TUITION FEE, GENDER AND DEMAND FOR TECHNICAL EDUCATION IN NIGERIA: ANY NEXUS?

[1]Badmus, Adejare S. & [2]Ayeni, Abiodun O.
[1]General Studies Department,
The Oke-Ogun Polytechnic, Saki, Oyo State
[2]Department of Educational Management,
University of Ibadan, Ibadan, Oyo State
E-mail: *adejarebadmus@gmail.com & biodunmide@gmail.com*

Abstract

This study investigated the relationship between tuition fee and demand for technical education on one hand, gender and demand for technical education on the other in Oyo State, Nigeria. The research employed a descriptive survey design. The target population was 3,641 across the five faculties of The Polytechnic, Ibadan from where 364 respondents were randomly selected. The research instrument "Tuition Fee, Gender and Demand for Technical Education Questionnaire (TFGDTEQ)" was used to collect data from students of The Polytechnic, Ibadan. The instrument was pilot tested and validated with 0.75 Chronbach alpha coefficient. The data was analysed with the use of Pearson Product Moment Correlation Coefficient to examine whether any relationship exists between each of tuition, gender of the respondents and demand for technical education in Nigeria. The result of the study revealed that tuition fee was statistically significant with demand for technical education($r = 0.554$, $df = 351$, $p<0.05$). However, there was no significant relationship between gender of the respondents and demand for technical education ($r = 0.008$, $df=351$, $p>0.05$). The study recommended that technical education tuition fees should be affordable in such a way that people would not see technical education as one that is meant only for the poor and indigent students. In addition, technical education should be made to be gender friendly in that there should not be discrimination against any gender in terms of courses available in the technical educational institutions and the employment opportunities after the completion of the studies.

Keywords: Demand for technical education, Tuition fee, Gender, The Polytechnic, Oyo State

Introduction

Technical and vocational education and training (TVET), according to UNESCO (1979) comprises education, training and skills development relating to wide range of occupational fields, production, services and livelihood. It can take place at secondary, post-secondary and tertiary levels and includes work-based learning and continuing training and professional development which may lead to qualifications. It also includes a wide range of skills development opportunities attuned to the development of literacy and numeracy skills, transversal skills and citizenship skills are integral components of TVET. Similarly, Technical and Vocational Education and training have been recognized globally as tools for empowering people, most especially, the youth, for sustainable livelihood and social-economic development. UNESCO and ILO (2002) defined technical and vocational education and training for the twenty-first century (TVET) as those aspects of education process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life.

According to National Policy on Education (2013), the main objective of technical education is the promotion of vocational education and training, technology transfer as well as skills development to enhance the socio- economic advancement of the country. Technical education plays a vital role in human resource development of a country by creating skilled manpower, enhancing industrial productivity and improving the quality of life. Universally, technical education is meant to provide technical learning that could assist a society in meeting its industrial aspirations.

However, as laudable as the objectives of technical education is towards the development countries the world over, the challenges of enrollment declined in technical education and its related educational programme seem to have become common issues among the developing nations of the world, including Nigeria. According to African Economic Outlook (2010) the enrollment in technical and vocational education in North Africa was 22.95 percent, Latin America was 11.6

percent, South Eastern Asia was 9.5 percent and Sub-Saharan Africa including Nigeria was 5.2 percent of the total enrollment in schools between 2001 and 2005. This ugly trend in enrollment into technical and vocational programme seems unchanged in Nigeria. Higher education students' preferences between the period of 2010 and 2016 clearly demonstrated that youth continues to indicate more interest in non-technical academic programmes than technical or technology oriented programmes. For instance, applications for the Unified Tertiary Matriculation Examination (UTME) revealed a consistent upward trend in university enrolment between 2010 and 2016 as shown on table 1.

