

Effect of Transformational Leadership on Human Capital among Public Sector Employees in Abu Dhabi

Bader Abdulla Alneyadi, Ahmed H. Al-Shibami, Ali Ameen and Amiya Bhaumik Faculty of Business and Accountancy, Lincoln University College (LUC), Selangor, Malaysia

(Corresponding author: Bader Abdulla Alneyadi) (Received 02 February 2019, Revised 31 March 2019 Accepted 20 April 2019) (Published by Research Trend, Website: www.researchtrend.net)

ABSTRACT: Leadership has gained immense importance in developing human capital. The current research utilizes structural equations modeling through PLS in order to analyze the validity of return questionnaires, which shall assist in assessing the proposed model based on transformational leadership characteristics. This will also enable to gauge its effect on human capital in the public sector in the UAE. The main independent constructs in the model are related to idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. The dependent construct is represented by human capital in terms of skills and knowledge. The study will describe the relations among the various constructs. The study results have improved the current knowledge on importance of transformational leadership. The results indicate four independent variables that predict human capital in a significant manner. The proposed model explains 48% of the variance in human capital.

Keywords: Transformational leadership; human capital; UAE

I. INTRODUCTION

Leadership is considered as one of the forms of investment on human capital in organizations, which contributes to the overall value creation, thus it is often described as a determinant of human capital creation [1]. Nevertheless, the prescribed relationship has not acquired enough attention in the context of UAE, since researches were mainly focused in the west. Transformational leadership and their overarching role to induce success in the face of change and environmental turbulence by enhancing human capital and business processes is imperative to the present investigation. García-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez [2] and Avolio, Bass, & Jung [3] agree that transformational leadership has become a prevalent method of determining the impact leaders have on the skills and knowledge of its employees, in addition to the underlying business processes. Moreover, Bass [4], Avolio and others stress that transformational leadership has over the years showed a close association with the determinants of human capital and organizational performance.

For a very long time, human capital in terms of knowledge and skills are considered as the most important elements especially in the post-industrial organizations [5-8]. Knowledge has been encouraging the creativity and discovery, as well as inventiveness and innovation, resulting in the organizations' success and survival [9]. Read [9] in the earlier study reported that the demand for knowledge to encourage creativity and innovation among employees has not only resulted in changes in individuals and their behaviors, but also in organizations performance [10-13].

Thus, the study aims at evaluating the effect of transformational leadership on human capital in public organizations located at Abu Dhabi.

II. METHODOLOGY

A. Overview of the Proposed Conceptual Framework

Fig 1 displays the recommended model that includes transformational leadership in order to predict human capital as a second order construct to skills and knowledge. These correlations are adapted from previous studies [14,15]. The given model evaluates the relationship among the aforementioned aspects for the employees of the public sector organisation in Abu Dhabi.



Fig. 1. The proposed conceptual framework.

B. Instrument Development and Data collection

The creation of a tool for this research involved a questionnaire of 26 questions, and on the basis of the literature on performance, the research employed a multi-item Likert scale [16]. The parameters were evaluated using a Likert scale recommended in the earlier studies. The information was gathered by delivering a self-managed questionnaire 'in-person' between April 2018 and May 2018 to employees of the governmental organizations. Five hundred questionnaire sheets were distributed, of which only 307 sheets were collected. Out of the collected sheets, only 307 answers were taken into consideration. The sample size was optimum as per the previous studies according to Tabachnick & Fidell [17] and Krejcie & Morgan [18], the sample size was seen as sufficient.

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III. DATA ANALYSIS AND STUDY RESULTS

PLS SEM-VB methods have been used to assess the research model using SmartPLS 3.0 software [19]. A two-phase analytical technique [20] consisting consisted of:

- (i) measurement model analysis (reliability and validity) and
- structural model analysis (examining the conceptualised relationships) was employed after performing the descriptive assessment.

This two-phase analytical technique consisting of a structural and a measurement model assessment is better than a single phase assessment [21,22]. While the model of measurement explains each parameter's measurement, the structural model describes the correlation between the parameters in this model.

