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Full Length Research Paper

Occupational Mobility in Engineering Profession (Craftman and Artisan) in Oyo State, Nigeria

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This paper evaluate occupational mobility in engineering professional in Oyo State of Nigeria with the goal assessing causes and readiness of the professionals to return to the profession when the hindering factors are removed as well as sufficiency of the survey instrument in addressing the research problems. The study was conducted using a well structured questionnaire administered in 20 local government of Oyo State, Nigeria representing the sample space of 0.424. The Cronbach's alpha of the reliability test of 0.453 was returned for the scale mean statistics of 11516.83 and variance of 0.0000007 showing that the survey instrument was sufficient and could be relied upon. The result of the socio economic analysis showed that 80% of the respondents were married while (15%) were single and the rest (5%) were divorced. The age distribution of the respondents ranged between greater than 50 years groups (12%) and 30 -39 years group (39%).The result of the analysis of job characteristics of the respondents showed that the longer the year of graduation, the lesser the number of graduates still in the business. The cross table analysis of the socio-economic indices with the job status of the respondents showed that marital status and level of education does not have significant effects on the job status of the respondents (whether still practicing or not) because 1.454 and 5.223 returned for both marital status and level of education are not significant (P<0.05). Also, the contingency table analysis of the effects of the skill acquisition methods showed that more of the respondents who acquired their skill via Technical School (70%) are willing to go back to the professions. However, for those who acquired their skill through Learning/artisanship, less than average (32%) of the respondents are ready to return to the profession. Lastly, the establishment of the regression model for the relationship between the proportion of the people wishing to go back to the profession and year of practicing the profession provide a necessary impetus for addressing the Job mobility problem faced by the profession.

Keywords: Mobility, artisan, craftsman, okada, occupation.

INTRODUCTION

Occupational mobility different from labour mobility refers to voluntary resignation (partially or totally) of an employee from an occupation. Labour mobility on the other hand refers to voluntary resignation or loss of Jobs (Izamoje, 2011). The two terms are though distinct but are governed by almost the same factors. Engineering is

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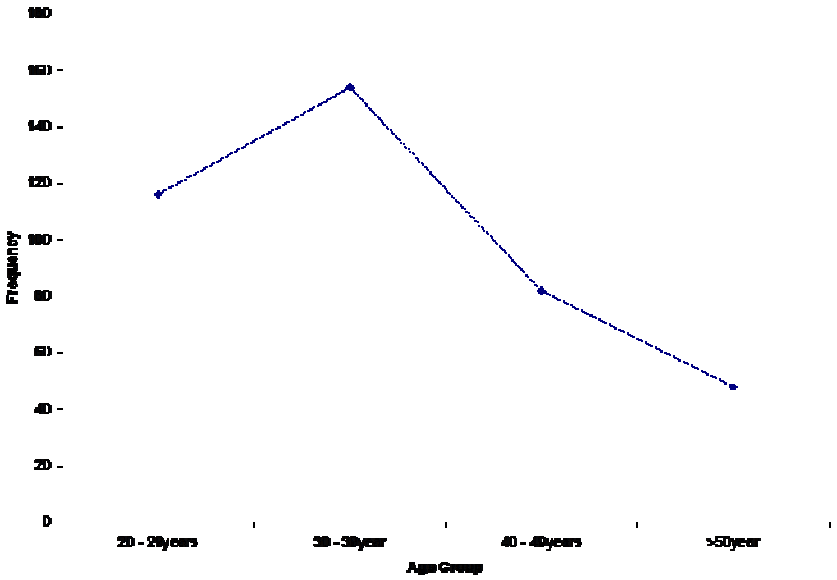