Table 1: Statistics on Applications for Higher Education in Nigeria for Years 2010-2016

Year	University	% of Total	Polytechnics	% of Total	NCE	% of Total	Total Application
2010	353,697	88.6	22,165	5.6	23,311	5.8	399,173
2011	1,451,144	97.2	19,830	1.3	22,631	1.5	1,493,605
2012	1,452,874	97.2	16,072	1.1	24,987	1.7	1,493,933
2013	1,668,314	97.2	19,131	1.1	28,912	1.7	1,716,357
2014	1,576,257	96.6	29,833	1.8	26,033	1.6	1,632,123
2015	1,424,628	96.6	30,349	2.1	18,722	1.3	1,473,699
2016	1,543,739	97.8	17,584	1.1	17,673	1.1	1,579,027

Source: Joint Admissions and Matriculation Board, 2010 - 2016

Table 1 shows that total number of applicants received by the Joint Admissions and Matriculation Board (JAMB) for UTME stood at 399,173 in 2010. Out of this figure, about 88.6 percent applied for university education, while only 5.6 percent and 5.8 percent applied for polytechnic and colleges of education respectively. Throughout the period under study, the number of applicants that applied for university as a percentage of total applicant was relatively high with an average of 96 percent. However, the share of the polytechnic (technical) education was about 1.1 percent throughout the period except in 2014 and 2015 when the figures were 1.8 and 2.1 percent respectively.

Consequently, if the low enrolment in the technical education continues and remain unchecked, Nigeria may find it difficult to reduce the unemployment rate which is already on the high side. There may

also be a prevalence of poverty, prostitution, drug abuse, hunger, violence, insurgency, armed robbery and other crimes among the youths.

As a result of the above scenario, this study examined whether there existed any relationship between tuition and demand for technical education on one hand and gender of the students and demand for technical education on the other hand using Polytechnic, Ibadan, Oyo State as a case study.

Statement of the Problem

Technical education plays a vital role in human resource development of a country by creating skilled manpower, enhancing industrial productivity and improving the quality of life. Universally, technical education is meant to provide technical learning that could assist a society in meeting her industrial aspirations. It is however, sad that the sector is currently passing through a difficult phase. One of the challenges facing technical education is low enrollment. According to Ebenehi and Baki (2015) the record of students' preference for polytechnic and monotechnic especially in 2010 showed a very disturbing situation of enrollment decline in these all important educational system in Nigeria. Available statistics in Nigeria revealed fluctuations in enrolment for the technical and vocational education. Also, many research works have been carried out on financing technical education, access to technical education, academic performance of technical students but few research works have been carried out as regards the relationship between tuition and demand for technical education in one hand, and gender and demand for technical education on the other hand using data from Oyo state, Nigeria. This study therefore filled this gap by investigating the relationship between tuition and demand for technical education in one hand, and gender and demand for technical education on the other hand using data from the Polytechnic, Ibadan, Oyo state, Nigeria.

Scope and Purpose of the Study

The study covered the students of The Polytechnic, Ibadan, Oyo state, Nigeria while the main purpose of this study was to empirically establish the relationship between tuition fee and demand for technical

education, and gender and demand for technical education using data from Oyo state, Nigeria.

Research Questions

a. Does any relationship exist between tuition fee and demand for technical education in Oyo State Nigeria?
b. What relationship exist between gender of the students and demand for technical education among students in Oyo State, Nigeria?

Research Hypotheses

The following hypotheses were tested in this study:

Ho1: There is no significant relationship between tuition fee and demand for technical education in Oyo State, Nigeria.

Ho2: There is no significant relationship between gender and demand for technical education in Oyo State, Nigeria.

Significance of the study

This study will serve as an important tool to the Technical and Vocational Education generally and polytechnic education planners in particular, the government (both state and federal), and other stakeholders such as: students, private educational investors, technical colleges and polytechnic staffs etc. In addition, the study contributes to the literature by investigating the relationship between tuition and gender on the demand for technical education which to the best knowledge of the researcher has not been done using data from Oyo state, Nigeria.

Literature review

This section discussed the empirical findings of various researchers on the influence of variables like; tuition and gender on the demand for technical education. The findings are discussed based on the effects of the variables identified in the study.

Tuition Fee and Demand for Technical Education

Tuition fee refers to the amount of money which a student pays for being taught particular subjects especially in university, college or private schools. Theoretically, there supposed to be an inverse

relationship between demand for higher education and tuition fee. Several works have been done on the influence of tuition fee on demand for higher education. For instance, Psacharopoulos and Patrinos (2004) affirmed that, an increase in the cost of education investment, whether in the form of direct charges for tuition fee or the opportunity costs of attending, may lead to a reduction in enrollment decisions. They emphasized that, increases in tuition fees at one institution may result in a re-allocation of students from that institution to another of comparable quality and size, but at lower prices.

