

MODERATING ROLE OF SUPPORTING WORK ENVIRONMENT ON THE RELATIONSHIP BETWEEN GREEN DYNAMICS, EMPLOYEE LEARNING AND COMMITMENT AND GREEN PERFORMANCE: A CASE OF PUBLIC FIRMS IN UAE

Awad Alansaari ¹, Mohd Faiz Hilmi ^{2*}, Anas Abudaqa ³

^{1,2,3} School of Distance Education, Universiti Sains Malaysia-Penang (Malaysia)

* Corresponding Author: Faiz@usm.my

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Abstract: *Considering the sustainable business practices have been under significant attention of the researchers, policymakers, and environmental activists because of changing environmental concerns. This study examines the role of green dynamics like training and development, leadership and employee commitment and learning towards green performance. Moreover, this research also contributes to the literature while exploring the moderating effect of supportive work environment on the relationship between selected variables. Data has been collected through questionnaire technique where a valid sample of 284 respondents is empirically tested. Moreover, data analysis has been conducted through descriptive statistics, correlational analysis, normality testing, and two step approach (both measurement model and structural model). The results under measurement model reflect that there is no issue related to reliability and validity, internal consistency, convergent validity, and discriminant validity of the latent constructs. Additionally, the findings through Smart PLS for structural model assessment covers that there is a significant impact of green leadership, green training and development, organizational learning, and organizational commitment on green performance of public firms in UAE. At the same time, the findings confirm that supportive work environment plays its significant moderating effect on the relationship between green training and development and green performance, green leadership and green performance, and organizational learning and green performance. The findings would be of great support to various policymakers, governmental officials, departmental managers and specifically the environmental organizations for promoting the sustainable performance outlook with the help of stated explanatory variables and moderating role from supportive work environment. Besides, some fruitful recommendations and limitations are also discussed to decide the future directions.*

Keywords: *Green Training and Development, Green Leadership, Organizational Learning, Green Performance, UAE.*

Introduction

The green practices as followed by the corporation have some significant potential to deal with the environmental concerns (Amores-Salvadó, Cruz-González, Delgado-Verde, & González-Masip, 2021). More specifically, the idea of green performance or sustainable performance is mainly based on the introduction of new or improved products/process or services or all in a way that it helps in addressing the customers' needs while not damaging the natural environment as well (Yu & Huo, 2019). Meanwhile, green performance (GP) is linked with the green organizational practices in order to mitigate the environmental challenges. At the same time, sustainable and environmental performance are other two concepts which are interchangeably used to reflect the title of GP among different organizations. One of the key reason to focus on the sustainable environmental performance is that such output helps in achieving competitive advantage and in shaping the organizational reputation too (Paillé, Chen, Boiral, & Jin, 2014).

It is stated that green leadership reflects those policies, practices and programs through which sustainable practices both at social and organizational level can be achieved. In this regard, existing studies have covered the terms like sustainability leadership, eco-sensitive leadership, sustainable leadership and sustainability leadership to reflect the title of green leadership. At the same time, for fostering organizational success in the form of learning, sustainable leadership is vital (Iqbal, Ahmad, & Halim, 2020). The emergence of sustainable or green leadership is based on the core dimensions of climate change, cultural conflicts, and economic integration (Avery & Bergsteiner, 2011). It is well established that sustainable leadership has been emerged as a comprehensive scope of complex inter-association between business community, natural environment, and global demand while taking into account the long term strategic decision regarding the ecosystem as a whole (Burawat, 2019).

Apart from, workplace environment plays a major role while sustaining the employees for a longer period of time. It is a well-established (Ashraf, 2019) phenomenon that the most precious organizational resources are the employees, hence accepted as lifeblood of the organization too. Therefore, the retention of employees for better performance in the long run is quite necessary. However, for retaining the employees within the organization, it is quite important to provide them full support through different channels at workplace. This idea is regarded as supportive work environment (SW). Suliman and Al Harethi (2013) claim that there is a possibility for the creation of strong ties between employee and employer with the help of productive and favorable work environment. This is because success and failure of the organizational significantly depend upon the internal environment as provided to the employees (Kazmi & Naaranoja, 2015). It is further regarded that organizations may high higher performance outcomes with the help of higher organizational support (Yusliza et al., 2020). However, the significance of SWE can also be investigated from the context that it helps the organization to achieve sustainable performance measure through interacting with the green training and development, green leadership, learning dynamics, and commitment towards the organization.

Sustainability Issues and Trends in UAE

As stated under study introduction, there is a growing need to address the environmental concerns both in developed and developing economies. From the context of UAE, various environmental issues have been observed in the form of invasive species, ecological footprints, limited resources of water, generation of waste, air pollution and degradation of the nature (Govt. of UAE, 2022). It is believed that the environmental challenges to UAE are immense in nature where the protection of natural environment are among the top priorities of

the government. Meanwhile, a rapid economic growth in the country has created several environmental challenges. The upward trend in the population growth has also been observed as another determinant for polluting the natural environment due to more energy demand from the community and business groups. As per the findings of Our World in Data (2022), the annual carbon dioxide emission in UAE was 36.82 million during 1980 which is 150.27 million tons during 2020. This has provided the fact that there is an upward shift of approximately 114 million tons of carbon emission over the time span of past four decades in the region of UAE. At the same time, the cumulative CO₂ emission from fossil fuels and cement has been observed as 372.09 million tons (1980) and 4.70 billion tons (2020). Comparing the environmental pollution in terms of both production vs. consumption-based CO₂ emission in UAE, the findings further reveal that it was 56.14 million tons during 1990 which is now 201.76 billion tons for the consumption-based CO₂ till 2020. Moreover, the production-based CO₂ emission was 51.70 million tons to 150.27 million tons during 1990 to 2020. Considering the annual share of global CO₂ emission, the statistics confirm that it was 0.19% (1980) which is now 0.43% (2020) as stated by Our Word in Data (2022). Moreover, the environmental degradation can also be examined through ecological footprints (EFP) which is regarded as one of the most cited measures. Figure 1 covers the time trends of EFP total (constant per capita) for UAE during 1980 to 2016 (latest data available on global footprints network (GFN)). The figure shows that EFP has shown the values of EFP as measured through constant per capita were increasing but with a decreasing trend. More specifically, the EFP value during 1980s was 6.47 which was 8.91 till 2016. This would justify the argument that an overall increase has been found in the environmental degradation of UAE over the past four decades.

