

a. Variance Inflation Factor (VIF)

Table 8. Variance Inflation Factors

Items	VIF	Items	VIF	Items	VIF	Items	VIF
GL_1	2.628	GDC_1	2.643	GCC_1	2.788	AC_1	1.979
GL_2	2.559	GDC_2	2.768	GCC_2	2.638	AC_2	2.574
GL_3	2.358	GDC_3	3.746	GCC_3	2.362	AC_3	1.991
GL_4	2.108	GDC_4	2.616	GCC_4	2.349	AC_4	2.554
GL_5	2.652	GDC_5	2.919	GCC_5	3.238	AC_5	2.323
GL_6	4.613	GDC_6	2.267	GCC_6	2.150	AC_6	2.928
GL_7	2.764	GDC_7	3.033	GCC_7	2.512	AC_7	3.245
GL_8	3.064	GDC_8	2.973	GCC_8	3.328	AC_8	2.468
GL_9	2.178	—	—	—	—	—	—
GL_10	2.782	—	—	—	—	—	—

Table (8) displays the VIF results of all indicators of the study. Values range from 1.979 to 4.613, which are smaller than the critical level of 5.00. This means there is no multicollinearity between the indicators, the variables are independent, and they are free from strong correlations and are right to serve an accurate estimate of the structural model coefficients. Therefore, the study data are adequate for investigating structure correlations, and the model findings can be relied upon for testing the study hypotheses.

c. Model Quality Test.

The values of (R2 and F2) will measure the model quality. The values of criterion are presented in Table (9).

Table 9. Model Quality Criteria Values

Latent Variables	R^2	Explanatory Power	f^2	Effect Size
Administrative Creativity (AC)	0.862	Substantial	6.253	Large
Green Creation (GC)	0.694	Moderate	2.270	Large
Green Process Creativity (GCC)	0.879	Substantial	7.276	Large
Green Product Creativity (GDC)	0.892	Substantial	8.299	Large

The results by the quality of the structural model with R2 and f2 are confirmed in Table (9). The R^2 values, ranging from 0.694 to 0.892, indicate that the model possesses a moderate to high explanatory power. The "Green Product Creativity" (GDC) dimension achieved the highest explanatory power at 0.892 meaning 89.2% of its variance is explained by the model followed by "Green Process Creativity" (GCC) at 0.879, and "Administrative Creativity" (AC) at 0.862; all of these fall within the "substantial" level of explanatory power. Conversely, the R^2 value for the "Green Creativity" (GC) construct was 0.694, indicating that 69.4% of its variance is explained a moderate level of explanatory power according to the PLS-SEM criteria used for classifying results.

Regarding effect size (f2), the decision is on the "large" case (2.270-8.299). These are higher above the cut-off value of effect size (0.35) for a "large" effect as described by Cohen. The biggest effect size value was obtained by the GDC dimension (8.299), followed by GCC (7.276) and AC (6.253). In contrast, Green Creativity (GC) reported the lowest value of 2.270, which is also a large impact size. In general, the results imply that the model has good explanatory power for most of the variables and dimensions, with substantial effect sizes. This points to the importance of the explanatory linkages integrated in the model and allows testing study hypotheses and assessing the statistical significance of the assumed relationships.

Testing of Hypotheses of Correlation and Influence

Goodness-of-fit indices were tested for the requirements of testing the model against the acquired data from sample participants. Then, proceed to test the hypotheses of the study as defined in the research methodology: 1. Testing the Correlation Hypothesis

The first primary hypothesis was tested using the Spearman correlate coefficient in SPSS, 26. The findings are as follows:

Testing the First Main Hypothesis

Here, test the first main hypothesis, which states:

(There is a significant correlation between green leadership and green creativity among employees in the organization under study).

Table (10) Correlation Matrix between Green Leadership and Green Creativity

Table (10): The green leadership and green creativity correlation results.

Variables	Green Creation			
	Correlation Coefficient	CI (95%)		Sig
		Lower	Upper	
Green Leadership	0.828	0.727	0.894	<0.001

Table (10) Spearman correlation coefficient between green leadership and green creativity. The results show a substantial positive correlation between the variables (r = 0.828, n = 160) and the link is robust. In addition, the obtained significance (Sig < 0.001) is below the cut-off (0.05), which further testifies to the statistical significance of the association. Additionally, the interval of (0.727) and (0.894) demarcates the 95% confidence range, which excludes 0 and so reinforces the finding, corroborating the stability of the correlation coefficient's estimate. Therefore, the null hypothesis is rejected, and the alternative hypothesis of the existence of a statistically significant association between green leadership and green creativity is accepted.

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2. Testing the first main hypothesis: Sub-hypothesis

In this section, the sub-hypothesis of the first main hypothesis is tested, as follows:

(Individual Level) The green leadership is significantly correlated with the green creativity of the personnel in the concerned organization.

