e-ISSN 2795-3272
p-ISSN 2795-3264

10.5281/zenodo.13292686 Vol. 07 Issue 07 July - 2024 Manuscript ID: #01520

PREDICTORS OF EMPLOYABILITY AMONG ENGINEERING STUDENTS IN NIGERIA POLYTECHNICS

Oguche Innocent Ojonugwa Ph.D.
Faculty of Education Airforce Institute of technology, Kaduna

Abstract

Polytechnic is one of the Technical and Vocational Education (TVET) institutions in Nigeria. There is therefore, the need for polytechnic engineering students to acquire employability skills that will make them marketable and be gainfully employed and fit into the 21st century workforce. In the face of increasing unemployment partly due to decreasing employability skills of Nigeria polytechnic engineering students, many graduates of Nigeria polytechnic have a dwindled confidence of gain needed employment after graduation. Employability is seen as a construct interrelating to social factors and the individual skills. This study examines predictors of employability among engineering students in Nigerian Polytechnics. Data were obtained from 580 polytechnic engineering students. Simple random sampling was used to select the 5 polytechnics from the north central geopolitical zone of Nigerian, while cluster sampling was implored to solicit data from the students. The data were analysed statistically using structural equation modelling. The results of the study revealed that Basic job performance skills, self-efficacy and subject understanding had significant effect on employability. Subject understanding having the highest significant effect on employability with the beta (β) loadings of 0.318 making it the most significant predictor of employability followed by basic job performance skills with the beta (β) loadings of 0.298. The last predictor of employability from the study was self-efficacy with the beta (β) loadings of 0.248. Based on the findings, it was suggested that authorities in charge of Nigerian education sector should put in place appropriate policy thrust to enhance delivery of quality education that will facilitate acquisition of skills necessary for employment of polytechnic engineering graduates. Curriculum development in line with the global best practice, including training of academic staffs that could ensure the acquisition of basic job performance skills, subject understanding and self-efficacy of polytechnic engineering students should be put in place. Future research is suggested to focus on employability of students of other disciplines, including the Nigerian university system.

Keywords:

Subject understanding, Self-efficacy skills, Polytechnic, Engineering students, Employability.

INTRODUCTION

Unemployment among Nigerian youths is increasingly becoming an issue of consign in Nigeria, hence a major sigma confronting the nation's economy (Alabi, 2014). Yearly, graduates are turned out in their thousands with little or no job awaiting them thereby, youth hawkers littered all around the streets who ordinarily would have been gainfully employed (Emeka, 2011). The Nigerian government had made moves to reducing unemployment among her citizenry by introducing several intervention programmes. However, Innocent, (2014) observed that most of these programmes had received poor coordination while in other cases they either overlap or contradict one another. Paradoxically, with the increase in polytechnic enrolment rate and subsequent graduate output, unemployment has been on the rising tide which poses a great challenge to Nigeria as a nation (Akinyemi, Ofem, & Ikuenomore, 2012). The Nigerian National Bureau of Statistics describes unemployment to be the workforces that are available in labour market who are unable to secure work for at least 39 hours in the week (Central Bank of Nigeria, 2008). Again Abiodun, (2010) sees unemployment as the fraction of the workforce, that are not gainfully employed even when they desire to do so, at a particular time. In the case Nigeria, unemployment of graduate can be said to be a situation where graduates of tertiary institutions are not able to secure a job even when they are willing to do so after their National Youth Service Corps programme.

Polytechnic education is the planned programme in education that leads to the developmental learning of applied skills and scientific knowledge as well as practical (FRN, 2013). Polytechnics globally, were basically instituted to train and produce middle class technical manpower in the industries which is necessary for the implementation of any nation's development plans, goals and strategies (Macaulay, 2014; Network, 2014). Polytechnic education is techno-scientific in nature, it emphasizes the link between theory and praxis with the aim of better integration of graduates into the labour market. This has given enterprises opportunities to maintain a closer link to the training and education system (Nairaland Forum, 2005). Polytechnics play essential processes in the educational, scientific and technological training and developmental progress of Nigeria. Nigerian polytechnics graduates are expected to possess high level of excellence and professionalism, dedication, commitment, and loyalty, accountability and integrity, respect for the rule of law, knowledge sharing, effective communication, equity and fairness (Lagos State Polytechnic, 2013). The content of the training provided is geared towards endowing the graduates with readily employable skills so as to make them fit easily into the industry, and equally being creative. In Nigeria, polytechnics are identified as one of the five types of technical education institutions outside the university (FRN, 2013). Annually, Nigerian polytechnics produces thousands of engineering graduates, but the major challenge is that the right set of jobs are not available. Polytechnic engineering graduates have abandoned their field of work for the classrooms, banks, press houses and other unrelated industries all for lack of jobs (Odinaka, 2013). Again we are producing too many engineering graduates from Nigerian polytechnics whose employability potential is very limited (Akanmu, 2011). It is in view of the above, this research work seeks to investigate predictors influencing employability among polytechnic engineering students in Nigeria.

