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The Influence of Leadership Career Development on the Organizational Adaptiveness of Millennial Engineers in the Nigerian Oil and Gas Industry

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Abstract:
Introduction: This study seeks to assess the attitude of millennial engineers towards leadership career development opportunities in the oil and gas industry in Nigeria. It was conducted based on the gap in the literature of none existence of a framework that explains the organizational adaptiveness of millennial engineers in the Nigerian oil and gas industry.
Method: This study adopted a quantitative descriptive and deductive approach. Based on the reviewed literature and the resulting conceptual model, 18 questions 5-scale Likert closed ended questionnaire was administered cross-sectionally to 250 participants selected through non-probability convenience sampling. First, a descriptive analysis of the mean and standard deviation for each question in the questionnaire was conducted. Second, both exploratory factor analysis (EFA) and principal component analysis (PCA) were conducted with the main aim of understanding how the questions in the research instrument interacted to produce grouped factors and components. Third, a confirmatory factor analysis (CFA) was conducted to identify high loading questions that define the millennial engineers' organizational adaptiveness.
Results: The instrument retrieval was 89% successful with 86% fit for analysis. The results are summarized as follows: (1) leadership career development is a significant contributing factor in the work related attributes of a millennial engineer; (2)leadership career development aspiration is a significant factor influencing the organizational adaptiveness of a millennial engineer, provided the organization can offer him or her the opportunity to be creative; and (3)a millennial engineer's organizational adaptiveness is not totally driven by aspiration for a higher leadership position, but partly on how the workplace dynamics matches his or her personality.
Conclusion: The conclusion was that the millennial engineer is one with a unique personality of strong leadership career ambition in an organization that offers avenues for creativity and a work environment that is free from harassment and gender biases.

Keywords: *Organizational adaptiveness, millennial engineer, leadership career development*

1. Introduction

Ever since organizational psychologists tested recruits for the US army during world war 1, research studies in employee personalities that can positively impact organizational performance have increased (Aamodt, 2013).These include literatures on performance review and appraisals, motivational theories and their application, stress in the workplace, organizational leadership and organizational culture. Through these studies, the diversities in the workplace are now obvious, with generations X, Y and Z being a common classification of employees based on their year of birth. Most especially, employees in the same group of classification have been observed to display similar and unique traits (Bresman & Rao, 2017). Millennials are born from 1980-1996 and they are classified as generation Y; presently the highest number of the workforce around the globe (Pinzaru et al., 2016). Studies show that millennials are more interested in jobs that enable them to attain leadership positions in an organization. Therefore, the aim of this research is to enable organizations to create more engaged millennial engineers by assessing the attitudes of millennial engineers towards leadership development career in the oil and gas industry in Nigeria. As a result, the objectives of this study include understanding the personality and leadership ambitions of millennial engineers, and if leadership ambition is a motivator for millennial engineers' organizational adaptiveness. The perceived benefits of these research findings to the industry are three folds: Firstly, the industry will benefit from the findings as the factors that strongly influence the organizational adaptiveness of millennial engineers are evaluated. Secondly, millennial engineers will understand their uniqueness and avail themselves of both formal and informal career development opportunities available in their organization. Thirdly, the method and statistical approach adopted in this study can be used as an alternative to the Rokeach Value Survey (RVS) instrument (Rokeach, 1973), which is subjective from a personal perspective for a comprehensive study of the values of a group of people or workforce. This is because, the RVS requires participants to arbitrary assign values to the elements in the survey. Hence, by obtaining an order of values after the statistical analysis adopted in this study, a more objective and inclusive values outcome can be derived.