Similarly, Sissoko and Shiau (2005) empirically provided the determinants of enrolment at Historical Black Colleges and Universities (HBCUs) from 1976-1978 among black students as the average cost of tuition and Pell Grant per student, the retention rate, federal policies, and black population trend. The result revealed statistically significant negative relationship between enrolment and education cost, but positive for Pell Grant per student while in contrast; the coefficient of the real median black income was positive but insignificant. That is, a rise in the real average cost of tuition would result in a decline in black student enrolment at HBCUs. The study further revealed that an increase in the need-based grant by the federal administration would make access to college education possible to a significant percentage of black high school graduates. It was concluded that, without periodic increases in financial aid to reduce the effect of inflation, the access of blacks to university education would be difficult.

Still on tuition, Öckert (2012) pointed out that the size of tuition costs are most important to poorer families. The presence of scholarships will have the same (but opposite) effect as it also reduces the cost of education for the individual. Also in the case of financial aid, the poorest families have the most impact of such policy, but depending on the arrangement of the policy, also participation decision of individuals without direct credit constraint may be affected. A combination of the mentioned mechanisms may target only some groups. The establishment of an additional institution, but with higher tuition fees than others, will increase supply only for wealthier families.
In contrary to other studies on the effects of tuition on demand for higher education, Soo and Elliott (2008) investigated the factors determining overseas students' decisions to apply for an undergraduate degree at a UK university. Using the Hausman-Taylor estimator, their

result revealed a strong positive correlation between fees and number of application for these universities. It was suggested that though their result contradicted the *apriori* expectation of an inverse relationship between the price of a commodity and demand for a commodity, it revealed multicollinearity among the variables used in the study.

Gender and Demand for Technical Education

Empirical investigations on the influence gender on demand for tertiary education abound in the field of economics of education. One of these was a study undertaken by Otieno and Ndayambaje (2015) on gender and area of specialization vis-à-vis students' enrolments in undergraduate degree programmes by platform in public universities in Kenya considered the cases of Moi University and Nairobi University. The study used secondary data collected from the registration offices of the respective universities for the academic years of 2003/2004 and 2004/2005. The data were presented in the forms of text and tables. The analysis undertook majorly the quantitative pathway using percentages and chi-square. The overall findings have shown a discrepancy in students' enrolment per gender and area of specialization and hence lead to the rejection of the stipulated null hypotheses. The study made a number of recommendations that would enhance the universities programmes' cost-effectiveness and labour market orientation.

In the case of Ghana, a study carried out by Atuahene and Owusu-Ansah in 2013 on a descriptive assessment of higher education access, participation, equity and disparity. In the study, it was revealed that tertiary education in Ghana had witnessed tremendous growth in various frontages such as; increased access and participation, relative expansion of academic facilities, a growing private sector, and most importantly, a transformative policy environment. Despite these overwhelming developments, it was observed that there remained inequalities in the higher education system in Ghana. Access has not been broadened to include all social groups. Available data suggested unequal participation among women, minorities, individuals from low socioeconomic backgrounds, and spatial-based disparities. Using enrolment data from universities, policy document from the Ministry of Education, and the National Council for Tertiary Education in Ghana, and academic research reports, the authors provided descriptive and

critical analyses of the structures of inequalities and disparities in higher education in Ghana. The authors argued that in spite of the massive developments over the years, there exists accessibility and participation gap with respect to students' socioeconomic status, gender, regions of origin, and the type and location of secondary schools attended.

Further evidence was provided in Pakistan by, Batool, Sajid and Shaheen in 2013 when examining enrollment in higher educational institutions from gender perspective. The main objectives of the study was to investigate the existing situation of women and men that are enrolled in both public and private universities as well as their representation in top management position in the universities. The authors made use of secondary data and descriptive statistics was used to analyze the data. The study revealed gender gaps in universities enrolment as well as in the top management levels. In other words, there were more men at the top management levels and more male students' enrolment in the universities.

When investigating regional and gender differences in the determinants of demand for schooling both in terms of enrolment and grade attainment in Kenya, Kabubo Mariara and Kirii (2006) used Probit and ordered probit regression methods to model enrolment and attainment respectively. The study investigated the impact of child and household characteristics, household welfare indicators and community variables. The result revealed that household characteristics, quality and cost of schooling are important determinants of demand for education services in Kenya. The result further suggested that there were regional and gender differences in responsiveness of demand for schooling. Specifically, demand in the rural areas was more responsive to policy changes than in the urban areas, while girls would be more affected by policy changes than the boys. It was recommended that the government should target the regions in its efforts to boost and sustain demand for schooling in Kenya.