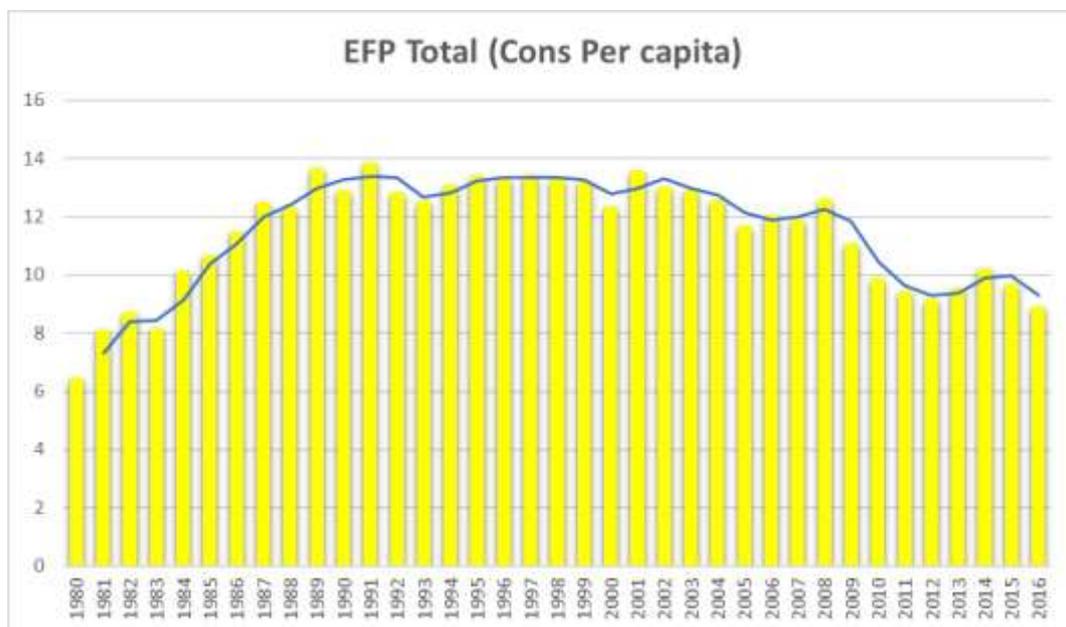


Figure 1: Ecological Footprints (Constant Per capita) For UAE during 1980-2016

Source: Data from GFN, figure developed by researcher.

Based on the study title, following research objectives have been considered:

Research Objectives

- i. To empirically examine the impact of green training and development on green/sustainable performance of public firms in UAE?
- ii. To empirically examine the impact of green leadership significantly on green/sustainable performance of public firms in UAE.
- iii. To investigate the impact of organizational learning significantly on green/sustainable performance of public firms in UAE.
- iv. To examine the impact of organizational commitment significantly on green/sustainable performance of public firms in UAE.
- v. To analyze the moderating effect of supportive work environment on the relationship between green training and development and green/sustainable performance of public firms in UAE.
- vi. To examine the moderating effect of supportive work environment on the relationship between green leadership and green/sustainable performance of public firms in UAE.
- vii. To empirically test the moderating effect of supportive work environment on the relationship between organizational learning and green/sustainable performance of public firms in UAE.
- viii. To check the moderating effect of supportive work environment on the relationship between organizational commitment and green/sustainable performance of public firms in UAE.

Literature Review

An emerging research stream has adopted an employee behavioral perspective on employee green training and creativity at the organizational level (Cabral & Jabbour, 2020). The research designed on-job training and continuous education to attain organizational sustainability. Green training is one of the most effective HRM programs to promote effective performance at the organizational level. Since the training practices can promote the training practices of awareness and creativity, such as green behavior (Stefanelli et al., 2021). According to some researchers, Green training can contribute to extra-role behaviors by creating a supportive working environment through suitable interventions that lead to the successful application of environmental goals (Naz, Jamshed, Nisar, & Nasir, 2021). Because green creativity, defined as the development of creative, novel, and beneficial ideas about sustainable products, resources, procedures, or practices, is acknowledged as a characteristic extra-role behavior in businesses. It is proposed that green training can encourage employees' green creativity. As previously said, green training creates a favorable working environment for green activities. Employees are more able to take appropriate strategies to minimize ecological effects in the work as a result of the spread of environmental knowledge and competences gained via green learning (Pinzone, Guerci, Lettieri, & Huisingh, 2019). As a result, individuals adopt new "green" behaviors in novel ways to meet green organizational criteria.

GTD is taken as one of the vital functions of HRM in the case of managing organizational change. GTD and GHRM are the realization factors for environmental development practices at the organizational level. It can reduce production waste, enhance awareness of sustainable practices, and improve employee skills (Peerzadah, Mufti, & Nazir, 2018). Green training is taken as one of the most beneficial practices to develop and implement the values and goals of an organization for continuous sustainability. Literature studies have shown a tremendous rise in providing training to organizational employees about waste management and recycling

techniques (Mousa & Othman, 2020). The research work of Mousa and Othman (2020) found an important correlation between GTD and environmental development in different organizations. GTD mainly focuses on skill development, knowledge sharing, waste management practices, and employee well-being.

Although there are many theoretical OL viewpoints in the literature, the study focuses on a few to create a good balance of comparability and analysis of the research for examination. The study argues for integrating specified theories because of their influential nature and impact on OL rather than the exclusion of specific ideas. The survey covers a typical range of theories, and each theory has its importance in combining the different organizational activities and attributes. The research work of (Basten & Haamann, 2018) has proposed implementing Single and Double Loop learning models for organizations. Experts emphasize the continuous process of information generation as a vital OL element. As a result, the given research study considers the organizational knowledge creation theory, which considers OL as a dynamic process of implicit and explicit knowledge (Farzaneh, Ghasemzadeh, Nazari, & Mehralian, 2020). As a result, scholars that link practical strategies to OL theory frequently employ it. There are several explicit knowledge dimensions, including: Socialization is sharing implicit information among organizational employees through learning practices for trainees and new workers. It is limited to the organizational knowledge as it cannot be explicit and is confined to the information created and shared within the company.

Externalization is expressing the implied information and its meaning in a comprehensive format for employees to understand the collected data. It requires different modes of expression and narrative ideas in the form of concepts, words, and symbolic results. Specialized personnel at the organization can translate the data to provide it in a clear condition.

The research study by Sun, El Askary, Meo, Zafar, and Hussain (2022) determines that a firm's performance and employee motivation mainly depends on the GLS. Employees will have a strong faith in their leaders if they believe in their vision, create an innovative concept, and express their vision clearly. According to Jia, Liu, Chin, and Hu (2018), knowledgeable-driven GLS influenced personnel management, performance management, and employee competency. Green supply chain management features are linked to the green element, which aims to assist enterprises in achieving, producing, inspiring, and sustaining green behavior among their employees. Sustainable development is the introduction or development of environment-friendly products and services by applying firm practices such as using environment-conscious principles, reducing pollution, using less material in design and manufacturing, using eco-friendly raw materials, and using less electricity and water. In studies on HRM innovation, Jotabá, Fernandes, Gunkel, and Kraus (2022) found that administrative and process innovation has less influence than product and technology advancement. Worker's attitude and actions, employee engagement, economic strength, green performance, and psychological performance are all areas where transformational leaders impact corporate success. According to Çop, Olorunsola, and Alola (2021), Green transformational leadership has a beneficial impact on green employee engagement, which benefits environmental effectiveness.

