

**DETERMINANTS OF CHOICE OF COURSES IN SOUTH -WEST
NIGERIAN UNIVERSITIES: IMPLICATIONS FOR MILLENNIUM
DEVELOPMENT GOALS**

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SUPERVISORS' ATTESTATION

This is to certify that this thesis titled "Determinants of Choice of Courses in South-West Nigerian Universities: Implications for Millennium Development Goals" was carried out under our supervision and that it is the original work of Ilusanya, Gboyega Remi.

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CERTIFICATION

This is to certify that the Thesis:

**“DETERMINANTS OF CHOICE OF COURSES IN SOUTH WEST
NIGERIAN UNIVERSITIES: IMPLICATIONS FOR MILLENNIUM
DEVELOPMENT GOALS”**

Submitted to the
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is a record of original research carried out

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DEDICATION

To **God Almighty** who gave me the vision to pursue this programme, directed where and who remained faithful to me to the end

And

To my ever loving wife, **Olusolape Afolake Favour Ilusanya** whose professional calling also demanded this kind of pursuit but had to deliberately slow down on her own pursuit to adequately take care of the home and our budding seeds from God who began to arrive in the midst of the pursuit. May God strengthen me to support you more than you did now that it is your turn

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Ilusanya, Gboyega

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ABSTRACT

This study examined some variables that are linked to student choice of courses and the implications of this on the achievement of the millennium development goals. The relationship of course prestige, earning potentials and employment opportunities to choice of courses was examined. Likewise, the level of parental influence and gender on students' choice of courses was investigated by the study. The study focused on conventional universities in South-West, Nigeria. Survey and correlation designs were utilized. Stratified random sampling technique was used to select both the institutions and the students that participated in the research. Four universities comprising of two state universities and two federal universities in the South –West were selected while a total of 3186 undergraduates from all the departments of the participating universities were selected. Two research instruments were used for data collection. The first instrument, Undergraduates Description of Choice of Courses Questionnaire (UDCCQ) collected primary source data from selected undergraduates while the other one collected secondary source data from Joint Admissions and Matriculations Board (JAMB). Six research questions and four hypotheses were raised. Data were analysed using descriptive statistics of percentages, mean, standard deviation, ranking and bar charts. The hypotheses were analysed using coefficient of ranked order correlations, t-test, regression analyses, one way analyses of variance (ANOVA). All hypotheses were tested at 0.05 level of significance. The major findings are that the trend of choice of courses persistently deviated from national targets with no significant improvement over the years, gender differences in choice of courses persisted with men out-numbering women in almost all courses except arts and education, reasons for gender differences in choice of courses are related to societal long held cultural traditions about male and female roles. Significant relationship was found between course earning potentials and choice of courses, and between social prestige and choice of courses. The relationship between employment opportunities and choice of courses was found to be weak and not statistically significant. The independent variables of employment opportunities, earning potentials and social prestige jointly significantly determine the dependent variable of choice of courses. No significant difference was found among undergraduates on the influence of parents on their choice of courses in the four universities. Students from different universities (both federal and state) do not differ significantly on the influence of parents on choice of course as they reported that parents do not really influence their choice. Some significant implications based on the findings were that educational administrators should become more aware that university education courses should be seen more as a product market where consumers (students) interest and choice behaviour needed to be stimulated. University education seekers will not just align with national targets by automatically enrolling in courses of national interest as they are more interested in the benefits that accrue to them as individuals. Educational administrators over-reliance on existence of a policy that could steer students towards courses of national interest will amount to continuous failure in delivering the needed stock of human resources for attainment of MDGs. Based on these findings and implications for theory and practice, recommendations to ensure that students course choice selection behaviour supports the realisation of national targets and millennium development were made and they include-innovative curriculum redesigning and updating, imbibing the product market approach by universities to ensure compliance with national targets, introduction and strict implementation of affirmative action policies on gender representation in university education, building gender parity and equity principles into university quality assurance indicators and measurement, conducting regular graduate destination survey, adequate strategic planning that is implemented, government making

available information that could enhance student selection behaviour ,strategic alliances between universities and secondary school where most students take decision and the need to use federal and state scholarship awards to serve as incentives for students to choose courses that could advance the attainment of national objectives and millennium development goals

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CHAPTER ONE

INTRODUCTION

Background to the Study

Higher education is more than the capstone of the traditional education. It is a key mainstay of human development worldwide. In today's lifelong learning framework, tertiary education provides not only the superior skills necessary to meet the demand of knowledge based labour markets but also the training for essential teachers, doctors, nurses, civil servants, engineers, humanists, entrepreneurs, scientists, social scientist and other personnel (Helms, 2008). For any nation to have competitive edge in international affairs, it must have designed its educational system in a way that will have impact upon increasing challenges of economic development, technological advancement, political, leadership and culturally connectivity. The attainment of superior competitive edge rests upon the quality and type of human resources and extent of the nation's plan for the development of these human resources.

Nigeria's experience at developing her human resources dated back to 1948 when the Yaba Higher College was established. As the nation approached independence, it became imperative to develop different categories of human resources in the right quality and quantity to fill the inevitable vacancies that would be created as a result of the indigenisation of key positions in the new nation.

To meet with the challenges of the human resource needs of the independent Nigeria, the then Federal Minister of Education appointed in April 1959, a Commission on Post-School Certificate and Higher Education 'to conduct an investigation into Nigeria's needs in the field of post school certificate and higher education over the next twenty years' (Taiwo, 1980 :123). This Eric Ashby headed Committee Report produced the impetus for

the increase in number of Universities in the country. This Commission recommended the establishment of a University in Lagos and one in Zaria as well, for the purpose of increasing as soon as possible the stock of high level human resources which the nation required. This stock of human resources even then was expected to focus on courses that had relevance to national developmental needs in the absence of global development targets. The Universities have since increased in number from original five in the early sixties to ninety-two universities made up of thirty four private universities, thirty state universities and twenty-seven federal universities (National Universities Commission, 2008).

The establishment of universities in the early sixties and the continued approval of more public and private universities are all geared towards ensuring that universities fulfill one of the major goals of tertiary education which is "to contribute to national development through relevant high level manpower (human resource) training"(Federal Republic of Nigeria, 1998:31). The achievement of this very vital goal by the university system hinges upon some determinants like course employability, gender roles and characteristics, social prestige of courses, peer influence, parental influence, students interest, earning potentials, self efficacy etc. Unfortunately, these determinants appear not controlled as the nation prepares to steer the youth to courses that are believed to be more important to national development.

The Ashby Commission Report was a remarkable call upon Nigeria to establish an appropriate organizational arrangement for the purpose of assessing human resource needs and for formulating programme for effective human resource development throughout the federation on a continuing basis (Ojo, 1986). This served as the central

recommendation, which stressed that human resource development must be articulated with programmes of capital formation and human resource planning should be regarded as an integral and indispensable part of general planning for economic development. The Commission's recommendations subsequently formed the basis of the educational and human resource programmes of the Nigerian government.

The National Universities Commission (NUC) was established in 1962 as an organisational arrangement for the development of the nation's high-level manpower (Oni, 1997). At inception, NUC had four functions among which was to ensure that the goals of the Universities and the human resource needs of the country are co-terminous as far as practicable without violating the basic autonomy of the Universities in academic matters. Whether there is efficient working relationship between NUC and the universities to jointly produce the needed human resources over the years appear contentious.

Nigerian Universities by their design produce the high level human resources needed by the economy. Olutola (1986) emphasised that there is need for right balance of human resources so as to avoid structural human resource imbalance, that is, inadequacy in some fields and gluts in others. With proper planning of the higher education, in particular University education, imbalance in structure and quantity are not expected. Government is convinced that Universities can make optimum contribution to national development in different areas. This conviction was expressed in the National Policy on Education, NPE as follows:

there is need to intensify and diversify University
programmes for the development of the high level

manpower within the context of the needs of the economy.

This should not prejudice intellectual training in basic sciences and the liberal arts; to enable Universities to do this, there will be more effective machinery for the identification of important needs of the economy and to this end, to guide the Universities on the nation's manpower needs, the National Manpower Board is represented on the National Universities Commission (FRN, 1981:27).

Implicitly the Nigerian Government has a preconceived ideology that production of graduates from Nigerian Universities should be geared towards the needs of the economy and that planning of education in the University must reflect the value orientation of the individual and the society. Likewise, in the professional fields, course contents should reflect our national requirements and that consultation would be encouraged between the Universities, the employers and the government.

The human resource policy for the production of high-level human resources from the Universities in Nigeria has been put at a ratio of 60:40 for science/technology courses against humanities (FRN 1981, 1998 & 2004). This ratio defines the desire of Nigerian government in respect of undergraduate choice of courses. The ratio of technology courses to administration was put at 70:30 for polytechnic education. Yolo (1988) noted that the ratio was first set at a Conference in Tananarive (Madagascar) in 1962 and it was a regionally set target which individual African countries including Nigeria adopted. The 60:40 ratio was based on the conference estimate of the scientific and technological human resources required for the implementation of the recommendation of

the Addis Ababa conference that the content of education should take account of technological progress and economic development. At the home front, Diejomaoh (1985:16) shed light on the basis for the introduction of the 60:40 enrolment ratio when he noted that "the need to correct the imbalance in the human resource production pattern of the past made National Manpower Board to set the 60:40 enrolment ratio in favour of the sciences in the 60s". This ratio has since been adopted for the purpose of national development and also the realization of the millennium development goals which has become a global development benchmarks for very many countries. The ratio has consistently featured in the National Policy on Education 1981, 1998 and 2004.

The World Bank (1988) noted that the continued contribution of higher education to the development in the area of human resources production in African Universities is being threatened by certain interrelated weaknesses, one of which is that the mix of the output of higher education was no longer well suited for development. To further support the findings of The World Bank on the mix of human resources in African countries, Aziz, Buen, Hock and Sanyal (1987) while analyzing the expansion of higher education in Malaysia noted that the rapid expansion of higher education has created as many problems as it has solved. Principally among these are lack of relevance of the content and structure of the system of higher education with respect to national needs since in most countries the expansion did not take into consideration the changing national needs in political and economic spheres.

Yoloye (1988), Joint Admission and Matriculation Board (Olagboye, 1999a), Olagboye (1999b), Okebukola (2002), NUC (2005 and 2006) and Pereira (2007) in their analyses have shown that the 60:40 enrolment ratio was never met at anytime since its adoption

by both federal ,state and even private universities thus creating opportunity to conclude that the mix of human resources produced in Nigeria do not possibly align with our developmental needs.

Some issues appear surprising about the trend of enrolment. First, that despite the fact that federally owned universities are monitored and coordinated by NUC on behalf of the Federal Ministry of Education for the Federal Government of Nigeria; these universities still defy the desired choice pattern in enrollment ratios recommended by the federal government. Two, despite having eight federally owned specialised universities and more than five specialised state universities that are naturally expected to enroll almost 100% science based students the enrolment ratio and choice of courses still disfavoured science (NUC,2006). The whole scenario is that despite over forty years of initiation of 60:40 ratio in favour of science against humanities, the realization of this ratio still appears farther now than before.

A Report on the output of some Universities had shown that the trend of the output in favour of Humanities' graduates has continued. In five Universities sampled in Nigeria, social science and management courses are still in high demand (The Punch 8th February,2005). The output is definitely a reflection of the enrolment pattern. The choice of academic programmes selected by students that are university ready is a critical factor in the realization of development targets, policies and objectives of the national policy on education and more importantly the globally agreed measurement of development in this millennium called the millennium development goals which Nigeria, as a state party in the United Nations scheme, has obligation to meet and fulfill.

The Universities are expected to help fulfill the national goal of admission that favour science against humanities which incidentally is the nation's human resource planning policy thrust for intakes and outputs of the Universities. Lin (2004) reported correlation between education in mathematics, science and engineering and improved economic performance. Lin (2004) provided additional information when he examined the effects of concentration of different disciplines on output and found that the study of natural sciences and engineering had the largest effect on output. This national goal of admission that is also expected to translate to similar output bearing no wastages in Nigeria which is put in the ratio of 60:40 is based on what the nation assumed critical for her development and perhaps the realization of the global development targets. In Portugal for instance, a general decline in the number of applicants to higher education necessitated a study by Tavares, Tavares , Justino and Amaral (2008) which found that socio-economic, cultural employability prospects, gender and other factors have significant influence on students choice of courses.

Education is the cornerstone of development (National Planning Commission, 2004). Societies which do not develop are those who do not invest or see education as their development priority. However, we need to ask whether investment in every type of education produces the same type of development outcomes. As countries became more concerned about development, the world bodies particularly the United Nations began to evaluate and identify some common denominators of development. As a proof of agreement to this, Nigeria became a signatory to the Jomtien Conference of 1990 and endorsed the framework for action to meet basic learning needs; Nigeria participated in the Ouagadougou 1992 declaration on the education of women and girls and Dakar framework of action in 2002 and agreed to the six goals of Education for all (EFA).

To incorporate and make holistic case for development and to ensure that in the age of globalization, countries achieve some acceptable level of progress, the United Nations General Assembly adopted specific resolutions in the year 2000 which centered on the evolution of global development goals for all countries. This led to the adoption of what is referred to as eight millennium development goals. These goals challenged nations to take positive steps towards defeating crucial issues that challenged economic, social, cultural and political development. The eight goals according to United Nations (2007) include eradicating extreme poverty and hunger, achieving universal primary education, promoting gender equality and empowering women, reducing child mortality, improving maternal health, combat HIV/AIDS, malaria and other diseases, ensuring environmental sustainability and developing a global partnership for development.

United Nations assessment of progress made by different continents and countries of the world revealed that African countries including Nigeria are off track and the whole of sub-Saharan Africa has been identified to be off track to meet a single one of the these goals (United Nations, 2007). No African country (Nigeria inclusive) actually met the target date of eliminating gender disparity in primary school enrolment by 2005. (EFA Global Monitoring Report, 2007). All the MDG goals and indicators are globally accepted measures of individual country development. Obanya (2006) noted that all the MDGs are science and technology related.

One of the most critical challenges towards the realization of major aspects of the MDG is the availability of appropriate skilled personnel to propel development in all the areas of the economy such as health, culture, social infrastructure, poverty reduction, combating diseases and empowerment of women (National Planning Commission, 2004).

Also, the analysis of Nigeria's status on the MDG shows that the country may not attain or realize any of these goals especially in relation to combating HIV/AIDS, malaria, improving maternal health and reducing infant mortality due to scarcity of skilled personnel. (National Planning Commission, 2004). The provision of these needed human resources by higher education institutions such that there is alignment with national requirement (national choice) is one of the cardinal goals of tertiary education including universities. However, studies conducted in Australia, United States, United Kingdom, Portugal has revealed that undergraduates do not just select courses and that their course selection habits are influenced by a lot of factors and determinants. These determinants include gender roles (Jacob, 1986; Bradley & Charles, 2004), earning potentials (Berger, 1988), employment opportunities and labour market trends (Norton, 2001; Cornor, 2001), social prestige (Izuwah, 1983; OECD, 2006), parental influence among others. Report has however shown that more work has been done on transition from school to university in relation to choice of courses in United States of America than in Australia (James, 2003). It is therefore, imperative to investigate the trend of choice of courses pursued by students in Nigerian universities by paying detailed attention to determinants of the choice pattern in our context.

Statement of the Problem

One of the most serious challenges towards the realization of major aspects of the MDG is the availability of appropriate skilled personnel to propel development in all the areas of the economy such as health, culture, social infrastructure, poverty reduction, combating diseases and empowerment of women.

Universities as agents of human resource production (in order to maintain human resource balance) are expected to focus on those disciplines that will enable the country develop and also achieve the global targets for development as noted in the millennium development goals. However, there has been so much concern about the pattern of production of human resources from Nigerian institutions in terms of conformity with policy regulations on the production pattern and distribution of human resource for development. There has been a phenomenal expansion of university education provision for the purpose of meeting the national and global development targets. However, the phenomenal expansion and individual demand for placement had continuously tilted heavily towards certain disciplines/courses in Nigerian Universities

To further confirm the situation painted by the World Bank, NUC (2005) lamented that 'there is a gaping mismatch between the sort of human resources needed to grow the economy and the pattern of undergraduate applications'. The 60:40 admission ratio in favour of sciences against humanities is a policy direction for steering meaningful national development in line with what the nation assumed is her priority. Yet, after four decades, this is yet to be reached.