Figure 1. Distribution of Respondents according to age group

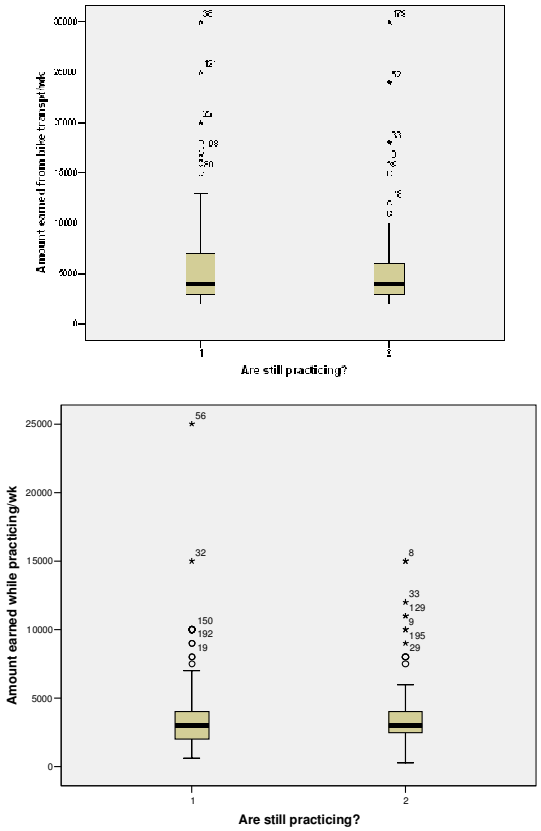

Figure 2. Box Plot of the amount earned while still Practicing and/or from Bike against their Job Status (whelther on Job or not).

one of the several occupation that have attracted several factors of mobility hence, occupational mobility have been in the increase in the profession in the region of the country. Engineering is a broad discipline which is often broken down into several sub disciplines. Basically, engineering fields can be categorized among others as,

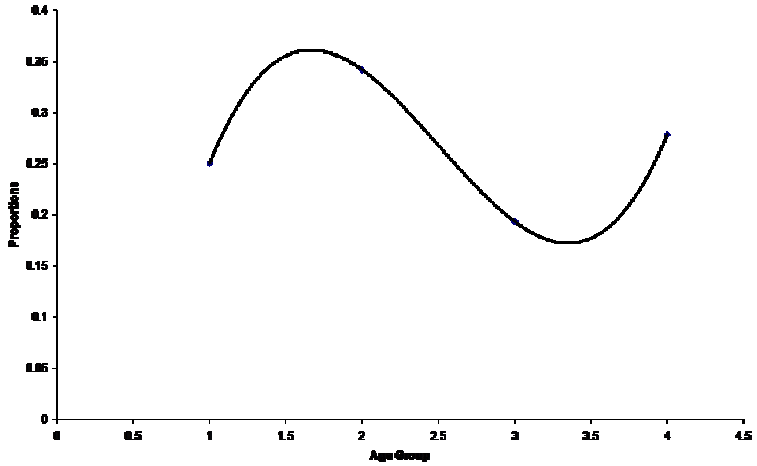

Figure 3. Proportion of the respondents still in the profession by their year of graduation
NB 1 = 30 - 39years, 2 = 20 - 29years; 3 = 10 - 19years and 4 = < 10years

Agricultural Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, and Mechanical Engineering (Ottis and Ejikeme, 2011). Designs are made by engineers based on sound theoretical knowledge of basic and advanced engineering principles. These designs are translated into real products by the combined efforts of technologist, technician and craftsman who actually execute the design and thus, engineers are of different shades Bamiro, A.O (2007).

Motorcycle transportation (also known as *Okada*, *achaba*) refers to commercial motorcycle in Nigeria, where motorcycle riders carry passengers for commercial purposes. It is one of the chief modes of transportation in Nigeria and the most common form of formal transport system in Nigeria under a registered association called Amalgamated Commercial Motorcycle Owners Rider Association (ACOMORAN). The popularity and widespread acceptance of motorcycle transportation has rapidly risen in recent years. It has been adopted easily due to the prevailing economic climate in contemporary Nigeria society plagued by a dearth of taxi and bus services, hyper congestion and poor state of roads. Also, they have become a ubiquitous future of Nigerian cities because of their low cost of purchase and maintenance for consumers than other forms of road transportation. Motorcycle transportation provide the cheapest, accessible and fast to overcome traffic congestion even short distance travel and likewise the money earn is on daily basis with little stress. Unfortunately, the rise in number of motorcycle for commercial purpose has led to mobility of people from other occupation (particularly engineering).