The work environment of an employee is based on everything surrounding a worker that can pose several impacts on employee performance and abilities. According to Kumari, Ali, and Abbas (2021), organizational management must develop a supportive work environment for employees for improved performance. A comfortable work environment produces positive outcomes in terms of employee effectiveness. The better the circumstances for a pleasant work

environment regarding employee happiness, the better the work performance (Widyaningrum & Rachman, 2019). Various elements impact the workplace environment, including pollution, office equipment, temperature, and light; thus, issues that cause a drop in work activities in attaining performance should be given greater attention. The environment in any organization is based on different factors. Thus, Sudibjo and Nasution (2020) state that work environment aspects can be employed to identify factors that can improve the workplace, employees' access to all rights, and a calm atmosphere, and effective communication. The effectiveness of an employee is proportional to its implementation. The duration of effort a worker has invested with the company is one of the most critical determinants of their performance. More extended associations with an organization bring higher experience about their job in the company, so experience breeds better performance. According to the Attraction- Selection- Attrition (ASA) theory, workers with more affiliation and loyalty to their organization connect themselves with corporate goals and values, resulting in a better workforce for the company, according to the Attraction–Selection–Attrition (ASA) theory.

Research Methodology

Research process determines the various steps through which research has been carried out. In this regard, different scholars have provided their valuable opinion regarded the key phases and steps as linked with the research process. More specifically, it is stated that research process is a phenomenon as followed by the researcher to generate a body of knowledge which will be helpful for a range of stakeholders including the community members (Mesquita, 2019). Different steps have been determined in the existing literature to express the title of research process. For example, Zikmund, Babin, Carr, and Griffin (2013) have provided the following stages in the research process and similar has been followed in the current study:

- Defining the research objectives
- Planning a research design
- Data Collection
- Data Analysis
- Establishing conclusion and report writing

Population and Sample

Population plays a fundamental role in any research while going for the data collection with the help of stated sample. Therefore, the consideration of population in any study is quite important. More specifically, population can be described as total number of individuals as residing in a given area (Pande & Kumburu, 2018). Similarly, another view regarding the population has been expressed by Downing and Clark (1997) who claim that population consists of individuals, group of things or objectives in which a statistical person is interested. Under present study, the population consist of various employees as working in the public sector entities of UAE. Based on the available data from official website of Government of UAE, it is found that currently there are total 7.38 million labour force who are working in different sectors. More specifically, out of 7.38 million workforce, 13% or 959400 has been working in the public administration and defense. Therefore, the total population under present study would be regarded as 959400 individuals.

Sample of the Study

After justifying the study population, next step comes with the discussion related to the sample of the study. In this regard, the term sample is defined as part or subset of the population out of which researchers want to collect the data for testing the relationship between the stated variables. Similarly, sample is regarded as component of the population from which data will

be collected (Sharma, 2012). However, selecting a total sample size is quite important in any research. In this regard, different authors have provided some valuable suggestion in order to finalize the sample size. More specifically, one of the key measure for selecting the sample size is based on the theoretical contribution of Krejcie and Morgan (1970) who have provided a Table. Figure 2 covers the layout for the analyzing the sample size based on the key suggestions of Krejcie and Morgon. The figure shows the relative population size and sample size. For example, in order to collect the sample size of 201, the relative size of the population should be 420. Additionally, if the population size in any study is entitled as 10,000, then the relative size of the sample would be 370. Finally, in the current research, the total size of the study population is 959400 or above 75000 and near to 100,000, then the sample size is regarded as 384.

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Figure 2: Sample Size selection through Krejcie and Morgan's Table

Moreover, for developing a questionnaire, sample items have been extracted from the literature. A valid and final sample of 283 respondents have been collected through governmental employees in UAE.

Analysis and Discussion

Measurement Model Assessment

The initial data screening along with descriptive measures have made it clear that there is no issue in the data trends along with its normal distribution. Therefore, current section expresses the key findings as linked with the two-step approach for which both measurement model and structural model has been examined. More specifically, the present discussion initially provides some meaningful output along with discussion related to measurement model. In the existing literature, a range of tests have been justified under the shadow of measurement model. More specifically, under measurement model assessment, following points have been taking into account:

- Measuring the reliability and validity of the constructs
- Discriminant Validity through Fornell-Larcker Criteria, Loadings and Cross Loadings and HTMT Ratio

Therefore, the current section now moves on towards dealing with the construct reliability and validity

The reliability and validity of the constructs have been provided in Table 1 below. It is stated that alpha score, rho_A, and composite reliability are found to be above 0.70 indicating that no construct has any issue related to reliability. Meanwhile, AVE scores for all the variables are also above 0.60.

Table 1: Construct Reliability and Validity

Variables	Cronbach's Alpha	rho_A	Composite Reliability	(AVE)
GLS	0.842	0.864	0.904	0.758
GP	0.858	0.864	0.933	0.875
GTD	0.928	0.959	0.944	0.771
OC	0.875	0.887	0.905	0.616
OL	0.810	0.874	0.911	0.837
SWE	0.907	0.915	0.928	0.682

Note: GTD: Green training and Development, GP: green performance, OC: organizational commitment, SWE: supportive work environment, GLS: green leadership, OL: organizational learning.

Next step is to deal with the loadings and cross loadings of the study items. More specifically, various studies have provided their theoretical support for utilizing the cross loadings as a second measure to examine the discriminant validity of the model (Asparouhov, Muthén, & Morin, 2015; Muda, Dharsuky, Siregar, & Sadalia, 2017). For checking the discriminant validity of every single item in the model, it is well noted that loadings of a specific item should be higher than the cross loadings. In this regard, the results in Table 2 show that for green leadership the selected items were GLS2, GLS3, and GLS4 with their relative loadings of 0.907, 0.843, and 0.860, respectively. However, the relative cross loadings against these loadings are found to be lower than the stated values. Moreover, for measuring green performance two items have been retained in the model as the rest of the items were showing their lower loadings and deleted accordingly. However, the relative loadings for the GP4 GP5 have been recorded as 0.929, and 0.942. Additionally, the green training and development items entitled as GTD1, GTD4, GTD5, GTD6, and GTD7 reflect the loadings like 0.907, 0.900, 0.926, 0.820, and 0.833 respectively.

At the same time, the cross loadings for these items are also found to be much lower. For organizational commitment, the items were entitled as OC1 to OC6 where the values of relative loadings were 0.846, and 0.842, 0.842, 0.718, 0.714, and 0.730 where the cross loadings were also found to be lower than these relative loadings. In addition, the stated results in Table 4.9 show the loadings of organizational learning items (OL2 and OL3) were found to be 0.886 and 0.943. Finally, supportive work environment has been measured through six items where their loadings were 0.792, 0.790, 0.795, 0.849, 0.866, and 0.856, respectively. These values have justified the fact that discriminant validity through loadings and cross loadings confirm the presence reasonable discrimination between the latent constructs.