The emerging issue of concern for university education system in relation to national development and millennium development goals is that what students are applying or showing interest to study as exemplified by students' choice intentions in University Matriculations Examinations (UME) applications is opposed to the recommended pattern of human resource policy plan for the output of the Universities and may have implications on the realisation of the millennium development goals.

Choosing a major (course) is an important decision (Al-Dosary and Rahman, 2006). Making the right choice will save time and money (Andrews, 1997). The problem therefore is not only choosing a course but a course relevant to one's needs and national needs.

There appears a conflict between what individual perceives as advantageous to him or her in the choice of courses and that of the nation. The choice dilemma applies to students who have the requisite qualifications to enter one form of higher education or the other, in particular University education. But studying the motivations for certain decisions at the end of secondary education and before entering University tends to reflect on what is important to students at this age and who and what has influence on the decisions made by young people who are entering the University system. While it is reasonable to think that everybody arrives at points in their lives on their own, it really may not be the case. Many factors do play into the paths and choices students make. There are forces that set individuals on particular academic programmes, which must not be ignored.

This study therefore investigates some social (gender, roles/characteristics, parental influence and social prestige) and economic (employment opportunities and earning potentials) variables that often determine students choice of courses in selected Nigerian universities and how these determinants relate to Nigeria's potentials to achieve the global millennium targets of achieving universal primary education, poverty reduction, achieving gender equality at all levels of education including tertiary level, reducing child mortality, improve maternal health and combating diseases

Objectives of the Study

Gender, employment opportunities, parental influence, social prestige, course earnings potentials are suspected in this study as determinants of undergraduates' choice of courses in selected universities in Nigeria as reflected in the courses students applied to study in the universities. Specifically, this study sought to determine:

- (1) the variations in the choice of courses among undergraduate students;
- (2) the gender differences in the choice of courses among undergraduates in Nigerian universities;
- (3) the differences in undergraduates rating of courses on the variables of earning potentials, social prestige and employment opportunities;
- (4) the relationship between undergraduate students perception of course earning potentials, social prestige, employment opportunities and choice of courses;
- (5) the differences in level of parental influence (if any) on undergraduate choice of courses; and
- (6) the implications of the variables of students choice of courses on the achievement of millennium development goals in Nigeria.

Research Questions

The following research questions were developed to guide the study:

1. Are there variations in the choice of courses among university admission candidates in Nigeria?
2. Would gender be a differentiating factor in the choice of courses?
3. What are the patterns of undergraduate students' ratings of courses based on course earning potentials; employment opportunities and social prestige?

4. What informs the students' perceptive rating on the variables listed in 3 above?
5. Are there differences in undergraduates' perception of reasons for gender differences in choice of courses among the universities?
6. What are the implications of the determinants on choice of courses on the millennium development goals?

Research Hypotheses

1. There is no significant relationship between undergraduates rating of courses on earning potentials and choice of courses
2. There is no significant relationship between undergraduates rating of courses on employability and choice of courses.
3. There is no significant relationship between undergraduates rating of courses on social prestige and undergraduates' choice of courses.
4. There is no significant difference in undergraduate students perception of parental influence on choice of courses among the universities

Significance of the Study

A review of literature from studies conducted from outside Nigeria showed the pattern of choice of courses among undergraduates in universities and higher education in general. These studies also provided data and knowledge about why students choose their course of study. Evidence from literature has not pointed to local study that revealed the trend, reasons for students' choice of course and also relate it to the attainment of global development target called the millennium development goals which Nigeria as a state party in the United Nations system has obligation to fulfill, formulate appropriate policies

and directly provide assistance or services towards its realization. What was evident from local literatures are some short-term analysis of pattern of choice of courses that does not reflect the situation of the twenty-first century and also lacking in the provision of evidence to support the noticed pattern.

Therefore, the study is significant to the extent that it contributed data to the area of choice of courses of study particularly the reasons for the trend of choice of courses, the gender dimension, employment opportunities, course earning potentials and parental influence as they relate to the choice of courses situation. It also contributed data on how the determinants of choice of courses has implication on Nigeria's realization of the millennium development targets especially in the areas of achieving universal primary education, poverty reduction, achieving gender equality at all levels of education including tertiary level, reducing child mortality, improve maternal health and combating diseases. The data generated will assist educational planners and administrators, National Universities Commission, Federal Ministry of Education and State Ministries of Education, National Educational Research Development Council, National Manpower Board and the National Planning Commission and all other stakeholders that participate in formulation of educational policies to refocus and assess the implications of present practices in respect of university education and the millennium development goals.

Scope of the Study

The study focused on undergraduates in South- Western universities in Nigeria. The study has been limited to the South -Western universities because the geo-political zone houses 30 out of the 92 universities that are operational in the country which comprises of federal, state and private universities and as such would be representative of what could

be found across the country (NUC, 2008). (See appendix 2,3,4 for the list of universities in Nigeria).

Theoretical Framework

Some theories of decision making and investment decisions in education are relevant to this study. Decision theory models have been applied to the conceptualization of choice processes of students (Gesinde, 1986). These theories were adapted from economics. Gellat & Hilton (Gesinde, 1986) identified characteristics which all decisions possess as follows:

- (1) There is an individual who has a decision to make.
- (2) He/She must select one course of action from all alternatives before him on the basis of information he has on them. Such decisions are either terminal or investigatory. If it is investigatory, the individuals continue gathering information on each remaining alternatives until a final decision is made.

However, it is suggested that in making a final decision, the individual has to satisfy himself of the fact that his decision has a high probability of success that the outcome of the decision will be agreeable with his value and system and that the decision has satisfied an evaluative criteria.

The Bounded Rationality Decision Making

In this theory, the decision maker is seen as someone who must make a decision when information available is incomplete. Koontz and Weichrich (1994) also referred to it as limited rationality model. This is due to the fact that limitations of information, time and uncertainty limit rationality. Decision makers may not be completely rational in practice.

They sometimes allow their dislike of risk and desire to "play it safe" to interfere with their desires to reach the best solution. Individuals rather than making the best or ideal decisions often settle for a decision that will adequately serve their purposes. Herbert Simon (Koontz & Weichrich, 1994) referred to this as satisficing, which is picking a course of action that is satisfactory or good enough under the circumstances.

March & Simon (Peretomode 1991) made the point clearer when they stated that most decision making (whether individual or organizational) is concerned with the discovery and selection of satisfactory alternatives and only in exceptional cases are they concerned with discovery and selection of optimal alternatives. The decision maker is likely to be very much concerned about himself rather than society good and will likely invest in ventures perceived to be of immediate benefit and will thus rely on information available in the instant.

To further establish the relevance of this particular theory to this study, the research findings of McInnis and James (1995) in respect of choice of courses in Australia and the work of Yorke (1999) in United Kingdom becomes relevant. Report of Centre of Higher Education in Australia noted that one third of the first year school leavers believed by hindsight, they were not ready to choose a university course during their final year of school. This implies that they just choose a course eventually anyhow whether they have genuine information source or not (James, 2003). This attitude by undergraduates choosing a course of study is consistent with the bounded rationality theory postulation. This behaviour has been attributed to the incidence of wrong choice found among students in United Kingdom which has become one of the explanations for undergraduate non completion in United Kingdom (Yorke, 1999).

Information that are relevant to students decision making process for choice of courses are not always available or accessible to students as decision makers(Cornor,2001),yet research has revealed that students seeking places in higher education especially those from lower socioeconomic background want better information in three areas in particular viz: about courses and study facilities, cost of courses and employment outcomes from different courses (Connor, Burton, Pearson ,Pollard & Regan,1998).Decisions about which course to enroll in the higher education system involves a sense of risk. The sense of uncertainty and risk is added to by the confusion or lack of awareness about what university would cost, range of financial support that could be available and importantly what the employment prospect would be (Cornor, 2001).

Information shortfall for students making decisions about higher education and university courses have been found to be very rife and will have severe impacts on decisions of many students but less impact on those who perhaps possess some sort of cultural capital (those who have access to informed advice from parents, siblings, friends ad teachers (James,2003).

Cost-Benefit Analysis of Education

Education is now universally recognized as a form of investment in human beings which yield economic benefits and contribute to a country's future,wealth by increasing the productive capacity (Woodhall, 1992). Woodhall while defending her write up on cost-benefit of education, raised some fundamental questions that has bearing on this study – Are all forms of education equally productive? Is education a profitable form of

investment for the individual as well as for society and if so do pupils, students or their families take this into account when making educational and occupational choices?

There has been long-standing evidence that show that private return for individuals is higher than that of the society in respect of higher education (Pasacharopoulos and Parinos,2002) Though this assertion is at present being challenged by new research evidence that reveal that certain variables might have been neglected in the analysis of private returns in respect of higher education and that the returns on investment might be more to the society than to the individual(Bloom, Canning and Chan,2005).

Individual's investment in education is a human capital formation process and also a decisional issue, which every potential University student is faced with at one point in time. The course eventually pursued by a student out of the various options is determined by a lot of factors. The choice of courses opted for at the end are decisional issues that border on what programmes to invest on among the variations of course offerings in the University irrespective of the national or global developmental needs. Students are faced with decisional problems of which courses to invest in whether engineering programme, medical science programme, administration, management, pharmaceutical science, natural science, liberal arts, humanities, education or agriculture.

Hax & Wiig (Fadipe, 1998) explained that capital investment decision problem involves determining the capital options to which is made the allocation of large amount of money with plans for recouping the initial investment plus adequate profits from cash flow generated during the economic life of the investment. Human capital investment requires large amount of money and the effect is long lasting. The long lasting effects of capital investment decision imply long planning horizons.

Most of the decisions in some of the stages of decision making for an intending undergraduate can be irrevocable allocation of resources. It is irrevocable in the sense that it could be impossible or too costly to reverse after any of such decisions has been made. Dans & Morall (Fadipe, 1998) commented on the irrevocability of human capital in comparison to physical capital and opined that:

... many human capital investments are irrevocable whereas most physical investments can be undone. If the wrong computer is installed in a plant it can be replaced... once a PhD is earned in aerospace engineering, it is almost too late to earn an M.D.

The decisions that the human capital investor (students/parents) must make are unique to each individual and are more likely to be irreversible.

Theoretical Model

(Fadipe, 1998) presented the decisional pathway through which human capital investor usually follow from stage I to VI as shown in Fig 1.

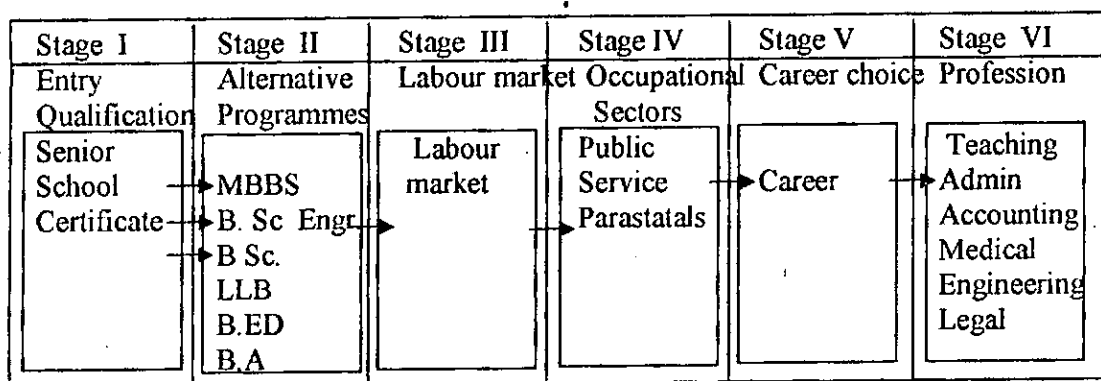


Figure I: Fadipe's model of the analysis of decision process in career choice.

Source: Studies in Educational Planning and Administration, SEPA 1(2). NIEPA Ondo, 1998

From the Fadipe's model, one would observe that the basis for making choice of alternative programmes is the entry qualification; the model goes on to present what happens after a degree is earned at occupational and career level. While this study is also about decisional issue in relation to choice of courses, it does not involve itself in the career choice nor is it interested in the profession that graduates invariably enter into in the future. This study modified Fadipe's model of 1998 to infer that after entry qualifications into universities are obtained, intending undergraduates face decisional problem of what type or sort of courses or discipline to invest in.

While the National Policy on Education (NPE) specifically came up with a ratio of 60:40 in favour of science based disciplines, which is also towards the realisation of national development needs and the millennium development goals as well, students have individual reasons for pursuing university education and so make their choices based on some determinants, which they interact with before and after obtaining entry qualifications into universities. The interaction provides a flow pattern for the kind of choice made and the number of persons pursuing various kinds of courses in the university. This flow patterns produce the output skills in terms of the degrees, skills and actual distribution of labour in the Nigerian labour market. Fadipe's model of 1998 was very useful in the sense that it provided the basis of alternative courses for individuals, profession, career choice and even occupational sectors but failed to provide the underlying reasons, factors, and interactions that made undergraduates to opt for alternative programmes that continued to reflect in the segregation observed in choice preferences in the universities.

The researcher therefore, modified Fadipe's model to reflect some social and economic factors that intending undergraduates contend with and how these form the basis of the

pool of skills available in the labour market and the implications of these pool of skills on Nigeria's realisation of some the millennium development goals by the target date of 2015. This is presented in Fig II. Fig. II depicts the kind of relationship that exists between an intending undergraduate and some variables of the study. The interaction takes place before and after obtaining the basic qualification to enter a university .The results of the interactions are reflected in what candidates are showing preference to study in terms of courses and this produce the degrees and skills available in the labour market and thus the proportion of the skills and the implications of this on the millennium development goals.

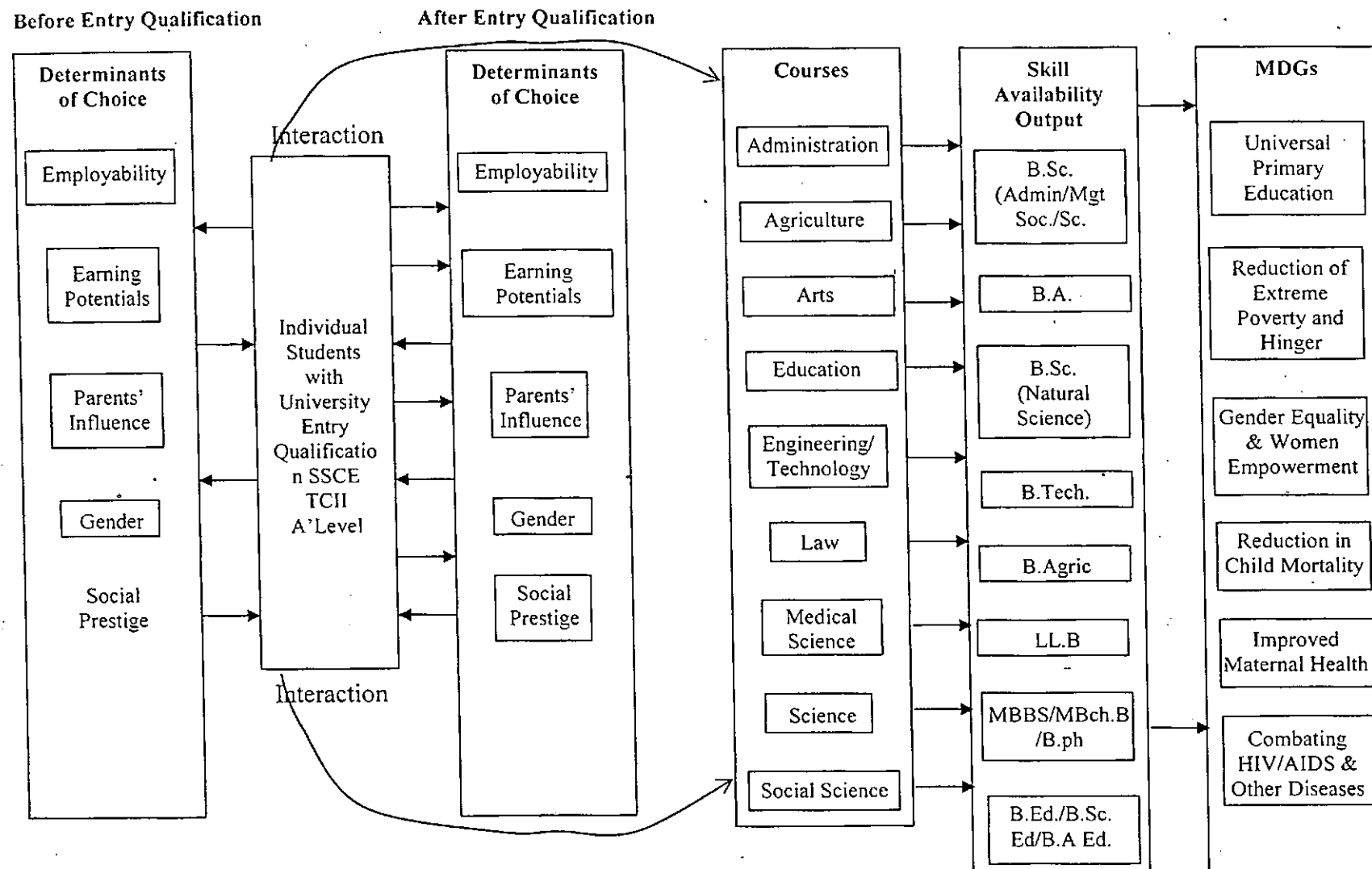


Figure II: Conceptual model of undergraduate students' choice process, output and millennium development goal linkage
Source: Author

In the model presented in Fig II, the following are crucial in determining the choice of courses of undergraduates in universities and hence the possibility of realizing national and global development targets as represented by the millennium development goals

Employment Opportunity

This refers to the possibility of a particular academic programme /choice of course presenting easy opportunity for employment in the labour market. This means the possibility of a course providing faster route towards being employed after obtaining a degree in such course relative to other course options

Earning Potentials

This is the perceived rate of earnings /income /salary a particular course attracts in the labour market. It is measured by the undergraduates' perception of what a course offers in terms of pay/salary/income relative to other courses offered in the university.

