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RESEARCH PAPER

Technology Management, Innovation, Training and Organizational Performance Nexus in the Oil and Gas Sector of U.A.E: Assessing the Moderating Effect of Work Environment

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ABSTRACT

Abu Dhabi National Oil Company (ADNOC), being a significant role player the actualization of the Abu Dhabi Economic Vision of 2030, would need to improve and upgrade its performance level and its competitive advantage during this Covid-19 pandemic period. Therefore, this study examined the effects of technology management, innovation and training on organization performance in ADNOC United Arab Emirates (UAE). It also examined the moderating effect of work environment on the relationships between technology management and organizational performance, between innovation and organizational performance, and between training and organizational performance. This study has followed the quantitative method to collect the data and smart-PLS has been used to examine the nexus among the understudy variables. The overall findings signified a positive effect of technology management, innovation, and training on organization performance in ADNOC UAE. The result also indicates the moderating effect of working environment on the relationship between technology management and organizational performance. The overall findings imply that technology management, training and innovation are crucial drivers of enhanced performance, but conducive environment should be ensured to stimulate endured performance.

KEYWORDS: *Technology management; Innovation; Training; Organization performance; United arab emirates (UAE); Work environment.*

1. Introduction

As COVID-19 spreads around the globe, it has become clear that it has the potential to derail the world economy. The supply shock aspects of COVID-19 relate to factory closures, travel bans, border closings and the like. This will reduce exports of the afflicted sectors, such as oil and gas sector, in afflicted nations (e.g., UAE) [14]. In the present strongly connected and integrated world, the impacts of the disease beyond mortality (those who die) and morbidity (those who are unable to work for a period of time) has made firms become panic, because it has distorted the usual consumption patterns and created market anomalies [17]. Consequently, it would affect the performance levels of the organizations. It has become common knowledge that organizational performance is the most vital issue for every organization, whether such organizations are profit-making oriented or otherwise. Organizational performance in the Oil and gas industry is very much important, because the industry continues to wield far-fetched influence on world economies [30]. Therefore, enhanced organizational performance of the industry should be given due priority.

The oil and gas sector of the economy is important in terms of revenue generation and a major source of foreign exchange reserve. The size and importance of the oil and gas sector makes it essential to give it a high priority, and it plays a significant role in national economy. With optimal performance of oil and gas sector,

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there would be significant transformation of all walks of life [7]. In addition, the oil and gas sector are the biggest sector in the world in terms of dollar value. It is a global powerhouse using hundreds of thousands of workers worldwide and generating hundreds of billions of dollars globally each year. Oil and gas companies contribute a significant amount towards national GDP of the countries that own them. In United Arab Emirates (UAE), which is the second largest oil producer in the Middle East, the oil and gas industry are considered the backbone of the national economy [3]. UAE, which possesses an estimated 10 per cent of global oil reserves and 4 per cent of global natural gas reserves, exports the equivalent of 3.5% of the total global oil production [31]. This indicates the huge stakes held by UAE in the global oil and gas industry.

ADNOC is owned by the Government of the United Arab Emirates (UAE) and founded in 1971 in Abu Dhabi by Zayed bin Sultan Al Nahyan, but restructured in 1988, UAE. As of 2015, it has 55,000. Furthermore, part of the issue relates to the fact that a decline in the prices of petroleum-related products is expected to be the most significant channel through which effects of the COVID-19 are felt. Since the advent of COVID-19, oil prices have declined sharply, signifying the negative impact on oil demand from COVID-19 [5]. This is already threatening the performance of oil and gas firms like ADNOC. In fact, ADNOC has realized the need to respond to recent market situation and strategized for driving performance, efficiency, and value across our portfolio in response to market conditions. ADNOC's and other oil and gas companies' oil fields are located in remote areas, which may not be conducive enough for the employees [27]. This could consequently affect the performance of the employees and the organizations. This is also considered a practical gap on which there is need for an independent research that will explain the indirect effect of work environment on the connection between organizational practices and performance.

This proposed study chooses to study the determinants and predictors of the enhanced organizational performance. This study aims to examine the predictors that would mitigate the effects of the challenges facing the oil and gas sector mentioned above and enhance organizational performance of the oil and gas companies. This study will carry out the research using Abu Dhabi National Oil Company (ADNOC) as a field study. The choice of ADNOC is informed by the fact that the leading company in the oil and gas industry. The top management and the stakeholders in the Oil and Gas industry in UAE will also find the findings of this study useful in the decision-making process. Also, this study will be among the very few studies that provided, in the context of UAE, a comprehensive discussion about the predictors of organizational performance in the context of oil and gas in UAE. Thus, it serves as a source of empirical evidence for future studies.