REVIEW OF LITERATURE

The Concept of Employability

It is also important to note that employability is not employment but rather it is improving employability skills which helps in gaining job quickly.Lowden, (2009) advocated that training institutions should work closely with employers to ensure the inclusion of these skills in their training

program. Arensdorf, (2009); Robinson, (2006) and Kleeman, (2011) stated steady stream of reports and papers urging the higher education sector to take key, core, transferable, and employability skills into the heart of students learning experiences. Many of these reports emphasize and explain the need for employability skills. Robinson,(2000) identified employability skills as those basic skills necessary for securing, maintaining, progressing and doing reasonably well on a job. He divided the basic skills into three such as basic academic skills, critical thinking skills, and personal quality attributes. Zaharim et al., (2010) explained employability skills communication skills, team work, lifelong learning, professionalism, problem solving and decision-making skills, competence in application and practice, knowledge of science and engineering principles, Knowledge of contemporary issues, Engineering system approach and competence in specific engineering discipline. The study highlights the need for young engineering graduates to solve scientific problems and be able to use it in solving engineering problems and using teamwork to interact efficiently with other co-workers.

Related Empirical Studies

Ali, Long, Zainol, and Mansor, (2012) conducted a study on student's self-perceived importance of employability skills needed for the work place. The main objective of the study is to make a description of the skills that make them employable. A sample of 319 students were randomly selected among engineering students in University Sultan Zainal Abidin (UniSZA) Malaysia. The study findings revealed soft skills as the most employability skills.Bakar, Mohamed, and Hamzah, (2013) assessed workplace skills acquired by students of vocational and technical educational institutions in Malaysia. A sample of 850 engineering students was selected from a population of 2520 final year students. The finding show that technical and vocational skills are more important to engineering students' employability. Shyamalee, Wickramasinghe, and Dissanayake, (2010) assessed employability skills expected of fresh civil engineering graduates in a study conducted in Sri Lanka. The study objective was to describe the generic attributes of engineering graduate expected during the engineering degree programme. Six employability skills were found from the factor analysis of the study to include knowledge on engineering design and construction standard, working attitude, management skill, personal attitude, technical and administrative skill, and engineering knowledge.In another study Blom and Saeki, (2011) analysed employability skill set of newly graduated engineers in India. The researcher examined skills employers consider important for employability. The study found that four skills factors; core employability skills, communication skills, higher-order thinking skills (analysing, evaluating and creating) and professional skills are important.The index in the above review show that studies on predictors of employability skills among engineering students had been reported in respect of Malaysia (Bakar, et al., 2013; Ali, et al., 2012), India (Blom & Saeki, 2011), Sri Lanka (Shyamalee, et al., 2010). It is also evident that research effort towards the employability of engineering graduates in Nigeria polytechnics have not been reported despite the importance of employability in the 21st century.

Theoretical Framework: The USEM Model of Employability

The USEM model of employability was developed by (Yorke & Knight, 2004). They pointed out that the USEM model outlines employability as four broad and inter-related components: understanding (Appropriate subject knowledge, apprehension and applicability). Skilful practices (including Subject-specific, generic abilities deployment of skills) efficacy beliefs (Awareness and understanding of one's self and one's abilities including students views of themselves) meta-cognition (The capacity to reflect on and regulate one's own learning and behaviour including self-awareness) as indicated in figure 2.3. This model wasdeveloped in an attempt to put thinking about employability on a more

scientific basis, partly because of the need to appeal to academic staff on their own terms by referring to research evidence and theory (Yorke & Knight, 2004).