Parental Influence

This refers to the level of interference exerted by parents in determining the courses undergraduates opt for in universities. This becomes important owing to the level of involvement of parents in the investment on the education of students in Nigerian universities.

Gender

This refers to biological differences in male and female students that may influence their decisions to pursue one academic discipline or course against the other

Social Prestige

This refers to the societal respect/disrespect and status attached to studying a particular discipline by the society that may encourage or discourage someone in pursuance of such courses.

Operational Definition of Terms

The following terms are defined below, as they were operationalised in this study:

Courses: Courses for the purpose of this study are the aggregation of the academic programmes into nine categories namely – Administration, agriculture, arts, education, engineering & environmental technology, law, medical sciences, science, and social science. The categorization of courses into nine is an amalgamation of the categorization of Joint Admissions and Matriculation Board and that of National Universities Commission.

Conventional Universities: These are public universities in the South – West Nigeria that has the approval of National Universities Commission to run all forms of courses and academic programmes. They are universities that are not restricted in their course offerings.

Determinants: These are the variables that have been linked through literature to undergraduate students' choice of course. They include social variables, like parental influence, social prestige, gender and economic variables like course earning potentials, employment opportunities.

Choice: This is in relation to course of study, refers to preferences, sentiments and biases undergraduate students have in selecting or opting to pursue one academic programme against the other.

Millennium Development Goals: These are a set of eight goals approved by United Nations in 2000 with a deadline that by 2015 all member states should have achieved them. However, only six of the eight goals namely reduction of poverty and hunger, achievement of universal primary education, gender equality at all levels, reduction of child mortality, improved maternal health and combating HIV/AIDS, malaria and other diseases are directly relevant to this research.

Limitations of the study

There are quite a number of variables that were encountered from literature from studies conducted in different parts of the world as being related to choice of courses. Trying to study all these variables in this study will amount to a journey of endless research. Given the time available and resources, moreso that no study had actually focused on the determinants of choice of courses among university students and implication for millennium development goals it is just imperative to open up this area of study by studying few variables that could thereafter stimulate more questions and more researches in this area of study.

This study therefore, merely investigated some social variables (social prestige and parental influence) and economic variables (earning potentials and employment opportunities). The study was not concerned with some other variables like peer influence, students' interest, teacher influence, counselors influence and self efficacy expectations. The study has however open up this area of knowledge to provoke further researches that could assist realization of national objectives, development and ensure closer realization of global development targets.

CHAPTER TWO

LITERATURE REVIEW

Introduction

One of the challenges facing agencies of government charged with the responsibility of admitting students into Nigerian universities; in such manner that the national goal of admission that specifies the ratio of 60: 40 in favour of science disciplines has been the inability of these agencies to ensure compliance of both students and the universities to the recommended national choice pattern. While it is necessary that the outputs of undergraduates and skills churned out from universities align with what could assist in helping the nation to achieve national and global development benchmark called millennium development goals, it is also imperative to understand the various factors that influenced individuals in respect of the choice process. This chapter reviewed literature from both empirical and theoretical sources on the various variables studied in this research under the following headings: "

- Trends of Choice of Courses
- Earning Potentials and Choice of Courses
- Employment Opportunities and Choice of Courses
- Gender and Choice of Courses
- Parental Influence and Choice of Courses
- Social Prestige of Courses and Choice of Undergraduates
- Millennium Development Goals

Trend of Choice of Courses

Enrolment rates in higher education in sub-Saharan Africa are the lowest in the whole world. Though gross enrolment ratio was found to have increased in the past 40 years, it

was just 1 % in 1965 and increased to 5 % in 2004 (Bloom, Canning & Chan, 2005). Participation rate and enrolment growth rate in higher education in Africa has been slow in Sub-Saharan Africa and the absolute gap by which it lags behind other regions increased rapidly. However, some countries like Nigeria intensified effort to increase enrolment in higher education particularly university education. In Nigeria for instance total enrolment increased in 1980 from 74,331 to 275,515 which implied a growth rate of 15% per year during the period. Enrolment almost doubled between 1988 and 1998. By 2005, university enrolment reached 780,001 (FME, 2007). New entrants which is a more sensitive indicator of growth also increased by 35% between 1991 and 1997. This increase in enrolment had been made possible by increase in applications into the universities.

Oyebade (2005) reported the trend of increase in the applications into Nigerian universities. The trend showed that applications increased from 14, 526 in 1970 to 114,397 in 1980, from 145,567 in 1981 to 255,638 in 1990, from 287,572 in 1991 to 418,928 in 2000. From the year 2001, the figure had increased sporadically numbering over eight hundred thousand applicants in 2001/2002 and exceeding a million in 2002/2003. The number that wrote for 2008 also exceeded a million applicants. The direction of this massive increase in demand for higher education especially university education is welcome but what became worrisome since the seventies and up till this time had been the trend of the choice of courses as shown in the application pattern and the admissions into the university. The distribution of undergraduates by the courses they applied for through JAMB and the statistics of enrolment by courses is a reflection of the students' choice. Yolo (1988) analysed the enrolment pattern into the university in Nigeria for several years especially between 1971 and 1988 and found that the national

choice as reflected in national policy in respect of science/humanities ratio was never met for those periods. Further extrapolation of the choice process from the Annual Abstract of Statistics by the researcher using the compliance with science/ humanities ratio showed that the ratio was never met. Table 1 shows the choice pattern as reflected by the enrolment statistics in science and humanities between 1972 and 1998.

Table 1

Admission Ratios Between Science and Humanities

Year	Science	Humanities
1971-72	53.50	46.50
1972-73	49.20	50.80
1973-74	57.10	42.90
1974-75	57.80	42.20
1975-76	54.60	45.40
1981-82	49.90	50.10
1982-83	50.03	49.97
1983-84	50.50	49.50
1984-85	51.10	48.90
1985-86	52.20	47.80
1989-90	42.95	57.05
1990-91	44.40	55.60
1991-92	46.30	53.70
1992-93	48.23	51.77
1993-94	51.80	48.20
1994-95	52.70	47.30
1995-96	56.00	44.00
1996-97	55.85	44.15
1997-98	55.93	44.07

Source: Yoloye E. A. (1998) Educational Institutions in National Development: Paper Presented at 1st National Congress of Science & Technology
Computations from Annual Abstracts of Statistics 1987, 1996, 1997 and 2001, Federal Office of Statistics.

A further analysis of these enrolments trend was conducted by Okebukola (2002) who reported that the majority 36% of students are enrolled in Arts courses while 30% were enrolled in social sciences. He also noted that among the general classification of humanities, courses like law, accounting and business administration are the most favoured courses while education is the least favoured. Less than 30% of the universities met their admission quota for education from first choice application while in contrast law and accounting are more than 400% subscribed.

The latest analyses of the trend of enrolment and the evaluation of compliance of universities with national choice pattern was conducted by the National Universities Commission .NUC (2006) ranked Nigerian universities on the level of compliance with the 60: 40 ratio of science to humanities admission. Tables 2, 3 and 4 show the compliance level of federal, state and private universities covered by the survey.

Table 2:

Science Based and Arts Based Ratios in Nigerian Universities 2004/2005 for Federal Universities

Federal Universities		Student Enrolment			
		Science Based		Arts Based	
		No.	%	No.	%
1	University of Ibadan	9700	51.2	9257	48.8
2	University of Lagos	12419	45.1	15113	54.9
3	University of Nigeria, Nsukka	15693	56.3	12174	43.7
4	Ahmadu Bello University, Zaria	11359	37.1	19293	62.9
5	Obafemi Awolowo University, Ile-Ife	13445	50.9	12990	49.1
6	University of Benin	17011	61.7	10566	38.3
7	University of Jos	828	50.5	811	49.5
8	University of Calabar	1273	9.6	11920	90.4
9	Bayero University, Kano	14063	47.2	15762	52.8
10	University of Maiduguri	9120	36.6	15806	63.4
11	Usman Danfodiya University, Sokoto	7986	54.6	6632	45.4
12	University of Ilorin	9148	48.7	9638	51.3
13	University of Port-Harcourt	2039	17.5	9618	82.5
14	University of Uyo	8753	53.5	7616	46.5
15	Nnamdi Azikwe University, Awka	12259	49.8	12347	50.2
16	University of Abuja	1660	15.4	9127	84.6
17	University of Agriculture, Abcokuta	8792	100.0	0	0.0
18	University of Agriculture, Makurdi	3377	100.0	0	0.0
19	Michael Okpara University of Agric. Umudike	1550	96.0	65	4.0
20	Federal University of Technology, Owerri	22725	89.4	2703	10.6
21	Federal University of Technology, Akure	8028	100.0	0	0.0
22	Abubakar Tafawa Balewa University, Bauchi	7097	88.0	964	12.0
23	Federal University of Technology, Minna	15228	100.0	0	0.0
24	Federal University of Technology, Yola	8082	72.3	3094	27.7
25	Nigerian Defence Academic, Kaduna	497	51.0	478	49.0
26	National Open University	1876	29.0	4591	71.0
Total		224008	58.1	190565	41.9

Source: National Universities Commission – Monday Memo 27th February, 2006

Table 3:

Science Based and Arts Based Ratios in Nigerian Universities 2004/2005 for State Universities

State Universities	Student Enrolment			
	Science Based		Arts Based	
	No.	%	No.	%
Rivers State University of Science & Technology				
1	11001	54.7	9094	45.3
2	2811	25.1	8366	74.9
3	12317	35.3	22597	64.7
Ladoke Akintola University of Technology,				
4	5639	92.8	436	7.2
5	1868	25.0	5618	75.0
6	1411	11.9	10492	88.1
7	9847	30.3	22628	69.7
8	1103	100.0	0	0.0
9	703	14.6	4116	85.4
10	4229	46.6	4844	53.4
11	5420	35.8	9723	64.2
12	7574	45.0	9246	55.0
13	6095	29.9	14297	70.1
14	2335	32.9	4753	67.1
15	942	66.2	482	33.8
16	3461	50.6	3378	49.4
Cross River State University of Science				
17	1664	57.1	1248	42.9
Total	78420	44.3	131318	55.7

Source: National Universities Commission – Monday Memo 27th February, 2006

Table 4:

Science Based and Arts Based Ratios in Nigerian Universities 2004/2005 for Private Universities

Private Universities		Student Enrolment			
		Science Based		Arts Based	
		No.	%	No.	%
1	Igbinedon University, Okada	1249	41.6	1755	58.4
2	Madonna University, Okija	2537	47.0	2856	53.0
3	Babcock University, Ilisan Remo	1238	36.8	2125	63.2
4	Pan African University, Lagos	0	0.0	94	100.0
5	Benson Idahosa University, Benin	596	19.7	2427	80.3
6	Covenant University, Otta	1612	37.3	2706	62.7
7	Bowen University, Iwo	806	29.9	1891	70.1
Total		8038	30.3	13854	69.7

Source: National Universities Commission – Monday Memo 27th February, 2006

From the tables only four universities among the federally owned universities had 100% compliance and all these four are specialized universities, the remaining twenty two federal universities simply did not comply with the nationally agreed choice pattern. When the seventeen state universities were considered, only three of them complied with the recommended choice pattern while the remaining fourteen never complied. Even the three that complied, two were from among the specialized state universities. Among the seven private universities none complied at all with the national choice process.

The application pattern of undergraduates through Joint Admission and Matriculation Board which is seen as more reflective of undergraduates choice process has also showed some distinct patterns which has never aligned with the realities of national need and the

global need that could ensure the realization of the millennium development goals. This application pattern had necessitated several cries from some individual scholars, JAMB and Federal Ministry of Education. Federal Ministry of Education (Olagboye, 1999a) in a memorandum submitted to National Council on Education in 1998 noted that summaries of choice of courses made by applicants into Nigerian universities would make meeting the 60/40 ratio in favour of sciences difficult to achieve. Also memorandum submitted by FME in 1999 (Olagboye, 1999b) noted that the pattern of undergraduate applications indicated that more candidates applied to faculty of social sciences more than any other faculty.

Furthermore, the pattern of output of graduates from Nigerian Universities also reflected that the expected national choice pattern has been defied. Extrapolations from FME (2007) on graduate output from Nigerian universities by choice of courses between 2000/2001 to 20004/2005 provided more useful information. The percentage output showed that 62.17% of graduates were from humanities in 2001, 64.96% in 2002, 64.86 % in 2003, 62.89% in 2004, and 85.95% in 2005. A further analysis on the basis of courses revealed that for the five academic sessions, graduate output from social sciences were consistently higher than any other discipline and when the output of social sciences were merged with that of administration they were jointly responsible for more than 40 % for each of the five academic sessions.

Further review of literature on the trend of choice of courses at individual university level was carried out. Arikewuyo (2004) analysed data from Olabisi Onabanjo University (formerly Ogun State University), Ago-Iwoye, for 1999/2000 session and found that out of a total of 11,065 students enrolled in 1999/2000 session 3, 193 (29%) are studying

science based courses, while 7,869 (71%) are enrolled for the liberal arts and social sciences. He also reported that at the University of Ibadan, in 2000, out of a total of 3,866 first degree graduands, 2,366 (61%) studied arts and social sciences related courses, while 1,500 (39%) read science based courses. At the postgraduate degree level, in the same university 73.3% were in humanities related courses while 27% were in sciences. The trend reported by Arikewuyo (2004) perhaps revealed that there are possibly masked differences by discipline/courses from one university to the other.

In Columbia, students' enrolment in the various fields of knowledge is rather unbalanced. In 1997, the fields of administration, economics, accountancy and related subject matters of study accounted for 32% of the total enrolment, while fields of engineering, architecture and urban planning amounted to 27% and the fields of mathematics, natural sciences, agronomy, veterinary medicine and related areas, hardly reached 2% (Revelo and Hernandez, 2003).

In Czech Republic, Orr (2005) used group of study programmes and reported that the number of students within the system of higher education had nearly doubled over the past decades. However, subject specific statistics show that the growth had been uneven. By 1999/2000, the proportion of students in each subject area was 6.2% in natural science programmes; 29.5% in technology programmes, 3.9% agricultural programmes, 6.3% in medicine and pharmacy programmes, 18.8% in economics programmes; 14.4% teacher training programmes, 19.47% social sciences programmes and 1.7% in art programmes. When this is observed closely, arts programmes had least enrolment followed by agricultural programmes, natural science and then medicine and pharmacy programmes in Czech Republic.

In Mexico, there is greater concentration of school demand in areas and professional courses associated with the service sector. Generally, enrolment decreased in agricultural sciences, natural sciences and the exact sciences, a trend that has continued since the 1980's. Health sciences, education and humanities areas have remained constant at a proportion of supply of 9% and 5% respectively, without taking into account enrolment at teacher training colleges. In contrast, the social and administrative sciences controlled their expansion to cover practically one-half of total first degree enrolment in higher education sector. As at 2005 in Mexico, one-third of total enrolment is concentrated in just three options: Law 12.2%, Accounting 11.1% and Administrations 10.2%. Approximately 70% of total higher education enrolment is associated with tertiary sector of the economy in Mexico.