Table 2: Cross Loadings

Items	GLS	GP	GTD	OC	OL	SWE
GLS2	0.907	0.728	0.169	0.393	-0.013	0.320
GLS3	0.843	0.526	0.090	0.349	-0.071	0.372
GLS4	0.860	0.611	0.169	0.435	-0.108	0.367
GP4	0.649	0.929	0.161	0.309	-0.133	0.286
GP5	0.703	0.942	0.282	0.327	-0.105	0.242
GTD1	0.174	0.249	0.907	0.288	0.005	0.140
GTD4	0.152	0.213	0.900	0.323	-0.030	0.194
GTD5	0.160	0.252	0.926	0.275	-0.022	0.142
GTD6	0.098	0.131	0.820	0.240	-0.016	0.058
GTD7	0.129	0.163	0.833	0.238	-0.099	0.090
OC1	0.367	0.293	0.308	0.846	0.034	0.422
OC2	0.385	0.292	0.324	0.842	0.016	0.437
OC3	0.409	0.313	0.329	0.842	-0.002	0.450
OC4	0.299	0.236	0.120	0.718	-0.068	0.772
OC5	0.339	0.238	0.152	0.714	-0.015	0.759
OC6	0.312	0.213	0.188	0.730	-0.050	0.757
OL2	-0.046	-0.094	-0.041	-0.025	0.886	-0.109
OL3	-0.076	-0.132	-0.022	-0.003	0.943	-0.084
SWE1	0.296	0.177	0.163	0.684	-0.069	0.792
SWE2	0.323	0.235	0.146	0.686	-0.073	0.790
SWE3	0.317	0.224	0.112	0.511	-0.077	0.795
SWE4	0.332	0.274	0.106	0.575	-0.132	0.849
SWE5	0.363	0.250	0.131	0.627	-0.085	0.866
SWE6	0.346	0.206	0.094	0.562	-0.057	0.859

Note: GTD: Green training and Development, GP: green performance, OC: organizational commitment, SWE: supportive work environment, GLS: green leadership, OL: organizational learning

Moreover, the third measure for investigating the discriminant validity of the latent model is described through HTHT ratio for which results have been covered in Table 3. It is expressed that HTMT ratio. More specifically, HTMT ratio helps in analyzing the discrimination between the two latent constructs. In this way, the threshold level has been determined by Henseler (2018). It is stated that the value of HTMT between the two latent constructs should be below 0.90. The results show that HTMT ratio between GLG and GP is 0.838, between GP and GTD; 0.253, between GTD and OC;0.330, between OC and OL 0.047, and between OL and

SWE;0.119, respectively. These values clearly indicate that there is enough discriminant validity between the latent variables of the study based on HTMT ratio.

Table 3: Heterotrait-Monotrait Ratio (HTMT)

Variables	GLS	GP	GTD	OC	OL	SWE
GLS						
GP	0.838					
GTD	0.179	0.253				
OC	0.522	0.388	0.330			
OL	0.086	0.149	0.049	0.047		
SWE	0.462	0.314	0.156	0.862	0.119	

Note: GTD: Green training and Development, GP: green performance, OC: organizational commitment, SWE: supportive work environment, GLS: green leadership, OL: organizational learning

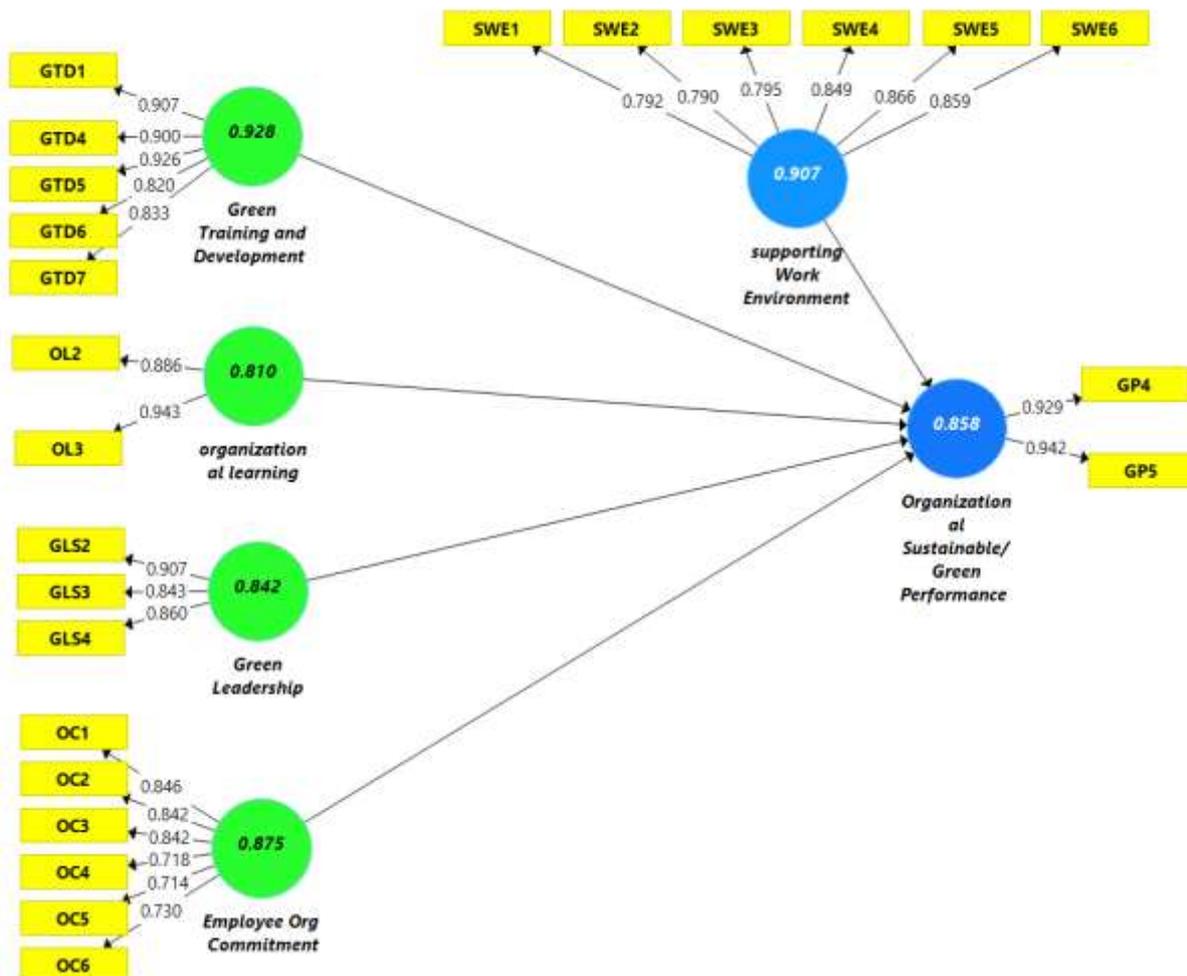


Figure 3: Measurement Model Output

Note: GTD: Green training and Development, GP: green performance, OC: organizational commitment, SWE: supportive work environment, GLS: green leadership, OL: organizational learning

Structural Model Output

The assessment of measurement model in the previous sections have generated some outstanding results while claiming that there is no problem in the model regarding reliability, validity, internal consistency, and discriminant validity. Current section covers the core findings for the structural model output as generated through Smart PLS. More specifically, the structural model assessment has been conducted through overall coefficient of determination or R^2 of the model, Adjusted R^2 of the model, overall predictive relevance of the model entitled as Q^2 , effect size or f^2 of the model (Ali, Rasoolimanesh, Sarstedt, Ringle, & Ryu, 2018; Sarstedt & Cheah, 2019; Vinzi, Trinchera, & Amato, 2010). However, the first thing is to examine the overall explanatory power of the model through R^2 and adjusted R^2 for which results have been presented in Table 4 below. The findings show that overall R^2 in the main dependent variable entitled as green performance is recorded as 54.5% which means that more than 50% in the main endogenous variable is determined by green training and development, green leadership, organizational learning, organizational commitment, and supportive work environment. However, the rest of the variation is linked with those variables which are not included in the study model. Additionally, the adjusted score of R^2 is 53.7%. This value of adjusted R^2 reflect the corrected goodness of fit measure for the linear model in any study. Meanwhile, it also helps in correcting the over estimation measured through residual mean square error divided by total mean square error in the model. In front of the researchers, the value of adjusted R^2 is more reliable comparatively to R^2 . Moreover, different authors have explained their view regarding the ranges of R^2 where the minimum level of 0.10 is required. Chin (1998) explain that the value of R^2 in terms of 0.19, 0.33, and 0.67 are regarded as low, moderate and major variation.