2. Literature Review

Based on a five-year rolling data analysis, Gallup report on 'how millennials want to work and live' states that 55% of millennials are not engaged at work because they want jobs that connect to them emotionally and behaviorally (Gallup, 2016). Consequently, the report identified six spheres of emotional and behavioral variables– purpose, development, coaching, ongoing conversation, strengths and life, that defines how millennials want to work and live. Gallup (2016) equally summarized the work preference of millennials as the enrichment of self, thus corroborating the position of Weber (2015). As a result, their work and life preference follows the order of: the fulfillment of personal purpose instead of paycheck; superiors who can coach and mentor them; interest in career personal development instead of job satisfaction; the need for on-going conversation than annual performance reviews; supervisors who praise their strengths instead of listing their weaknesses; and finally, the desire for a fulfilling life. And, the question is – 'how does each of these attributes contribute to organizational adaptiveness of the millennial engineer in an oil and gas firm in Nigeria?' Which of these attributes is likely to be the most visible when relating with a millennial engineer? There is currently no literature that addresses both questions.

Also, Bresman (2015) reports that 83% of millennials in Africa prefers work-life balance and 65% emphasized that leadership opportunities are string motivating factors to remain engaged in an organization. Again, survey outcome by PricewaterhouseCoopers in 2011,indicated that millennials are leaving paid jobs to become CEOs of their own organizations, and that their loyalty to the goals of an organization is dependent of the pursuit of fast upward career progression(PwC, 2011).To achieve their leadership quest, many prefers job coaches and mentors, and training opportunities. Also indicated in their findings, is the fact that millennials prefer a workplace where they can enhance their creativity. Earlier, Howard and Frink (1996) suggested that leadership career development prospects in an organization can enhance an employee's job satisfaction.

Employees' career development system is created in an organization to create the next generation of leaders (Spector, 2012). This also include setting criteria for measuring on-the-job performance based on the needed knowledge, skill, abilities and other competences to perform on a specific role. In accordance with Maslow's hierarchy of needs (Maslow, 1943): physiological, safety, love, esteem and self-actualization, it is likely that an employee is desirous to fulfill personal purpose more than organizational purpose. However, organizations can have a win-win approach to better engage their staffs. Thus, to keep attracting, retaining and engaging high performing workforce organizations must strive to sustain the long-term goals of their employees. These indications are addressed in the literature through career development theories. These include trait and factor, psychological theory, self-efficacy, and developmental theories.

The 'trait and factor' theory was recommended by Frank Parson in order to match employees' traits - aptitudes, interests, and personal abilities to their job (Parson, 1909), implying that trait and personality can influence an employee's attitude to work and overall performance. Again, from the perspective of psychological theory pioneered by John Holland, it was suggested that employees' personality types can be matched with the specific workplace dynamics (Holland, 1997). Subsequently, Holland identified six personality types: realistic, investigative, artistic, social, enterprising, and conventional, as a match for employees' preferred workplace. However, Holland did not indicate that with the necessary training and motivation, it is possible for employees to adapt to various work culture. Hence, in this research attempt was made through questions in the questionnaire if millennial engineers are willing to adapt to the current workplace culture if they have leadership career development as a motivator.

Albert Bandura's self-efficacy theory deals with how employees perceived themselves as competent and able to complete a task (Spector, 2012). Accordingly, Baron and Morin (2010) indicated that managers were more confident in carrying out their jobs after being coached. In effect, improvement in self-efficacy is one motivating factor that encourages employees to desire career development opportunities. Also, in Donald Super's developmental theory to improve one's self-concept, five developmental stages were identified in accordance with the age of the individual (Super, 1980). These are, the desire for physical growth at age 0-14, the interest in exploration of the environment at age 15-24, the desire to be established at age 25-44, the maintenance of life at age 45-64, and a decline in all the desires above from age 65. From Super's theory, one can see the tendency of an employee leaving his or her current employment at age 25-64 if there is no expectation of establishment and maintenance of life.

Inference from the field of classical and operant conditioning psychology can explain how the desired productivity-driven positive attitude from employees can be continuously reinforced through leadership career development as a motivator. Consequently, the need to motivate and talent-manage employees can effectively lead to positive long-term engagement (Kaliannan & Adjovu, 2015). This way, it is possible for employees to adapt to the prevailing and dominant organizational culture in place. It is important to note here that organizational culture defines values and artifacts (Schein, 2004), shapes communication (SHRM, 2017), and influences the way workers interacts in an organization (Miroshnik, 2013), thus defining both social and work-related behavior. Hence, it is expected that millennial engineers can adapt to an organizational culture if they remain long enough in the employment of the organization; such that the employment lifecycle can be designed with the aim of minimizing the level of employee turnover.