Johanson (1999) showed that for several decades in The Philippines in spite of economic problems of the country, enrolment in business administration and commerce has been the highest in all fields of specialization between 1988 and 1998. In 1988, enrolment in business administration stood at 357,400 or 27.2% share of the total tally and in 1998 enrolment increased to 532,600 while the percentage remained at 27.8%. Business Administration maintained the first rank during these periods. Enrolment in engineering maintained the second rank. Enrolment in engineering increased from 288,800 (20.8%) in 1988 to 316,500 or 16.5% in 1998. While the aggregate enrolment increased for engineering, its share of the total enrolment decreased. Education was in the fourth rank in 1988 with 188,600 students and moved to the 3rd rank in 1998 with 306,300 students. Table 1 provides details of the changes in the pattern of the choice of courses in The Philippines higher education system between 1988 and 1998.

Table 5**Changes in Trend and Choice of Courses in The Philippines Between 1988 and 1998.**

Course 1988	%	Rank	Courses 1998	%	Rank
Bus Admin	27.2	1	Bus Admin	27.8	1
Engineering/Arch	20.8	2	Engineering/Arch	16.5	2
Health Related	16.2	3	Education	16.0	3
Education	14.6	4	Arts/Science	14.9	4
Arts/Science	14.5	5	Health Related	7.8	5
Legal	2.5	6	General	4.7	6
Agric	1.8	7	Agric	3.6	7
Theology	0.2	8	Legal	2.8	8
Others	1.7	9	Others	5.9	9

Source: Johanson R.K., 1999. Higher Education in Philippines Technical Background, Paper No.30, Manila: Asian Development Bank.

Some changes are noticeable in the trend of choice of course in The Philippines between 1988 and 1998. Education moved from 4th to 3rd rank, health from 3rd to 5th, legal courses moved from 6th to 8th, Agriculture, Business Administration and Engineering retained their ranks of 7th, 1st, and 2nd respectively. These data reflected the changes in the trend pattern of the output of courses. Johanson (1999) however, noted that education courses was able to move from 4th rank in 1988 to 3rd rank in 1998 choice pattern because there was improvement in teachers total annual compensation from PS 30,000 in 1988 to PS 81, 216 in 1998 which attracted students to enroll in education programme.

In Australia, Norton (2001) reported on university application data from the Victorian Tertiary Admissions Centre that the humanities and social sciences have the third highest number of first preference applications of the thirteen main areas of study making a sixth of all such applications. This is only a few percentage points below the proportion of all commerce students who eventually enroll in humanities and social sciences courses.

An important factor in the number of applications for Arts is the rationing of places. Universities control the number of places in each field and the major mechanisms for deciding who is admitted to what is preference in year 12 exams. Arts are relatively easy courses to get into. For example at Monash University in 1997, Arts required a score in the top 20% while Law is top 5%.

Earning Potentials and Choice of Courses

Choosing a major can often influence a potential career path for the future. If one is searching to basically make a lot of money, certain major have been found to be more conducive to that goal than others (Reid, 2002). Money has also been found to be a considerable incentive for major choice (Mariani, 1997). Some majors/courses are perceived to be more lucrative. More than one quarter of those who choose major/course did so due to fields earning potentials (Mariani, 1997). Berger (1988) in his study after controlling for background characteristics, the probability that an individual will choose one major over the others increases as the present value of the predicted future earnings stream of that major increases relative to that of others. The study of Berger reinforced the view that individuals consider future earnings when making educational investment and challenged the notion that individuals choose fields of study in a myopic manner. Students were found to enroll in engineering for three possible reasons which includes

possibility to earn good living (Actua, 2003). Deadings (1973) found that prospect for higher earnings is a possible reason for demand for higher education.

Graduates with bachelor's degrees in engineering, for example, earn 40 % more in their first year on the job than do those with bachelor's degrees in education in United States of America (National Centre for Educational Statistics, 1991). Jacobs (1995) examined the earnings of college graduates between 1978 and 1991 in USA using engineers as baseline against which others groups were compared. The ratio of first year earnings for teachers to those of engineers is 0.6, same as that of graduates of humanities. Social scientists earned about 70% of what engineers earned. The first year earnings of graduates with business degrees declined whereas the first year earnings of those in biological sciences, mathematics, physical sciences and health professionals rose. The college major or professional specialization affects subsequent occupational earnings possibilities (Angles & Wissman, 1981). Setidisho and Sanyal (1992) investigated higher education and employment in Botswana and found that students desire to pursue courses of study that leads to employment in a field with good income. A large number of students express a preference for a field of study, which offers the highest economic returns. Earning expectations vary by field of study in a research conducted in Botswana, medical and law students had similar earning expectation that were higher than those of engineering students. Engineering students had higher expectation than the students of faculty of science.

Norton (2001) did an extensive work on labour market problems of arts and humanities graduates in Australia. His findings revealed that the peak median salary for humanities graduate checked with 45-49 age bracket was \$ 37,900 a year. This was well below the

median salary for graduates overall of \$45,100 indicating that the wage dispersal evident between disciplines as graduates enter the workforce widens over time. In contrast, the social sciences improve reaching a median salary of \$45,200 in the 45-49 age bracket just above that for graduates generally. The impression that medicine, law and dentistry are financially rewarding is confirmed by the census data with their median salaries at age 45-49 being \$78,000, \$63,500, and \$60,800 respectively.

Graduates in social science and humanities median starting salaries are below the median for all graduates. One reason for this is that many are working in areas for which tertiary qualifications are not required (underemployed) and so are not earning a premium reflecting their extra years of education. Nearly one-third of female humanities graduates 15% of males with full time jobs are in occupations classified as clerical, sales or services. Starting salaries of humanities graduates declined relative to Average Weekly Earnings (AWE) in 1997. Graduates of humanities earned 96.9% of AWE, indicating that a university degree in this field provided a good start for people to improve their earnings. By the time of the next survey in 1999, things have worsened with humanities graduates earning 86.1% of AWE. The decline was reportedly due to the numbers of Arts graduates taking jobs that might otherwise have been held by people with low education. One study estimates that one-third of the decline in salaries since 1989 is due to Arts graduates shifting into jobs with lower pay. Evidence from Australia showed that while employability of graduates from Arts and humanities improved most of them never earn high salaries

In another study, England and Allison (2003) noted that choice of major is shaped by the earning potentials of the field.

Employment Opportunities and Choice of Courses

Every course has employment implications. The choice of course made by students has such implications also. Employment oriented student strongly believed that their qualification would meet their labour market aspirations while some academic sees universities as a place where knowledge is pursued for its own sake but that is a view that is radically at odds with intentions of students. The overwhelming majority attend university to improve their job prospects. A study conducted in Australia showed that 95.9% of university students were there to get a job. Between 1970 and 1997, student number in higher education rose by 108% in Australia. The rise was way in excess of employment growth and what the labour market can absorb. The over supply did not just happen occasionally but continued for the last 20 years and this has led to decline in employability and salaries (Norton, 2001).

Morgan (1992), Erim & Stewart, (1997) explained that there exist a relationship between market opportunities and educational choices. Jacobs (1995) noted that educational credentials facilitate access to rewarding jobs. The economic benefits derived from education partly reflect the fields of study students select and women remain segregated from men in this regard.

Neave (1985) found that the most important reason why people go to university as expressed by students in Britain was to gain useful qualification and to study for a career. A study of second year undergraduates noted that 90% mentioned factors related in one way or the other to future occupations as one important consideration. In particular, 72% felt that a degree would give less to more interesting job; 51% considered a better found jobs, 47% more encouraged by need for a wider choice of occupation and 24% were

motivated by need for more secured employment. Deading (1973) conducted similar study and also found better career prospect, better chance of employment. The usefulness of a choice of course for a particular job was found to be more important than any other factor (Gordon & William, 1976). Labour market opportunity was extremely influential in USA & Britain for choice of courses (Dale, 1979). Department of Employment Survey (1981) showed that students are more likely guided by current employment opportunities in the labour market than on government statement or manipulation.

Australian Bureau of Statistics (1997) reported the labour market unemployment rate for people with degrees and that of humanities was put at 5.3% not as good as Business Administration at 2.8% or engineering at 2.7% or health at 1.6% but much better than not completing school. This implies that different disciplines or courses faces different stress or strains in terms of employment opportunities of graduates from this field and students who are aware of levels of difficulties of getting employed with certain programmes of study may not opt for such courses notwithstanding the human resource policy in operation. Students decided on their choice of course of study mainly because of employment and career choice factors (Sanyal & Setidisho, 1992). In UK, in 2005, largest numbers of vacancies were reported in accountancy/investment banking, law, engineering, industrial company's and retail business sector.

Obtaining accurate data on employment situation in Nigeria appears like chasing the shadows. Dabalen, Oni and Adekola (2001) made frantic efforts to appropriately identify the labour market situation of graduates in Nigeria. Their findings were limited by unavailability of recent data on graduate tracer studies, manpower (human resource) surveys which had become suspended. However using the limited information available

and the employment information data gathered by NISER between 1991 and 1999 from newspaper advertisement provided information on the kind of skills required by the economy. The data being longitudinal provided information on trend and the demands for various skills.

Dabalén, Oni and Adekola (2000) found that health had the highest vacancy with 20% and closely followed by engineering with 19%, accountancy had 15%, marketing and computer had 9% each, and education had 6% while Insurance and Agriculture had 2% each. The study noted that it was in 1999 that a major upsurge for vacancies adverts in health sub-sector made it possible for the sector to lead the pack. This report implies that changes could occur in the labour market leading to specific needs that the university system must attempt to provide courses that would produce graduates to meet the changes in the labour market. This trend was related to the HIV/AIDS pandemic that has called for the need for more health workers. The Report concluded that the pattern of the vacancy advertisement has implications for the mix of graduate skills that universities should produce for the labour market.

In another report (The Punch 25th April, 2006) noted that graduates of management related courses are having a swell time in the Nigerian labour market. Between February and March, 2006, 190 (56%) out of 308 jobs advertisement in two major Nigerian newspapers, The Punch and Guardian favoured graduates with University degrees or Higher National Diploma in marketing, economics, accountancy, banking and finance as well as public administration. One hundred and ninety (56%) out of 308 vacancy adverts actually requested for management science graduates, 49 (14.49%) of the adverts requested for engineering graduates, 27 (7.6%) requested for medical personnel.

Education had 24 (7.1%) advertisement with language education and science education mostly demanded for. Law graduates had 10 advertisements (2.95%), natural sciences, pure science and food technology shared the remaining 8 (2.36%) Humanities and social science graduates have experience heavy drops in employment opportunities from which there has been no full recovery. The gap between unemployment rates for humanities and Social Science graduates and graduate generally which had been only 10% widened to 67% .Jacob (1985) noted that the selection of educational specialties reflects occupational segregation prevalent at the time students make their educational choices. He explained further that students make choices to pursue educational areas that they can reasonably expect to lead to a good job and perhaps a career upon graduation

More recent researches Alchieri and Charezuk (2003) reported that student's choice of information technology as a major is influenced by the state of job market related to that field. Decisions regarding majors in part reflect options in the labour market. Kevin, Taylor, Ian, Bates and Geoffrey (2004) reported that students who study pharmacy are almost certain of securing employment on graduation. School leavers choice of courses in university is strongly influenced by employment rates of graduates in the course and even the reputation of the course among employers of labour in Australia (James, 2003). In furtherance of research on courses and employment implication of courses, Cornor (2001) noted that different courses have different graduate employment patterns and employers also have their stereotypes when courses are mentioned. Making the right choice by students has been found to increase the chances of obtaining job the student will enjoy (Andrews, 1997).

Elsewhere, emerging institutional adaptation to labour market mismatch include creating a knowledge conditions with other knowledge producing centre in society, establishing more effective labour market linked to career counseling in universities and greater private sector involvement in curriculum consultations, faculty attachment, student placements and research findings (Boateng, 2002).

Demand for degree based professional skills over the period 1991-1999 centered largely on engineering, business administration, health science, accounting and marketing (Dabalen Oni and Adekola, 2000). In the same period 49% of graduate produced was concentrated in Arts, Education, Law and Social Sciences. The mismatch is clear (Saint, Hartnet and Strausner 2003). While some academics see universities as places where knowledge is pursued for its own sake but that is a view that is radically at odds with intentions of students.

The labour market has been likened to product markets. Ejiogu (1993) stated that the labour market being a product market cannot be expected to have parity in price or price structure because of the differentials in supply and demand equation. He affirmed that although graduate of History, Religion or Social Studies may spend the same number of years paying the same amount of fees, as those in Accounting, Economics or Computer Science in the same University, generally the latter group who are in hot demand (short supply) than the former would tend to earn more in the labour market. No inferiority or superiority status is inferred rather it is the insufficiency of supply relative to demand that would bestow on such "scarce commodity a higher price which higher price would serve the purpose of motivating those in select group". The Accountants, economists, business administrators may be in short supply some years back and may have accounted for the

earning differentials in the time past, but it seems uncertain that the earning differentials that is in existence now can be attributed to demand and supply pattern instead the value placed on various courses and profession may eventually create a differential in earnings.

In an extensive study conducted in Australia, Norton (2001) noted that the Australian higher education systematically produces more graduates in the humanities and social sciences than the labour market can absorb and often does not give them skills university graduates should possess. These problems are very evident in the labour market performance of recent graduates from humanities and social sciences. They are around twice as likely to be unemployed as others in the labour market. For months after completing their courses in 1998, 13% of humanities graduates and 14% of social science graduates were looking for work compared to an overall unemployment rate for all persons of 6.9%. He concluded that if this unemployment rate is added to underemployment rate, then there are over 30% of graduates in these fields who want full time jobs but are without them four months after graduation. These unemployment figures underestimate the employment problem, due to the high proportion of students in these fields that remains in full-time study.

Gender and Choice of Courses

Women and men pursue different fields of study in college(Jacobs,1996).Few systems of higher education can be described as male bastions and the distribution of men and women within the systems are extremely uneven(Bradley,2000;Jacobs1996).The need to be aware of the causes of sex segregation is vital because the economic impact of female tertiary incorporation depends on a large part upon women access to influential institutions and courses(Davies & Guppy, 1997.) Sex typing of the fields of study had

been observed to be a worldwide phenomenon though, there are variations across countries (Moore, 1987).

While striking gender differences in distribution across fields of study have been found even in countries where women are well represented in most privileged sectors of higher education (Bradley & Charles, 2002) and also in places where substantial growth in general female enrolment has occurred. In some developing countries, where increasing female participation trend was observed such has been associated with the creation of the field of home economics ,short cycle education programme and vocational institutions designed to prepare young women for marriage(Fujimore-Foseluwo,1985).In reference to Nigeria, the question that could come to mind is whether the increases in female participation in courses are not associated with the creation of more non science/engineering courses in the universities?

Jacobs (1986) noted that several studies in United States of America have found the important effect of gender on the choice of major courses. In some specializations such as agricultural science, engineering and Physics, male students have predominated. Languages, literature and nursing are among the fields which women predominate.

Jacobs (1995) investigated trends in sex segregation by academic specialty between 1980-1990 and found that business majors grew by 3.8% points while it was being more balanced by sex. By 1985, 45.1% of the recipients of bachelor's degree in business were women. For engineering, female grew from 9.3% in 1980 to 13.8% in 1990. Women and men pursue different fields of study in college. In USA 30% of women would have to

change fields of study in order for women to be distributed in the same manner as men (Jacobs 1990).

The sex typing of fields of study has been found to be worldwide phenomenon and yet it varies in between countries. Jacobs (1996) reported that 51.6% of engineering students are women in Kuwait, compared with 3.3% in Switzerland & Japan (UNESCO, 1998). One of the most striking contrast is within the divided Germany, the former East Germany, 32.4% of engineering graduates were women compared with 7.5% in West Germany. In Poland 62.7% mathematics and computer degrees went to women compared with 35.9% in USA and 21% in Egypt.

Original major field is often associated with the sex of students (Fieldsman & Newcomb, 1994). Men over- choose engineering, physical sciences, pre-medical and business, women are more likely than men to enter the curricular of education, humanities, fine arts, social sciences and biological sciences. Accounting for ability, family background and future labour market activity, there are still strong differences between male and female choice in major (Polacheck, 1978). Distributional inequality or sex segregation in relation to academic choice of courses take the form of female over representation in lower status institutions (Charles & Bradley, 2002) and in fields such as humanities, social science, education and health (Barber, 1995; Bradley 2000; Jacobs 1995 ; Persel, Kang & Sydner 1997).

