INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 12, Issue 8, (2022) E-ISSN: 2222-6990

Relationship between Training and Employees' Work Performance in the Sultan Qaboos University: Mediating Effects of Personality Dimensions

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To Link this Article: http://dx.doi.org/10.6007/IJARBSS/v12-i8/14565 DOI:10.6007/IJARBSS/v12-i8/14565

Published Date: *10* August 2022

Abstract

The higher education industry in the Sultanate of Oman was severely affected by the measures taken to stem the wave of COVID-19. Specifically, in Sultan Qaboos University (SQU), training and development process has become a controversial issue that requires attention. This study evaluates the influence of training on employee work performance through personality dimensions as a mediator among the SQU employees. As a result, using the Partial lest square structural equation modelling (PLS-SEM) nine hypotheses were formulated on the background of 4 independent variables (training commitment, training content, training needs, and training evaluation), one mediating variable (personality dimensions) and one dependent variable (employee work performance). A quantitative cross sectional study using a deductive approach and causal research design was applied. The bootstrapping approach to testing mediation effect was utilized with the decision tree. From the results gotten, all the direct effect hypotheses (i.e., H1, H2, H3, H4 and H5) were supported except H2. The results of the mediation analysis indicated that the link between by training commitment (TCM), training needs (TND), training evaluation (TEV) and employee work performance (EWP) were partially mediated by personality dimensions (PDN). While on the other hand the link between training content (TCN) and employee work performance (EWP), was fully mediated by personality dimensions (PDN). Therefore, these results supported hypotheses H6, H7, H8 and H9.

Keywords: SQU, Training, Personality Dimensions, Employee Work Performance, Oman

Introduction

It is commonly known that the performance of an organization is dependent on employees; this owes to the fact that an organization's most valuable assets are its workforce (Diamantidis & Chatzoglou, 2014). The objectives of any organization can only be achieved through her employees. It is therefore important employees possess the necessary knowledge, skills and abilities to ensure that organizations sustain optimum performance

to remain competitive and successful (Diamantidis & Chatzoglou, 2019). Thus, organizations needs a formal approach to update employees' acquisition of job-related knowledge, skills and abilities by formally organizing training (Pradhan & Jena, 2017). From the perspective of the human capital theory, training is not a consumption, rather it is an investment. It posits that employee work performance influences the performance of an organization. For this reason, it is the duty of organizational leaders to see the importance of training and development's impact on the performance of the employees (Sendawula et al., 2018).

Previous studies that have been conducted have shown that employee job training is essential to organizational performance, productivity and competitiveness (Samwell, 2018). Moreover, Esteban-Lloret et al (2018) asserts that well-trained employees are a prerequisite for employee work performance and organization's competitive advantage. Thus, for organizations to enjoy the returns on training investment, the training itself must first be approached systematically. Systematic training means that there are certain steps that organizations need to take in training and developing their employees (Adhitama & Riyanto, 2020). These steps begin with an identification of training needs, thereafter, designing, and developing an appropriate method to serve those needs, implementing the training per plan, and evaluating the training program to determine whether the original needs have been achieved (Guan & Frenkel, 2019).

This objective of this paper is to evaluate the influence of training on employee work performance through personality dimensions as a mediator among the employees of Sultan Qaboos University in the Sultanate of Oman.

Methods

In this study, a survey strategy, a deductive approach, and a cross sectional time horizon has been applied. Also, a research philosophy of positivism has been utilized because the researcher is not a part (independent) of the phenomenon (training, personality dimensions and employee work performance of employees in Sultan Qaboos University, Oman) being examined; therefore, the quantitative method is utilized. Furthermore, this study utilizes a causal/explanatory research design by virtue of the study of the influence and/or the interactions of the independent variables (training commitment, training needs assessment, training content, training evaluation), mediating variable (personality dimensions), and dependent variable (employee work performance).

Research Population and Sampling

In the current research, the target research population is characterized by means of the context of the study which focusses on the employees of Sultan Qaboos University in the Sultanate of Oman. The sample frame is the latest staff directory of Sultan Qaboos University in the Sultanate of Oman, obtained from Center for Human Resources Development in Sultan Qaboos University. In determining he sample size for this study, G*Power analysis was performed to provide a different experience of calculating sample size based on effect size, standard error, power and number of predictors. G*Power software (version 3.1.9) was utilized, where a priori power analyses was performed. The statistical test results indicated that a sample size of 138 is required for this study (which is a linear multiple regression-based statistical analysis). This sample size is in line with the assertion of Hair et al. (2009) who stated

that when Structural Equation Model is used, just like the case of this research, samples between 100 and 400 is preferable.