2. Literature Review

This section of the research encapsulates the review of the past studies regarding organizational performance, technology management, innovation, training, and work environment. Technology management refers to the effective identification, selection, acquisition, development, exploitation and protection of technologies [4]. It also denotes the willingness of an organization to place lot of emphasis on making new products, enhance product lines and make relevant technological advancement in its operations. Technology management makes companies enjoy high growth and survival potential [18]. Continuous technology management improves the profitability of an enterprise, which is a major factor in market longevity and business success [19]. Technology management ranges in complexity and can vary from minor changes to new existing products, processes or services that are geared towards the production of ground-breaking products, processes or services that can implement extremely well-performing features [16].

In the research by [8], which was conducted with aim of examining the relationships between technology acquisition and exploitation and organizational innovation, and organizational performance in the context of Iran, the result via Structural Equation Modeling (SEM) methodology by LISREL software indicates that technology acquisition and exploitation have a significant positive influence on both organizational innovation and organizational performance [2]. In addition, [11] examined the effect of social media technologies (SMT) and technological knowledge competencies (TKC) on organizational performance in the Spanish technology industries and found that the effect

of the former on the latter is positive and significant. They conducted on high-tech Firms in 43 European countries, indicates that organizational Performance could be enhanced significantly by technology emphasizing the importance of technology in the organizations. Overall, almost all the existing studies on technology-performance connection have signified the significant positive effect of technology management on organizational performance. Consequently, technology management contributes to organizational performance by using it to promote productivity and innovation in line with the dynamic capacity view of organizations [4]. In view of the above discussion, the present study has developed the following hypothesis:

H1: Technology management has significant and positive influence on the organizational performance of ADNOC.

Innovation is a mechanism for developing, obtaining, sharing and using information to improve organizational performance as well as learning; it involves development and acquisition, alteration, usage, processing and security, transfer and sharing, as well as knowledge acquisition and disposal [2]. Innovation is a vital group process based on combined knowledge without which the available intellectual resources within a team remain underused [25]. A study conducted by Singh, Gupta, Busso, and Kamboj (2019) innovation alongside with creativity in the workplace have become increasingly important determinants of organizational performance. Substantial numbers of studies [28] have been conducted on innovation-performance relationship and confirmed a positive significant relationship between the two constructs. For example, in the research done by [34], which was conducted to examine the effect of innovation on organizational performance in the Lebanese companies, it is found via the result obtained from SEM analysis technique that innovation has a significant positive effect on organizational performance. Likewise, Rajapathirana and Hui (2018) investigated the effect of innovation capability and innovation efforts on firm performance in the Sri-Lanka's companies and found a significant positive effect the innovation capability and innovation efforts has on firm performance. In the research by [33], which explored innovation as an antecedent of performance at the organizational level, it is found that the relationship between innovativeness and firm performance was significant. According to [22], innovations have positively influence the organizational performance by increasing the efficiency of the processes of organization. It is indicated that some studies have examined the role of innovation on organizational performance [20]. To enhance organizational competitive advantages, there is need to take advantage of distinctive competencies and aligning strategy with innovation to achieve improved organizational performance outcomes [6]. This indicates that innovation may not always translate to enhanced performance. In view of the above discussion, the present study has developed the following hypothesis:

H2: Innovation has significant and positive influence on the organizational performance of ADNOC.

Training, identify the organizational current needs for knowledge, skills, and ability, and organizational future needs. Training, which can also be defined as "training and development," with the former focused on knowledge, skills and abilities (KSAs) required for the current job role and the latter focused on knowledge, skills, and abilities needed for a future role [15], could have immediate organizational benefits. It is an established fact that organization's success depends heavily on the quality of the people employed to accomplish organizational performance and objectives which are accomplished mostly through training. The level of employees ' skills, knowledge, capabilities, abilities and expertise lie in the quality of training and development they receive. Currently, very deep emphasis is placed on training and development by organisations as this reflects on organizational performance. Many empirical studies on the training-performance relationship indicate that organizations can benefit through extensive training and that investment in continuous training has a positive impact on organizational performance [32]. In addition, many empirical researches over this issue have found that intended and long-term training has a positive effect on organizational performance, particularly when work content provides for enrichment and long-term outcomes. General or multi-skill training also has a positive impact on organizational performance. Furthermore, any organization that fails to place significant emphasis on training and development is planning for its employees ' obsolescence and inflexibility in adjusting to the present rapidly

changing world. Therefore, it would be difficult to achieve sustainability, growth and efficiency of companies in the absence of timely and efficient training and development of employees. [9] Emphasized the need for training and development and noted that human resources are by far the most important assets of any company and that nothing is achieved without manpower when equipment, materials and even money are readily available. The place of training and development in the life of any organization can never be over-emphasized for attaining excellent organizational performance. In view of the above discussion, the present study has developed the following hypothesis:

H3: Training has significant and positive influence on the organizational performance of ADNOC.