Theoretical Frame work.

The theoretical framework for this work is based on Rational Action theory (RAT) and Work adjustment theory (WAT). RAT according to Izamoje (2011) provides the basis for the explanation of individual's ability to make informed decision in a given situation. It (RAT) assumes that individuals are independent in any decision – making process. The decision of labour to move from one occupation to other is an independent action. WAT on the other hand focuses on issues associated with work or occupation including choice of career, job stability and others.

Mamoured of works have been conducted on labour and however, despite the importance of motorcycle transportation mention above, it has been attracting interest as more people are now engage in commercial motorcycle transportation. The objective of this research work is therefore to assess morbility of labour in engineering profession (Craftsman and Artisan) in the study area and to evaluate the effects of the socio economic characteristics of the respondent on their mobility. Also, this study was carried out to evaluate the reliability of the survey instrument.

MATERIALS AND METHODS

The study was carried out using a purposive sampling via a well structured questionnaire in fourteen local government areas of Oyo State. The sample space, which is the local governments including Akinyele, Ibadan South-East, Atisbo, Itesiwaju, Ibarapa East, Saki East, Egbeda, Ogbomosho North, Ajaawa, Iseyin, Oyo West, Ibadan South West, Ido, Ibadan North-East local government areas were randomly selected among the 33 local Government of the state. This represents the sampling frame of 0.424 which is quite sufficient for the study area. The survey was conducted by means of structured questionnaires administered through

Table 1. Socio-Economic Characteristics of the Respondents

Variables	Options (years)	Frequency	Percentages (%)
Marital Status	Divorced	21	5.3
	Married	320	80
	Single	59	14.8
Education	Adult Education	40	10
	GII/OND/NCE	24	6
	Sec. Education	107	26.8
	Primary School	105	26.3
	No formal Education	124	31
Method of Skill Acquisition	Learning	365	91.3
	Technical school	34	8.5
	Others	1	0.3
Still Practicing	Yes	102	25.5
	No	297	74.3
	NA	1	0.3

Table 2. Job Characteristics of Respondents

Variables	Options (years)	Frequency	Percentages (%)	C%
Year of Graduation	1970 – 1979	49	12	12
	1980 – 1989	79	20	32
	1990 – 1999	150	37	69
	2000 – 2009	122	31	100
Years of Practice	1 – 2 years	11	3	3
	3 – 4	59	15	18
	5 – 6	85	21	49
	7 – 8	83	20	69
	9 – 10	112	28	87
	> 10	50	13	100
Skill Acquisition Method	Learning	365	91	91
	Technical School	34	9	100
	Others	1	0	100
Motorcycle Ownership	Company	2	0.5	0.5
	Group of people	18	4.5	5.0
	Hire	68	17	22
	Personal	312	78	100

participatory learning techniques. A total of four hundreds questionnaires were administered with at least 20 sample information obtained in each local government area. Some of the issues addressed by the questionnaire include; Year of graduation from training, Engineering Skill Acquisition, amount earned per week while practicing engineering as a profession, amount earned per week on motorcycle transportation, problems faced while practicing engineering job, year motorcycle transportation business was started, motorcycle operation competence, willingness to go back to engineering profession if constraints were removed. All the distributed sampling tools (questionnaires) were retrieved and analyzed.

Reliability analysis was computed for 3 randomly selected items of the questionnaire using Cronbach's alpha (α). These items are amount earned while practicing the profession, year of commencement of motorcycle business and amount earned from motor cycle transportation.

$$Cronbach's\alpha = \frac{N - \overline{C}}{\overline{V} + (N-1).\overline{C}}$$

Where N = No of items (3), $\overline{C}$ = average inter – item covariance among the items and $\overline{V}$ = average variance.