RESEARCH METHODOLOGY

This study adopted a survey research designas it will enable the researcher to obtain information from the representatives of the entire population. The study was conducted in thepolytechnics offering engineering courses in the North Central region of Nigeria. North Central region comprises Benue, Kogi, Kwara, Nassarawa, Niger and plateau states and the federal capital territory.The target populations for this study are HND 2 polytechnic engineering students with the total population put at 985.

Table 1: Sample Selection

Polytechnic	Status	State of location	Mechanical Engineering	Electrical Engineering	Civil Engineering	Computer Engineering	Total
Federal Polytechnic, Idah	Federal	Kogi	70	150	85		305
Federal Polytechnic, Offa	Federal	Kwara	75	75	80	85	315
Federal Polytechnic, Nassarawa	Federal	Nassarawa	68	73			141
Federal Polytechnic, Bida	Federal	Niger	66	90	50		190
Benue State Polytechnic, Ugbokolo	State	Benue	88	76			164
Kogi State Polytechnic, Lokoja	State	Kogi	-		-		-
Kwara State Polytechnic, Illori	State	Kwara	83	89	71		243
Niger State Polytechnic, Zungaru	State	Niger	-	87	-	-	87
Plateau State Polytechnic, Jos	State	Plateau	44	43	37	-	124
Nasarawa State Polytechnic Lafia	State	Nasarawa	-	-	-	-	-
Total			**494**	**683**	**323**	**85**	**1585**

Source: Researcher Conceptualisation (2024).

The questionnaire instrument used for this study were divided into 4 main parts (Part 1, 2, 3 and 4). Part1was used to obtain information on personal characteristics of the respondents. Part 2 comprised of Basic Job Performance Skills found within the study's questionnaire adapted form SCAN. Part 3 of the questionnaire comprised of self-efficacy skills adopted from (Reddan, 2009). Part 4 focused on subject understanding and ability to use the techniques / skills in modern engineering practice. The questionnaire consists of 4 Likert-type statements. Each item related to Subject understanding will be rated by the respondents from 1strongly disagree to 4 strongly agree.In order to get correct reliability coefficient for the constructs in the instrument, Statistical Packages for Social Sciences (SPSS) 22 versions was employed for the analysis. The results of the analysis showed that the entire item in the instrument measured their corresponding constructs, hence, their Cronbach alpha > 0.7 as shown in Table 2.

Table 2: Reliability of Predictors of Employability among Engineering Students in Nigerian Polytechnics

Dimensions	**Item's Cronbach Alpha**	**Overall's Cronbach Alpha**	**Dimensions**	**Item's Cronbach Alpha**	**Overall Cronbach Alpha**
BASK		**.900**	**SEAP**		**.898**
BASK 1	.873		SEAP 1	.806	
BASK 2	.872		SEAP 2	.813	
BASK 3	.885		SEAP 3	.799	
BASK 4	.872		SEAP 4	.768	
BASK 5	.884		SEAP 5	.804	
THSK		**.844**	**OCIN**		**.842**
THSK 1	.810		OCIN 1	.815	
THSK 2	.712		OCIN 2	.808	
THSK 3	.823		OCIN 3	.825	
FOSK		**.873**	OCIN 4	.792	
FOSK 1	.846		OCIN 5	.810	
FOSK 2	.839		**GOSE**		**.855**
FOSK 3	.840		GOSE 1	.821	
FOSK 4	.828		GOSE 2	.847	
COMP. MG		**.912**	GOSE 3	.813	
INMG 1	.899		GOSE 4	.820	
INMG 2	.915		GOSE 5	.820	
INSK1	894		**PLAN**		**.878**
INSK2	.894		PLAN 1	.860	
INSK3	.897		PLAN 2	.847	
RSMG1	.901		PLAN 3	.845	
RSMG2	.893		PLAN 4	.847	
COMP. ST		**.898**	PLAN 5	.860	
SYMG 1	.882		**EGSS**		**.879**
SYMG 2	.879		EGSS 1	.862	
SYMG 3	.876		EGSS 2	.846	
TECH 1	.864		EGSS 3	.848	
TECH 2	.877		EGSS 4	.848	
PRSO		**.854**	EGSS 5	.860	
PRSO 1	.826		**COAP**		**.834**
PRSO 2	.830		COAP 1	.799	
PRSO 3	.817		COAP 2	.791	
PRSO 4	.814		COAP 3	.816	