The sampling design employed in this research is probability sampling using a stratified random sampling. In carrying out the stratified random sampling, the relevant distinct strata were first identified, and then the employees were grouped accordingly in the same proportion (percentage) in which they exist in the total population. The choice of the stratified random sampling technique was to ensure randomization, and hence generalization to the entire population. Subsequently, random samples were then selected from each stratum according to the sample size

Research Instrument

A self-administered questionnaire was used as the measurement instrument for the field survey. The Table 1 is an overview of the questionnaire parameters and sources.

Table 1
Questionnaire Sources

Variables	**Dimensions**	**No of items**	**Sources**
Training	-	7	Wagonhurst (2002); Hasniza
Training Needs	-	7	Schneier, et. al., (1988); Hasniza
Training Content	-	6	Poon and Othman (2000);
Training	-	5	Bramley (1991); Hasniza (2009).
Personality Dimensions	Emotional Stability/	10	Goldber (1992)
	Extraversion/Ambition	10	Goldber (1992)
	Agreeableness	10	Goldber (1992)
	Conscientiousness	10	Goldber (1992)
	Openness/Intellect	10	Goldber (1992)
Employee Work Performance	Task Performance	5	Koopmans et al. (2014)
	Contextual Performance	8	Koopmans et al. (2014)
	Counterproductive Work	5	Koopmans et al. (2014)
Total Number of Items		93	

Statistical Analysis

The unit of analysis is at the individual level, hence the unit of analysis of this research is employees of Sultan Qaboos University in Sultanate of Oman. This research uses the Partial Least Square (PLS) variance based Structural Equation Modelling (SEM) as the main analysis of the survey primary data. A major assumption of Partial Least Square analyses using Smart PLS is that the data distribution is not normal, hence, it is not necessary to test normality of data distribution (Fehan & Aigbogun, 2021). The choice of PLS-SEM is due to its ability to process a complex web of analysis simultaneously; as a result, it is suitable to test the mediation model of this study using the bootstrapping technique.

Data Analysis and Results

Out of a total number of 151 respondents (N = 151), there were more males (60%) than females that too part in this survey. Most of the sample were in the age group of 45 – 54 years (36.7%) and the least were in the age group of below 25 years (3.3%).

Measurement Model

In the present study, while carrying out the analysis of the measurement model, each of the research constructs were subjected to examination of their reliability as well as their validity. The reliability of each of the construct measures were assessed by the internal consistency of their measures using Cronbach's alpha. The composite reliability was also examined as a measure of reliability of the construct measures. The validity of the construct measures (construct validity) were assessed by means of convergent validity and discriminant validity. The factor loadings and average variance extracted AVE) was determined for each construct to ascertain the convergent validity; while the discriminant validity was assessed by examining the the heterotrait-monotrait ratio (HTMT).

From the results gotten (Table 2) it can be observed that the composite reliability values, exceeded the conventionally accepted critical threshold value of 0.6 for all constructs as recommended by (Bagozzi and Yi, 1988). The composite reliability values of the constructs range from 0.749 to 0.926. Moreover, the Cronbach's Alpha values, which describes the internal consistency, range from 0.701 to 0.880 which were above the threshold of 0.7 as suggested by (Nunnally and Bernstein, 1994). Therefore, it can be considered that all the constructs studied were all reliable

Table 2
Reliability of Construct Measures

Constructs	**Internal consistency reliability (Cronbach alpha)**	**Composite reliability**
Training Commitment (TCM)	0.838	0.852
Training Needs (TND)	0.857	0.894
Training Content (TCN)	0.855	0.887
Training Evaluation (TEV)	0.863	0.901
Emotional Stability/ Neuroticism (EMT)	0.870	0.911
Extraversion/Ambition (EXT)	0.853	0. 871
Agreeableness (AGS)	0.880	0.926
Conscientiousness (CNS)	0.821	0.843
Openness/Intellect (OPN)	0.701	0.749
Task Performance (TPF)	0.851	0.883
Contextual Performance (CNP)	0.823	0.861
Counterproductive Work Behaviour (CWP)	0.759	0.781