The PLS technique is employed for both the structural and the measurement model in this study because of its capability to conduct simultaneous assessment, giving more accurate assessments [23-24].

A. Descriptive analysis

Table 1 presents the mean value and SD for all study parameters. The participants were told to reveal their opinion regarding human capital and transformational leadership on the basis of a 5-point scale varying from 5 (strongly agree) to 1 (strongly disagree). The score of skills was the highest with 3.443.9 mean out of 5.0, having a standard deviation of 1.131. Intellectual stimulation score the lowest with mean 3.025 out of 5.0, with a standard deviation of 1.013.

B. Measurement Model Assessment

Construct reliability as well as validity (comprising discriminant and convergent validity) were used to examine the measurement model. The particular alpha coefficients of Cronbach were tested to determine the reliability of every core parameter in the measurement model (construct reliability). The quantities of all the unique alpha coefficients of Cronbach in this research ranged from 0.924 to 0.947, which went beyond the proposed value of 0.7 [25]. Moreover, for inspecting construct reliability, all the CR (composite reality) values ranged from 0.946 to 0.959, which went beyond 0.7 [26-28]. Thus, as Table 1 shows, construct reliability has been fulfilled as Cronbach's CR and alpha were rather error-free for all the parameters.

Analysis of indicator reliability was conducted by utilising factor loadings. When the related indicators are very similar, this is reflected in the construct and signified by the construct's high loadings [29]. As per Hair and others. (2010), the exceeding of values beyond 0.70 suggests substantial factor loadings. Table 1 displays that all articles in this research had factor loadings greater than the suggested value of 0.7.

Average variance extracted (AVE) method was used for evaluation of convergent validity, which represents the degree to which a measure is correlated positively with the same construct's other measures. All the AVE values ranged from 0.814 and 0.842, which went beyond the proposed value of 0.50 [22] (Table 1).

Constructs	Item	Loading (> 0.5)	Mean	SD	α (> 0.7)	CR (> 0.7)	AVE (> 0.5)
Idealized Influence (II)	1 2 3 4	0.919 0.923 0.914 0.911	3.225	1.127	0.937	0.955	0.841
Inspirational Motivation (IM)	IM1 IM2 IM3 IM4	0.907 0.908 0.907 0.887	3.058	1.003	0.924	0.946	0.814
Intellectual Stimulation (IS)	IS1 IS2 IS3 IS4	0.891 0.919 0.915 0.900	3.025	1.013	0.928	0.949	0.822
Individualized Consideration (IC)	IC1 IC2 IC3 IC4	0.918 0.920 0.928 0.906	3.388	1.080	0.938	0.955	0.842
Skills (SK)	SK1 SK2 SK3 SK4 SK5	0.930 0.936 0.910 0.918 0.845	3.443	1.131	0.947	0.959	0.825
Knowledge (KN)	KN1 KN2 KN3 KN4 KN5	0.886 0.899 0.872 0.861 0.884	3.244	1.026	0.927	0.945	0.775

 Table 1: Mean, standard deviation, loading, cronbach's Alpha (α), Composite Reliability (CR) and Average variance extracted (AVE) method.

Note: SD=Standard Deviation.

•The measurement used is seven-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

•All the factor loadings of the individual items are statistically significant (p < 0.01).

The degree to which the articles distinguish among concepts or measure different constructs is demonstrated by discriminant validity. Cross-loadings as well as Fornell-Larcker were employed for analysis of discriminant validity of measurement model. Generally, cross-loadings are employed at first for evaluation of discriminant validity of the indicators [29]. In the current work, the indicators outer loadings on a construct went beyond all the cross-loadings with other parameters, and thus the cross-loading condition had met the requirements as shown in Table 2.