Male domination of engineering and information technology programmes is particularly conspicuous and there are potential labour shortages in science and technology fields. However, Ramirez and Wotikpa (2001) noted that despite male continued domination of

engineering and technology sphere, it would be an understatement to say that the absolute number of women enrolled in male dominated fields have not increased along with the overall female enrolments.

Modest growth in women's share of science and engineering majors cross-nationally between 1972 and 1992 was observed while the rate of feminization in engineering lagged far behind that in other fields-especially education, humanities and the social sciences(United Nations ,1995) and (European Union Commission ,2000). Bradley and Charles (2004) asserted that growing shortages of qualified engineers, natural scientists and information technology personnel in many countries, the persistent under - representation of women in technical fields of study is increasingly recognized as a significant socio-economic problem as well. Previous researches on this had suggested girls and women disinclination to choose and complete quantitative majors and these reflects perceived characteristics of science and engineering careers including their compatibility with family life and motherhood (Bradley and Charles 2004).

Explanation of female under-representation in elite fields prioritized self esteem (Berryman, 1983) role modeling/teacher encouragement (Hatchell, 1998) attitudes (Hanson, 1996, Shamai, 1996). These studies emphasised the importance of social and cultural context within which educational choices unfold. Aziz, Ruan, Hock & Sanyal (1987) studied the gender pattern of choice of courses in Malaysia and revealed that social science (including education) was more popular among the female students than among the male students. However, engineering and technology courses were more popular among the male students than among the female students.

There is need to examine the gender influence of choice of course, and relate this pattern of choice of course to the realization of the millennium development goals. Lower gender inequality in education actually translates to greater female education at each level of education. However, the status of women at each level of education in particular the tertiary level in Nigeria may be far from the target of the MDG number three. It has been argued that female education promotes the quality and quantity of education of children (Baliga, Goyal & Klasen, 1999). Perhaps, the higher the education the more the effect.

Greater female education and particularly low gender inequality in education is likely to reduce fertility of women (Sen 1999), greater education will increase health knowledge (World Bank, 1993) and the promotion of gender equity will promote reduction of fertility, under-nutrition and child mortality directly and indirectly.

Studies conducted by Bradley and Charles (2002), Persel, Carrie, Trivina and Karrie (1999) and Windolf (1997) had suggested that educational systems differ considerably across countries with respect to sex distributions and that the various dimensions of women's tertiary status in overall enrolment, representation in preferred courses, representation in male dominated fields of study do not covary cross nationally or historically. This implies that across countries the situation differs and these are probably linked to socio-cultural situations, economic and political circumstances upon which higher education unfold.

In the United States of America during the early 1960s, women were concentrated in extremely limited fields. Education courses drew almost half of the women undergraduates and over 70% of women graduates are were concentrated in an extremely

limited range of fields: education, English, fine arts, nursing, history and home economics. However, what women pursue has changed as business majors have become the leading field of study for women (Jacobs, 1996). Some structural and cultural considerations have also been found to possibly affect increased concentration of women in lower tertiary levels and in traditional female labeled fields.

Several dimensions have been investigated on the influence of gender on choice of courses. England and Allison (2003) investigated why some academic fields are tipping towards female. He found that men see it as stigmatizing to enter into fields that are too female. The gender system was perceived too asymmetrical with much greater stigma accruing to men for engaging in female activities than for women engaging in male activities. This was also seen to flow in part from the cultural devaluation of women by associating with roles tied to women culturally. The devaluation has been attached to lower rewards in female fields providing yet another motivation for men to avoid fields as they become feminised. This was also confirmed by Jacobs (1995) who reported that men may avoid such fields because of relatively low pay or because of the fields feminine connotation. To further affirm this sex segregation by field of study was found to have important consequences for women because credentials in male dominated fields such as engineering, business and the natural sciences provide access to jobs with significantly higher starting salaries than those in such female dominated fields as education and humanities (Jacob, 1995; Davies & Guppy 1997; Grubb 1997). Female typed fields of study were found to be low social status than those that are male typed (European Commission, 2000). England and Allison (2003) confirmed that men's response to feminization exacerbates tipping to the point that entry of women to a particular field of study at the doctorate level often lead to decrease in the number of men obtaining a

doctorate in the same field five years later. Jacob (1989) noted traditional choices as college proceeds.

Furthermore, Jacob (1995) also found that women entry into male dominated fields has been the principal cause of decline in sex segregation. The study noted that many young women who start out in male majors switch back to female majors. The scarcity of men in prominent female dominated fields remains significant obstacle to gender integration. England and Allison(2003) concluded that the choice of major and occupational aspirations are themselves shaped by what is seen as socially acceptable for a person by one owns sex .

Bradley and Charles (2004) worked on effect of sex segregation in higher education and found that segregation by field of study is also likely to have important consequences for women because credentials in male dominated fields such as engineering ,business and the natural sciences provide access to jobs with significantly higher starting salaries than do those in female dominated fields. Other dimensions to gender stereotyping was reported by Gaskell(1984) when he insisted that gender stereotyping is reinforced within the school system where girls have traditionally participated in female appropriate courses. Reid (2002) has found that sex role patterns and norms conveyed by schools and families in childhood affect investment in education and training. With the trend appearing in the early stages of students' life within society or home, a trend is inexplicably being shown with gender and major, one that the student may never notice. Further evidence on this was provided by Longe (1997) as affecting female participation in university education in Nigeria and also affirmed in Japan by Research Institute for

Higher Education (1992) when they submitted that much of the curricular at the junior college is geared towards preparing women for future domestic roles.

Study conducted by Bradley and Charles (2002) analysed gender distribution across fields of study in some developed countries based on three way table that cross-classified 1995 graduates by fields, sex and country. Summary of the sex field terms from the model revealed female under-representation in engineering, mathematics/computer science and to a lesser degree in natural science. Female over-representation in education, humanities, health fields and approximate gender parity in social science was found. The exponents of the parameter revealed that women are over-represented in education fields by a factor of three on the average ($\exp 1.16 = 3.18$) and men are overrepresented in engineering by a factor of seven ($\exp 1.97 = 7.17$). In another study by Bradley and Charles (2004), the analyses of graduates choice of courses by gender in twenty six countries found 67% of the humanities graduates and just 16 % of engineering graduates to be females. This striking difference in graduate output continued despite increases in female tertiary education participation.

Historically, in Nigeria, women were mostly enrolled in such courses as arts, business, education, law and home economics. They were discouraged from studying courses or programs in industrial technical education which the majority of the women saw as male profession (Ndahi, 2004). Bradley and Charles (2004) noted that despite cultural and institutional provisions to ensure women's tertiary access in a lot of countries, male and female students continue to make very different pragmatic choices. Analysts trying to understand the phenomenon must consider the cultural and structural contexts in which preferences are developed and curricular choices unfold in particular including the ways

in which characteristics of educational systems interact with norms concerning men and women in the society which are often taken for granted. Tertiary gender distributions have been found to be influenced by the overall rate of female participation in higher education. The large scale tertiary incorporation of women is seen to lead to collective changes in female identity that spill over into domains including traditionally male dominated institutions and fields of study (Bradley & Ramirez, 1996). This empowerment argument suggested a negative relationship between women's overall tertiary participation rate and sex segregation across fields of study.

In Nigeria, the issue of gender equity or parity in higher education never became a national concern until The Longe Commission report 1992 did an examination of women access to university education and made notable remark that indicated a neglect of this area. Pereira (2007) analysed the previous national development plans and rolling plans that had been used in Nigeria noted that "in general ... the development and rolling plans are gender-blind in their treatment of university education". There is a deafening calm surrounding the low numbers of women inside the university as academic staff, non academic staff or students. The apparently gender-neutral orientation of the plan ultimately masks their gender insensitivity.

Parental Influence and Choice of Courses

Bowman (1981) reported that parental influence was high on decision for enrolment in a course not preferred by students in Japan. This was linked to the culture and tradition of the Japanese. Sanyal (1981) in a study conducted in related subject matter in The Philippines found parental pressure to be very heavy on students' choice of courses. In Botswana, parents were found to have a great deal of influence on choice of courses.

Studies conducted by Kahn (1981) in Botswana revealed strong influence of socio-economic background (father's occupation, parents' education, size of family) on students' choice of courses. Parents influence students' choice about where to study and what courses to follow (Brooks, 2003 & 2004; Helmsley-Brown, 1999).

Flint (1992) also posited that there are strong evidences that indicated that college planning for students starts for many families well before high school years and parents exert heavy influence on those plans. In his study Flint found that about half of the time parents are responsible for initiating the college decision attendance. Also in Norway, study conducted by Hansen (1997) noted that parental influence affects choice of track and the level of the university degree for those who choose academic studies with graduate and undergraduate degrees. The study investigated the influence of social and economic background on educational decisions in Norwegian education system and found that parents originating in higher social class are more likely than others to choose prestigious courses in tertiary education level.

In another comparative study conducted by Auyoung and Sands (1997) of the relative influence on choice of accounting courses on students from Australia, Taiwan and Hong Kong, results indicated that parental influence is one of the factors that exerted the greatest influence on choice of courses for students from Australia more than for students from Taiwan and Hong Kong. In a related study, Dryler (1998) noted that parental role models are often put forward as explanation for the choice of gender-atypical educational routes. The study examined the impact of family background variables like parental education and occupation on the choices of educational programmes. The study

found parents working or educated in a specific field increase the probability that a student will make a similar choice of education programme.

Muir (1987) studied the relationship of computer self efficacy expectations to computer interest and course enrolment in college and found that parental encouragement is rife in students decision to study computer at the college. Study conducted by Otto (2000) investigated the role of parents on the career development of youth and the findings confirmed some previous studies that affirmed compatibility between parent and youth values, aspirations which includes choice of courses and plans. The study also affirmed that youth turn more to their mothers more than their fathers when they are confronted about decisions on aspirations. The result of the study underscored the importance of parents as allies and resources for counselors in facilitating youth development. In another study, Woolnough (1994) found home background created by parent as significant factor affecting students' choice of science and engineering. Furthermore, Lappel, Williams and Waldauer (2001) studied the influence of socioeconomic status and parental occupation on choice of college major in USA. The study utilized multinomial logit analysis and data from National Centre Educational Statistics (NCES) and found having father in a professional or executive occupation has a larger effect on female students than those having mother in similar occupation. The opposite was found to exist for males. The study also concluded that women from families that have high socioeconomic status are less likely to major in business while the opposite holds for males. Alchier and Charezuk (2003) reported that family influence is one of the factors that influence students' choice of major especially among information technology students. In addition they found that males attributed choice of major more often to family influences while females cited liking the activity related to the major. It appears

parental influence has a link to cultural setting in each country. In Japan parental influence was attributed to the culture of respect for parents and age. The higher the economic status, the more parents intervene in decision making (Sanyal, 1983). Parental education has been found to generate cultural capital which is tacit and largely transmitted through family (Reay, 1998).

Literature has also suggested that parental education has impact on a lot of issues including decisions about progressing to higher education. Festein (2004) used an extensive literature to examine the impact of a wide range of family characteristics and circumstances on educational success. The study found parental education as a very significant direct and indirect effect. High level of parental education tends to result in material advantage and it informs either directly or indirectly many decisions which shape a young persons life. There is need to investigate whether the variable influence choice of courses pattern in Nigeria most especially the culture of respect for parental wish also appears strong in Nigerian context

Social Prestige of Courses and Choice of Undergraduates

Izuwah (1983) reported that student's choice of courses follow the prestige pattern in Nigeria. Kembe, Lai, Murphy and Yuen (1992) investigated the choice of courses by students offering distance learning courses and reported there is a widely accepted hierarchy of prestige in courses in Hong Kong. Pryor (1987) reported that course selection behaviours of students are often related to increasing course prestige. Kevin, Taylor, Ian, Bates, Geoffrey (2004) affirmed that pharmacy is a high prestige vocational course attracting several applicants. Bourdieu and Passeron (1977), Randon, Strasburg and Lipnam-Bluaun (1982) documented an inverse relationship between prestige rankings

of courses and female representation. OECD (2004) while investigating students interest in science and technology courses reported that scientists are among the professionals the public trust most despite the fact that their prestige has declined as higher management or government positions rarely held by scientists or engineers and media reports on science and technology events do not focus on the researcher who are thus rarely known by name. Further report by OECD (2006) showed that at upper secondary and tertiary levels science and technology courses have to compete with new and more fashionable courses like management, marketing, media studies or vocational subjects which appear more relevant to the job market or to societal concerns. In a related study, status was found to be a critical factor among students who choose information technology majors (McInerney, Didonato, Giagnacova, & O'Donnell, 2007). Conceicao, Heitor and Veloso (2003) also affirmed that the prestige of courses influences the characteristics of applicants and of students admitted to study various courses. In a study conducted in Australia about how school leavers choose a preferred university course, the reputation of the course among employers and others which is equivalent of the prestige ratings was inferred as having strong influence on students choice (James, 2003)

Millennium Development Goals

Many development goals have been set by the United Nations since the development decade of the 1960s. However, there is something new about the millennium development goals in that it was an unprecedented assembly of World Heads of States that generated them when they met in September, 2000. Secondly, the goals put human development, poverty and people at the centre of the global development agenda and thirdly they are not just aspirations but provide a framework for accountability. They do not simply state the ideals but go on to define concrete goals that can be measured. (Sakiko, 2004)

The Millennium development goal is a set of eight goals which nations of the world accepted as global measure of development. Analyses of progress made by African countries on aspects of the goals conducted by UNDP/UNICEF (2002) noted that only few African countries are likely to meet most of the MDGs. Africa has the highest number of people living in poverty with half of the whole population living below the poverty line. If the trend persists, the number of people living in poverty in Africa by 2015 (target date of poverty reduction) will be higher than the 1990 figure. On the issue of food security in sub-Saharan Africa, only sixteen countries appear on track to reduce hunger by 50% in 2015 while 19 are not. Estimates show that by 2015 if current trend persist Africa will only be able to feed less than half of its population. (United Nations 2002). The millennium development goals that addressed education, were examined vis a vis the Education for all targets. Two of the EFA goals were adopted as goal number two and three of millennium development goals and they really formed what some people refer to as the education goal though, all MDGs are education related. In relation to education targets, the assessments of individual countries performance have always been reported in various publications of EFA. EFA Global Monitoring Report (2007) noted that the greatest numbers of out of school children in the whole world are resident in developing countries. A deeper analysis shows that a higher proportion of these children are located in Sub-Saharan Africa. Within Africa, Nigeria was reported to have the highest out of school children with a little over 8million children out of school. Infact, globally the highest number of out of school children in the whole world in 2004 were found in Nigeria, Pakistan, India and Ethiopia and these countries were closely followed by Saudi Arabia, Niger, Burkina Faso, Kenya, Cote d'Ivoire (EFA, 2007). The situation of out of school children definitely points to the fact that achieving MDG number two in

Nigeria is a very difficult task. Federal Ministry of Education (2007) also provided some useful data that could be used to measure the nation's progress towards achieving universal primary education by 2015. There are a lot of indicators to measure the achievement of the first goal in Nigeria. For instance national primary school completion rate stood at 85 % in 2000 but dropped to 78 % in 2005, national primary enrolment statistics which was about 18million in 1999 increased to about 26million in 2003 and declined to 22 million in 2005, the proportion of qualified teachers nationwide stood at just 59% while school quality nationally was just 61%(FME,2007). While the figures quoted are national averages there are wide disparities between state and by gender on the indicators noted above. For instance, out of the nineteen northern states and Federal Capital Territory, only four states exceeded the national average of 59% on the teachers quality in primary schools whereas fourteen out of seventeen states in the south exceeded national average on teacher quality. Also, on enrolment, there are wide disparities in states and the aggregated national data masked the extreme low participations in some parts of the country. EFA Global Monitoring Report (2007) also noted that the facts that teaching staff numbers in schools count, the pupil teacher ratios, gross and net enrolment ratios are principal indicators of success. FME(2006) noted that national gross enrolment ratio in primary education was 95.06% and rose to 95.98 % in 2005, net enrolment ratio for this same level of education was 53.90 % in 2000 and increased to 54.45 in 2005. The gross un-enrolled aged 6-11 was 3,599,557 million in 2004 and reduced to 3,516,476 million in 2005. Data in respect of junior secondary school revealed the gross enrolment ratio was 36.24% for 2004 and reduced to 36.11% in 2005. Net enrolment ratio for this level was 21.85 % in 2004 and reduced to 21.27 % in 2005. The gross un-enrolled at age 12-14 stood at 7,563,944 in 2004 and increased to 7,855,834 in 2005. This low NER in primary education shows that Nigeria is far from achieving MDG two. These national

averages masked significant differences across geopolitical zones of north and southern states and the areas contributing to the draw-backs are better understood when the data is disaggregated. FME (2006) reported a national average of 34.78 for pupil teacher ratio for 2004 and 35.87 for 2005. These figures appear good but masked severe differences in so many states like Akwa Ibom 74.98, Bauchi 75.29, Bayelsa 77.24, Katsina 52.17, and Yobe 54.58. More striking measures reported by FME (2006) is the Pupil Classroom Ratio (PCR) which stood nationally at 93.26 in 2004 worsened in 2005 at 96.52. There are also masked differences across states of the federation where Pupil Classroom Ratio was higher than 100 in thirteen states of the federation with Bauchi recording an astronomical figure of 265 pupils to a classroom. With high PCR and not so encouraging PTR, the possibility of meeting MDG number two appears remote. Many African countries may not achieve the MDG number two because statistics has revealed that Sub-Saharan Africa with 64 % NER lagged behind other regions of the world in terms of the level of achievement of MDG number two (United Nations 2006).