When there is either strong or weak relationship between exogenous variables and endogenous variables, it is allowed for researchers to introduce moderator. It is also postulated that relationship between the predictors or antecedents of performance and performance is contingent upon the effect of a third variable called contingent variable [12]. Drawn upon contingency theory, the environment within which organizations operates matters most, it can be asserted that technology management, innovation and training cannot always predict enhanced performance, given that the effectiveness of organizational strategies and practices depends on internal and external environments. The internal and external environments in which the organization operates determine to a large extent the organizational policies and practices [29].

One of the main concerns of organizations today is to focus on a means of ensuring an increase in performance. These concerns of organizations as argued by [21] are faced with a lot of challenges relating to work environment. Work environment may either reduce the performance or poor quality of the job [26]. Conducive work environment assists employees to be dedicated to work and increase interpersonal harmony. As evident in many previous studies, work environment is considered to be a robust contributing determinant of performance [1]. Also, the investigation of Jayaweera (2015) revealed that the work environment is a strong predictor of job performance. This was also supported by another study which found that if employees are provided with good work environments, they have a better opportunity to perform optimally. Additionally, the basic premise of organizational learning theory is that organizations exist within an environment which provides the resources for the organization's continued survival. Therefore, the theory grounds the relationship between work environment and performance. The environment that the organization occupies changes in the amount, type, and availability of resources over time. The rate of change may vary depending on the circumstance, but change is always occurring. Organizational decisions must then align with that changing environment to enable the organization to better cultivate resources and perform more effectively within that environment. However, without information about the environment and how it is changing, the effectiveness of any organizational decision may be no better than chance. So, the challenge for any organization seeking long term survival becomes being able to learn about the environment in order to make better decisions to achieve higher performance where organizational knowledge is the output of a learning process. And since the environment is constantly changing, learning cannot be thought of as a onetime investment but must be enacted continuously. Based on the above explication, the theory's presumption covers training, technology and innovation, the environment of the workplace and organizational performance and therefore it fits to underpin the relationships among the variables of the study. In view of the above discussion, the present study has developed the following hypothesis:

H4: Work environment significantly moderating among the nexus of technology management and organizational performance of ADNOC.

H5: Work environment significantly moderating among the nexus of innovation and organizational performance of ADNOC.

H6: Work environment significantly moderating among the nexus of training and organizational performance of ADNOC.

3. Research Methods

This study examined the effects of technology management, innovation and training on organization performance in ADNOC and also examined the moderating effect of work environment on the relationships between technology management and organizational performance, between innovation and

organizational performance, and between training and organizational performance. In addition questionnaire is the tool through which data was collected, and this is considered apposite since it is a widely-adopted tool for data collection from large population that cannot be observed directly. The population of this study are the managers of ADNOC. ADNOC has 65,000 employees across ADNOC. Middle managers are 43 while line managers are 222 (see Table 3.1). In this study, both the middle and first-line managers are selected as the population, because they have access as well as firsthand information regarding the performance levels of ADNOC. This indicates that the total population of the current study is 265. Moreover, the choice of managers is rationalized by the fact that the managers, as decision-makers, have the propensity to adopt the factors that can turn around the performance of the organization. Manager's perception has an impact on decisions that are related to the firm's strategy, organizational change, and management accounting changes. The managers also have adequate insight in terms of their process of making decision and reliability of the information offered by the employees, and they have a tactical information with full understanding of technological innovation level in their organizations.