	I	IM	IS	IC	SK	KN
1	0.919	0.632	0.679	0.683	0.563	0.370
112	0.923	0.603	0.675	0.684	0.556	0.398
113	0.914	0.573	0.668	0.648	0.539	0.396
114	0.911	0.601	0.674	0.687	0.535	0.403
IM1	0.633	0.907	0.620	0.638	0.561	0.408
IM2	0.577	0.908	0.562	0.564	0.512	0.368
IM3	0.583	0.907	0.571	0.566	0.537	0.344
IM4	0.573	0.887	0.565	0.552	0.506	0.323
IS1	0.644	0.560	0.891	0.570	0.528	0.451
IS2	0.687	0.598	0.919	0.669	0.530	0.432
IS3	0.685	0.592	0.915	0.611	0.525	0.424
IS4	0.648	0.584	0.900	0.616	0.488	0.420
IC1	0.676	0.607	0.645	0.918	0.553	0.375
IC2	0.660	0.576	0.608	0.920	0.512	0.365
IC3	0.695	0.609	0.630	0.928	0.560	0.350
IC4	0.673	0.574	0.610	0.906	0.511	0.349
SK1	0.573	0.546	0.535	0.543	0.930	0.351
SK2	0.543	0.525	0.519	0.534	0.936	0.356
SK3	0.555	0.540	0.525	0.561	0.910	0.374
SK4	0.531	0.525	0.516	0.508	0.918	0.427
SK5	0.512	0.532	0.500	0.501	0.845	0.428
KN1	0.369	0.376	0.421	0.361	0.405	0.886
KN2	0.361	0.357	0.424	0.341	0.381	0.899
KN3	0.422	0.377	0.436	0.370	0.358	0.872
KN4	0.378	0.353	0.415	0.314	0.380	0.861
KN5	0.351	0.304	0.405	0.341	0.352	0.884

Table 2: Results of discriminant validity by the cross loading
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Key: II: idealized influence, IM: inspirational motivation, IS: intellectual stimulation, IC: individualized consideration, SK: skills, KN: knowledge

Table 3 highlights the outcome of discriminant validity using the Fornell-Larcker condition. It was earlier stated that AVEs' square root on the diagonals (displayed in bold) is greater as compared to relationship between the constructs (corresponding row as well as column values), thus presenting a strong correlation within them as well as with their respective markers [30,31].

Table 3: Results of	discriminant	validity by	v Fornell-La	rcker condition
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	Factors	1	2	3	4	5	6
		IC	II	IM	IS	KN	SK
1	individualized consideration (IC)	0.918					
2	idealized influence (II)	0.737	0.917				
3	inspirational motivation (IM)	0.645	0.657	0.902			
4	intellectual stimulation (IS)	0.680	0.735	0.644	0.907		
5	knowledge (KN)	0.392	0.427	0.402	0.477	0.880	
6	Skills (SK)	0.583	0.598	0.588	0.572	0.426	0.908

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the correlations.

C. Structural Model Assessment

The test can be performed on the structural model by calculating beta (β), R², and its corresponding t-values

through a bootstrapping process with a resample of five thousand.



Key: II: idealized influence, IM: inspirational motivation, IS: intellectual stimulation, IC: individualized consideration, HC: human capital, SK: skills, KN: knowledge

Fig. 2. PLS algorithm results.

Hypotheses Tests. Figure 2 and Table 4 depict the structural model assessment, showing the results of the hypothesis tests, with 4 out of the 4 hypotheses are supported. Idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict human capital. Hence, H1, H2, H3, and H4 are accepted with ($\beta = 0.179$, t= 2.457, p <0.01), ($\beta = 0.224$, t= 3.680, p <0.001), ($\beta = 0.258$, t= 4.063, p <0.001), and ($\beta = 0.134$, t= 1.799, p <0.05) respectively.

The standardised path coefficients assist in measuring the relationship strength between exogenous and endogenous constructs. This presents a strong effect of intellectual stimulation on that of the human capital.

The human capital variation wa found to be 48% that was influenced by idealized influence, motivation, stimulation, and individualized consideration. The values of R^2 have an acceptable level of explanatory power, indicating a substantial model [32,33].

Effect sizes (f^2) was examined in this research. According to a previous study, the effect size f^2 ascertains the impact of an exogenous latent construct) on an endogenous construct. It is suggested that the change in R^2 value is assessed. The f^2 value of 0.35 indicates large effects, 0.15 indicates medium effects, and 0.02 indicates small effects [32]. Table 4 displays the $f^{\rm 2}$ results, indicating four small effect sizes relationships.