To ascertain the convergent validity, the factor loadings and average variance extracted AVE) was determined for each construct measure and construct respectively. As shown in **Error! Reference source not found.** the results of assessing the standardized factor loadings of the measurement model's items showed that the factor loadings of EXT-9, AGS-2, AGS-7, and OPN-4 were 0.118, 0.402, 0.157, and 0.369 respectively were below the conventionally accepted cut-off value of 0.6. These four measures (EXT-9, AGS-2, AGS-7, and OPN-4) whose factor loadings were below the critical threshold cut-off value (0.6) were deleted from the model (Aigbogun et al**.**, 2018). These four items that were deleted from the model were not serious enough to change the content of the constructs as they are conceptualized. Furthermore, with the new trimmed model after deleting the low factor loadings, the AVE, which reflects the overall amount of variance in the indicators accounted for by the latent construct was examined and the results show that the AVE were above the cut-off 0.5 for all constructs as suggested by Nunnally and Bernstein (1994), ranged from 0.560 to 0.769.

Table 3
Convergent validity of construct measures

Construct		**Measures**	**Factor loadings**	**AVE**
Training Commitment (TCM)		TCM-1	0.851	0.696
		TCM-2	0.831	
		TCM-3	0.835	
		TCM-4	0.811	
		TCM-5	0.792	
		TCM-6	0.831	
		TCM-7	0.885	
Training Needs (TND)		TND-1	0.835	0.703
		TND-2	0.810	
		TND-3	0.852	
		TND-4	0.869	
		TND-5	0.807	
		TND-6	0.845	
		TND-7	0.857	
Training Content (TCN)		TCN-1	0.822	0.726
		TCN-2	0.843	
		TCN-3	0.839	
		TCN-4	0.875	
		TCN-5	0.830	
		TCN-6	0.847	
Training Evaluation (TEV)		TEV-1	0.813	0.697
		TEV -2	0.829	
		TEV -3	0.845	
		TEV -4	0.844	
		TEV-5	0.844	
Emotional Stability/ Neuroticism (EMT)		EMT-1	0.868	0.718
		EMT-2	0.858	

		EMT-3	0.858	
		EMT-4	0.848	
		EMT-5	0.883	
		EMT-6	0.827	
		EMT-7	0.800	
		EMT-8	0.847	
		EMT-9	0.825	
		EMT-10	0.859	
Extraversion/Ambition (EXT)		EXT-1	0.880	0.606
		EXT-2	0.816	
		EXT-3	0.754	
		EXT-4	0.748	
		EXT-5	0.745	
		EXT-6	0.741	
		EXT-7	0.767	
		EXT-8	0.785	
		EXT-9	0.118*	
		EXT-10	0.773	
Agreeableness (AGS)		AGS-1	0.758	0.621
		AGS-2	0.402*	
		AGS-3	0.810	
		AGS-4	0.809	
		AGS-5	0.789	
		AGS-6	0.728	
		AGS-7	0.157*	
		AGS-8	0.756	
		AGS-9	0.799	
		AGS-10	0.816	
Conscientiousness (CNS)		CNS-1	0.755	0.769
		CNS-2	0.724	
		CNS-3	0.822	
		CNS-4	0.851	
		CNS-5	0.831	
		CNS-6	0.835	
		CNS-7	0.811	
		CNS-8	0.792	
		CNS-9	0.831	
		CNS-10	0.885	
Openness/Intellect (OPN)		OPN-1	0.835	0.699
		OPN-2	0.810	
		OPN-3	0.852	
		OPN-4	0.369*	
		OPN-5	0.807	
		OPN-6	0.845	
		OPN-7	0.857	
		OPN-8	0.822	

		OPN-9	0.843	
		OPN-10	0.839	
Task Performance (TPF)		TPF-1	0.875	0.704
		TPF-2	0.830	
		TPF-3	0.847	
		TPF-4	0.813	
		TPF-5	0.829	
Contextual Performance (CNP)		CNP-1	0.845	0.560
		CNP-2	0.844	
		CNP-3	0.844	
		CNP-4	0.868	
		CNP-5	0.858	
		CNP-6	0.858	
		CNP-7	0.848	
		CNP-8	0.883	
Counterproductive Work Behaviour (CWP)		CWB-1	0.827	0.691
		CWB-2	0.800	
		CWB-3	0.847	
		CWB-4	0.825	
		CWB-5	0.859	

*signifies deleted item due to insufficient factor loading that is below cut off value of 0.6.