PRSO 5	.829		COAP 4	.790	
KSEP		**.796**	COAP 5	.805	
KSEP 1	.739		**PROF**		**.861**
KSEP 2	.742		PROF 1	.844	
KSEP 3	.832		PROF 2	.824	
KSEP 4	.727		PROF 3	.826	
KSEP 5	.736		PROF 4	.831	
ENSA		**.850**	PROF 5	.836	
ENSA 1	.813		**JORE**		**.852**
ENSA 2	.823		JORE 1	.821	
ENSA 3	.824		JORE 2	.818	
ENSA 4	.814		JORE 3	.816	
ENSA 5	.822		JORE 4	.820	
CSED		**.853**	JORE 5	.831	
CSED 1	.816		**MARK**		**.925**
CSED 2	.816		MARK 1	.919	
CSED 3	.826		MARK 2	.920	
CSED 4	.805		MARK 3	.919	
CSED 5	.848		MARK 4	.920	
JOSD		**.889**	MARK 5	.919	
JOSD 1	.889		MARK 6	.919	
JOSD 2	.875		MARK 7	.919	
JOSD 3	.858		MARK 8	.920	
JOSD 4	.866		MARK 9	.918	
JOSD 5	.881		MARK 10	.920	
			MARK 11	.918	
			MARK 12	.919	
			MARK 13	.919	
			MARK 14	.925	
			MARK 15	.925	

BASK=basic skills; FOSK= Foundation Skills; INSK=Information skills; RSMG=Resource Management Skills; SYMG=Competency System; TECH= Competency Technology; THSK=Thinking Skills. GOSE = Goal selection OCIN = Occupational information PLAN = Planning PRSO = Problem solving SEAP = Self-appraisal COAP=Component in application and practice CSED=Competent in specific engineering discipline EGSS=Problem solving and decision making ENSA=Engineering system approach KSEP=Knowledge of science and engineering principles PROF=Professionalism COAP=Component in application and practice CSED=Competent in specific JORE=Job retention JOSD=Job seeking duration MARK=Marketability JORE=Job retention JOSD=Job seeking duration MARK=Marketability

Source: Researcher Conceptualisation (2024).

Furthermore, six hundred copies of the questionnaire were administered to HND 2 engineering students in the five randomly selected polytechnics in the north central states of Nigeria with the help

of two research assistants.In all 580 instruments were finally collected back and structural equation modelling was used for the analysis.

DATA ANALYSIS AND FINDINGS

Respondent's Demographic Characteristics

Table 3: Frequency distribution of Students demographic characteristics

Variable	Level	Frequency	Percent
Gender	Male	395	94
	Female	25	6
Age	<25 years	198	47.1
	26 - 30 years	196	46.7
	31 - 35 years	20	4.8
	36 - 40 years	2	0.5
	> 40 years	4	1
Marital Status	Single	335	79.8
	Married	85	20.2
Work experience	Low (<4 years)	224	53.3
			46.7
	High (>4 years)	196	
Name of Institution	Fed. Poly Idah	143	34
	Fed. Poly Bida	121	28.8
	Fed. Poly Nasarawa	77	18.3
	Federal Polytechnic Offa	50	11.9
	Benue Poly	29	6.9
Field of Study	Mechanical Eng.	182	43.3
	Electrical Eng.	160	38.1
	Civil Eng.	52	12.4
	Computer Eng.	26	6.2

Source: Researcher Conceptualisation (2024).

From the Table 3, the result of the analysis shows that participants for the present study consists of 420 respondents out of which about 94% are male while about 6% are female. This implies that majority of the participants are male. This is expected as the discipline of engineering are mostly dominated by male. In terms of marital status about, 79.8% of the respondents are single, while about 20.2% are married. This implied that majority of the participants are singles. The age distribution of the respondents was divided into five groups, age <25 comprised of 47.1% of the sample population followed by age group of 26 - 30 yearswhich forms 46.7% of the sample.The distributions of participant's field of study shows that about 43.3% of the participants were studied for Mechanical

Engineering, 38.1% are into Electrical Engineering, while about 12% are studying for Civil Engineering, and 6.2% are students of Computer Engineering. Analysis of distribution of respondents' institutions of study shows that about 34% of the participants are students of Federal Polytechnic Idah, 28% study at Federal Polytechnic Bida, 18.3% at Federal Polytechnic Nasarawa, 11.9% of the participants are students of Federal Polytechnic Offa and 06% of the participants are students of Benue State Polytechnic Benue.