In respect of MDG number three which targeted gender parity at primary and secondary education in 2005 and later at all levels in 2015, gender ratio is an important indicator of equity and access. In Nigeria, FME (2007) reported that there is gender imbalance in primary enrolment between 1999 and 2005. The ratio was 78.0 in 1999, 78.3 in 2000, 79.9 in 2001, 79.8 in 2002, 78.9 in 2003, 80.9 in 2004 and 81.4 in 2005. This clearly confirmed that Nigeria did not meet the goal of eliminating gender disparity in primary level in 2005. Though it appears this is achievable at the primary level before the target date of 2015. However, the worrisome aspect is the nation's progress at the tertiary level. While progress report at the tertiary level generally is unavailable, that of the university level provides a worrisome situation. Pereira (2007) reported on the trend of female enrolment

in Nigerian Universities between 1956 to 1991 and noted that the percentage representation of women increased from 10.1% in 1956 to 33.6 % in 1991. Extrapolations made by the researcher from recent data on enrolment published by FME (2007) however provided an updated information on the status of women. Women totaled 35.43% in 2001, 38.39 % in 2002, 38.33 % in 2003, 32.24 % in 2004 and 36.56 % in 2005. One striking observation that has been made on gender parity issue across the world in EFA global monitoring report 2003 and also affirmed in 2007 report was that there had been significant growth in tertiary education worldwide and this growth and three -quarters of the growth took place in developing countries. Despite this growth relevant participation rate varies across continent with sub-Saharan African countries recording the least participation rate at 5%(EFA Global Monitoring Report, 2007; Bloom, Canning & Chan, 2005). EFA (2003 and 2007) Reports however pointed out that what women choose to study is a key issue. They often represent three-quarters or more of enrolments in the field of education. Having equal boys and girls in school is gender parity but what is particularly problematic is that gender parity does not translate to gender equality. EFA Global Monitoring Report (2007:47) noted that

there is no gender equality for example where women are concentrated in certain disciplines such as education, social sciences, humanities and health. Evidence shows that men educational underachievement where it exists has not yet resulted in their falling behind economically and politically and that women may still need higher qualifications than they have thus far attained in order to compete successfully for jobs, equal pay and managerial positions.

Therefore, gender equality should focus beyond increases in enrolments ratio for women. The Nigerian university education plan has been described as gender blind as it does not specify a particular plan of action to ensure equitable women representation in courses in Nigeria. At the pace in which Africa is moving, it may take 2035 for her to achieve MDG number three (United Nations, 2002) while Nigeria may take longer period to achieve the goal of gender equality at all levels especially at the tertiary level since there was no known provision in Nigeria's educational development plans to ensure accelerated enrolment of girls at the tertiary level.

Gender inequalities cut across all sectors and reflect the wide disparities between women and men in almost every area of millennium development goal. Federal Republic of Nigeria (2006:4) noted as follows:

Among the over 70% of the population estimated to be poor over 65% are projected to be women. Income and purchasing power is estimated to be US\$1,495 for men compared to US\$614 for women and men have greater access to high- paying secured employment. For example 76% of the Federal Civil Service workers are men whereas women make up 24% of the workforce and occupies 14% of the management positions. Approximately 17.5% of the medical doctors are women whereas 82.5% are men...HIV/AIDS prevalence rates are highest among women...thus infection rate among females of 20-24years

of age is 5.6% compared with the overall infection rate of

5% while 60% of new infections are among females.

The information provided above shows that gender aspect of millennium development goal is a common denominator of all other aspects of the MDG.

On the issue of poverty reduction which carries along with it food security and reduction of hunger, the World Bank definition of hunger persist. World Bank (Economist Focus, 2008) noted that the One dollar a day mark was the line drawn to isolate the poor and demarcate poverty line since 1993. Though World Bank is trying to re-draw the poverty line at \$1.25, the commonest yardstick for now is to define poverty as the proportion of people living below \$1. DFID (2005) reported that over 85% of Nigerians are living below 1 dollar per day thus making Nigeria one of the largest congregations of poor men and women in Africa and perhaps the whole world. However, a contradictory report was published by Nigerian Bureau of Statistics (2006) when they reported that using subjective measure of poverty which involves self assessment, the national incidence of poverty stood at 75.5% with 70.7 % occurring in the urban centres and 79.2% in the rural areas. When they used the dollar adjusted estimates, poverty in Nigeria was reported to be 51.6% national with rural incidence being 60.6% and urban incidence being 40.1%. The challenges confronting the pursuit of poverty reduction in Nigeria are manifold in view of multi-dimensional causes of poverty. Poverty in Nigeria is caused by social, economic, political, cultural and environmental factors. National Planning Commission (2004) reported that poor access to employment opportunities is one of the several causes of poverty. Nigerian Bureau of Statistics (2006) noted that poverty is a rural phenomenon where agricultural activities are most predominant. The poor

participated in agriculture more than non -agriculture. Agricultural activities are central to attainment of food security. Nigeria ranked fifty fifth worldwide and first in Africa in farm output.

Agriculture has suffered from years of mismanagement, inconsistent and poorly conceived government policies, and the lack of basic infrastructure. Still, the sector accounts for over 26.8% of GDP and two-thirds of employment. Nigeria is no longer a major exporter of cocoa, groundnuts (peanuts), rubber, and palm oil. Cocoa production, mostly from obsolete varieties and over -age trees, is stagnant at around 180,000 tons annually; 25 years ago it was 300,000 tons. An even more dramatic decline in groundnut and palm oil production also has taken place. Once the biggest poultry producer in Africa, corporate poultry output has been slashed from 40 million birds annually to about 18 million. Import constraints limit the availability of many agricultural and food processing inputs for poultry and other sectors. The agricultural sector suffers from extremely low productivity, reflecting reliance on antiquated methods. Agriculture has failed to keep pace with Nigeria's rapid population growth, so that the country, which once exported food, now relies on imports to sustain itself (Library Congress, Federal Research Bureau ,2008)

To ensure the target of halving the population living in extreme poverty and hunger by 2015, investment in human capital formation for sustainable economic growth was recommended among many options. The process of human capital formation infers investment in some form and type of education. The question is whether the type of education that a significant percentage of the prospective students in Nigeria are seeking admission into at the university level are such that could enhance right human capital

growth for economic development and hence poverty reduction. The National Policy on Education was cited as one of the policy thrusts and government strategies to ensure the education contributes to economic growth and poverty reduction (National Planning Commission, 2004). The immediate next issue is to ask the extent to which the policies in education and tertiary education in particular is being implemented to ensure the realization of the millennium development goals in Nigeria? Related to the poverty reduction target is the issue of food security.

On child mortality, the highest rates in the whole world were found in Africa. UNICEF (2008) in the State of Children in Africa reported that about 50% of children's death occurs in Africa due to so many diseases like measles, whooping cough etc. The Report also noted 50% of the under-five mortality deaths in African region occurred in Nigeria. This perhaps by implication will make Nigeria probably the one with the highest mortality rate in the world. This will not be surprising since it was reported that Nigeria has a doctor/patient ratio of 1:70,000 (FRN, 2006). Child mortality figures in Nigeria as reported in Multiple Indicator Cluster Survey 2007 (UNICEF, 2008) reported that infant mortality figure in Nigeria is 86 per 1000 live births in 2007 showing improvement over the 2005 figure which was 110. Also under-five mortality reduced from 197 in 2005 to 138 in 2007. National Planning Commission (2004) noted that under-five mortality in Nigeria stood at 183 per 1000 and the target was to reduce by two-thirds which means by 2015 under-five mortality in Nigeria would be 49 per 1000. When data on under-five mortality were even disaggregated, there were marked differences in the rates from one geopolitical zone to the other. The highest rates of under-five mortality were found in the North West and North East (educational backward regions where participation in higher

education is also comparatively low) and the lowest rates were found in South West and South East (Educational advanced even in higher education)

In respect of maternal mortality, the continent of Africa is home to seven of the countries with highest maternal deaths in the whole world. Latest report on maternal deaths in Nigeria has the second largest maternal deaths at 450 per 100,000 live births. Also, the incidence of child mortality is a related scourge. High maternal mortality figures have been related to socio-economic development, status of women, weak health care system and poverty (Ibeh, 2008). Maternal death figures in Nigeria was previously reported to be 800 per 100,000 live births in 2000. (DFID, 2008 and Ibeh, 2008).

The major challenges identified in respect of realisation of the reduction of infant mortality, maternal deaths are all related to the challenge of skilled professional nurses and doctors and other health professionals attending to pregnant mother and children. The availability of the pool of these skilled professionals which appear related to certain factors and determinants as undergraduates attempt to enter tertiary level of education is highly relevant to the achievement of various goals of the MDG including those ones in education.

The level of education of the mother has been linked to the achievement of many other aspects of the millennium development goals. Abu-Ghaida and Klasen (2004) averred that gender equality in education may have adverse impact on a number of valuable development goals. They posited that firstly, gender inequality in education may prevent the reduction of child mortality, fertility, and under-nutrition as well as reduce the education gains of the next generation. They concluded that gender bias in education

may thus generate instrumental problems for development policy makers as it compromises progress in other important development goals.

Summary of Literature

A survey of the literature shows that a lot of researches both theoretical and empirical have bearing on the variables of the research namely employment opportunities and choice of courses, earning potentials, gender and choice of courses, social prestige and choice of courses, parental influence and choice of courses. Researches conducted that examined these variables did not in any way relate these variables to the national development issues and the global development target called the millennium development goals. Considering the lamentations of mismatch of skills produced from the universities and the human resources requirement necessary for the attainment of millennium development goals, it becomes imperative that a better understanding of course choice behaviour of future human resource components be addressed in Nigeria

Appraisal of Literature

From the review of literature, it appears very clear that there has not been any study that examined the reasons for the choice behaviour of University ready candidates in Nigeria. Reported researches on the variables of study termed determinants were done else where and even then, they do not report on the relationship and implications of choice behaviour on millennium development goals and the national development priorities in respect of human resource production. These gaps in the literature are what this study hopes to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

Research Design

The research design adopted for this study is descriptive research that utilizes the survey and correlational design. This type of research deals with the relationship between variables, the testing of hypotheses and the development of generalization, principles or theories that have universal applicability (Babbie, 2000). This design was adopted in order to establish the relationship between course earning potentials, employability, social prestige, parental influence and gender (independent variables) of the study and the choice of courses (dependent variable)

Population of Study

There were seven conventional (federal and state) universities in south-west Nigeria as at 2005/2006 academic session. The study covered all undergraduate students studying courses in the faculties of science, education, administration, social sciences, engineering and technology, law, medicine, agriculture and arts in the seven conventional universities. The part-time students were not included in the population because they were mostly seen as students in employment and their choice of courses would likely be determined by their present employment or job status. Also, the private universities and specialised universities were not included in this study because they do not have the full compliment of academic programmes run in a typical conventional University.

The public universities selected in South –West, Nigeria was based on specialization, states of location and proprietorship (State or federal).The distribution is presented in Table 6

Table 6: Characteristics of Selected Universities

Universities	Location	Proprietorship
Adekunle Ajasin University ,Akungba Akoko	Ondo	State
University of Lagos	Lagos,	Federal
Olubisi Onabanjo University	Ogun	State
University of Ibadan	Oyo	Federal

Source: Field Survey, 2006

Table 6 shows the distribution of the universities by location and proprietorship. The table reveals that four conventional universities were selected from seven found in South West Nigeria. The table also shows the location of the universities in south- west. From the locations, it could be noticed that a sizeable representation of states making up the geopolitical zone existed in the study. The table also reflected proprietorship dichotomy in Nigerian universities. Two universities each of both federal and state featured in the study

Sample and Sampling Procedure

The study employed proportional stratified random sampling technique to select the universities and students. The conventional universities were first stratified by ownership - federal and state. Two universities each were selected in each of the stratum as these would be fairly representative .Universities of Lagos and Ibadan were selected from the three conventional federal universities because Obafemi Awolowo University had previously been used for the pilot study .In the other stratum of conventional state universities, Olubisi Onabanjo University and Adekunle Ajasin University were selected.

This represented 57.1% of the total no of conventional universities in the South -West, Nigeria.

The undergraduate students that participated in the study were also selected through stratification. The students in each of the universities were stratified first by their faculties, then by their academic programmes, gender and level of studies (students at higher levels of studies were considered because of their likely better understanding of some issues related to choice of courses) which ensured that students from various faculties and academic programmes, gender and level of study were represented the way they exist in the population. In each of the four universities sampled, undergraduate enrolment i.e. 2005/2006 academic session was used and total number of students was 63,709. The researcher selected 5% of the students enrolled in each of the four universities in that session. The 5% followed the recommendation of Nwana (Ofo, 1994) where it was established that if population of study runs into several thousands as the case is in this study a 5% of the population will be appropriate

Table 7 shows the population and sample selection from each of the four universities.

Table 7

Population and Sample Selected in Each University

S/N	University	Faculties	No of Students	No sampled
1	UI	Education	1,382	69
		Basic Medical Sc.	231	12
		Agric. & Forestry	1,320	66
		Technology	936	47
		Vet. Medicine	516	26
		Pharmacy	181	9
		Public Health	103	5
		Medicine	1,168	58
		Dentistry	181	9
		Law	575	29
		Science	1,950	98
		Social Science	1,395	70
		Art	1,471	74
		Sub- Total	11,409	571
2	A. A. U.	Arts Education	3269	163
		Science	2,346	117
		Law	314	16
		Social & mgt sc	2,671	134
		Sub-Total	8,600	430
3	UNILAG	Arts	2,279	114
		Business Admin.	3,156	158
		Education	2,896	145
		Engineering	3,419	171
		Environmental Sci.	1,437	72
		Law	1,072	54
		Pharmacy	385	19
		Science	3,472	174
		Social Science	2,249	112
		College of Medicine	1,630	82
		Sub-Total	21,995	1,100
4	O.O.U	Social Science	2,923	146
		Management Science	6,284	314
		Science	5,192	260
		Basic Medicine	376	19
		Pharmacy	300	15
		Engineering	423	21
		Environmental Stud.	100	5
		Education	2,635	132
		Law	1,418	71
		Medical Science	265	13
		Agric. Prod. & Renewable	262	13
		Agric. Mgt. & Rural	1,527	76
		Sub-Total	21705	1,085
		Grand Total	63,709	3,186

Research Instrument

Two different instruments were used to collect data for this study. The first instrument is a checklist developed to obtain information on students' choice of courses pattern by gender and discipline from JAMB for the period of early 1994 to 2006. This period was chosen so as to obtain both the information of the long past and the recent past in choice of courses. The second instrument is a questionnaire tagged "Undergraduates Choice of Courses Description Questionnaire" (UCCDQ) designed by the researcher to collect data on the variables of the study (determinants) that have bearing on students' choice of courses like social prestige of courses, employment opportunities, earning potentials, gender, parental influence and reasons for gender differences in choice of courses. The instrument has five different sections. Section A dealt with demographic information, Sections B and C are constructed in Likert- format of four-point scale. Section B has 17 items that addressed reasons for gender differences in choice of courses and while section C has 6 items. Section D asked respondents to rank using positions (1-9) their perception of choice of courses based on earning potential, employment opportunities and social prestige. Courses perceived to rank first on each of variable takes the first position while those perceived to rank last takes the last position. Section E contains 6 items that addressed sources of information for students ranking of courses.