Table 4: R^2 and Adjusted R^2

Variable	R Square	R Square Adjusted
GP	0.545	0.537

Note: GP means green performance

Structural Model Output: Direct Relationship

The findings under Table 5 covers the SEM direct output where it is found that there is a significant and positive impact of green leadership, green training and development, organizational commitment, organizational learning and supportive work environment. This means that in order to increase the green performance among public firms of UAE, a significant need is to focus on all these explanatory variables. Considering structural equation modelling techniques, the results confirm that significant and positive impact of green leadership on green self-efficacy, green mindfulness, and green performance as well. This would justify the clam that both green leadership practices and sustainable organizational performance are complement to each other. Singh, Giudice, Chierici, and Graziano (2020) also investigate the association between green environmental performance, green leadership, and green HRM practices. Their study justifies both direct and indirect association between green leadership, HRM practices, green innovation and environmental performance. Pham and Kim (2019) also aim to examine the manger's leadership capabilities in determining the green and sustainable performance outlook. It is inferred that leadership practices as reflected by managers help in strengthening the environmental/sustainable practices as linked with the organization. Based on the above arguments and empirical findings, this research claims that there is a significant impact of green leadership on sustainable and green performance in the public sector organizations of UAE. Xie and Zhu (2020) investigate whether the green training and development through green innovations helps in promoting the sustainable performance or not.

Their findings mainly state that for increasing the sustainability performance of selected companies, it is very important to examine the innovative trends along with green training and development so that more performance would be achieved. Mousa and Othman (2020) also provide their theoretical and empirical contribution for examining the relationship between green HR practices and sustainable performance outlook. Their study mainly applies mixed method of data analysis. More specifically, the results through quantitative data analysis reveal the fact that there is a significant and positive impact of green training and involvement along with other green HR practices on the sustainable performance where the highest value of coefficient is found to be 0.48, respectively. These results reflect that both recent and the past studies have supported the argument that green HR practices like training and development as good and direct source for increasing the sustainability performance dimensions in different economies. Therefore, based on the stated findings and empirical support, this research infers that there is a significant impact of green training and development on green and sustainable performance specifically in the public entities as working in UAE.

Muslimat, Ab Wahid, and Erlangga (2020) have investigated the role of organizational commitment towards sustainable performance, economic performance, and social performance in the SMEs sector of Indonesia. The study findings have been provided through SEM approach where it is inferred that individual commitment from the employees as working in SMEs has its significant and direct role in determining the sustainable performance. Benkarim and Imbeau (2021) also expressed their empirical findings for the association between employee commitment and sustainability. Rae, Sand, and Gadenne (2015) covers the CSR perspective of sustainability practices as determined by organizational commitment. More specifically, their research mainly expressed that CSR sustainability performance is an ongoing phenomenon for which some immediate attention is required. Moreover, their study applies SEM technique for investigating the direct association between sustainability performance via CSR practices and organizational commitment. It is observed that there is a significant association between affective commitment and sustainable organizational performance. Based on the above discussion, it is inferred that organizational commitment as reflected by the employees of public firms in UAE is directly linked with more sustainable and green performance outlook.

Finally, this research investigates the direct relationship between supportive work environment and green performance among the public firms of UAE. The results in Table 4.14 cover that the coefficient for the impact of SWE on GP is 0.343. This would reflect that one unit change in the value of SWE is causing an upwards shift of 34.3% in the green performance of public firms as working in UAE. Additionally, the value of standard deviation for the stated coefficient of SWE was 0.062, leading towards a T-score of 5.532. This would indicate a p-value of 0.000, significant at 1% chance of error. It claims that there is a significant and positive impact of supportive work environment on green performance, inferring that more such support to the employees would help in generating some sustainable results specifically in the governmental organizations of UAE. Saifulina and Carballo-Penela (2017) focus on sustainable development at organizational level while taking the role of workplace friendly environment as among the significant drivers.

Table 5: SEM Direct Relationship

Directions	Original Sample (O)	Standard Deviation (STDEV)	T (O/STDEV)	P Values
GLS -> GP	0.709	0.044	16.114	0.000
GTD -> GP	0.262	0.046	5.696	0.000
OC -> GP	0.623	0.070	8.900	0.000
OL -> GP	0.176	0.043	4.400	0.000
SWE -> GP	0.343	0.062	5.532	0.000

Note: GTD: Green training and Development, GP: green performance, OC: organizational commitment, SWE: supportive work environment, GLS: green leadership, OL: organizational learning