Confirmatory Factor Analysis of Predictors of Employability among Engineering Students in Nigeria Polytechnics

The measurement CFA model of this study includes nineteen subscales of all dimensions. The initial measurement CFA model with all 19 subscales was portrayed in Table 4.

Table 4: Item Analysis During to Fitting Measurement Model

variable	item	First loading	Second loading	variable	item	First loading	Second loading
	BASK1	0.831	0.831		KSEP1	0.735	0.739
	BASK2	0.821	0.821		KSEP2	0.755	0.769
BASK	BASK3	0.777	0.777	KSEP	KSEP3	0.385	deleted
	BASK4	0.823	0.823		KSEP4	0.748	0.745
	BASK5	0.767	0.767		KSEP5	0.736	0.728
	COAP1	0.737	0.736		MARK1	0.709	0.701
	COAP2	0.739	0.739		MARK10	0.677	0.674
COAP	COAP3	0.66	0.66		MARK11	0.715	0.712
	COAP4	0.724	0.725		MARK12	0.688	0.68
	COAP5	0.682	0.682		MARK13	0.715	0.72
	CSED1	0.712	0.712		MARK14	0.436	deleted
	CSED2	0.728	0.728		MARK15	0.463	deleted
CSED	CSED3	0.74	0.74	MARK	MARK2	0.679	0.671
	CSED4	0.807	0.807		MARK3	0.716	0.718
	CSED5	0.653	0.653		MARK4	0.67	0.67
	EGSS1	0.731	0.763		MARK5	0.717	0.719
	EGSS2	0.794	0.796		MARK6	0.702	0.705
EGSS	EGSS3	0.791	0.818		MARK7	0.697	0.71
	EGSS4	0.782	0.774		MARK8	0.693	0.698
	EGSS5	0.753	0.736		MARK9	0.741	0.745

	ENSA1	0.77	0.777		OCIN1	0.701	0.721
	ENSA2	0.719	0.724		OCIN2	0.719	0.74
ENSA	ENSA3	0.709	0.684	OCIN	OCIN3	0.653	0.677
	ENSA4	0.732	0.708		OCIN4	0.795	0.738
	ENSA5	0.714	0.718		OCIN5	0.729	0.661

variable	**item**	**First loading**	**Second loading**	**variable**	**item**	**First loading**	**Second loading**
	FOSK1	0.784	0.784		PLAN1	0.733	0.732
	FOSK2	0.797	0.797		PLAN2	0.794	0.794
FOSK	FOSK3	0.794	0.795	**PLAN**	PLAN3	0.792	0.792
	FOSK4	0.813	0.812		PLAN4	0.793	0.793
	GOSE1	0.756	0.756		PLAN5	0.735	0.736
	GOSE2	0.664	0.664		PROF1	0.702	0.702
GOSE	GOSE3	0.796	0.795		PROF2	0.766	0.766
	GOSE4	0.705	0.706	**PROF**	PROF3	0.782	0.782
	GOSE5	0.711	0.712		PROF4	0.751	0.751
	INMG1	0.78	0.779		PROF5	0.726	0.727
	INMG2	0.61	0.61		PRSO1	0.722	0.722
	INSK1	0.821	0.821		PRSO2	0.705	0.705
COMP.MG	INSK2	0.824	0.824	**PRSO**	PRSO3	0.757	0.757
	INSK3	0.811	0.811		PRSO4	0.777	0.777
	RSMG1	0.733	0.733		PRSO5	0.71	0.709
	RSMG2	0.794	0.794		SEAP1	0.672	0.672
	JORE1	0.732	0.732		SEAP2	0.643	0.644
	JORE2	0.738	0.738	**SEAP**	SEAP3	0.715	0.716
JORE	JORE3	0.76	0.76		SEAP4	0.827	0.826
	JORE4	0.739	0.739		SYMG1	0.77	0.773
	JORE5	0.689	0.689		SYMG2	0.783	0.77
	JOSD1	0.679	0.679	**COMP.ST**	SYMG3	0.81	0.798
JOSD	JOSD2	0.759	0.759		TECH1	0.855	0.86