From Mabhanda, (2016) on the call for gender balance, leveling the engineering gradient for female students and using Gweru polytechnic as a case study, the researcher used purposive and random sampling technique to select 10 lecturers, 5 parents, and 40 students from engineering division. The research employed a case study approach where data was collected through focus groups, face-to-face

interviews, questionnaires and document analysis. The study's findings highlighted that little knowledge, unfavourable working conditions, lack of funds to pursue engineering career trade, challenging and demanding courses for females, low entry qualifications and discrimination against females by the society were noted.

Methodology

This research adopted a descriptive survey design to assess the determinants of demand for technical education in Oyo state, Nigeria. The population of the study consisted of 3,641 students of The Polytechnic, Ibadan during the 2016/2017 academic session. Through a simple random sampling technique a sample of 364 respondents (10%) was selected across the five faculties and 28 departments of the institutions. The Tuition Fee, Gender and Demand for Technical Education Questionnaire (TFGDTEQ) was developed and structured on a 4-point rating showing: Strongly Disagree (SD), Disagree (D), Strongly Agree (SA) and Agree (A) to "Strongly Agree" to collect data. The questionnaire was divided into four (4) sections. These include: demographic information section where the respondent's personal data was sought. Sections B-D sought the respondents' reactions to tuition and gender as determinants of demand for technical education in Oyo state. The draft questionnaire was presented to experts in Department of Educational Management for corrections and useful suggestions and corrections were made to improve the quality and validity of the questionnaire. The questionnaire was tested on 30 students from Ibadan City Polytechnic, Ibadan for its reliability and the Chronbach Alpha coefficient of 0.72 was obtained. However, out of the 364 questionnaires that were administered, 11 questionnaires which represent about 3 percent of the sample were either not returned or invalid. Therefore, a total of 353 respondents returned and correctly filled the questionnaires given to them.

Frequency counts and simple percentage were used to analyze the biographical data of the respondents and research questions while Pearson Product Moment Correlation Coefficient were used to analyse the null hypotheses at 0.05 level of significance.

Findings and Discussion

Research Question 1: Does any relationship exist between tuition and demand for technical Education in Oyo State Nigeria?

Table 2: Tuition fee and demand for technical education

S/N	Items	SA	A	D	SD	Mean	S.D
1	Flexibility of tuition charges influenced my decision to opt for technical education	53 15%	144 40.8%	86 24.4%	70 19.8%	2.51	.97
2	Technical Education is more affordable than other higher educational institutions	35 9.9%	142 40.2%	88 24.9%	88 24.9%	2.35	.96
3	My financial capability is responsible for my decision to enroll for technical education	53 15%	72 20.4%	105 29.7%	123 34.8%	2.16	1.06

Table 2 revealed the analysis of tuition as a determinant of demand for technical education in Oyo State. It can be seen that 55.8% (197) of respondents supported that flexibility of tuition charges influenced their decision to opt for technical education while 50.1% (177) of them agreed that technical education was more affordable than other higher educational institutions in Oyo State. It can equally be seen that 64.6% (228) of the respondents responded that their financial capability was not responsible for their decision to opt for technical education. Summarily, the result shows that majority of the respondents agreed that tuition has greater influence on their choice of higher institution.

Research Question 2: Does gender influence the demand for technical education among students in Oyo State, Nigeria?

Table 3: Gender and demand for technical education among students in Oyo State

S/N	Item	Response	Frequency	Percent
1	To what extent has your gender influenced your decision to opt for technical education?	i. Very Low Extent ii. Low Extent iii. High Extent iv. Very High Extent	105 107 88 53	29.7 30.3 24.9 15.0
	Total		**353**	**100.0**

Table 3 shows the analysis of gender and demand for technical education among students of The Polytechnic Ibadan, Oyo State. It can be seen that 29.7% (105) of the respondents to a very low extent and 30.3% (107) to a low extent agreed that their gender influenced their decision to opt for technical education while 15% (53) of them to a very large extent opined that their gender influenced their decision to opt for technical Education in Oyo State. The implication of this result is that the gender of the respondents had no strong influence on demand for technical education.