Tab. 1. Workforce at ADNOC

Workforce	Numbers
Employees	65000
Middle Managers	43
Line Managers	222

Source: ADNOC Overview 2019

The sample is a subset of a larger population selected for the purpose of research. The finding from studying the sample can be generalized on the entire population. It also refers to the segment of a given population which is accessible for selection in some phases of the sampling process. Since it is impossible to gather data from all the components of an entire population, it is then rational to take sample that would reflect the entire population. Conducting research using sample usually produces better and dependable findings while fatigue is reduced and error in data collection is minimalized. To avert cost of sampling errors that may affect the result of the research, selecting a correct sample size is germane. Different researchers have come up with different methods of determining appropriate sample size. In the first place, power of statistical test will be considered. Power of statistical test refers to a process through which sample size should be determined. Power of statistical test is regarded a possibility that null hypotheses would not be accepted as it is really not a truth or a possibility of not accepting a particular effect size of a certain sample size at a certain alpha level. Power analysis is the statistical tool for the identification of correct sample size for research. A *priori* power analysis, in this study, is carried out via G*Power 3.1.2.9 software. To conduct the test, certain parameters are involved such as Power (1-β err prob; 0.95), an alpha significance level (α err prob; 0.05), medium effect size f^2 (0.15) and four predictors of dependent variable which are technology management, innovation, training and work environment. It is discernible that 129 sample-size was determined by the test to be appropriate for a multiple regression based statistical analysis of this study. However, the calculated sample size of 129 for such large population appears to be insufficient. Therefore, it is deemed germane to try a different method for sample size determination.

This study aims to investigate the effects of technology management, innovation and training on organization performance in ADNOC UAE. So, the information regarding the subject matter will be elicited from the managers of the firms. Hence, the units of analysis for this research is organization. This means that the managers of ADNOC will be the respondents of the research. The managers are chosen because they are part of the decision-making units in the organization. They also have the propensity to adopt the factors that can turn around the performance of the organization. Manager's perception has an impact on decisions that are related to the firm's strategy, organizational change, and management accounting changes. The managers also have adequate insight in terms of their process of making decision and reliability of the information offered by the employees and they have a tactical information with full understanding of technological innovation level

in their organizations. This study adopted three independent variables such as technology management (TM) that has four items, innovation (INN) that has five items, training (TR) that has six items. In addition, organizational performance (OP) has taken as dependent variable with nine items and work environment (WE) has used as moderating variable with seven items. These variables are mentioned in Figure 1.

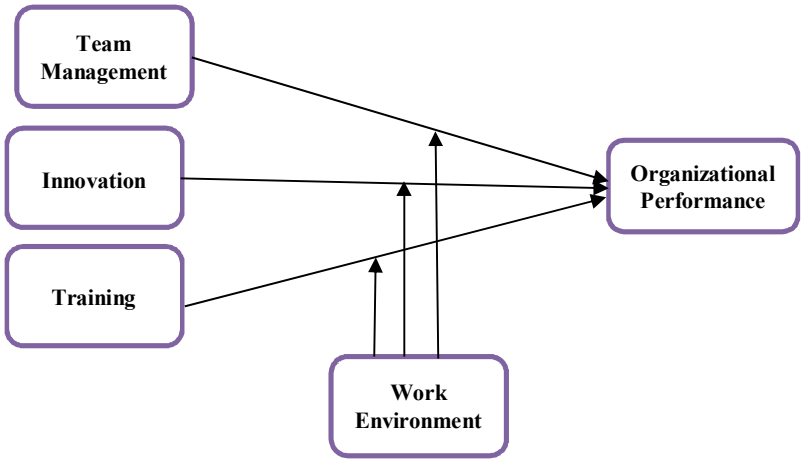

Fig. 1. Research framework

This research collected data from the sampled respondents in ADNOC. The questionnaires were administered by the researcher and her enumerators. The entire exercise took three months. The questionnaire was packaged in a foolscap size envelope containing a cover letter and the questionnaire. The cover letter entailed the background, purpose of the study, and the instructions regarding the proper way to answer and return the questionnaire. It was also stated in the cover letter that the anonymity and confidentiality of the respondents would be maintained as this would enhance their willingness to participate in the survey. Almost 40 days after distribution of the questionnaire to the respondents, 95 completed and usable questionnaires were received through the enumerators who were up and doing in making the exercise successful. This first set of completed questionnaires was labelled early responses and was further used in conducting non-response bias on the main study variables. Then, after 4 weeks, the enumerators went to the offices of various managers who have not completed and returned the questionnaires. Eventually, another 125 completed questionnaires were returned to the enumerators. In sum, out of 223 questionnaires which were distributed to the target respondents, 220 were returned but only 218 were usable. This last set of the questionnaires was labelled late responses, and it was used for testing non-response bias. It is nearly impossible to collect data without facing some kinds of challenges. The main challenge encountered during the course of data collection was not unconnected with the reluctance of the respondents to attend to the questionnaires, because some respondents do not want to share information about its workplace. But this issue was resolved by assuring the respondents that whatever information they divulge will be treated with utmost confidentiality. Lastly, the data collection exercise was successful.

4. Findings

Table 2 shows that composite reliability coefficient of each the constructs ranges from 0.905 to 0.972, with each higher than the minimum acceptable level of .70, therefore, internal consistency reliability of all the reflective constructs (composite reliability) in this study has been established [11]. Furthermore, the loading values are larger than 0.50and Alpha values and more than 0.70. As depicted in Table 3 above, AVE values of the constructs of this study ranged between 0.578 and 0.874. Thus, convergent validity of the constructs of this study has been affirmed through AVE.