	JOSD3	0.9	0.9		TECH2	0.782	0.787
	JOSD4	0.829	0.829		THSK1	0.791	0.791
	JOSD5	0.741	0.74	**THSK**	THSK2	0.883	0.883
					THSK3	0.749	0.749

BASK=basic skills; FOSK= Foundation Skills; INSK=Information skills; RSMG=Resource Management Skills; SYMG=Competency System; TECH= Competency Technology; THSK=Thinking Skills. GOSE = Goal selection OCIN = Occupational information PLAN = Planning PRSO = Problem solving SEAP = Self-appraisal COAP=Component in application and practice CSED=Competent in specific engineering discipline EGSS=Problem solving and decision making ENSA=Engineering system approach KSEP=Knowledge of science and engineering principles PROF=Professionalism COAP=Component in application and practice CSED=Competent in specific JORE=Job retention JOSD=Job seeking duration MARK=Marketability JORE=Job retention JOSD=Job seeking duration MARK=Marketability

Source: Researcher Conceptualisation (2024).

The results showed that fit the measurement model with x^2 (4662) = 5882.64, p=0.000, x^2/DF=1.262, GFI=0.80; AGFI=0.78, CFI=0.947; 948=0.937, RMSEA= 0.025. In addition, the RMSEA was met the cut-off point 0.025, which fell between the recommended range of acceptability as shown in Figure 1.

Integrated Measurement Model

The internal consistency reliability, indicator reliability, convergent validity and discriminant validity of the integrated measurement model was evaluated based on imputed of subscales of each dimension. The integrated measurement model was evaluated using all dimensions. This measurement model includes four dimensions including basic Job performance, self-efficacy, subject understanding and employability as shown in Figure 4.6. The model fit the data in an acceptable level as follows: x^2(140) = 281.55, x^2/DF= 2.011, p=0.000, GFI=0.890; AGFI=0.849; CFI=0.928; IFI=0.929, RMSEA= 0.067. The results showed that goodness-of-fit indices such as GFI, AGFI, CFI, and IFI significantly pass the cut-off value. In addition, RMSEA was 0.067 which was less than 0.08.

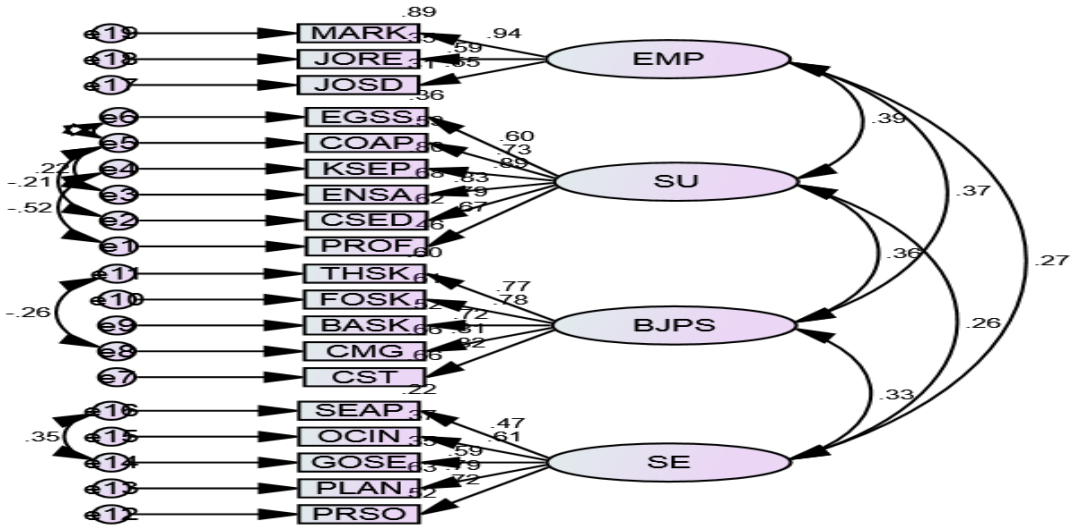

Figure 1: Integrated Measurement Model Convergent Validity.