Testing of Hypotheses and Interpretation of Results

Hypothesis 1: There is no significant relationship between tuition fee and demand for technical education in Oyo State, Nigeria.

Table 4: Summary of Pearson Product Moment Correlation on relationship between tuition fee and demand for technical education

Variable	N	$\dot{X}$	S.D.	DF	r	Sig.	Remark
Tuition Fee	353	7.017	2.454	351	.554**	.000	Significant
Demand for Technical Education	353	14.266	2.076				

**Correlation is significant at the 0.05 level (2-tailed)

Table 4 reveals the result of the relationship between tuition fee and demand for technical education in Oyo State. The result showed that there was a significant positive relationship between tuition fee and demand for technical education in Oyo State, Nigeria ($r = 0.554$, $df = 351$, $p<0.05$). This implied that an increase in tuition would cause a significant increase in enrolment in technical education in Oyo State. Therefore, the null hypothesis 1 is rejected. Although, this result contradicted the *apriori* expectation of an inverse relationship between the two variables, but this may suggest that the tuition of technical education has been low and this has made the students to believe such a school should be for the poor and indigent students. The result corroborated the findings of Soo and Elliotte (2008) who investigated the factors determining overseas students' decisions to apply for an undergraduate degree at a UK university, their result revealed a strong positive correlation between fees and number of application for these universities. However, the result was contrary to the findings of Psacharopoulus and Patrinos (2004) that, an increase in the cost of education investment, whether in the form of direct charges for tuition or the opportunity costs of attending, may lead to a reduction in enrollment decisions.

Hypothesis 2: There is no significant relationship between gender and demand for technical education in Oyo State, Nigeria.

Table 5: Summary of Pearson Product Moment Correlation on relationship between gender and demand for technical education

Variable	N	$\dot{X}$	S.D.	DF	r	Sig.	Remark
Gender Influence	353	2.252	1.043	351	.008*	.877	Not significant
Demand for Technical Education	353	14.266	2.076				

*Correlation is not significant at the 0.05 level (2-tailed)

Table 5 presents the result of the relationship between gender and demand for technical education in Oyo State. The result revealed that

there was no significant relationship between gender and demand for technical education in Oyo State, Nigeria ($r = 0.008$, $df=351$, $p>0.05$). This implied that the students' gender was not significant but was related to their demand for technical education in Oyo State. Therefore, the null hypothesis 5 is not rejected. The result is supported by Tansel (1998) where determinants of school attainments of boys and girls in Turkey were investigated. The purpose of the study was to examine the determinants of educational attainments at the primary, middle and high school levels. Attainments of boys and girls were examined separately so as to shed light on the causes for the significantly lower level of attainment for girls. The study revealed that the most consistent factors affecting higher educational attainment were parents' education and household permanent income. However, the result is contrary to Johanson (2014) in the determinants of demand for higher education in Albania. He concluded that "gender, the dimension of urban/rural, religion, parental education and parental previous membership in the communist party all in some ways influence the probability of having completed tertiary education, conditional on having completed upper secondary education".

Conclusion and Recommendations

In this study, the researchers investigated the relationship between tuition fee and demand for technical education on one hand, and gender of the students and demand for technical education on the other hand, in Oyo state, Nigeria. Descriptive survey research design was used while the research instrument was Tuition Fee, Gender and Demand for Technical Education Questionnaire (TFGDTEQ). The results supported the view that tuition fees charged by technical institutions had a statistically significant relationship with demand for technical education, while, gender of the students does not have any significant relationship with demand for technical education in Oyo state, Nigeria

Based on the findings from this study, the following recommendations are suggested:

Firstly, government and other stakeholders in the technical education should look into the issue of access to technical education for a large number of qualified students are denied access either as a result of limitation in admission quota or inadequate facilities to

accommodate them. If these issues are addressed, it would go a long way in improving the technical education enrolment.

Furthermore, adequate funding should be provided in the promotion of technical education in Nigeria. The small and medium scale entrepreneurs who are mostly graduates of technical institutions should be granted access to revolving loans so as to encourage them. If this is done would enhance the provision of necessary technical equipment for effective training.

There should be Technical education tuition fees should also be flexible in such a way that people would not see the school as one that is meant only for the poor and indigent students alone.

Finally, Technical education should be made to be gender friendly i.e. there should not be discrimination against any sex in terms of courses available in the technical educational institutions.

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