Table (11) presents the association between green leadership and elements of green creativity.

Table 11: Green Leadership vs the Dimensions of Green Creativity

Variables	Correlation Coefficient	Green Leadership CI (95%)		Sig
		Lower	Upper	
Green Product Creativity	0.774	0.650	0.858	<0.001
Green Process Creativity	0.840	0.744	0.901	<0.001
Administrative Creativity	0.747	0.613	0.840	<0.001

Table (11) shows the results of the correlation between green leadership and the aspects of green creativity (Spearman correlation coefficient). The results reveal that green leadership has a positive and significant link with the studied dimensions (r=0.774, r=0.840, and r=0.747) green product creativity, green process creativity, and management creativity, respectively. All of the values are significant for Sig < 0.001, much below the allowable 0.05 threshold. Moreover, the 95% CI of these values do not contain 0, which further confirms the results. Thus, the null hypotheses are rejected and the alternative hypotheses are accepted, which reflect statistically significant relationships between green leadership and aspects of green creativity in Nineveh Center Electricity Distribution Directorate.

Second: Testing of the Effect Hypotheses

The Partial Least Squares Structural Equation Modelling (Smart-PLS 3 software) models below were created to test and confirm the effect hypotheses:

1.Testing the Second Main Hypothesis

The second main hypothesis, which states that "there is a significant effect of green leadership on the green creativity of employees in the organization under study," will be tested.

Figure (1) illustrates the model for this hypothesis, while Table (12) presents the results of the structural model analysis, which indicate the rejection of the second main hypothesis.

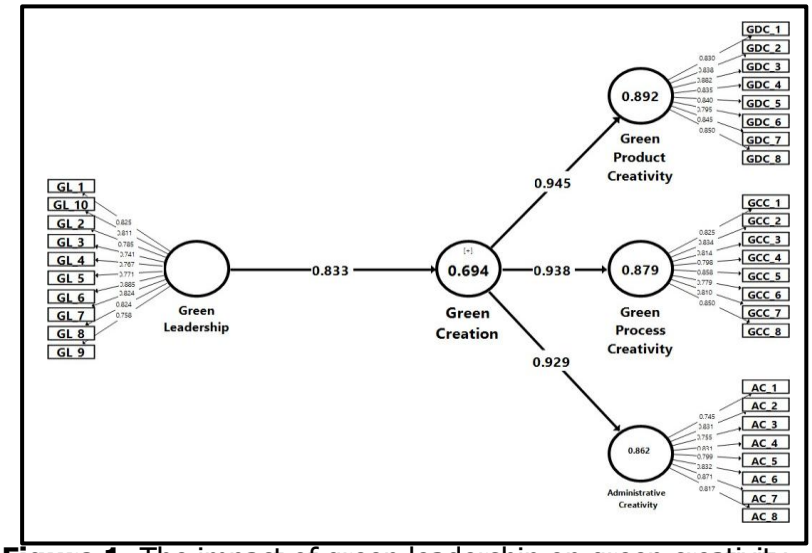


Figure 1. The impact of green leadership on green creativity

Table 12. The impact of green leadership on green creativity

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Path	Original Sample (β)	T Statistic	P Value	R^2	CI (95%)	
					Lower	Upper
GL →GC	0.833	24.812	<0.001	0.694	0.761	0.897

Table (12) presents the results of the test regarding the impact of Green Leadership (GL) on Green Creativity (GC) among the staff at the Nineveh Center Electricity Distribution Directorate. The findings indicate a strong, statistically significant positive impact, with a path coefficient (β) of 0.833, a T-statistic of 24.812, and a significance level (P < 0.001) well below the established threshold of 0.05. Moreover, the effect is statistically significant as the 95% confidence interval does not include zero (0.761-0.897). The R2 (coefficient of determination) is 0.694 indicating that Green Leadership accounts for 69.4% of the variations in Green Creativity while the other 30.6% is explained by factors excluded in the model. Thus, the null hypothesis is rejected in favour of the alternative hypothesis that Green Leadership has a significant effect on Green Creativity.

3. Testing the Sub-Hypothesis of the Second Main Hypothesis

The sub-hypothesis of the second main hypothesis will be tested, which states:

"There is a significant effect of Green Leadership on the Green Creativity of employees (individually) in the researched organization."

Figure (2) illustrates the model for this hypothesis, while Table (13) presents the results of the structural model analysis, which indicate the rejection of the fifth main hypothesis.