According to the result of the current study Composite Reliability (CR) is between 0.751 to 0.888. The second reliability test was the average variance extracted (AVE) with the results also indicated AVE estimates reflected that the overall amount of variance in the indicators were accounted for by

the latent construct (Neuman, 2006). Higher values for the AVE (greater than 0.40) reveal that the indicators well represented the latent construct. Overall, all average variance explained (AVE) values were above 0.4, therefore all were acceptable according to the literature (Dubihlela & Dhurup, 2014). These results provided evidence for acceptable levels of research scale reliability. In this study MSV and ASV are below AVE. AVE for each construct is more than each of the squared correlation between constructs. Aside, AVE for each construct is more than each of the squared correlation between constructs. Therefore, discriminant validity is adequate for all of the constructs. The correlations between the latent variables ranged from 0.261 to 0.370, which were below the threshold 0.85, the squared correlations were less than the square root of the AVE by the indicators, demonstrating good discriminate validity between these factors (Kline, 2011).

Path Analysis

The structural equation model is the second main step of SEM analysis after fitting the measurement model. The structural model provides details on the links between the variables. It shows the specific information of the association between the independent or exogenous variables and dependent or endogenous variables (Hair, et al., 2010). The final part involved the confirmation of proposed relationship of the study based on the research hypothesizes shown in Table 5.

Table 5: List of Hypotheses and Relative Paths

Hypothesis	Path	CR	p value	Result
Ho_1: There is no relationship between Basic Job Performance skills and Employability	BJP <---------- EMP	5.343	<0.001	Supported
Ho_2: There is no relationship between Self-efficacy and Employability.	SE <---------- EMP	5.257	<0.001	Supported
Ho_3: There is no direct relationship between Subject understanding and Employability.	SU <---------- EMP	4.28	<0.001	Supported

Note: BJP: Basic Job Performance, SE: Self-efficacy, SU: Subject understanding, EMP: Employability,

Findings and Discussion

The objective of this study was to examine predictors of employability among engineering students in Nigerian polytechnics. The finding of the study shows that all three independent variables showed a significant effect on employability. Subject understanding significantly effects on employability (β = 0.318, p= p<0.01). Basic Job Performance had a significant effect on employability (β = 0.298, p= p<0.01), and as well, Self-efficacy had a positive and significant effect on employability (β = 0.248, p= p<0.01). The finding of this study correlates with the outcome of previous studies as reported in respect of Malaysia (Bakar, et al., 2013; Ali, et al., 2012), India (Blom & Saeki, 2011), and Sri Lanka (Shyamalee, et al., 2010).

Implications of the Findings

The Career EDGE model of Graduate Employability was applied in this study to explain predictors of employability among engineering students in Nigerian Polytechnics. The Career EDGE model of Graduate Employability was modified to develop employability model for engineering students in Nigerian Polytechnics, and thus validated using SEM. The new model offers an understanding about

the causal relationship of predictors of employability in the context of engineering students in Nigerian Polytechnics. Based on the results of the hypothesised model, the structural path between each of the predictors and employability showed a significant positive result. This implies that engineering students in Nigerian Polytechnics need to have basic job performance skills, possessed sound subject understanding of their chosen profession and have self-confidence for the to be employable.

Recommendations

Based on the findings, it was suggested that authorities in charge of Nigerian education sector should put in place appropriate policy thrust to enhance delivery of quality education that will facilitate acquisition of skills necessary for employment of polytechnic engineering graduates. Curriculum development in line with the global best practice, including training of academic staffs that could ensure the acquisition of basic job performance skills, subject understanding and self-efficacy of polytechnic engineering students should be put in place. Future research is suggested to focus on employability of students of other disciplines, including the Nigerian university system.

References

Abiodun S. O. (2010). Analysis of Mismat ch B etween Demand and Supp l y of Skills and University Graduate Unemployment in Nigeria. Unpublished M.Ed Dissertation. Lagos State University.

Alabi, T. (2014). Youths ' Unemployment And Crime Control : An Analysis Of Nigerian Experience. *European Scientific Journal*, *10*(2), 301–312.

Ali, F. A., Long, Y., Zainol, F. A., and Mansor, M. (2012). Student's Self-Perceived Impotance of Eemployability skills Needed: A Case Study in University of Sultan Zainal Abidin (UniSZA), Malaysia 2nd International Conference on Management, 1038(June), 1038–1054.