The discriminant validity for the present study measurement model was conducted using the HTMT criterion which measures the mean correlations of the indicators across all the constructs. The conventionally accepted level of the HTMT discriminant validity is less than 0.90 (< 0.90) as suggested by Henseler et al. (2015). The Table 4 is a representation of the output of the HTMT discriminant criteria to evaluate the discriminant validity of the measurement model. The results reveal that all the HTMT values of the latent constructs were below the conventionally accepted threshold value of 0.90. The values ranged between 0.680 and 0881. Therefore, it confirms that each latent construct measurement was totally discriminating to each other (Henseler et al., 2015).

Table 4
Results of the HTMT criterion for discriminant validity

	TCM	**TND**	**TCN**	**TEV**	**PDN**	**EWP**
TCM	-					
TND	0.815	-				
TCN	0.680	0.686	-			
TEV	0.863	0.735	0.881	-		
PDN	0.611	0.348	0.410	0.650	-	
EWP	0.425	0.554	0.392	0.526	0.411	-

Structural Model

In examining the structural model, the direct effects that exists between the exogenous and endogenous variables, namely: training commitment (TCM), training content (TCN), training needs (TND), training evaluation (TEV), personality dimensions (PDN) and

employee work performance (EWP), were examined. They are all reflective constructs and these direct effects relationships are depicted by the following hypotheses: H1, H2, H3, H4 and H5. The structural model for testing the direct effects of the hypothesized relationships is summarized in Figure and Table 5.

The coefficient of determination (R^2) values for Personality dimensions (PDN) and Employee Work performance (EWP) were 0.488 and 0.512 respectively. These values indicate the following: That 51.2% of the variance experienced in EWP can be explained by variations in the predictors i.e., independent variables and mediator (TCM, TCN, TND, TEV, and PDN). In general, the findings reveal that the values for R^2 satisfy the condition for conventional acceptance which is 0.30 as suggested by (Patterson, 2013). The values of the Predictive Relevance (Q^2) for Personality dimensions (PDN) and Employee Work performance (EWP) were 0.292 for both of them. This value (0.292) of the Predictive Relevance obtained in this study far exceeds zero; thus, suggesting acceptable fit and a high predictive relevance of the model as recommended by Chin (2010). In addition, the result also indicated that the model's goodness of fit measure (GOF) for the structural model analysis was 0.581, which is higher than the recommended minimum cut-off value of 0.1 as suggested by (Wetzels et al., 2009). As a result, it can be affirmed that the GoF model of this present study is big enough to reflect an adequate global PLS model validity.