The current gap necessitating this research is the need to understand the driving force behind the loyalty of millennial engineers in the oil and gas industry in Nigeria, and how leadership as a career aspiration can sustain their organizational adaptiveness. Here, organizational adaptiveness is expressed as the willingness of millennial engineers to remain loyal amidst better remuneration from other competing originations due to the expectation of promotion into higher leadership position. From the survey of the literature above, the conceptual model below is developed suggesting four possible exit channels for a millennial engineer.

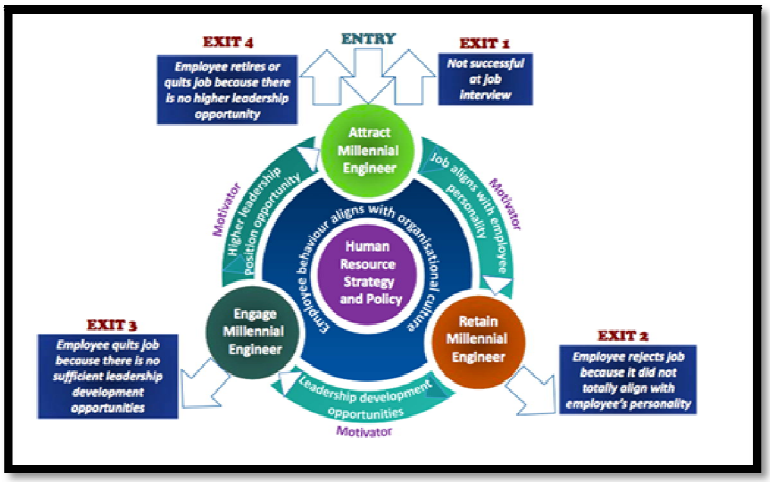

Figure 1: Research Conceptual Model
Source – Own

Each of the exit channels for millennial engineers in an organization above indicates a situation where the engineer was not successful at the job interview (exit 1); the engineer was successful at the interview but refused the job because it did not match the personality of the engineer (exit 2); the job matches the personality but there was no leadership career development opportunity (exit 3); and exits because there was no more higher leadership position to occupy or the engineer assumed leadership positions based on competence and self-efficacy until retirement (exit 4). The intention of this research is to examine the possibility of the construct depicted in the research conceptual model based on the theoretical framework discussed earlier in the literature. The survey instrument was developed to retrieve responses from millennial engineers based on the above construct.

3. Research Questions

From the conceptual model above, three research questions (RQs) were addressed:

- Is leadership career development a significant contributing factor among the attributes of a millennial engineer?
- Is leadership career development aspiration a significant factor influencing the organizational adaptiveness of a millennial engineer?
- Is a millennial engineer's organization adaptiveness driven by the aspiration for a higher leadership position?

4. Methodology

Based on the specific characteristics of this current research explained earlier, a quantitative method was adopted. According to Sekaran and Bougie (2016) and Easterby-Smith et al. (2012), as applicable in this study, quantitative method involves: the development of research questions/hypotheses; collection and analysis of numerical data; statistical analysis to provide inference for the research questions or hypotheses; and the development of models based on inference from statistical results. Also, survey questionnaire with closed ended questions for collecting field data is a characteristic of quantitative method. The18-questions 5-rating scale Likert survey instrument [Strongly disagree (1) ……. Strongly agree (5)] was distributed cross-sectionally to 250 participants out of which 223 (89%) were returned. The participants were selected based on non-probability convenience sampling because of the specific need of this study to select millennial engineers who are currently engaged in the oil and gas industry. Seven of the instruments were poorly completed and were discarded, leaving a total of 216 (86%) used for this analysis. The field data were analyzed initially using descriptive statistics to indicate the mean response score and standard deviation for each of the questions in the questionnaire. Further analysis was conducted using exploratory factor analysis (EFA) and principal component analysis (PCA)to discover how the measured responses to the survey questions were able to reveal the factors and components that defines the millennial engineer. Finally, a confirmatory factor analysis (CFA) was used to investigate the factorial loadings of the items that the researcher intentionally identified as providing answers to the research questions. Cronbach's alpha was used to test the internal consistency reliability of the measuring instrument for each CFA factor construct based on the judgement presented in Sekaran and Bougie (2016, p. 290). Interpretation was based on the magnitude of the factor loading of each element in the CFA latent constructs. The EFA, PCA and CFA were achieved using JASP version 0.12.2statistical software developed at the University of Amsterdam by JASP Team (2020). This study was conducted with millennial engineers working in the oil and gas industry in Lagos and Port Harcourt, Nigeria, and the data were collected from September 2018 to March 2019. The questions in the survey instrument are as follows:

- My job preference is significantly influenced by my personality.
- I strongly prefer an organization that encourages me to be creative.
- My first priority is an organization that allows me to fulfill my personal purpose.
- I strongly prefer job coaches and mentors instead of bosses.
- My preference is personal leadership development over job satisfaction.
- I strongly prefer on-going conversation than annual performance reviews.

- I prefer a supervisor that praises my strengths than a supervisor that list my weaknesses.
- My preference is life first before my job.
- My adaptiveness in this organization is strongly dependent on availability of leadership development opportunities.
- I am willing to adapt to the organizational culture provided there is leadership career development ladder available for me.
- I am not bothered about harassment or gender biases towards me as long as I can attain a higher leadership position.
- I have compromised unethical demands from my superior because of the promise of promotion into leadership position.
- In the past, I have been aggressive in carrying out my task to please my superior because of the promise of a leadership role.
- I am not attracted to an organization with no available higher leadership position for me.
- Working till retirement age in this organization is dependent on being promoted to leadership position in future.
- My adaptiveness to the organizational culture is because I am on leadership role and not premised on high unemployment rate in Nigeria.
- It is my desire to remain engaged in this organization notwithstanding other competing organizations offers provided I can assume higher leadership role in future.
- My continuous stay in this organization is as a result of the new leadership role I hope to occupy.

5. Analysis

5.1. Descriptive

The purpose of this analysis was to investigate the mean response score and how far the responses are from the means score.

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
Valid	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	4.556	4.056	4.583	4.806	4.208	4.486	3.708	4.477	4.579	4.963	4.403	2.481	4.778	4.644	4.199	4.454	4.491	4.838
Std. Deviation	1.068	1.293	1.040	0.740	1.082	0.501	1.666	0.602	0.980	0.189	1.129	0.884	0.417	0.904	1.280	0.608	0.689	0.369
Minimum	2.000	1.000	2.000	2.000	2.000	4.000	1.000	2.000	2.000	4.000	2.000	1.000	4.000	2.000	1.000	1.000	2.000	4.000
Maximum	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Table 1: Descriptive Statistics Table of Mean and Std. Deviation

The range of the mean response scores is 2.481 to 4.838, implying that not all the participants agreed with the statements in the survey instrument. This is especially for Q12(2.481) and Q7(3.708). The closest spread of participants response is in the ascending order: Q10(0.189), Q18(0.369), Q13(0.417), Q6(0.501), Q8(0.602), Q16(0.608), Q17(0.689), Q4(0.740), Q12(0.884), Q14(0.904), Q9(0.980), and others above 1. The lower the value of the standard deviation for any of the survey questions above, the stronger the consensus among participants on the mean response score.

5.2. Exploratory Factor Analysis (EFA)

EFA was conducted to determine the existing underlying structure for measures on the 18 questions in the survey instrument. The results of the EFA conducted are presented below (Table 2). Each factor was grouped by setting the eigenvalue >1using Kaiser's rule (Kaiser, 1960, p. 145), which is widely used by researchers (Mertler & Reinhart, 2017). The EFA was achieved using promax rotation to allow for the factors to be correlated.