Akanmu, O. (2011). Graduate Employment and Employability Challenges in Nigeria. Retrieved from http://olusfile.blogspot.com/2011/01/putting-nigerian-graduate-to-work.html.

Akinyemi, S., Ofem, I. B., & Ikuenomore, S. O. (2012). Graduate Turnout and Graduate Employment in Nigeria Department of Educational Management. *International Journal of Humanities and Social Science*, *2*(14), 257–265.

Arensdorf, J. (2009). The perception of Employability Skill Transfer From Academic Leadership Classes to The Workplace: A Study of The FHSU Leadership Study Certificate Program. Kansas State University Manhattan, Kansas. Retrieved from http://krex.k-state.edu/dspace/bitstream/handle/2097/1348/JillArensdorf2009.pdf?sequence=1.

Bakar, A. R., Mohamed, S., and Hamzah, R. (2013). An Assessment of Workplace Skills Acquired by Students of Vocational and Technical Education Institutions. International Education Studies, 6(11), 15–20. doi:10.5539/ies.v6n11p15.

Blom, A., and Saeki, H. (2011). Employability and Skill Set of Newly Graduated Engineers in India.

Central Bank of Nigeria. (2008). Annual Report and Financial Statements for the Year ended 31 st December, 2000.

Emeka, E. O. (2011). Youth Unemployment and Implications for Stability of Democracy in Nigeria. *Journal of Sustainable Development in Africa*, *13*(1), 358–373.

FRN. (2013). National Policy On Education (6th Editio.). Yaba, Lagos: Federal Government Press.

Hair, J. F., Black, W. C., Barry, B. J., and Anderson, R. E. (2010). Multivariate Data Analysis (7ed). New Jersey: Prentice-Hall.

Innocent, E. O. (2014). Unemployment Rate in Nigeria: Agenda for Government. *Academic Journal of Interdisciplinary Studies*, *3*(4), 103–114. doi:10.5901/ajis.2014.v3n4p103.

Kleeman, A. M. Y. P. (2011). Employer Perceptions: An Exploratory Study of Employability Skills Expected of New Graduates in the Hospitality Industry. University of Central Florida.

Guilford Press.

Kline, R. B. (2011). Principles and Practice of Structural Equation Modeling (2nd (ed.).). New York: Guilford.

Lagos State Polytechnic. (2013). 21st convocation ceremony. Retrieved from http://www.laspotech.net/web/guest/about-us.

Lowden, K. (2009). Intelligenc in the flesh. London: Published by Edge Foundation.

Macaulay, D. (2014). Still on Polytechnic teachers strike. The Nations. Retrieved from http://thenationonlineng.net/new/still-polytechnic-teachers-strike.

Nairaland, F. (2005). Give the Polytechnics a Chance. Retrieved from http://www.nairaland.com/295/give-polytechnics-chance-says-unilag.

Network, E. and E. (2014). Polytechnics In Nigeria. Retrieved from http://exced.ucoz.com/index/polytechnics_in_nigeria/0-151.

Odinaka, I. (2013). How Engineering Graduates can deal with Employment Challenge – Especially in Oil and Gas fields.

Reddan, G. (2009). Improving Exercise Science students ' self-efficacy in making positive career decisions, (1978), 1–7.

Robinson, J. P. (2000). A Fact Sheet: What Are Employability Skills? Alabama Cooperative Extension System, 1(3).

Robinson, J. S. (2006). Graduates' and Employers' Perceptions of Entry-Level Employability Skills Needed By Agriculture, Food and Natural Resources Graduates University of Missouri-Columbia-Columbia.

Shyamalee, M. M. G. V, Wickramasinghe, W. M. V. S. K., and Dissanayake, S. (2010). Employability Skills Expected from Fresh Civil Engineering Graduates. Recent Technological Advances in Education, 54–59.

Yorke, M., & Knight, P. T. (2004). Embedding employability into the curriculum. Learning and Employability, Series 3, 1–28. doi:10.1108/17561391111106016.

Zaharim, A., Yusoff, Y. M., Mohamed, A., Omar, M. Z., Muhamad, N., and Mustapha, R. (2010). Practical framework of employability skills for engineering graduate in Malaysia. IEEE EDUCON 2010 Conference, 921–927. doi:10.1109/EDUCON.2010.5492478