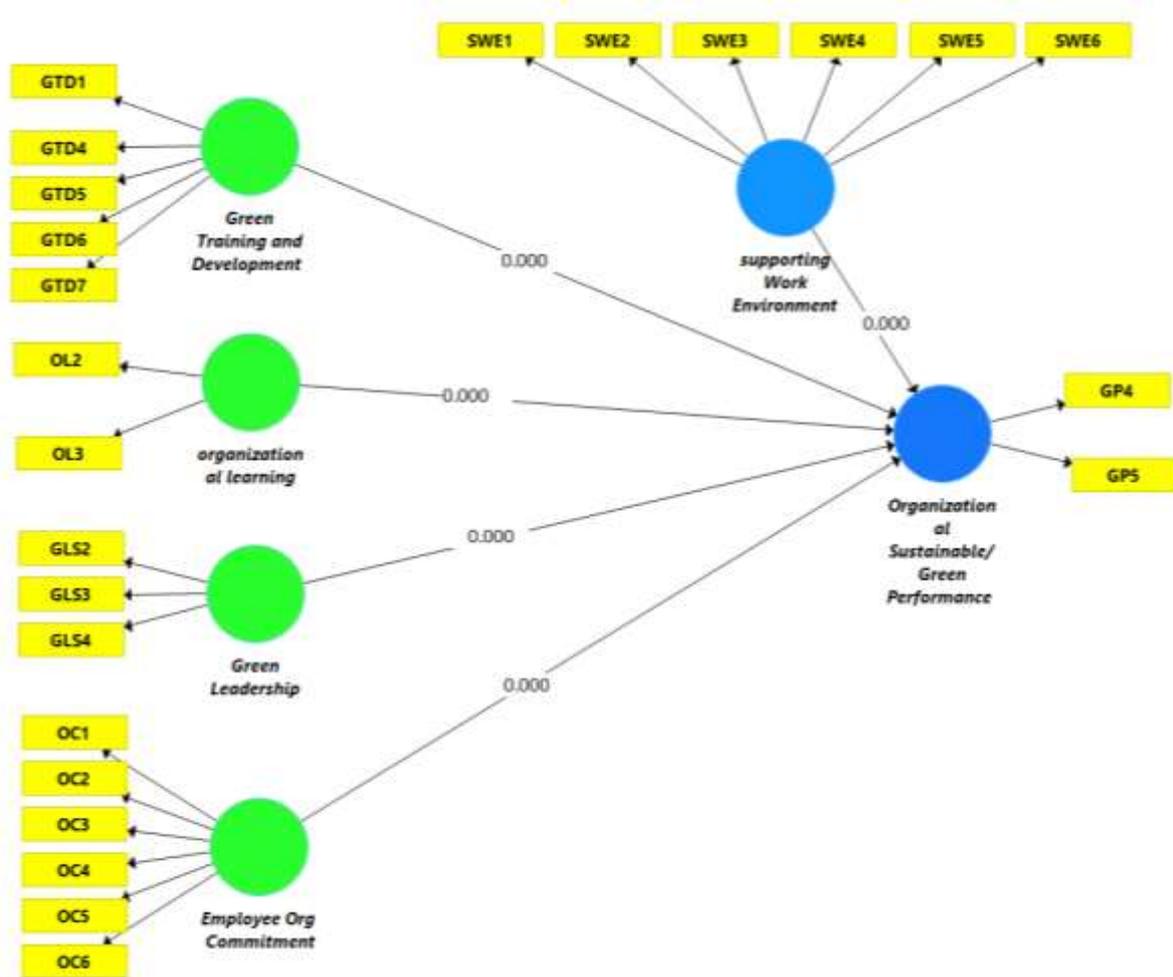


Figure 4: Structural Model Output for the Direct Relationship between the Variables

Note: GTD: Green training and Development, GP: green performance, OC: organizational commitment, SWE: supportive work environment, GLS: green leadership, OL: organizational learning

Moderating Effect of Supportive Work Environment

Moderating Role of SWE between GTD and GP Relationship

After investigating the direct relationship between the study variables, current sections explore the moderating effect of supportive work environment on the relationship between green training and development and green performance/sustainable performance. Under direction

association, it is found that the relationship between green training and development and green performance is found to be positively significant, provided that more GTD means more sustainable performance in the public sector entities of UAE. Now the results in Table 6 expresses the moderating effect of supportive work environment on the relationship between green training and development and green performance. The results show that with interactive effect of SWE between GTD and GP, the coefficient is still positive ($\beta=0.156$). This means that there is a positive moderating role of SWE on the relationship between green training and development and green performance. Moreover, the value of standard deviation for this coefficient is 0.035, hence leading towards T-statistics of 4.485. This means that there is a significant and positive moderating effect of SWE between GTD-GP relationship. This is because more support to employees at their working environment during the training process would help them to work for the sustainable business practices, hence a positive and green trend in the overall organizational performance. More specifically, a range of strategies and techniques would help in providing the more supportive environment to the employees at workplace. These strategies are entitled as acknowledging their efforts towards the organizational success, providing both financial and non-financial incentives, providing them with some autonomy at workplace, treating employee as core organizational resource, and removing the turnover fear in the mindset of the employees too. By focusing on these strategies organizations can achieve some sustainable results. In the existing body of literature, there are range of studies who explored the moderating role of SWE. For example, Bibi, Ahmad, and Majid (2018) have expressed their view for examining the moderating role of work environment between training and development and employees' retention. The study findings confirm the existence of moderating effect of supportive work environment on the relationship between training and development, supervisory support and retention of the employees. Bibi, Pangil, Johari, Ahmad, and Perspectives (2017) also consider the moderating effect of SWE between compensation and promotional opportunities. However, none of the existing studies have been found for analyzing the SWE as a moderator on the relationship between green training and development and sustainable performance specifically in the public firms of UAE. More specifically, Figure 5 shows the interactive effect of SWE between GTD and GP. For this purpose, two trends of GTD entitled as high and low GTD has been reflected on the X-axis. The stated graph show that those public organizations have higher level of SWE work environment are experiencing more positive relationship between GTD and green performance, comparatively to the firms having low SWE.