	Factor 1	Factor 2	Factor 3	Uniqueness
Q1	0.682			0.515
Q2			-0.436	0.788
Q3		0.906		0.201
Q4	0.474			0.730
Q5		0.505		0.671
Q6				0.979
Q7		0.699		0.343
Q8				0.988
Q9	1.014			0.002
Q10			0.711	0.521
Q11		1.003		0.040
Q12				0.810
Q13		0.819		0.052
Q14	0.903			0.215
Q15	0.848			0.039
Q16				0.999
Q17		-0.425	0.975	0.060
Q18	1.019			-0.021

Note. Applied rotation method is promax.

Table 2: Exploratory Factor Analysis

The EFA factor loading indicates all positive loadings for factor 1, while factors 2 and 3 contain both positive and negative loadings. Each factor has maximum loading greater than 0.9. However, factor 1has more loadings greater than 0.9 (up to 3), while factor 2 has 2 and factor 3 has 1. Also, Q8, Q12 and Q16 were not factored.

5.3. Principal Component Analysis (PCA)

The PCA results are presented in tables 3 and 4. Each grouped component was retrieved by setting the eigenvalue>1 using the Kaiser's rule.

	RC1	RC2	RC3	RC4	RC5	RC6	Uniqueness
Q1	0.474				0.493		0.190
Q2				0.869			0.088
Q3		0.924					0.123
Q4					0.909		0.067
Q5		0.531		0.725			0.044
Q6						0.560	0.614
Q7		0.853					0.224
Q8						0.580	0.631
Q9	1.010						0.008
Q10			0.960				0.085
Q11		0.976					0.054
Q12					0.667		0.268
Q13		0.941					0.049
Q14	1.065						0.017
Q15	0.834		0.411				0.035
Q16						0.679	0.521
Q17			0.904				0.103
Q18	0.918						0.009

Note. Applied rotation method is promax.

Table 3: Principal Component Analysis

	RC1	RC2	RC3	RC4	RC5	RC6
RC1	1.000					
RC2	-0.218	1.000				
RC3	0.062	0.171	1.000			
RC4	0.047	-0.061	-0.168	1.000		
RC5	0.307	0.043	0.063	0.002	1.000	
RC6	-0.004	-0.004	-0.060	0.067	-0.052	1.000

Table 4: Principal Component Correlations

As seen from both tables 3and 4, PCA identified more positive latent construct than the EFA with all the questions grouped. This is because PCA analyzes variance, while EFA analyses covariance (Mertler& Reinhart, 2017). However, from the principal component correlations (Table 3b), it can be seen that the components did not correlate significantly with one another. This indicates that each latent construct identified above is a unique construct that independently measures a unique attribute of the millennial engineers.

As indicated earlier, the reason for carrying out EFA and PCA was to check if indeed the questions in the survey instrument can be identified as one or made up of multiple latent constructs. As a result, none of the factors or components predicted will be investigated further. Rather, a confirmatory factor analysis (CFA) was used to provide answers to the research questions in this study.

5.4. Confirmatory Factor Analysis

Now that it is clear that there are multiple constructs from both EFA and PCA, a CFA was performed to identify the unique constructs that explains each research question. Model fit criteria for the CFA is presented below in table 5.

Fit Index combination	Combination Rules
NNFI (TLI) and SRMR	NNFI >=0.96 and SRMR<=0.09
RMSEA and SRMR	RMSEA <=0.06 and SRMR<=0.09
CFI and SRMR	CFI>=0.96 and SRMR<=0.09

Table 5: Model Fit Criteria (Adapted from Hu & Bentler, 1999)

Some of the questions could not fit into the three RQs using the CFA, as their addition resulted in error from the software or the predicted Chi-square test p-value was less than 0.05 and the degree of freedom above the required maximum value of 3 (Kline, 2005). These include, Q4, Q12, Q17 and Q18. Hence, only 14 questions out of the 18 in the survey instruments were grouped. The results of the CFA at 95% confidence interval (CI) are classified according to the research questions as follows.