In assessing the predictive relevance of the proposed research model, this study had applied the blindfolding procedure. This procedure should be employed on endogenous constructs with a reflective measurement only. A particular endogenous construct of the proposed model has predictive relevance if the value of Q^2 exceeded 0. In this study, all Q^2 values were greater than 0, and hence, it can be concluded that the proposed model has an adequate predictive relevance (refer to Table 4). Relative measure of predictive relevance is indicated by Q^2 values of 0.35 for large, 0.15 for medium, and 0.02 for small. The endogenous construct in this study was found to have medium predictive relevance.

According to O'brien [34], the existing multicollinearity presents a problem because it shows overlapping of the variance. Therefore, it cannot justify each variance in the endogenous variable. Variance inflation factor (VIF) is commonly used as a measurement of the degree of multicollinearity [34]. The VIF values in this study are between 2.076 and 2.957, and hence, there is no significant multicollinearity issue among the exogenous constructs.

Relationship	Std Beta	SE	t-value	p- value	Decision	R²	f²	Q ²	VIF
II→HC	0.179	0.073	2.457	0.007	Supported	0.48	0.021	0.254	2.957
IM→HC	0.224	0.061	3.680	0.000	Supported		0.047		2.076
$IS \rightarrow HC$	0.258	0.063	4.063	0.000	Supported		0.051		2.541
$IC\!\!\toHC$	0.134	0.075	1.799	0.036	Supported		0.014		2.559
	$\begin{array}{c} \text{II} \rightarrow \text{HC} \\ \text{IM} \rightarrow \text{HC} \\ \text{IS} \rightarrow \text{HC} \end{array}$	Helationship Beta II→HC 0.179 IM→HC 0.224 IS→ HC 0.258	Relationship Beta SE II→HC 0.179 0.073 IM→HC 0.224 0.061 IS→ HC 0.258 0.063	Relationship Beta SE t-value II→HC 0.179 0.073 2.457 IM→HC 0.224 0.061 3.680 IS→ HC 0.258 0.063 4.063	Relationship Beta SE t-value value II→HC 0.179 0.073 2.457 0.007 IM→HC 0.224 0.061 3.680 0.000 IS→ HC 0.258 0.063 4.063 0.000	Relationship Beta SE t-Value value Decision II→HC 0.179 0.073 2.457 0.007 Supported IM→HC 0.224 0.061 3.680 0.000 Supported IS→ HC 0.258 0.063 4.063 0.000 Supported	Relationship Beta SE t-value value Decision R² II→HC 0.179 0.073 2.457 0.007 Supported 0.48 IM→HC 0.224 0.061 3.680 0.000 Supported 0.48 IS→ HC 0.258 0.063 4.063 0.000 Supported 0.000	Relationship Beta SE t-Value value Decision H^2 T^2 II—HC 0.179 0.073 2.457 0.007 Supported 0.48 0.021 IM—HC 0.224 0.061 3.680 0.000 Supported 0.48 0.047 IS—HC 0.258 0.063 4.063 0.000 Supported 0.051	Relationship Beta SE t-Value Value Decision R² 1² Q² II→HC 0.179 0.073 2.457 0.007 Supported 0.48 0.021 0.254 IM→HC 0.224 0.061 3.680 0.000 Supported 0.047 0.047 IS→ HC 0.258 0.063 4.063 0.000 Supported 0.051 0.051

Table 4: Structural path analysis result.

Key: II: idealized influence, IM: inspirational motivation, IS: intellectual stimulation, IC: individualized consideration, HC: human capital

Importance-Performance Map Analysis (IPMA). IPMA was used as a post-hoc PLS method along with human capital that was used as the outcome construct. According to Hair and others. (2017), the IPMA provides an estimation of the total effects corresponding to the importance of predecessor constructs in affecting the target construct (human capital); the average latent variable scores correspond to their performance, whereas the index values' (performance scores)

calculation was achieved by rescaling the scores of the latent constructs to within a range from 0 (lowest) to 100 (highest performance). IPMA enhances the results of PLS analysis because it gives attention to the latent constructs' average value as well as their indicators in addition to performing the path coefficients analysis [35] (Table 5).