Tab. 2. Convergent validity

Constructs	Items	Loadings	Alpha	CR	AVE
Innovation	INN1	0.953	0.964	0.972	0.874
	INN2	0.935			
	INN3	0.944			
	INN4	0.954			
	INN5	0.888			
Organizational Performance	OP1	0.571	0.907	0.924	0.579
	OP2	0.786			
	OP3	0.771			
	OP4	0.639			
	OP5	0.798			
	OP6	0.811			
	OP7	0.799			
	OP8	0.824			
	OP9	0.809			
Technology Management	TM1	0.883	0.917	0.942	0.801
	TM2	0.933			
	TM3	0.930			
	TM4	0.832			
Training	TR1	0.864	0.931	0.946	0.744
	TR2	0.853			
	TR3	0.839			
	TR4	0.870			
	TR5	0.881			
	TR6	0.868			
Work Environment	WE1	0.716	0.908	0.905	0.578
	WE2	0.802			
	WE3	0.707			
	WE4	0.793			
	WE5	0.774			
	WE6	0.802			
	WE7	0.723			

This study has also examined the discriminant validity to check the nexus among the variables [11]. This study has adopted the Heterotrait Monotrait (HTMT) to examine the discriminant validity. The values are lower than 0.80 that show no high correlation among variables. These are shown in Table 3. Summarily, having confirmed the content validity, convergent validity, and discriminant validity of the constructs of this research, it can then be concluded that the construct validity of this study has been established in this study.

Tab. 3. Discriminant validity

	INN	OP	TM	TR	WE
INN					
OP	0.504				
TM	0.518	0.561			
TR	0.448	0.437	0.435		
WE	0.482	0.250	0.242	0.243	

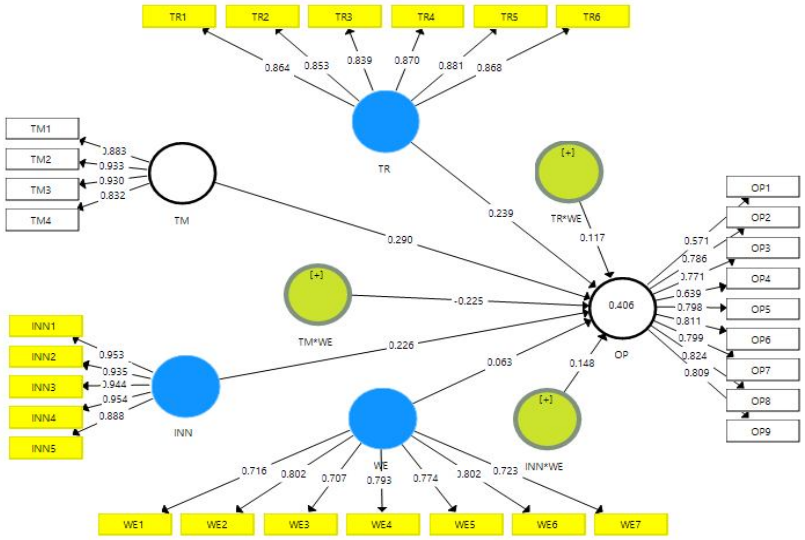

Fig. 2. Measurement model assessment

Based on the PLS-SEM bootstrapping method, Figure 3 shows the path coefficient of the independent variables (i.e., technology management, innovation, training) moderating variable (work environment) and the dependent variable (organizational performance). Moreover, the six hypotheses formulated earlier in this study were tested through the structural model evaluation. Referring to Figure 3 and Table 4, the result indicates that technology management, innovation and training have significant effect on organizational performance, thereby hypotheses 1, 2, and 3 are supported. Moderating effect is said to occur when the effect of an exogenous variable on an endogenous variable is manifested on the values of another variable [11]. In the current study, three hypotheses were formulated for moderating relationships. Specifically, work environment was hypothesized to moderate the relationships between technology management, innovation, training and organizational performance. In order to achieve this, product indicator approach was adopted in this study, given that it is considered equal or better than the group comparison approaches for testing moderation with continuous moderating variable.

As demonstrated in Table 4 Figure 3, 4, 5 and 6, it was evident that hypothesis 4 was supported as the result shows that that work environment moderates the relationship between technology management, innovation, training and organizational performance. Also, the line tagged low working environment, indicating poor working environment, has a steeper gradient as against high working environment (i.e., good working environment). This result signifies that positive relationship between technology management, innovation, training and organizational performance does not get stronger for firms with good working environment. Also, in a firm with poor working environment, technology management becomes more important for explaining organizational performance while in a firm with good working environment, technology management becomes less important for explaining organizational performance.