- Is leadership career development a significant contributing factor among the attributes of a millennial engineer?

The fit indices and factor loading tables for the CFA conducted to answer RQ1 are presented below. The intent of RQ1 is to investigate if leadership career development contributes significantly to the attributes of millennial engineers reported in the literature. The model fit indices used for the interpretation of table 6 is presented earlier in table 5, developed after Hu and Bentler (1999).

Fit Index	Value
Comparative Fit Index (CFI)	0.998
Tucker-Lewis Index (TLI)	0.982
Bentler-Bonett Non-normed Fit Index (NNFI)	0.982
Root mean square error of approximation (RMSEA)	0.038
Standardized root mean square residual (SRMR)	0.020

Table 6: CFA Fit Indices RQ1

						95% Confidence Interval	
Factor	Indicator	Estimate	Std. Error	z-value	p	Lower	Upper
Millenial Engineer Personality	Q3	0.892	0.108	8.229	< .001	0.680	1.105
	Q5	0.565	0.049	11.626	< .001	0.470	0.660
	Q6	-0.002	0.039	-0.049	0.961	-0.079	0.075
	Q7	1.264	0.117	10.785	< .001	1.034	1.493
	Q8	0.090	0.075	1.197	0.231	-0.057	0.238

Table 7: CFA Factor Loadings for RQ1

As seen from table 7, there are three high significant factor loadings (@95% CI): Q3 (0.89, $p<0.05$), Q5 (0.56, $p<0.05$) and Q7 (1.26, $p<0.05$).The mean for Q3, Q5 and Q7 computed in table 1 earlier are 4.583, 4.208 and 3.708 respectively. Therefore, the positive z-values from table 7 for Q3 (8.229), Q5 (11.626) and Q7 (10.785) imply that a high percentage of the participants indicated strong affirmation to the statements in the related survey questions. Cronbach's alpha returns 0.520, indicating marginally poor internal consistency reliability. Also, the reported values for CFI (0.998>=0.96), NNFI/TLI (0.982>=0.96), RMSEA (0.038<=0.06) and SRMR (0.020<=0.09) in table 6, matched the model fit combination criteria in table 5.The question is, 'how does the results above assist in answering RQ1'? To answer this, three questions with high loadings above are presented below.

- *My first priority is an organization that allows me to fulfill my personal purpose.*
- *My preference is personal leadership development over job satisfaction.*
- *I prefer a supervisor that praises my strengths than a supervisor that list my weaknesses.*

As indicated here, leadership development scored 0.56 in the above CFA factor loading. It can be argued that leadership career development is also linked to the engineer's personal purpose. Again, this desire for leadership career development can be said to be the main reason the engineer prefers a superior who praises his or her strengths instead of list his or her weaknesses in order to sustain self-esteem and self-efficacy. Therefore, it can be concluded that '*leadership career development is a significant contributing factor among the attributes of a millennial engineer.'*

- Is leadership career development aspiration a significant factor influencing the organizational adaptiveness of a millennial engineer?

This particular research question is premised on assessing how the availability of leadership career development opportunities enhances the willingness of the engineer to adapt to the dominant organization culture. Also, the model fit result is presented in table 8.

Fit Index	Value
Comparative Fit Index (CFI)	1.000
Tucker-Lewis Index (TLI)	1.806
Bentler-Bonett Non-normed Fit Index (NNFI)	1.806
Root mean square error of approximation (RMSEA)	0.000
Standardized root mean square residual (SRMR)	0.011

Table 8: CFA Fit Indices RQ2

						95% Confidence Interval	
Factor	Indicator	Estimate	Std. Error	z-value	p	Lower	Upper
Organisational Adaptiveness	Q2	0.582	0.339	1.715	0.086	-0.083	1.246
	Q9	0.400	0.353	1.134	0.257	-0.291	1.091
	Q10	-0.061	0.037	-1.658	0.097	-0.132	0.011
	Q11	-0.248	0.159	-1.557	0.119	-0.561	0.064
	Q16	-0.055	0.080	-0.685	0.493	-0.210	0.101