Table 5: IPMA for human capital.

Latent constructs	Total effect of the construct Human Capital (Importance)	Index values (Performance)
Idealized Influence	0.145	55.613
Inspirational Motivation	0.203	51.474
Intellectual Stimulation	0.232	50.625
Individualized Consideration	0.113	59.718

The scores for total effects and index values were plotted on a priority map (Figure 3). Intellectual stimulation seems to be an important factor for determination of human capital because of its priority as compared to other constructs.



Key: II: idealized influence, IM: inspirational motivation, IS: intellectual stimulation, IC: individualized consideration

Fig. 3. IPMA (Priority Map) for human capital

IV. DISCUSSION

The present research stated that there was a positive effect of idealized influence on human capital which is in line with the findings of previous studies [2,36]. It is explained by the fact that the more government organization leaders give the sense of pride to their subordinates, always put their group before self-interest, act in a way that is being admired, and talking about most important values and beliefs, the more employees respects the thoughts and opinions of others, identify potential problems, recognize conflict and contribute solutions, learn what is necessary for initiating a new task, apply best practices to tasks, getting important info, and to understand computer programs for better work performance.

Additionally, Intellectual Stimulation was found to positively influence human capital of organizations among employees in government sector in Abu Dhabi, this is supported by previous studies [37-38]. It is explained by the fact that the more leaders tend to reexamine critical assumptions, look for multiple perspectives on problem-solving, and offer new options on how assignment to be completed, the more employees respects the thoughts and opinions of others, identify potential problems, recognize conflict and contribute solutions, learn what is necessary for new task, apply best practices to tasks, obtain useful information from brainstorming meetings quickly, and understand computer programs needed to perform well. Finally, individualized consideration was reported to affect human capital of organizations among employees in government sector in Abu Dhabi, consistent with [39]. It is explained by the fact that the more Leaders treat others as individuals rather than just as a member of a group, consider an individual as having different needs, abilities, and aspirations, seek a differing point of view when dealing with the organizational issues, and help others to develop their strengths.

V. IMPLICATIONS, LIMITATIONS AND FUTURE DIRECTIONS

It is critical for an organization to inculcate talented workers or leaders who would prove to be the motivating factors for their employees that would assist them in realizing the organization's vision and goal. The study results states that transformational leadership is important in terms of idealized influence, inspirational intellectual motivation, and stimulation. The effectiveness of public sector management has always been known to be depended to a certain degree on transformational leadership [40]. Moreover, the results of this study recommend that government sector might need to enhance the level of commitment in the organization by focusing on the leadership role, policies and work conditions [41]. This study has provided many benefits for managers and public sector in general to view human capital as a catalyst for the different types of innovations and strategic advantages [42-45]. Several recommendations can be drown from the results. Public sector leaders in Abu Dhabi need to promote knowledge gaining within their staffs that will lead to generation of innovative ideas as well as transfer them on social media. Further, managers must take actions to develop their workers such as offering strong leadership and mentoring for employees, providing working conditions that are encouraging and also challenging and stimulating work assignments.

One of the study limitations is the sample size. Thus, this study can be extended to other organizations of UAE in order to study the varied transformational leadership dimensions and its effect on the variables.

VI. CONCLUSION

The purpose of this article was to examine the impact of transformational leadership characteristics on human capital. It has provided evidence from leading scholars in the field on the notion of 'transformational leadership' and how investment in human capital is essential to build the employees knowledge and skills required for development of the building blocks of any organization and consequently in organizations performance. Regardless of various constraints to the study, the results have been encouraging, as it has managed to throw some lights on transformational leadership in the public sector in the UAE and the importance of human capital in that regard and proved that human capital plays a role in helping organizations to achieve their goals. The results revealed that the four hypotheses are significant. The independent variables significantly explain 48% of human capital. The implications of this study have been deliberated, some directions for future research have been suggested.

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