Tab. 4. Path analysis

Relationships	Beta	S.D.	T Statistics	P Values	L.L.	U.L.
INN -> OP	0.226	0.083	2.729	0.004	0.069	0.357
INN*WE -> OP	0.148	0.073	2.023	0.023	0.015	0.264
TM -> OP	0.290	0.066	4.370	0.000	0.186	0.402
TM*WE -> OP	-0.225	0.060	3.743	0.000	-0.329	-0.121
TR -> OP	0.239	0.067	3.575	0.000	0.125	0.357
TR*WE -> OP	0.117	0.067	1.757	0.041	0.011	0.223

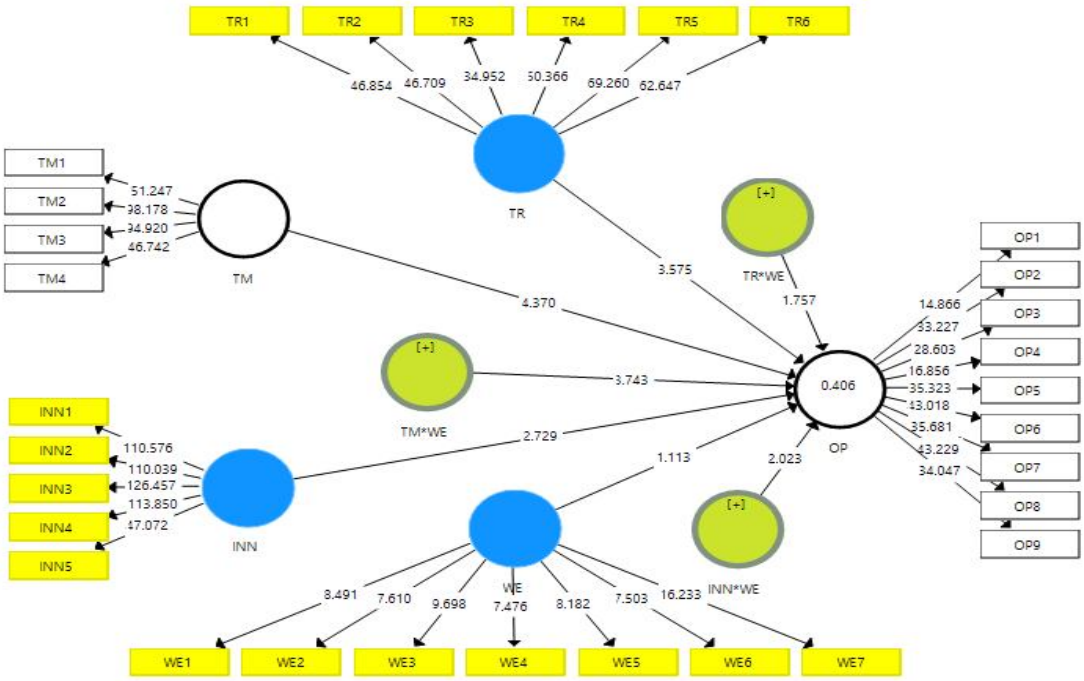

Fig. 3. Structural model assessment

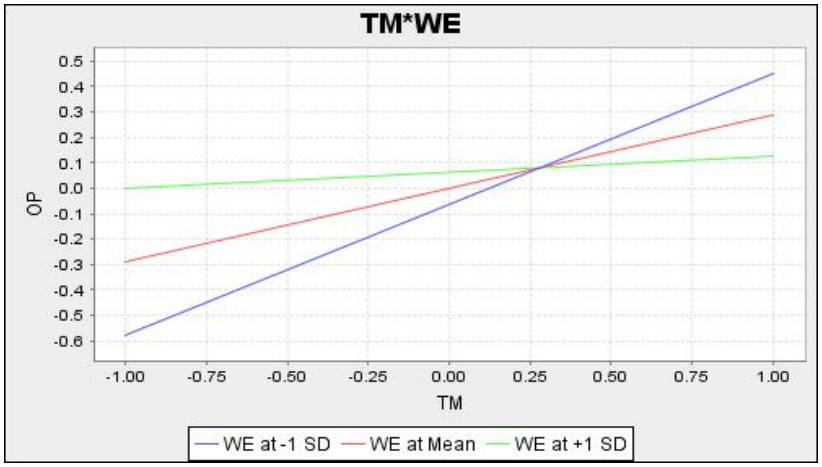

Fig. 4. TM*WE

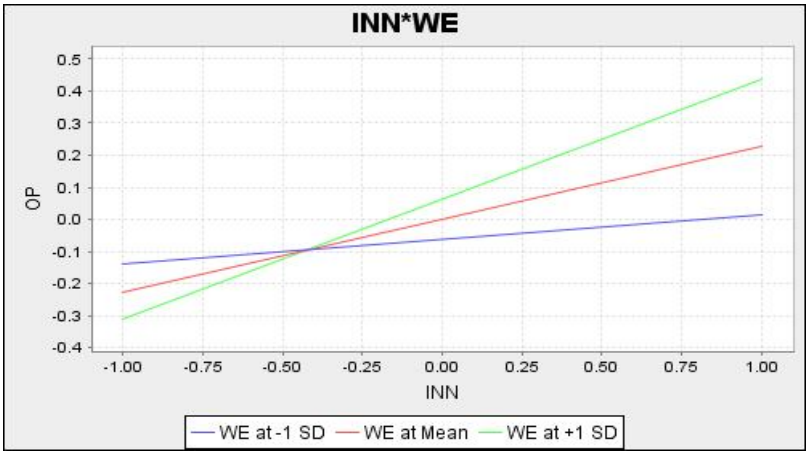

Fig. 5. INN*WE

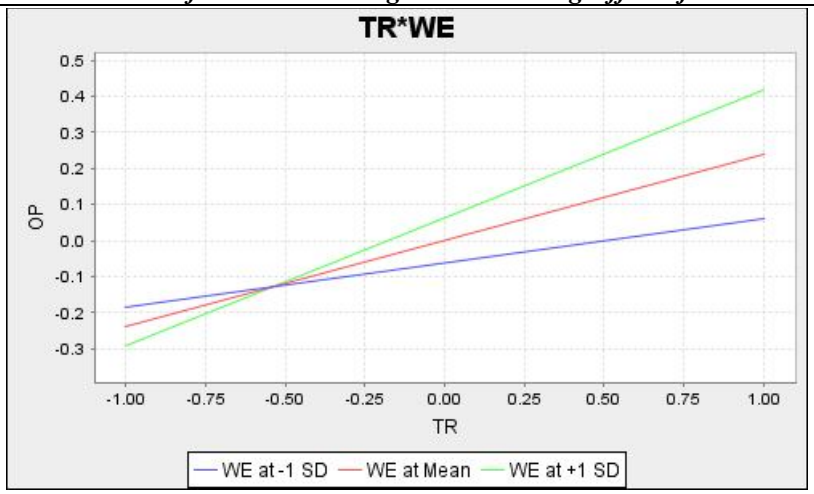

Fig. 6. TR*WEDiscussions

According to [34], organizations that invest in technology usually attain superior performance. Continuous technology management enhances the profitability of an organization, which is a major factor in market longevity and business success. Arising from the acclaimed advantages derivable from technology management in the performance of organizations in the previous literature, the Research Question 2 (RQ2) of this study seeks to know whether there is a relationship between technology management and organizational development in the context of ADNOC in UAE. To answer this question, the study also sets the objective 2 which tends to investigate the relationship between technology management and organizational performance at ADNOC, UAE. To achieve this objective, the first hypothesis (H_1) is formulated to test the relationship between the two variables. The variable has the highest direct impact on organizational performance. Thus, the hypothesis H_1 of this study is supported. This finding is consistent with the earlier findings of [8] and [9].

To test the relationship between the innovation and organizational performance, the study formulates the second hypothesis (H_2). The outcome of the statistical analysis through bootstrapping in PLS-SEM structural model revealed that there is a positive significant relationship between innovation and organizational performance of ADNOC. Hence, the hypothesis H2 of this study is supported. This finding is consistent with the earlier results of [34] and [23] and Hui (2018). The study also supports the resource-based view and organizational learning theory. Similarly, to achieve the objective, hypothesis (H3) was formulated to statistically test the relationship between the training and organizational performance in the context of ADNOC, UAE. The statistical results indicate that there is a positive significant relationship between training and organizational performance. Thus, the hypothesis H_3 of this study is supported. This implies that training has an impact on the performance of ADNOC, UAE. This result is consistent with the earlier findings of [32] and [9] which also established that a strong relationship exists between training and organizational performance. The finding also supports the resource-based view and organizational learning theory.