Table 9: CFA Factor Loadings for RQ2

As seen from table 9, there are two positive non-significant factor loadings (@95% CI): Q2 (0.582, p>0.05) and Q9 (0.400, p>0.05). The mean for Q2 and Q9 computed in table 1 earlier are 4.056 and 4.579 respectively. Therefore, the positive z-values from table 9 for Q2 (1.715) and Q9 (1.134) imply high percentage of affirmation to the statements in the related survey questions. Cronbach's alpha returns -0.077, indicating very poor internal consistency reliability. However, the reported values for CFI (1.000>=0.96), NNFI/TLI (1.806>>0.96), RMSEA (0.000<=0.06) and SRMR (0.020<=0.011) in table 6, poorly matched the model fit combination criteria (CFI and SRMR) in table 5 because the NNFI/TLI value is greater than 1. This can be explained with the poor loading factors in table 9. Despite the outcome of the CFA on the elements addressed in Q2, it is still possible to provide answer(s) to RQ2. The survey questions for the two high positive factor loadings in table 9 are presented below:

- *I strongly prefer an organization that encourages me to be creative.*
- *My adaptiveness in this organization is strongly dependent on availability of leadership development opportunities.*

The implication from Q9 is the fact that the millennial engineer in the oil and gas industry in Nigeria is willing to adapt to the organizational culture if there are leadership development opportunities. However, Q2 clearly identifies the nature of organizational culture as one that encourages creativity. Hence, it can be argued that the leadership development opportunities that will encourage the millennial engineer's organizational adaptiveness is one that emphasizes creativity. Thus, CFA results by the combination of Q2 and Q9 define the millennial engineer as one whose career is that of an innovator, entrepreneur, and visionary (Miroshnik, 2013).The appreciable negative factor loading for Q11 (*I am not bothered about harassment or gender biases towards me as long as I can attain a higher leadership position)* is also an indication that the millennial engineer will not adapt to a work culture that encourages harassment. Based on the competing values framework developed by Cameron and Quinn (2011), the millennial engineer prefers an adhocracy culture as against the other three organizational cultures - clan, hierarchy and market. Thus far, it can be argued that *'leadership career development aspiration is a significant factor influencing the organizational adaptiveness of a millennial engineer, provided the organization can offer him or her the opportunity to be creative.'*

- Is a millennial engineer's organizational adaptiveness driven by the aspiration for a higher leadership position?

For RQ3, the intent is to investigate from the data retrieved during the survey if the aspiration into higher leadership roles can influence the engineer's loyalty to his or her superiors, even if he or she has to act in an unethical manner. The reported model fit indices for this research question is presented in table 10.

Fit Index	Value
Comparative Fit Index (CFI)	0.997
Tucker-Lewis Index (TLI)	0.984
Bentler-Bonett Non-normed Fit Index (NNFI)	0.984
Root mean square error of approximation (RMSEA)	0.065
Standardized root mean square residual (SRMR)	0.015

Table 10: CFA Fit Indices RQ3

						95% Confidence Interval	
Factor	Indicator	Estimate	Std. Error	z-value	p	Lower	Upper
Leadership Career Driven Personality	Q1	0.603	0.070	8.625	< .001	0.466	0.739
	Q13	0.091	0.030	3.082	0.002	0.033	0.149
	Q14	0.791	0.053	14.927	< .001	0.687	0.895
	Q15	1.167	0.074	15.770	< .001	1.022	1.312

Table 11: CFA Factor Loadings for RQ2

As seen from table 11, there are three positive significant factor loadings: Q1 (0.603, p<0.05), Q14 (0.791, P<0.05) and Q15 (1.167, p<0.05). The mean for Q1, Q14 and Q15 computed in table 1 earlier are 4.556, 4.644 and 4.199 respectively.