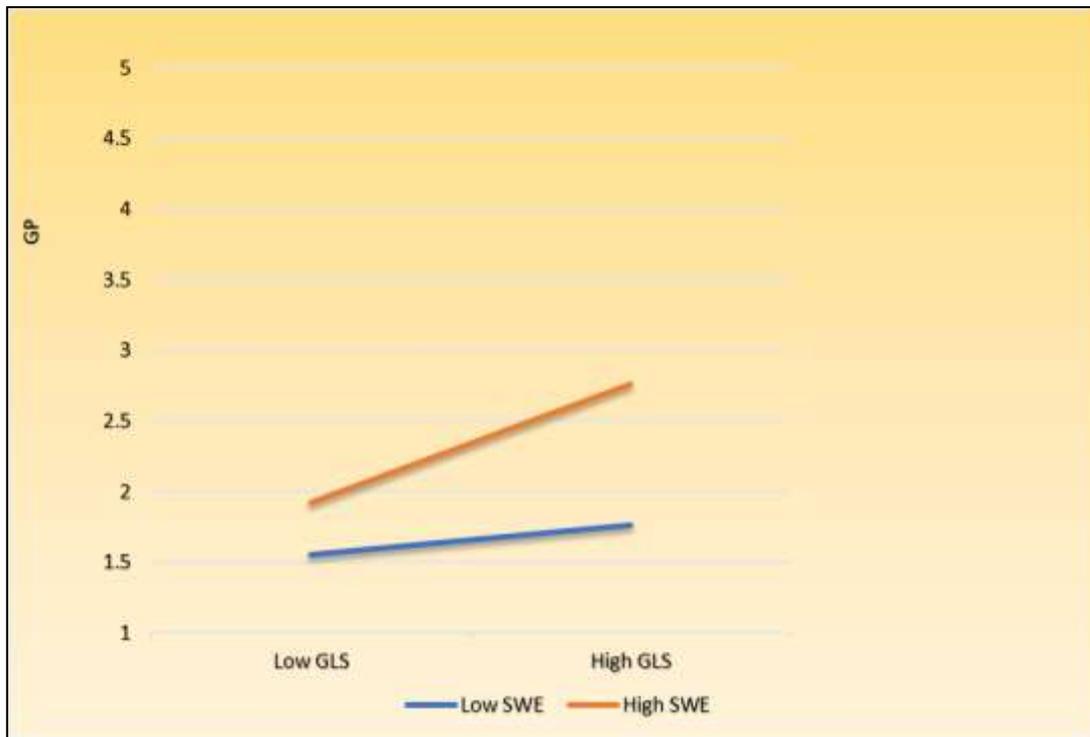


Figure 5: Moderating role of SWE between GTD and GP

Moderating Role of SWE between GLS and GP

After analyzing the moderating effect of SWE between GTD and GP, the findings in Table 6 covers the moderating effect of SWE between GSL and green performance in the public firms of UAE. The results in Table below show that the coefficient for the interactive term is 0.119, indicating an overall change of 11.9% in the value of GP. The value of standard deviation for this moderating effect is 0.035 leading towards T-value of 4.484. Moreover, p-value is found to be significant at 1%, which means that researcher is 99% confident to claim that there is a significant and positive moderating effect of supportive work environment on the relationship between green leadership and green performance for the public firms of UAE. Meanwhile, the direct relationship between green leadership and organizational green performance is also found to be positively significant at 1% as provided in Table 6. This would indicate that both direct and indirect relationship between green leadership and green performance are acceptable. Additionally, the interactive of SWE claims that more support from the public firms' management to their employees at workplace is a good tool in promoting the positive results between green leadership and sustainable business outlook. More specifically, this significant moderating effect is also justified through graphical presentation for which Figure 6 indicates that the moderating effect has been justified through both high and low GLS and SWE, respectively. More specifically, the trends show that firms with higher level of SWE tend to show more strong relationship between GLS and GP comparatively to those having low SWE in the public firms as working in UAE. Based on the stated findings, current research also accepts the moderating effect of SWE between GLS and GP in the region of UAE while taking the sample from public firms.

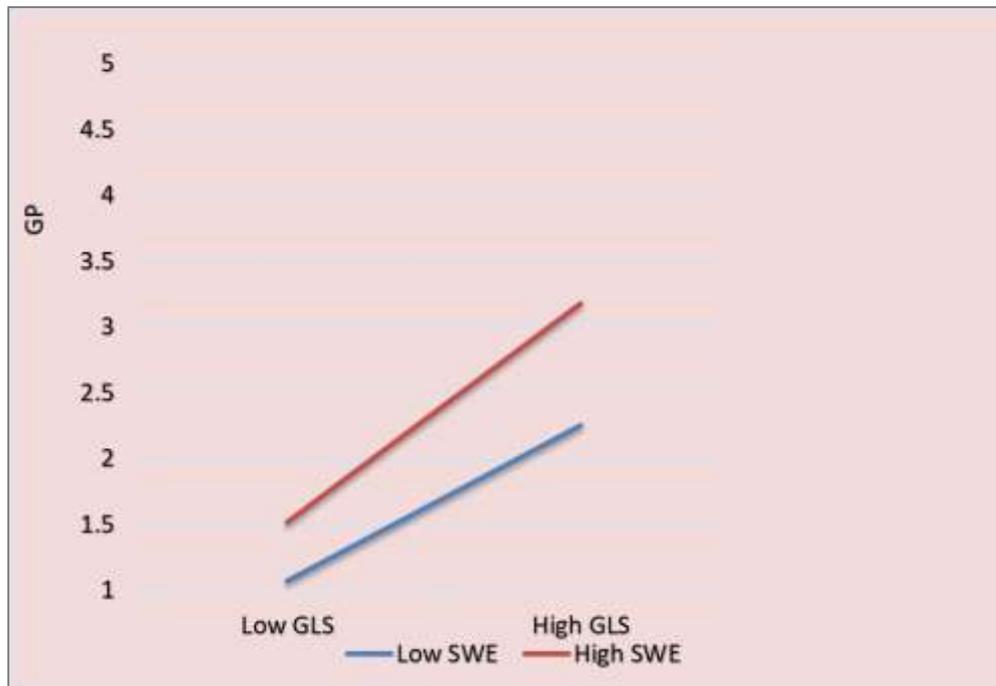


Figure 6: Moderating Effect of SWE between GLS and GP

Moderating Effect of SWE between OC and GP

Thirdly, current research tries to investigate the moderating effect of SWE between organizational commitment and green performance in UAE. The findings have been covered in Table 6 for which it is found that the value of coefficient for the interactive term between organizational commitment and GP relationship is 0.024 with the standard deviation of 0.042. Based on the stated coefficient and standard deviation, T-score of 0.574 has been found. As the value of T-score is low while considering the threshold level of 1.96, therefore the relationship between OC and GP as determined through moderating effect of SWE is found to be insignificant under full sample consideration. Although the direct relationship is positively significant at 1%, however, there is no evidence to claim that moderating effect of SWE between OC and GP is significant. Therefore, this moderation is not accepted. Various reasons can be identified for these insignificant results. For example, one reason might be in a context that organizational commitment has never be examined through generating interactive term with SWE in checking their role towards GP for which organizations need to establish some strategic policies in promoting such relationship. At the same time, another possibility is that the SWE as a moderator in justifying the relationship between OC and GL still needs some major attention from the public sector administration. Therefore, this research rejects the moderating effect of SWE between OC and GP relationship.

Moderating Effect of SWE between OL and SWE

Finally, this research provides the empirical findings for analyzing the relationship between OL and GP with the presence of SWE as a moderator. The results show that the coefficient for the interactive term between OL and GP is 0.108 with the standard deviation of 0.052. This would indicate that there is a positive moderating effect of SWE on the relationship between OL and GP. Moreover, T-value for the stated coefficient is 2.086 with the p-value of 0.038. This means that researcher is 95% confident to claim that there is a significant moderating effect of SWE in justifying the relationship between organizational learning and green performance as shown by public firms of UAE. Moreover, the direction relationship between organizational learning

and green performance has also been justified in the previous section where a significant finding has been discussed. This means that not only the direct relationship between organizational learning and green performance exists but there also presents indirect relationship between both too. This interactive effect reflects that more supportive work environment would help in positively leading the association between organizational learning and sustainable performance outlook in the region of UAE. Based on this findings, current research also accepts the H9 which indicates that there is a significant moderating role of SWE on the relationship between OL and GP in the public firms of UAE. Moreover, Figure 7 covers the moderating effect of SWE between OL and GP relationship. It is stated that firms with higher SWE tends to show more GP through organizational learning comparatively to the firms having low level of SWE.

Table 6: Moderating Effect of Supportive Work Environment

Directions	Original Sample (O)	Standard Deviation	T Statistics	P Values
GLS*SWE -> GP	0.119	0.022	5.544	0.000
GTD*SWE -> GP	0.156	0.035	4.484	0.000
OC*SWE -> GP	0.024	0.042	0.574	0.566
OL*SWE -> GP	0.108	0.052	2.086	0.038

Note: GTD: Green training and Development, GP: green performance, OC: organizational commitment, SWE: supportive work environment, GLS: green leadership, OL: organizational learning