In order to test the moderating influence of the work environment on the relationship between technology management and organizational performance, the hypothesis (H_4) was formulated. This hypothesis was formulated with a view to providing an answer to the research question (RQ6) and at the same time achieving the sixth objective of this study. The work environment moderates the relationship between technology management and organizational performance in ADNOC, UAE. This supports hypothesis H_4 of this study. This implies that the perception of the employees of ADNOC is that the presence of a conducive environment is a catalyst for the enhancement of technology management in improving organizational performance. In other words, when employees feel that their environment is safe, friendly, conducive, and trusting, they tend to exhibit high productivity, communication, creativity, and sound health. Thus, no matter the level of technology acquisition and deployment in an organization, the entity will not achieve a high level of development or performance if the work

environment is not palatable. So, in oil and gas setting where the level of hazard is high, the deployment of latest technology together with the provision of the neat environment; ventilation of the offices and the entire place of work; allowing reasonable hours of work; provision of adequate water, lighting and security; and having noise-free surroundings will ultimately lead to an appreciable organizational performance.

The work environment has a multidimensional function because it has an impact on the psychological and sociological aspects of the lives of people. On the intellectual assumption that work environment can indirectly influence the nexus between innovation and organizational performance, this study proposed in Hypothesis H_5 that work environment moderates the relationship between innovation and organizational performance. This is in response to the research question (RQ6) and objective 6 which tend to answer the question relating to the indirect relationship between the two constructs. The result reveals that the work environment does moderate the relationship between innovation and organizational performance in ADNOC, UAE, thus, the hypothesis H_5 of this study is not supported. In other words, the perception of the employees of ADNOC is that work environment lacks influencing power to affect the relationship between the two constructs. This implies that the work environment in any form does affect the innovation of the organization or that of the employees in enhancing the performance of the organization. This hypothesis is supported possibly because the employees of ADNOC may already be exposed to good environmental condition, hence, may not see it as special and motivational. Many oil and gas companies are equipped with many facilities that are far beyond what is attainable in other industries or sectors, consequently, their sense of innovation is affected from the perspective of the state of the environment in which they work. Based on this, the perception of works in the other industry may differ from this.

The hypothesis H_6 of this study proposed that work environment moderates the relationship between training and organizational performance in ADNOC, UAE. This hypothesis is in response to the research question (RQ6) and research objective 6. This proposes that the knowledge, skills, and competence emanating from the training of employees will enhance the performance of an organization in a better way if the environment is sound, save, and comfortable. The result of the statistical test proves the hypothesis contrary as the work environment does statistically mediate the relationship between training and organizational performance. Thus, the hypothesis H6 of this study which assumes that work environment moderates the relationship between training and organizational performance is supported. This implies that the work environment does have an indirect effect that improves the nexus between training and organizational performance in ADNOC, UAE.

5. Implications and Contributions of the Study

This study has contributed to the literature and body of knowledge in different ways. However, studies of organizational performance in the context of the oil and gas industry are scare despite the importance of the sector in economic growth and development. Based on this lapses and dearth of empirical studies in the area, this study has added to the literature by examining organizational performance in the oil and gas sector. Aside from the above, this study has also contributed to the body of knowledge by extending the literature on organizational performance to the UAE. Many studies that have been earlier conducted on the concept are mostly in other countries, and the few identified ones in UAE are either conceptual or not in the oil and gas industry. This study contributes to practice and it has implications on the government, management of ADNOC, employees of ADNOC, and the management of other oil and gas companies, other relevant stakeholders in their policy formulation and decision making. The oil and gas sector is essential in the international market and it is a concern to all countries especially the oil-producing ones. Thus, any research that deals with the oil and gas industry normally attracts attention. Oil and gas sector is the backbone of economic growth and development in the UAE. This study that investigates and establishes the determinant of organizational performance of ADNOC will be of much interest to the government of UAE as the findings of the study can be used in policy formulation for the oil and gas sector. This is because about 90 percent of the oil and gas reserves in UAE are exploited by ADNOC. Thus, the finding of this study can assist the

UAE government in coming up with laws and regulatory framework that will enhance the performance of the oil and gas sector in the country.

6. Conclusion

This study examines the moderating effect of the work environment on the relationship between technology management and organizational performance, innovation and organizational performance, and training and organizational performance. The study asks six research questions and six objectives. Six hypotheses, comprising three hypotheses relating to the direct relationship between the independent variables, and three hypotheses in respect of the indirect relationship between independent and dependent variables were formulated. The statistical results support four out of the six hypotheses formulated and tested. Specifically, the study found all the three independent variables (technology management, innovation, and training) as having a significant relationship with organizational performance. Also, one of the hypotheses in respect of the indirect relationship is found to be significant, thus, work environment moderates the relationship between technology management and organizational performance. Lastly, this study has contributed to the body of knowledge by enriching the understanding of organizational performance in ADNOC, UEA. It also contributes to theory, method, and practice.

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