The data was further subjected to descriptive statistical analysis (frequency and graphs) and cross tabulation analysis using chi square statistics. Chi square statistics test for the significant difference(s) between the observed and the expected frequency of respondents for related items of the study tools (questionnaire). The resultant

Table 3. Effect of Socio-Economic Status on Job Status of the Respondents

Variables	Options (years)	Job StatusYes	No	Remarks
Age	20 – 29	31	85	11.633**
	30 – 39	32	122	
	40 – 49	27	55	
	50 and above	12	35	
Marital Status	Divorced	7	14	1.454
	Married	78	241	
	Single	17	42	
Level of Education	Adult Education	8	32	5.223
	Grade II/NCE	9	15	
	NFE	34	89	
	Primary Education	25	80	
	Secondary Education	26	81	
Year of Graduation	1970 – 1979	12	36	13.686**
	1980 – 1989	27	52	
	1990 – 1999	29	121	
	2000 – 2009	34	88	

statistics were compared with the critical $\chi_{149,0.05}^{2}$ for appropriate decision. Box plot of the two response categories was done for amount earned from the profession per week as well as amount earned from commercial motorcycle par week. The proportion of the respondent according to the year of graduation was subjected to the third order polynomial regression to determine the relationships between the year of graduation and the proportion of the frequency of the respondents still on the job. The model estimate as well as the coefficient of the determination (R^2) were determined.

RESULTS AND DISCUSSIONS

Survey Instrument Sufficiency Study (SISS)

The results of the SISS showed that the items of the instruments were sufficient in the analysis of the problem under study. The Cronbach's alpha of the reliability test of 0.453 was returned for the scale mean statistics of 11516.83 and variance of 0.0000007. The low value of the Cronbach's α could be hinged on the fewness of the items included in the reliability study.

Socioeconomic Characteristic of the respondents

The result of the survey, (table1), showed that 80% of the respondents were married while (15%) were single and the rest (5%) were divorced. The age distribution of the respondents ranged between greater than 50years groups (12%) and 30 -39 years group (39%). Other age groups are 20 -29 yrs (29%) and 40 – 49 yrs (20%). It could be observed that as the age increases, the frequency of people involved in the profession increases (Figure 1). However, at the peak of 30 -39 years age group, it started to decline. This can be linked to 2 prime factors of strength and responsibilities that can be a driving for engaging in such venture. Majority of the respondent (69%) of population sampled has formal education, (26% has primary school education, 27% has secondary school education, 10% has adult education and 6.0% have Grade II/ OND / NCE) and 31% has no formal education. Most of the respondent (91%) acquired engineering skill through learning (Artisan) while others (9%) acquired engineering skill through technical school (craftsman). With the level of education, the respondents' technical experience while on the professional job can withstand the test of time to acquired new engineering skill and or innovation in technology whereby some machines are designed made with some electrical/electronic devices to operate it.

Job characteristics of respondents

The result of the analysis of job characteristics of the respondents showed that the longer the year of graduation, the lesser the number of graduates still in the business. Indeed, most of the respondents can be tagged as fresh or nearly fresh graduates because they graduated in the range of 1990 – 1999 (37%) and 2000-2009 (31%). There were also old graduates of 1970-1979 (12%) and 1980-1989 (20%). This could be linked to the fact that the engineering profession is not feasibly practicable at the said ages due to the energy

Table 4. Occupational Status and Readiness to be back to the occupation on Constraint Removal as well as skill acquisition Methods

		Occupational Status		χ^2- statistics
		Yes	No	
Readiness to be back to the Occupation on Constraint Removal	Still on Job	102	0	6.157*
	Not on Job	280	17	
Skill Acquisition methods	Technical Schools	14	20	
	Learning	88	276	5.175*
	Others	0	1	

requirements. The box plot analysis of the amount earned while still practicing the engineering job for those still on the job was appreciably higher than those who quitted the job. Even the mean of those still on the job was appreciably higher than those who quitted the job. Even the mean of each of the group (that is those still practicing and those not practicing) are almost the same (Figure 2). The result of the job characteristics analysis showed that majority of the respondents (330) have come of age spending above 5 years practicing the profession. Most of the respondents acquired their skill learning (artisanship – 365) while other skill acquisition methods include, Technical school and others 1). The result of job characteristic analysis showed that majority (78%) of the respondents owned the motorcycle by themselves while some (17%) acquired their motorcycles through hiring (Table 2).