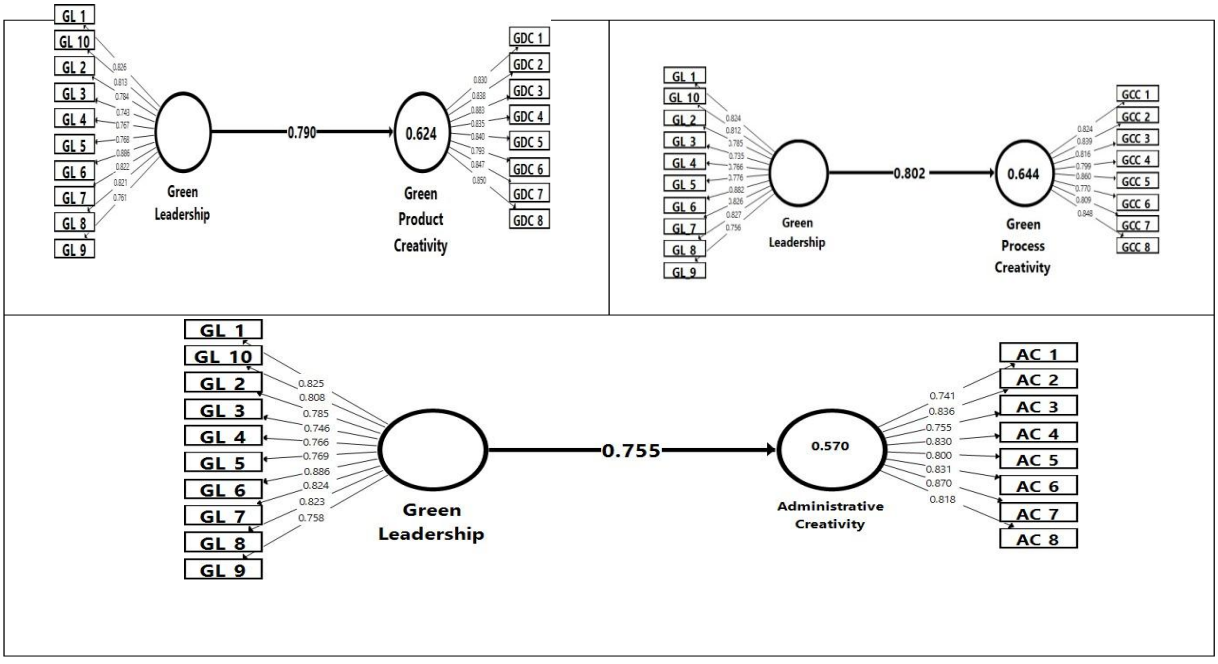


Figure 2. "The impact of green leadership on the dimensions of green creativity"

Table 13. "The impact of green leadership on the dimensions of green creativity"

Path	Original Sample (β)	T Statistic	P Value	R^2	CI (95%)	
					Lower	Upper
GL → GDC	0.790	21.304	<0.001	0.624	0.715	0.857
GL → GCC	0.802	21.869	<0.001	0.664	0.722	0.871
GL →AC	0.755	16.162	<0.001	0.570	0.658	0.844

Table (13) Effect of Green Leadership (GL) on characteristics of Green Creativity of the personnel of Nineveh Center Electricity Distribution Directorate: Positive significant and high strength of all dimensions: The largest coefficient values were Green Process Creativity (GCC) (β = 0.802, T = 21.869), Green Product Creativity (GDC) (β = 0.790, T = 21.304), and Administrative Creativity (AC) (β = 0.755, T = 16.162) (see Table 7). All results were significant at P < 0.001, suggesting statistical significance. The R^2 of the three dimensions were 0.664, 0.624 and 0.570, respectively, meaning the different explained variances of Green Leadership on the dimensions of Green Creativity. Furthermore, the 95% confidence intervals for all relationships do not include zero, which reinforces the reliability of the findings. Consequently, the hypothesis which posits that Green Leadership has a statistically significant impact on each dimension of Green Creativity within the studied directorate is accepted.

Conclusions and Recommendations

The results noted in this study highlighted the positive relationship between green leadership and green creativity of employees. It was also noted that green leadership has a positive effect on green creativity of employees. There is limited empirical evidence regarding the relationship between green leadership and green creativity of employees. Very few studies were examined this relationship, as [20] but, here green creativity has role a mediator variable. This was one of the first studies that attempted to investigate different variables in the Director of Electricity Distribution Center Nineveh in Iraq . Hence, the results of this study could fill the gap existing in the empirical data regarding green leadership. In this study, the researcher used green leadership as an independent variable, like the earlier studies considered green leadership as the independent variable as [20] have investigated the effect of green leadership on employee green innovation with the mediating role of green creativity and environmental commitment.

Now, Green creativity among employees is accomplished through green leadership by setting an environmental sample, relating organizational objectives to sustainability, providing ongoing training, and offering incentives and rewards for environmentally friendly initiatives. This approach builds a conscious organizational culture that motivates employees to decrease waste and rationalize resource consumption on an ongoing, self-directed basis. In this study, the researcher have investigated the relationship between the green leadership and green creativity of employees. Here, the data has offered empirical support which highlighted the effect of green leadership on green creativity of employee. Further research could provide a better understanding and support for the effect of green leadership on green creativity of employees.

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