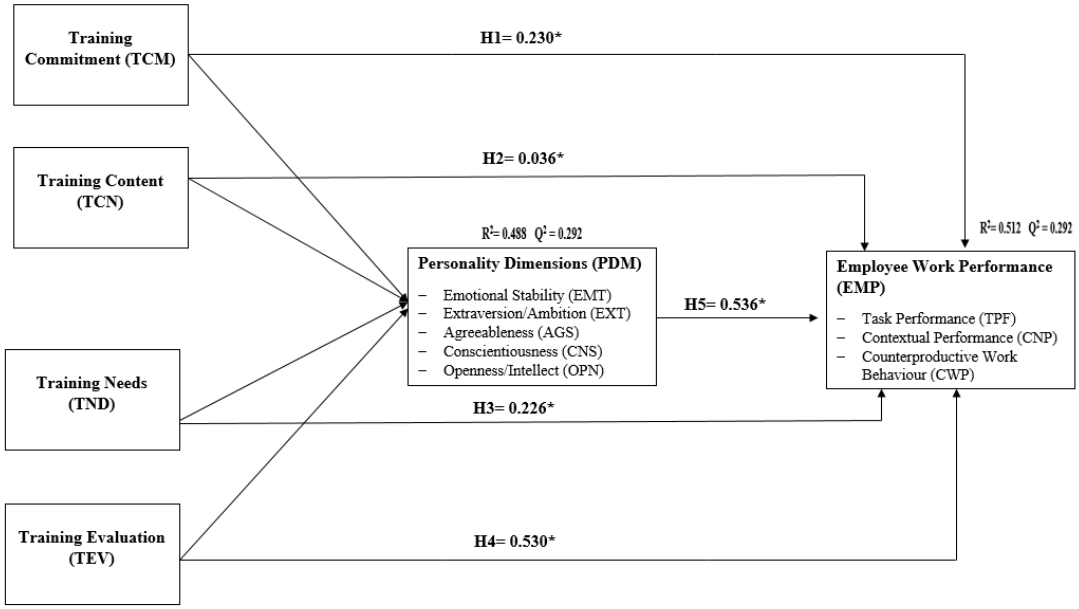

Figure 1: PLS Direct Effects Path estimates of the Structural Model

Table 5
Results of path coefficient of the hypothesized direct effects

Hypotheses	Path Analysis	Path Coefficient	Standard Deviation	P-value	T-value	F-squared	Effect Size	Hypothesis Remarks
H1	TCM → EWP	0.230*	0.105	0.030	2.168	0.056	Small	Supported
H2	TCN → EWP	0.036	0.102	0.628	0.347	0.001	No effect	Rejected
H3	TND → EWP	0.226*	0.096	0.020	2.335	0.054	Small	Supported
H4	TEV → EWP	0.530***	0.065	0.000	8.012	0.295	Medium	Supported
H5	PDN → EWP	0.536**	0.157	0.001	3.380	0.303	Medium	Supported

*p< 0.05 , **p< 0.01, ***p< 0.001

As can be observed in the Table 5, all but one the paths estimates (H1, H3, H4, and H5) of the direct path analysis were statistically significant judging from their p-values and T-values, except for the path estimate of TCN → EWP (H2) which showed a significant value (p> 0.05) outside the acceptance standard of 0.05. Thus, it can be inferred that the hypotheses H1, H3, H4 and H5 were supported, while the hypothesis H2 was rejected due to the fact that its level of significance was outside the acceptance standard of 0.05. Moreover, it can be deduced from the results that the most important determinant of Employee Work Performance (EWP) was PDN (0.536), followed by TEV (0.530), TND (0.226), and TCM (0.230).

Mediation Test

In this study, for the mediation analysis, the significance of the regression coefficients between training commitment (TCM), training content (TCN), training needs (TND), and training evaluation (TEV) as independent variables, personality dimensions (PDN) as the mediating variable and employee work performance (EWP) as the dependent variable were evaluated in order to determine the existence of the mediation effect as well as its degree/extent of mediation. Therefore, four hypotheses (i.e., H6, H7, H8 and H9) were examined in this section. The results of the examination of these hypotheses are shown in

Table with the standardized effects of different paths.

Table 6
Output Results of the Mediation Analysis

Dependent Variable (DV) = EWP Mediator	**Independent/Exogenous Variables (IV)**			
	Training Commitment (TCM)	**Training Content (TCN)**	**Training Needs (TND)**	**Training Evaluation (TEV)**
Total Effect of IV on DV	0.351*** (sig:0.000)	0.320*** (sig:0.000)	0.386*** (sig:0.000)	0.791*** (sig:0.000)
Direct Effect of IV	0.230* (sig:0.030)	0.036 (sig:0.728)	0.226* (sig:0.034)	0.530 (sig:0.001)*
Indirect Effect of IV	0.121* (sig:0.050)	0.284**(sig:0.001)	0.160* (sig:0.050)	0.261* (sig:0.050)
Effect of IV on M (path	0.226* (sig:0.020)	0.530** (sig:0.020)	0.230* (sig:0.020)	0.411*** (sig:0.000)
Effect of M on DV	0.536*** (sig:0.001)	0.536*** (sig:0.001)	0.536*** (sig:0.001)	0.536*** (sig:0.001)
Mediation Path	TCM→PDN→EWP	TCN→PDN→EWP	TND→PDN→EWP	TEV→PDN→EWP
Mediation Effect	Yes	Yes	Yes	Yes
Degree of Mediation	Partial	Full	Partial	Partial
Hypothesis Result	H6) Supported	H7) Supported	H8) Supported	H9) Supported

*p< 0.05 , **p< 0.01, ***p< 0.001

As can be observed in the

Table , Personality Dimensions (PDN) mediate the relationships between the four independent /exogenous variables (training commitment (TCM), training content (TCN),

training needs (TND), and training evaluation (TEV) and employee work performance (EWP). Therefore, the hypotheses H6, H7, H8 and H9 were supported.

Discussion

The results gotten from the analysis shows that the hypothesis one H1, H3, H4, H5, H6, H7, H8, and H9 are supported while the result of H2 is not supported. The notion that training commitment significantly influences employee work performance (H1) positively is in keeping with the findings of previous empirical studies conducted by researchers such as; (Gross et al., 2018; Ahmad et al., 2019; Jolley et al., 2020; Hussain et al., 2020). The finding that the direct effect of training content on employee work performance (H2) is not supported runs contrary to anticipations, and inconsistent with the findings of previous studies from research scholars such as: Barnes et al (2018); Kulkarni (2019), who all posit that training contents a well as their delivery approaches are a significant influencer of the performance of workplace employees. They are also assert that the content of the trainings alongside the style of delivery. Viewing these findings from previous studies it brings to reason that the cause for the insignificant direct influence of training content on employee work performance obtained in the current study may be attributed to the possible presence of a mediating variable which has not been previously explored in previous research; thus, giving credence to the plausibility of an indirect effect, and an opportunity to address this gap in knowledge and justify the novelty of the current study.