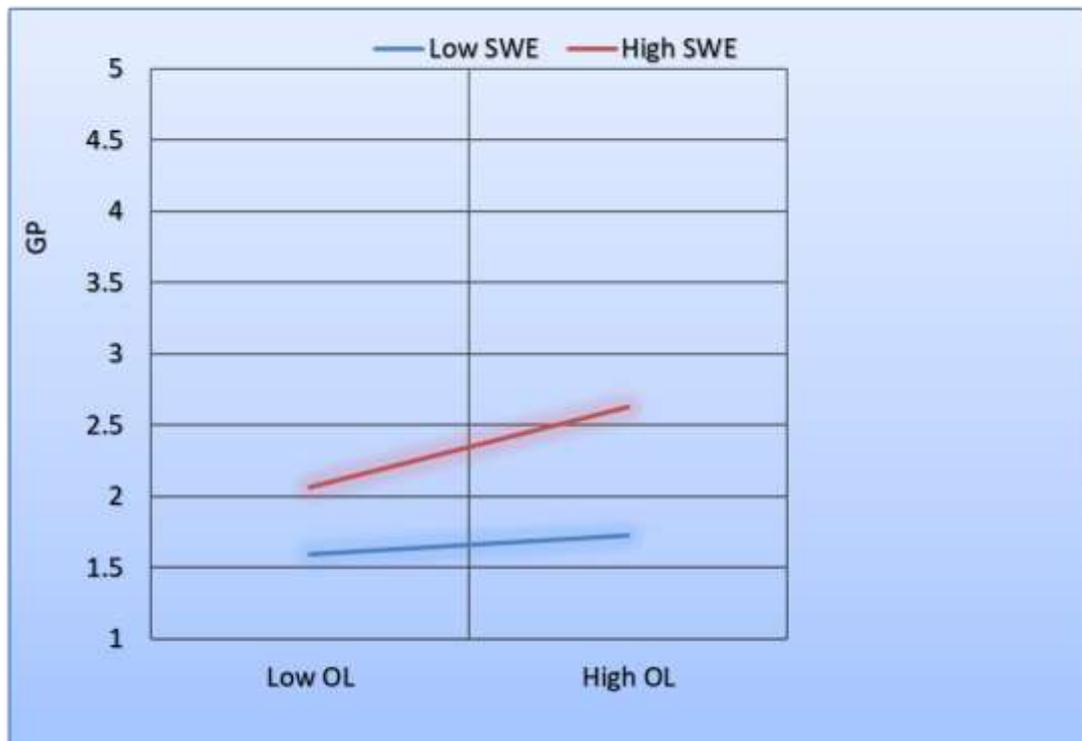


Figure 7: Moderating role of SWE between OL and GP relationship

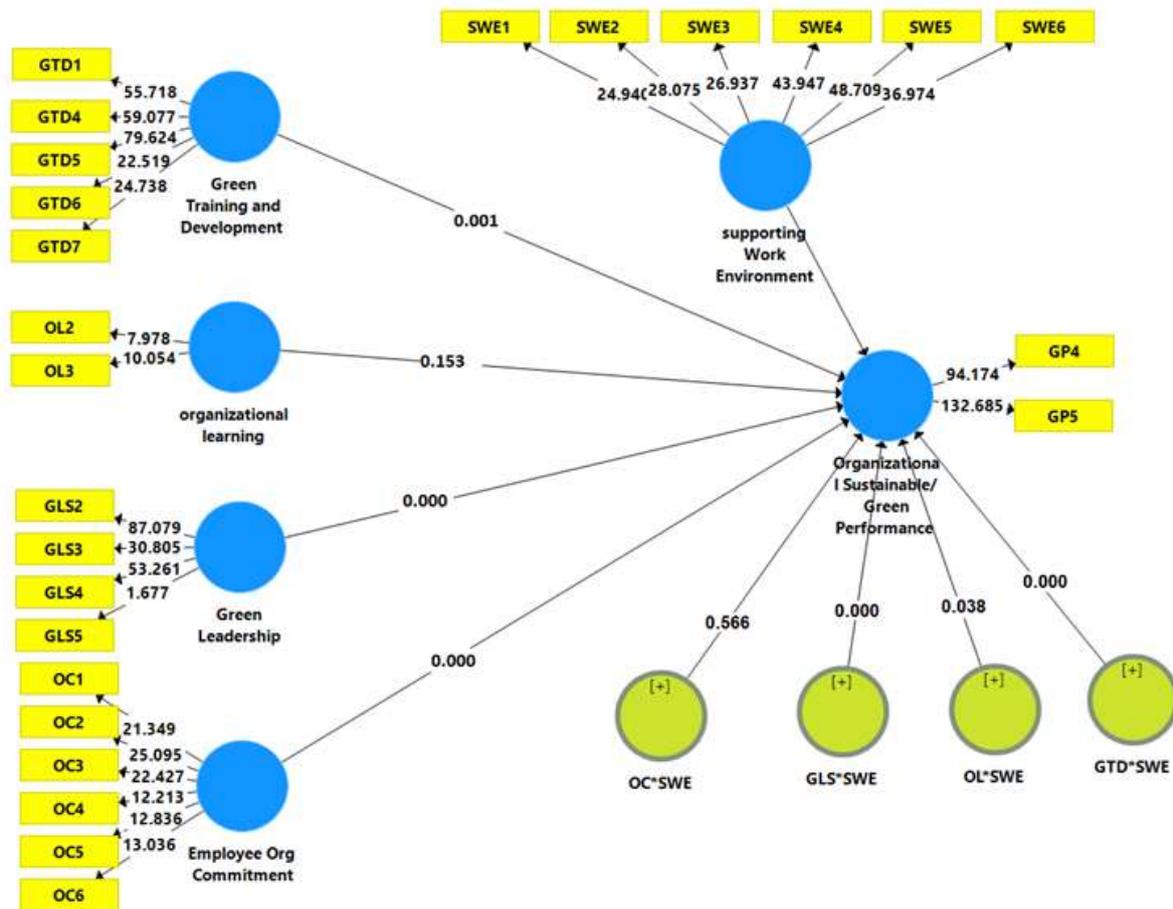


Figure 8: SEM output for the Moderating Effect of SWE

Note: GTD: Green training and Development, GP: green performance, OC: organizational commitment, SWE: supportive work environment, GLS: green leadership, OL: organizational learning

Conclusion

Current research has a major focus to explore the impact of green training and development, green leadership, organizational learning, and organizational commitment on green/sustainable performance of public firms as working in UAE. Moreover, this research aims to provide some major contribution in the current literature through exploring the moderating role of supportive work environment between exogenous and endogenous variables. Based on the theoretical and empirical findings as provided by this research some significant policy suggestions and recommendations are also linked with this study. For this purpose, firstly, it is suggested that employees should be equipped with the provision of more sustainable training and development related practices while exceeding present status of such practices. In this way, employees should facilitate and encourage to utilize the organizational resources while reducing the wastes, energy conservation and consumption. At the same time, governmental officials in their relative departments should seriously focus on the utilizing the employees' skill, knowledge and expertise in dealing with the environmental degradation and management. Secondly, providing the learning opportunities to the employees within the organization would be another solution for the long-term success. Therefore, one solution for achieving sustainable outlook in the public firms is to focus on increasing the employees' skills, capabilities, and experience while giving them a supportive culture. Thirdly, organizational commitment is also found to be significant determinant for achieving more sustainable performance among the public firms of

UAE. This would reflect that management should utilize the positive thoughts, psychological support from their employees towards working for the green performance outlook. In this regard, the psychological attachment of the employees would be regarded as a significant tool for promoting such culture through which the relative public firms may provide the production or service efficiency with less utilization of input resources. Fourthly, Management scholars have widely argued that sustained competitive advantage of the organizations can only be achieved through accumulation of high-quality human resource. Therefore, it is further suggested the managers at public firms should develop those strategies through which more focus should be made towards HR management. Such development will further help in moving towards sustainable and green directions of the organization.

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