Contingency Table analysis

The cross table analysis of the socio-economic indices with the job status of the respondents showed that marital status and level of education does not have significant effects on the job status of the respondents (whether still practicing or not). This is because 1.454 and 5.223 (Table 3) returned for both marital status and level of education are not significant (P<0.05). The implications of these are;

1 – Marital status could not have influenced people's quiting the job temporarily or permanently

2 – The level of education has not had significant effects on their job status.

Also, the cross table analysis of the effects of age on job status of the respondents indicated that greater percentage (49%) of people in the age group 40 – 49 years are still on the job while the least percentage (21%) of respondents in the age group 30 – 39 years are still practicing. This is significant (P < 0.01) because 11.633 < $\chi_{4, 0.05}$ = 9.488 and thus wise to hinge job mobility on age factor. This may be due to the fact that motorcycle transportation though is lucrative but require enormous energy which is found in the age group 30 – 39 years. Similarly, the longer the length of graduation, the higher the proportion of the respondents still found in the profession (Table 3). However, this trend was irregular because, it changes with the changes in the age group. Majority of the respondents (382) are ready to move back to the profession if their constraints are removed and this is significant (P<0.05) because 6.157 was significant (Table 4). Also, the contingency table analysis of the effects of the skill acquisition methods showed that more of the respondents who acquired their skill via Technical School (70%) are willing to go back to the professions. However, for those who acquired their skill through Learning/artisanship, less than average (32%) of the respondents are ready to return to the profession (Table 4). This result is significant ($\chi^2_{4, 0.05}$ = 5.175) at 0.05 level of significant. The implication of this is that skill acquisition method could be said to be a factor of respondents' readiness to go back to the profession. The results of regression analysis of the proportion of the respondents that are ready to go back to the profession showed that 3rd order polynomial gives the best model estimates. The proportion can be estimated using;

$$Y = 0.079x^3 - 0.594x^2 + 1.321x - 0.556$$

The coefficient of determination, R^2 for this model is 1.00 signifying a high level of predictability. The implication of this is that the model estimates can be adopted for the prediction of the proportion of the frequency of the respondents when the year of graduation group of the respondents (x) is known.

CONCLUSION

The goal of this study is the assessment of mobility of labour in engineering profession (Craftsman and Artisan) in the study area as well as evaluation of the effects of the socio economic characteristics of the respondent on their mobility. The sufficiency of the survey instrument despite the fact that the data were not collected overtime indicated that labour mobility study do not necessarily have to be overtime as posited by Giuseppe and Kaj (2007). However, if the goal of the study emphasizes the effects of period, then, time factor must be inclusive. This study have provided evident of job mobility in the engineering sector which represent further advance from Izamoje (2011). Izamoje (2011) established that 74.7% of the respondents have tendency to move from one job to

another while the present study established that more than average of the respondents have moved form their job. Also worthy of note is that while some socio economic characters have no significant effects on the respondents' job mobility some others (socio economic characteristics) do have (and may be negative or positive). In addition, job mobility in this study has be linked to a number of factors including, poor working environment/facilities, lower income compare to other jobs and dying interest of the professionals. This is in line with Izamoje (2011) Gueorgui and Lourii (2004) and Ogege (2011). The establishment of the regression model for the relationship between the proportion of the people wishing to go back to the profession and year of practicing the profession provide a necessary impetus for addressing the problem faced by the profession and it is in line with Izamoje (2011). This study therefore recommends that the model can be adopted for investigating the proportion of people wishing to go back to the profession in any other region of the Country. Similarly, the model as well as other findings of this study would be found useful by stake holders in addressing the problem of job mobility.

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