Validity of Instrument

Hassan (1995) and Babbie (2000) both asserted that validity involves the degree to which an instrument measures what it is supposed to measure. The checklist designed by the researcher for collection of secondary source data and the Undergraduate Students' Choice of Courses Questionnaire was validated by cross checking their contents against the research hypotheses and research questions raised for the study. The research

supervisors, other research experts in the Department of Educational Administration and specialists in related fields also cross checked the instrument and ascertained that all the variables of concern were covered by the instruments. By doing this, the content validity was ensured.

Pilot Test

After the validation of the questionnaire, the researcher pilot- tested the instrument. The pilot study was conducted at the Obafemi Awolowo University, Ile Ife to ascertain the reliability of the various dimensions of the measurement of student's choice of courses in the instrument. The researcher carried out the pilot on 334 (three hundred and thirty four) undergraduate students offering different programmes in the faculties of science, education, social sciences, environmental design and management, technology and arts. The instruments were personally administered on the respondents in their lecture rooms with the support of lecturers and were collected immediately. The study utilized split-half reliability technique which saves time and is less affected by respondents' mortality and maturation to determine the reliability of the instrument. A correlation of odd and even numbered questionnaires was done using the Spearman Brown Correlation Statistics to obtain a correlation coefficient (alpha). This statistics was used for each of the sections of the questionnaire which addressed different variables and the reliability coefficient obtained is presented in Table 8.

Table 8 shows the reliability coefficients of the variables of Undergraduates Choice of Courses Description Questionnaire (UDCCQ).

Table 8**Reliability Coefficients of the Instrument**

Instrument	Variable	Reliability Coefficient
Undergraduate Choice of Courses Description Questionnaire	Earning potentials	0.81
	Employment opportunities	0.73
	Social prestige	0.78
	Gender difference	0.84
	Parental influence	0.88
	Reasons for choice of Courses	0.73

The high reliability coefficients of each of the variable means that the instrument is highly reliable. The secondary source data used for the study were obtained from JAMB records and are therefore assumed to be self-reliable.

Procedure for Data Collection

Data for the study were collected in two parts. The collection of secondary data started with initial official correspondence between the researcher and JAMB and subsequent personal visits. JAMB after a long wait, directed the researcher to access data on University Matriculation Examinations choice pattern at their website which the body claimed to be more reliable. For some data in respect of application choice pattern not posted on the JAMB website especially for the 90s, the researcher relied on JAMB submissions to National Council on Education (NCE) at various years which were compiled by Olagboye (1999a) and (1999b). For the data collection that involved the use of UCCDQ, the researcher made use of two research assistants in each of the universities

selected for the study. Data collection with the use of UCDDQ was done between May 2006 and March 2007. This long period was due to strikes, long semester breaks and other peculiar challenges in each of the universities. The questionnaires were administered to samples of students of different level of courses and gender in faculties while in the lecture rooms with the permission of course lecturers. This enhanced a high rate of return.

Method of Data Analysis

Descriptive and inferential statistics were employed for data analysis. Percentages was used for research questions 1,3,4 and 5. Bar chart was used for research question 2, while qualitative analysis was used for research question 6. In addition t-test was used for research question 5. For hypotheses, 1- 3, spearman rho statistics for ranked order correlation was used while regression analysis was used to determine the joint influence of the three variables isolated in the hypothesis on the dependent variable(choice). One way analysis of variance(ANOVA) and Scheffe's multiple classification test were used for hypothesis 4. The selection of the methods of data analyses is due to the collection of both nominal and interval type of data. The choice pattern of students in Joint Admissions and Matriculation Board Examinations between 1994/95 and 2006 were analysed and coded into nine categories of courses. These were later ranked and the cumulative ranks of the courses for all the years under study were used as a measure of the choice pattern (dependent variable). This was used for the dependent variable choice of courses.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND SUMMARY OF FINDINGS

Introduction

This chapter contains detailed description of the findings of the study. This is presented in two sections. Section one contains results of analyses of the research questions and the hypotheses while section two contains the summary of findings.

Section One: Results

Research Question 1: Are there variations in the choice of courses among university admission candidates in Nigeria?

The result is presented in Table 9

Table 9

Trend of Choice of Courses

	94/95	%	R	96/97	%	R	97/98	%	R	2002	%	R	2003	%	R	2004	%	R	2005	%	R	2006	%	R	OR
Admin	156184	30.4	1	146703	30.82	1	114877	27.36	1	290660	29.27	1	288195	25.59	1	171819	20.43	2	166092	18.17	2	132566	16.52	3	1
Agric	8845	1.72	9	6699	1.41	9	5247	1.25	9	6556	0.66	9	20776	1.84	8	6015	0.72	9	7264	0.79	9	8468	1.05	9	9
Arts	20140	5.88	7	24415	5.13	7	22202	5.29	6	46217	4.64	7	62828	5.58	7	36753	4.37	7	44936	4.92	7	46826	5.84	7	7
Education	29951	5.84	8	21366	4.48	8	21590	5.13	7	12475	1.26	8	16427	1.49	9	15215	1.81	8	23649	2.58	8	23491	2.93	8	8
Engineering	63881	12.46	3	65043	13.66	3	61139	14.56	3	162441	16.35	3	175670	15.63	3	135980	16.17	4	142763	15.62	4	127418	15.88	4	3
Law	47373	9.24	5	41551	8.73	5	14031	9.77	5	86517	8.71	5	110576	9.81	5	67932	8.07	5	67957	7.43	6	59880	6.34	6	5
Medical Sci	52825	10.30	4	58140	12.21	4	62219	14.82	4	150532	15.16	4	179813	15.17	4	146641	17.43	3	161755	17.70	3	146306	18.24	2	4
Sciences	30713	5.99	6	24826	5.21	6	21279	5.07	8	53783	5.41	6	69621	6.18	6	56177	6.668	6	68724	7.52	5	74282	9.26	5	6
Social Sci.	92866	18.11	2	87180	18.31	2	67726	16.13	2	203763	20.52	2	211177	18.75	2	204353	24.30	1	226123	24.75	1	191996	23.93	1	2
Total	512778	100		475925	100		419807	100		992944	100		1,126083	100		840805	100		913763	100		802233	100		

% - Percentage Representation by Courses
R - Rank of Courses Based on Number of Candidates Choosing the Course.
OR - Overall Rank for 1994/95 – 2006.

Table 9 shows the trend of choice of courses among potential students in Nigerian Universities from 1994 to 2006. The trend shows that among the nine categories courses, courses in Administration were the ones selected most by students and it consistently ranked first from 1994/95 session to 2003. Courses in social sciences consistently ranked second from 1994/95 to 2003. Courses in Agriculture consistently ranked last between 1994/95 and 2006 except in 2003 when it ranked eight. The trend however, showed a little difference from 2004 to 2006 when courses in social sciences took over the first rank from courses in administration. The three last positions in the choice of courses were consistently interchanged between courses in agriculture, education and arts. Despite increases in students demand for University education that made total demand to rise from 512,778 in 1994/95 to 1,123,083 in 2003, the pattern of choice of courses remained consistent along the initial choice pattern with minor and insignificant changes noticed over the twelve year period.

Increases in demand for university education notwithstanding, the choice of courses in education progressively decreased from 2002 to 2006. The pattern of choice of agriculture as a course of study fluctuated from 94/95 to 2006 and was consistently less than 2% of the total demand every year and even less than 1% in three different years. The column overall "OR" provides the overall pattern of the ranks of the courses over the period of study.

Research Question 2: Would gender be a differentiating factor in the choice of courses?

The results are presented in Figure III and IV

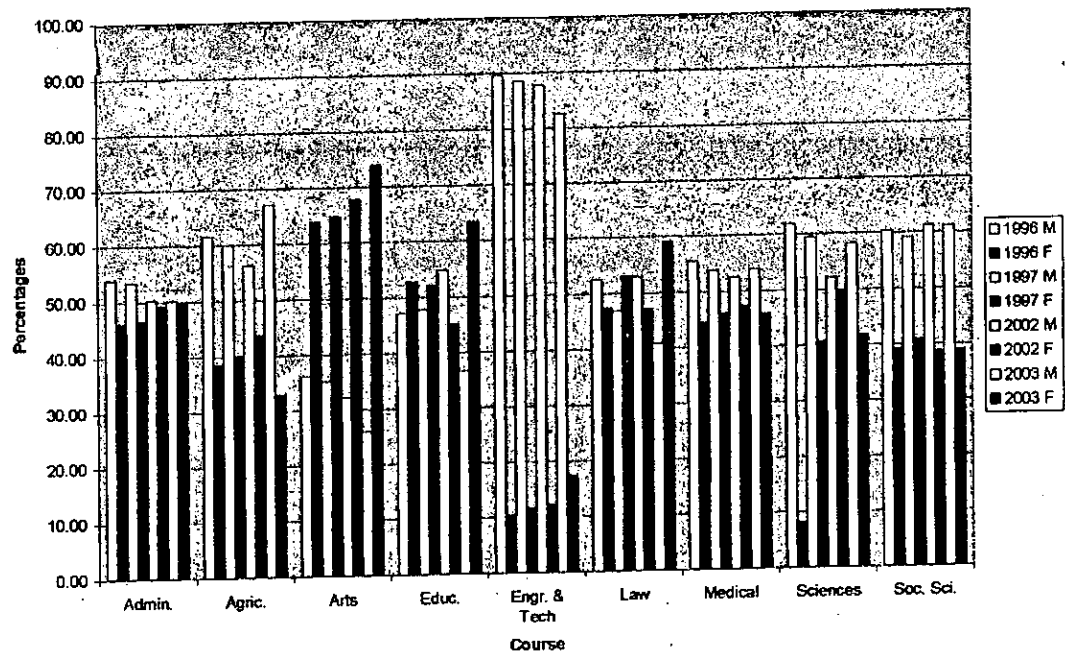


Figure III: Gender Differences in Choice of Courses 1996- 2003

Figure III shows the trend of gender differences by choice of courses. From the figure, it could be observed that gender differences are much more pronounced in engineering and technology, agriculture and arts courses. There are also slight gender differences in sciences, social sciences and medical sciences. When the trend of changes in the gender pattern was observed for 1996 to 2003, male domination in engineering remain persistent though there were very slight improvement in female position relative to men. Also, male domination of agriculture as a choice of course was persistent, while female domination of arts as choice of course was also prominent for the four years examined. Male domination of choice of course in science was evident in 1996 but female standing relative to male in respect of science as a choice of course improved between 1997 and 2003 though not very steady. Male domination of social sciences as course of also

remained persistent in the period under study. Female share of social sciences did not exceed 40 % during the 1997 to 2003. Female slightly has an edge over, male in respect of courses in education in all the years between 1997 and 2003 except in 2002. From figure III, gender appears a differentiating factor in the choice of courses.

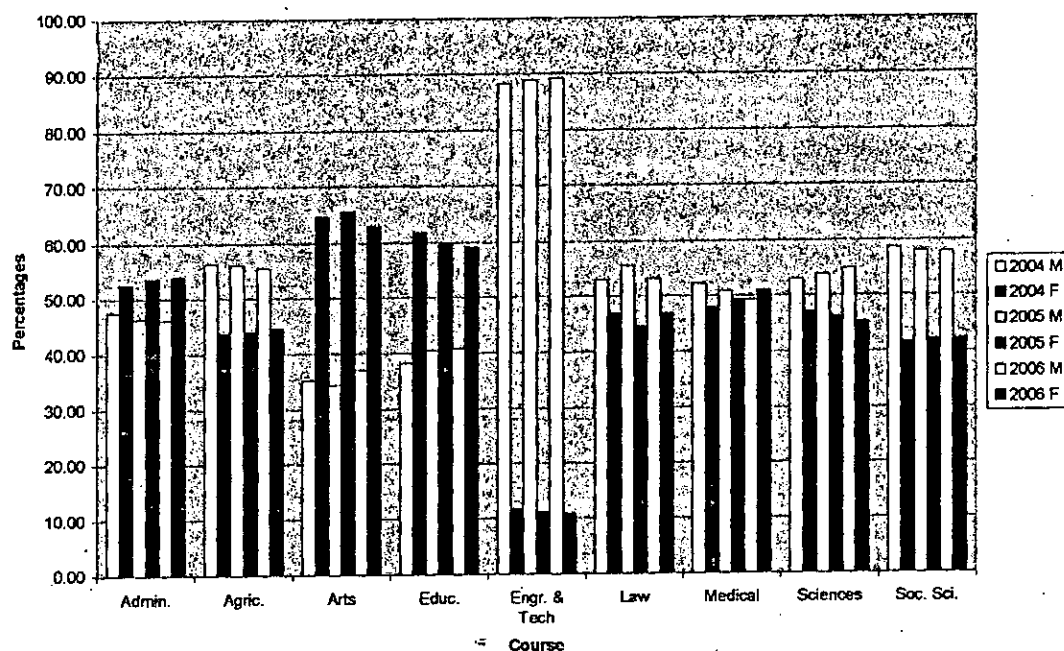


Figure IV: Gender Differences in Choice of Courses 2004-2006

Figure IV shows further observation of the data on choice of courses by gender. The pattern observed in the data for the previous years 1997 to 2003 remains maintained in the choice by gender in respect of agriculture, arts, engineering and technology, and social sciences. Male domination of the choice of courses in engineering and technology continued with female share reducing slightly between 2004 and 2006. Female participation appear to be stable at around 42 % in agriculture while female continued to dominate art related courses. Male domination of social science courses remains persistent. However, a new trend appeared in respect of courses in administration. Female representation of choice of courses in administration was less than men in 1996

and 1997, became almost equal in 2002 and 2003. In 2003 to 2006 female representation in choice of courses in administration exceed those of men. Conclusively, from the figure above, gender remains a differentiating factor for choice of courses as some gender appear to consistently stick to some specific choice of courses. Only in administration have we observed a progressive switch of domination in the choice pattern.

Research Question 3: What are the patterns of undergraduates rating of courses based on course earning potentials, employability and social prestige?

The results are presented in Tables 11, 12 and 13

Table 10

Undergraduates Perceptive Rating of Courses Based on Earning Potentials

Universities	Adekunle Ajasin University			University of Ibadan			University of Lagos			Olabisi Onabanjo University			Grand Total		
Courses	SR	\bar{x}	R	SR	\bar{x}	R	SR	\bar{x}	R	SR	\bar{x}	R	SR	M	OR
Administration	1772	4.12	3	2587	4.53	4	5313	4.83	5	4644	4.28	4	7766	4.49	4
Agriculture	2507	5.83	7	2918	5.11	7	6864	6.24	7	6043	5.57	7	18332	5.75	7
Arts	2533	5.98	8	3643	6.38	8	6919	6.29	8	6564	6.05	9	19659	6.17	8
Education	2627	6.11	9	3700	6.48	9	7238	6.58	9	6347	5.85	8	19912	6.25	9
Engineering & Tech.	1088	2.53	1	1313	2.30	1	2739	2.49	1	2626	2.42	1	12956	4.44	1
Law	1836	4.27	5	2432	4.26	3	4532	4.12	3	4156	3.83	3	12956	4.07	3
Medical Sciences	1346	3.13	2	1479	2.59	2	2992	2.72	2	3602	3.32	2	9419	2.96	2
Sciences	1875	4.36	6	2729	4.78	5	5159	4.69	4	4980	4.59	5	14743	4.63	6
Social Sciences	1828	4.25	4	2815	4.93	6	5445	4.95	6	5685	5.24	6	14316	4.95	5

Key:

SR - Sum of Ratings, X – Mean, R – Rank, OR – Overall Rank.