In agreement with the result of H3, Gould et al (2018) adopted an identical view by applying training needs as the means of tackling issues associated with employee work performance and how they can be remediated. This view takes into cognizance possible solutions that bridge the performance gaps that surface during the work process. However, training may or may not be a part of these solutions. Gaspard and Yang (2016) opine that it is essential to link training needs assessment to training because, about 90% of improvements performance are tied to the work performance.

The finding that the direct effect of training evaluation on employee work performance (H4) is in congruence with previous research scholars, such as, (Nemec, 2018; Zolotykh et al., 2019). They view training evaluation as a vital step in the training process of any organization, with a function to identify as well as rectify any errors made in the implementation of employee training strategy. The success of the entire training process thus depends upon the development of the right kind of metrics and tools for measuring its effectiveness.

The deduction from H5 points to the fact that the personality of the trainee is critical to the training outcomes and it has been shown that personality are those characteristics which differentiate people based on their distinct actions and thoughts. As a result, this research finding mirrors the thoughts of Kim (2012) who in their research described the personality construct as a phenomenon that is based on the proposition that different traits characterise individuals. The outcome of this affirmation will certainly be influential in the enhancement of employee performance as agreed by Barnard and Curry (2012) who posit that traits are constant and unvarying over time and across different situations, hence

highlights how consistent and stable personality traits are, which in turn enable the prediction of the behaviour of individuals in different conditions over a period of time.

The results gotten from the analysis shows that the hypothesis six, seven, eight and nine (H6, H7, H8, and H9) are supported; therefore, the results is in agreement with the proposition that personality dimensions mediates the relationship between training commitment and employee work performance.

Conclusion

The bootstrapping approach to testing mediation effect was utilized with the decision tree. From the results gotten, all the direct effect hypotheses (i.e., H1, H2, H3, H4 and H5) were supported except H2. The results of the mediation analysis indicated that the link between by training commitment (TCM), training needs (TND), training evaluation (TEV) and employee work performance (EWP) were partially mediated by personality dimensions (PDN). While on the other hand the link between training content (TCN) and employee work performance (EWP), was fully mediated by personality dimensions (PDN). Therefore, these results supported hypotheses H6, H7, H8 and H9. This study contributes theoretically to the area of employee training and employee work performance during crisis while contributing practically to the higher education industry in the Sultanate of Oman.

There are a number of implications from the findings of this study that contribute both theoretically and practically in the field of training and employee performance. Performance management has always been a keenly discussed topic in the literature hence, any research that delves into this domain offers critical implications. In this current study, by introducing a holistic conceptual model of employee work performance that establishes the mediating role of personality dimensions into the dynamics of employee training, aids in personality dimensions as a mediator. The propositions accompanying the findings of this present study have important theoretical and practical implications to both researchers and practitioners, respectively. By incorporating training commitment, training content, training needs, training evaluation, personality dimensions, and employee work performance in a single model, the conceptual nature of the resulting model places the current study in a position to generate the much required foundation for future impactful research, as well as to answer applicable research questions that creates the basis of research in a future agenda.

This study has critical practical implications with regards to the intermediary role of personality dimensions on training commitment, training content, training analysis, and training evaluation in enhancing employee work performance. The findings obtained from this study are of importance to education managers, human resource managers in educational institutions and training facilitators for academic and non-academic employees of higher education institutions who can draw knowledge from the study findings in a number of ways. Firstly, the personality dimensions made up of five (5) indicators utilized in this study (emotional stability, extraversion/ambition, agreeableness, conscientiousness, and intellect/openness to experience) are a valuable source of knowledge for human resource managers to recognize vital areas where enhancements are required in their

employee training management framework during crisis management, as well as provide a conduit for human resource practitioners, educational institutions/education providers to invest in necessary capabilities to enhance their training capabilities during crisis. Secondly, the findings from this research suggest that the strongest determinant of employee work performance is training evaluation, followed by training needs. In view of these, the findings can benefit other closely related sectors in Oman by providing a base for further studies on training, and the intervening role of personality dimensions on employee work performance.

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