Therefore, the positive z-values from table 11 for Q1 (8.625), Q14 (14.927) and Q15 (15.770) imply high percentage of responses positively supporting the statements in the related survey questions. Cronbach's alpha returns 0.663, indicating acceptable internal consistency reliability. The reported values for CFI (0.997>=0.96), NNFI/TLI (0.984>=0.96), RMSEA (0.065<=0.06) and SRMR (0.015<=0.011) in table 10, matched the model fit combination criteria in table 5, though RMSEA is marginally greater than 0.06. The survey questions for the three high positive factor loadings in table 11 are presented below:

- My job preference is significantly influenced by my personality.
- I am not attracted to an organization with no available higher leadership position for me.
- Working till retirement age in this organization is dependent on being promoted to leadership position in future.

The implications from the above three factor loadings indicates that though the millennial engineer is willing to be loyal to the organizational goals and to his or her superior, because of the promise or availability of higher leadership position, such loyalty is highly is highly dependent on the engineer's personality addressed earlier such as none tolerance of harassment and/or gender biases, and leadership premised on creativity. Thus, 'a millennial engineer's organizational adaptiveness is not totally driven by aspiration for a higher leadership position, but partly on how the workplace dynamics matches with his or her personality.'

6. Conclusion

The purpose of this study was to assess the attitude of millennial engineers towards leadership career opportunities in the oil and gas industry in Nigeria. This study closes the gap in the literature of none existence of a framework for properly understanding which of the attribute(s) of the millennial engineer is/are the strong driving force(s) behind their organizational adaptiveness in the Nigerian oil and gas industry. Based on the reviewed literature and the resulting conceptual model, 18 questions 5-scale Likert closed ended questionnaire was developed and distributed cross-sectionally to 250 participants selected through a non-probability sampling approach. The questions were developed to provide answers to the three research questions: (RQ1) Is leadership career development a significant contributing factor among the attributes of a millennial engineer? (RQ2) Is leadership career development aspiration a significant factor influencing the organizational adaptiveness of a millennial engineer? and (RQ3) Is a millennial engineer's organizational adaptiveness driven by the aspiration for a higher leadership position? The sampling approach was adopted because the researcher wanted to be sure the participants were millennial engineers who were currently engaged in the oil and gas industry. The instrument retrieval was 89% successful with 86% fit for analysis. A deductive quantitative analytical method was used to interpret the field data. First, a descriptive analysis of the mean and standard deviation for each question in the questionnaire indicated that some of the participants did not agree with the research questions. Secondly, both exploratory factor analysis (EFA) and principal component analysis (PCA) were conducted with the main aim of understanding how the questions in the research instrument interacted to produce grouped factors and components. While the EFA produced 3 factors with some elements negatively correlated through oblique 'promax' rotation, the PCA produced 5 components with all elements positively correlated through the same promax rotation. However, from the PCA results the components were poorly correlated with one another. This explained that each component was a unique latent construct. With this understanding, a confirmatory factor analysis (CFA) was conducted by intentionally identifying the combination of questions in the questionnaire that can provide answers to the three research questions. The idea was to select questions with high factor loadings as indicative of ability to strongly predict the outcome of the three research questions. The results are summarized as follows: (1) leadership career development is a significant contributing factor among the attributes of a millennial engineer; (2)leadership career development aspiration is a significant factor influencing the organizational adaptiveness of a millennial engineer, provided the organization can offer him or her the opportunity to be creative; and (3)a millennial engineer's organizational adaptiveness is not totally driven by aspiration for a higher leadership position, but partly on how the workplace dynamics matches his or her personality. Consequently, the above indication supports the research conceptual model in figure 1 and other findings in the literature (e.g., Gallup, 2016; Pinzaru et al., 2016; Weber, 2015; PwC, 2011), that the millennial engineer is one with a unique personality of strong leadership career ambition in an organization that offers avenues for creativity and a work environment that is free from harassment and gender biases.

7. Declaration

The author declared no conflict of interest. The data were originally collected personally by the author from September 2018 to March 2019 for his research project during his M.Sc in Organizational Psychology at the UNICAF University, Malawi, and re-analyzed for the purpose of this study. Every work that is not author's own is properly cited and referenced.

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