Table 10 shows the undergraduate perceptive ranking of courses based on earnings potentials. The table reveals the sum of ratings, mean ratings and ranking of the four different universities involved in the study. Except for engineering and technology and medical sciences that had a consistent ranking of 1st and 2nd in all the rankings by students from all the universities involved in the study, the ranking for other courses fluctuated slightly among the universities. The cumulative pattern of the rankings for all the courses across the universities as indicated in the overall rankings pattern showed that in terms of course earning potentials, engineering and technology ranked first (\bar{x} 2.44), medical sciences (\bar{x} 2.96), law was third (\bar{x} 4.07) followed by administration(\bar{x} 4.49), social sciences (\bar{x} 4.63), sciences (\bar{x} 4.95) agriculture (\bar{x} 5.75), arts (\bar{x} 6.25) in that order

Table 11

Undergraduates Perceptive Rating of Courses Based on Employability

Universities	Adekunle Ajasin			University of			University of			Olabisi Onabanjo			Grand Total		
	University			Ibadan			Lagos			University			SR	M	OR
Courses	SR	\bar{x}	R	SR	\bar{x}	R	SR	\bar{x}	R	SR	\bar{x}	R			
Administration	1793	4.17	3	2741	4.80	5	4906	4.46	3	4741	4.37	4	14181	4.45	4
Agriculture	2266	5.27	8	2541	4.45	4	6116	5.56	8	5414	4.99	8	16337	5.13	8
Arts	2438	5.67	9	3420	5.99	9	6809	6.19	9	6293	5.80	9	18960	5.95	9
Education	1926	4.48	5	2392	4.19	3	5126	4.66	4	4405	4.06	2	13849	4.35	3
Engineering & Tech.	1802	4.19	4	2176	3.81	2	4180	3.80	2	4546	4.19	3	12704	3.98	2
Law	1707	3.97	2	2918	5.11	8	5500	5.00	6	5034	4.64	6	15159	4.76	5
Medical Sciences	1346	3.13	1	1525	2.67	1	3839	3.49	1	3407	3.14	1	10117	3.18	1
Sciences	1952	4.54	6	2756	4.83	6	5544	5.04	7	5208	4.80	7	15460	4.85	7
Social Sciences	2060	4.79	7	2815	4.93	7	5181	4.17	5	4926	4.54	5	14982	4.70	6

Key: SR - Sum of Ratings, R - Rank, OR - Overall Rank, X -Mean

Table 11 shows undergraduate students' choice of courses based on the employment opportunities they present. The table reveals the sum of ratings, mean ratings and rankings of different courses based on employability in four universities used for the study. The table also shows the cumulative sum of ratings, mean and ranking for all the universities. Except for courses in medical sciences and arts that had a consistent ranking of 1st and 9th respectively in all the universities, all other rankings fluctuated among the four universities. The cumulative pattern of course employability showed that medical sciences topped the ranking list on employability with (\bar{x} 3.18), followed by engineering and technology with (\bar{x} 3.98) while education was third in respect of employability with (\bar{x} 4.35). The undergraduates ranked courses in sciences 7th with (\bar{x} 4.85), courses in agriculture was ranked 8th with (\bar{x} 5.13) while courses in arts was ranked 9th (\bar{x} 5.95).

Table 12

Undergraduates Perceptive Rating of Courses Based on Social Prestige

Universities	Adekunle Ajasin			University of			University of			Olabisi Onabanjo			Grand Total		
	University			Ibadan			Lagos			University			SR	M	OR
Courses	SR	\bar{x}	R	SR	\bar{x}	R	SR	\bar{x}	R	SR	\bar{x}	R			
Administration	1914	4.45	5	2661	4.66	4	5236	4.76	5	4850	4.47	4	14661	4.60	4
Agriculture	2752	6.40	9	3614	6.33	8	7271	6.61	9	6922	6.38	9	20559	6.45	9
Arts	2391	5.56	7	3500	6.13	7	6633	6.03	8	6304	5.81	8	18828	5.91	8
Education	2442	5.68	8	3632	6.36	9	6237	5.67	7	5949	5.48	7	18260	5.73	7
Engineering & Tech.	1574	3.66	3	1690	2.96	3	4191	3.81	3	4069	3.75	3	11524	3.62	3
Law	1294	3.01	2	1553	2.72	2	3949	3.59	2	2973	2.74	2	9769	3.07	2
Medical Sciences	1019	2.37	1	914	1.60	1	2915	2.65	1	2604	2.40	1	7452	2.33	1
Sciences	1828	4.25	4	2918	5.11	6	4917	4.74	4	5197	4.79	6	14860	4.66	5
Social Sciences	1922	4.47	6	2861	5.01	5	5324	4.84	6	4937	4.55	5	15044	4.72	6

Key: SR - Sum of Ratings, R - Rank, OR - Overall Rank, X-Mean

Table 12 shows the sum of ratings, mean ratings and rank of different courses as rated by undergraduates of different universities involved in the study in respect of social prestige. The table shows that in the four universities courses in medical sciences, law and engineering and technology were ranked first, second and third in that order. The rankings of other courses by universities show some slight variations as could be seen in the mean score and rank of each of the courses from the different universities. The aggregate ratings of courses shows that education (\bar{x} 5.73), arts (\bar{x} 5.91) and agriculture (\bar{x} 6.45) took the rear in that order in respect of undergraduates rating on social prestige while medical sciences (\bar{x} 2.33), law (\bar{x} 3.07) and engineering and technology (\bar{x} 3.62) led the pack in that order in respect of the rankings on social prestige by undergraduates from Nigerian universities.

Research Question 4: What informs the students' perceptive rating on the variables listed in 3 above? Table 13 provides the response to the research question

Table 13: Students' source of information on course rating

Items	Yes	No
Access to published document by government agencies on employment opportunities by courses/field of study	-	3,186
Access to information from universities detailing information related to earning potentials, employment opportunities and prestige of courses	-	3,186
Information from state government agencies	-	3,186
Based on my personal conviction of what I see around me about those who studied such courses	3,150	-
Based on what I just think	3,175	-

From Table 13, one could infer that students' rating of courses on the various indices may not be based on empirically verifiable documents. Almost all the students in all the universities covered responded negatively to items that suggested that they have access to published information documents that enhanced their choice of courses. Students' thoughts and perception were more shaped by their personal conviction (3150) affirmed this while (3175) affirmed that it was just what they think. This possibly shows that they made decisions based on incomplete information sources or not so reliable sources and yet this has directed the course of choices students make.

Research Question 5: Are there differences in undergraduates' perception of reasons for gender differences in choice of courses in the universities?.

The result is presented in Tables 14 and 15

Table 14
Perception of Reasons for Gender Differences in Choice of Courses

Items	Strongly Agree	Agree	Disagree	Strongly Disagree
(i) Course of study liked by men and women differ.	878 (27.6)	1566 (49.2)	532 (16.7)	210 (6.6)
(ii) Some courses are naturally meant for a specific gender subset e.g. female.	1363 (42.8)	904 (28.4)	613 (19.2)	306 (9.6)
(iii) Secondary school co-curricular activities differentiate along gender lines.	229 (7.2)	919 (28.8)	1462 (45.9)	576 (18.1)
(iv) Societal attitude about male and female roles determine course of study at the university level.	1194 (37.5)	1133 (35.6)	490 (15.4)	369 (11.6)
(v) The curricular content of secondary and primary schools differentiate roles and prepare male and female for different courses in the university.	419 (13.2)	1142 (35.8)	1111 (34.9)	514 (16.1)
(vi) Entry credit levels in specific subjects /qualifications for some courses are easily obtained by a particular sex than the other.	159 (5.0)	494 (15.5)	1422 (44.6)	1111 (34.9)
(vii) Certain courses with quantitative backgrounds are traditionally less considered by the female sex	229 (7.2)	1159 (36.4)	1335 (41.9)	463 (14.5)
(viii) Technology & science based courses are often considered by most parents as male preserves.	390 (12.2)	1214 (38.1)	1223 (38.4)	359 (11.3)
(ix) Technology & science based courses are often considered by most students as male preserves.	680 (21.3)	1463 (45.9)	782 (24.5)	261 (8.2)
(x) Men and women have different thoughts about the future and thus influence their choice of course.	1279 (40.1)	1500 (47.1)	304 (9.5)	103 (3.2)
(xi) Cultural factors and sex role socialization factors influence choice of courses at the university.	429 (13.5)	1487 (46.7)	967 (30.4)	303 (9.5)
(xii) Sex role differentiation and norms conveyed by secondary school influence choice of courses at the university.	282 (8.9)	1172 (36.8)	1262 (39.6)	470 (14.8)
(xiii) Courses already dominated by either male of female are seen as belonging to them.	401 (12.6)	1304 (40.9)	1114 (35.0)	367 (11.5)
(xiv) Professional fields of specialization with many women attract low pay.	221 (6.9)	575 (18.0)	1453 (45.6)	937 (29.4)
(xv) Teaching and learning process in some courses is gender biased.	313 (9.8)	1017 (31.9)	1262 (39.6)	594 (18.6)
(xvi) Courses taught mostly by women attract more female enrolment.	236 (7.4)	682 (21.4)	1512 (47.5)	756 (23.7)
(xvii) Courses taught mostly by male attract more female enrolment	210 (6.6)	542 (17.0)	1645 (51.6)	789 (24.8)

Table 14 shows the reasons for the gender differences in undergraduates' choice of courses. From the table, higher proportion of respondents agreed with the items that courses of study liked by men and women differ, some course being meant for a specific gender subset e.g. females, societal attitude about gender roles determining differences in course of study, men and women have different thought about the future and these influence their choice of courses, courses with quantitative background are avoided by women and that technology and science based courses are often considered as male preserves.

Table 15

Analyses of Differences in Undergraduates Perception by Gender in Respect of Study Variables

Variable	Gender	N	Mean	S.D	Std. Error	crit- Mean	cal. t	df	P
							T		
Course earning potential	M	1731	41.9555	9.6382	0.2317	1.94	1.501	3184	0.134
	F	1455	41.4282	10.1624	0.2664				
Course employability	M	1731	41.5078	10.3263	0.2482	1.94	0.880	3184	0.379
	F	1455	41.1842	10.3462	0.2712				
Social prestige	M	1731	41.4396	10.6198	0.2553	1.94	1.421	3184	0.155
	F	1455	41.8962	10.9089	0.2860				
Students' perception of reasons for gender	M	1731	41.5893	7.3393	0.1764	1.94	7.667	3184	0.000
	F	1455	41.5375	7.7383	0.2029				
Parental influence	M	1731	41.8920	3.8603	9.278E-02	1.94	0.704	3184	0.482
	F	1455	41.7945	3.9364	0.1032				

Table 15 shows the differences by gender on all the study variables. The t test analyses revealed that only one of the variables student perception of reasons for gender differences show statistical significance when the mean difference of male and female responses were analysed with the t- test statistics .As could be seen from the table course earning potentials $t_{cal} 1.501 < 1.94$,course employability $t_{cal} 0.880 < 1.94$,social prestige $t_{cal} 1.421 < 1.94$,parental influence $t_{cal} 0.704 < 1.94$ students perception of reasons for gender difference $t_{cal} 7.66 > 1.94$.

Hypotheses Testing

Hypothesis 1

Ho: There is no significant relationship between undergraduates rating of courses on earning potentials and choice of courses.

Table 16

Relationship Between Course Earning Potentials and Choice of Courses

Variable	N	Mean	S.D.	Sum of Difference	df	r	r critical	Remarks
Earning potentials	9	5.000	2.7386	36	7	0.667	0.666	Rejected
Choice of courses	9	5.000	2.7386					

$P < 0.05$

Table 16 shows the relationship between course earning potentials and significance of the relationship between undergraduate students choice of course. The r value of 0.667 indicates a strong positive relationship between both the independent and dependent

variables. The r value was greater than the critical " r " value of 0.666 from the statistical Table. Therefore, the null hypothesis is rejected which implies that the relationship between course earning potentials and choice of courses is significant.

Hypothesis 2

H₀: There is no significant relationship between course undergraduates rating of courses on employment opportunities and choice of courses.

Table 17

Relationship Between Employment Opportunities and Choice of Courses.

Variables	N	Mean	S.D.	Sum of Difference	df	r	r critical	Remarks
Employability	9	5.000	2.7386	66	7	0.45	0.666	Accepted
Choice of courses	9	5.000	2.7386					

$P < 0.05$

Table 17 shows the relationship and the significance of relationship between course employability and choice of course. The calculated r value of 0.450 indicates a weak positive relationship between employability and choice of course. The r value of 0.450 is however lower than the critical r value of 0.666 found on the Statistical Table. Therefore, the null hypothesis is accepted which implies that there is no significant relationship between course employability and choice of course.

Hypothesis 3

Ho: There is no significant relationship between undergraduates rating on social prestige of courses and choice of courses.

Table 18

Relationship between Social Prestige and Choice of Courses

Variable	N	Mean	S.D.	Sum of Difference	df	r	r critical	Remarks
Social prestige	9	5.000	2.7386	38	7	0.717	0.666	Rejected
Choice of courses	9	5.000	2.7386					

$P < 0.05$

Table 18 shows the relationship and the significance of relationship between social prestige of courses and choice of course. The calculated r-value of 0.717 indicated a strong positive relationship between social prestige and choice of courses. The r value of 0.717 is however higher than the critical "r" value of 0.666 at 0.05 level of significance. Therefore, the null hypothesis is rejected which implies that there is a significant relationship between social prestige of courses and choice of courses.

The values of relationship obtained for the variables of employment opportunities, earning potentials were further subjected to regression analysis to further establish the contribution of these variables to the choice of courses. Table 20 shows the result of the regression analysis.

Table 19**Joint Contributions of Determinants to Choice of Courses**

Multiple R	.753			
R Square	.568			
Adjusted R Square	.308			
Standard Error	2.2779			
Analysis of variance				
Source of variation	Sum of Squares	Df	Mean Square	F
Regression	134.055	3	43.685	
Residual	25.945	5	5.189	8.418
Total	160.000	8		

a. Determinants: (constants) Course earning potentials X₁

X₂ Employability X₃ Social Prestige

Table 19 shows how much of the variation in the criterion variable(choice of courses variable) is accounted for by the joint linear influences of the determinant variables(course earning potentials X₁,employability X₂ and social prestige X₃).The table revealed that the correlation between choice of course and all the variables is .753 while the variation in the choice courses explained by these determinants is 56.8%.The average error in predicting choice of courses pattern from the regression equation is 3.64.The overall test of significance of the relationship between the determinant variables and students choice of courses as shown by the ANOVA summary statistics indicates an F-ratio of 8.418 which is higher than the critical F (3,5) ratio of 5.41.This indicates that the independent variables significantly determines the dependent variable.

Hypothesis 4

H₀: There is no significant difference between parental influences on choice of courses among the undergraduates in the universities:

Table 20

Parental Influence and Choice of Courses among Undergraduates in Universities

Variable	Sum of Squares	df	Mean of square	F	Remarks
Between Groups	1665.650	3	555.217	37.870	Rejected
Within Groups	46652.215	3182	14.661		
Total	48317.864	3185			

$p < 0.05$

Table 20 shows the differences in parental influence on choice of courses among the undergraduates in the four universities studied. The f-ratio calculated 37.870 is less than the statistical Table value of 8.53 at df 3, 3182; $p < 0.05$. The null hypothesis is rejected which implies a significant difference in the influence of parents on choice of courses among undergraduates in the universities. The result obtained here was further subjected to multiple classification analysis using Scheffe's pair wise comparison to really locate the pairs of means that really showed significant differences since it involves finding out difference of more than two means. The result of this was presented in Table 15.

Table 21**Interaction Patterns among Universities on Parental Influence**

Universities	Mean	Group 2	Group 1	Group 3	Group 4
Group 2	10.7023				
Group 1	10.8634				
Group 3	12.1935	*	*		
Group 4	12.4645	*	*		
Grand Mean	11.85				

P < 0.05

Key:

Group 1 – University of Ibadan

Group 2 – Olabisi Onabanjo University

Group 3 – Adekunle Ajasin University

Group 4 – University of Lagos

Table 21 shows the result of Scheffes multiple classification test at .05 level of significance. The test of difference of means as shown in the asterisked is such that the significant differences noticed existed between means of data on parental influence obtained from University of Lagos (X 12.4645) and that of University of Ibadan (X 10.7023) on one hand and on the other hand between University of Lagos (X 12.4645) and that of Olabisi Onabanjo University (X10.8634). Secondly, there is also a significant difference between data obtained from undergraduates of Adekunle Ajasin University (X 12.1935), and those of University of Ibadan (X10.7023) and Olabisi Onabanjo University (X 10.8634). In the overall analysis a mean score of the range (X 10.7023 and X 12.4643) which produced a grand mean of (X 11.85) is still lower than the expected average mean

(X18) for agreeing statements and (X 24) for strongly agreeing statements on the questionnaire. This goes to say that parental influence on choice of courses was not found by this study.

Section Two: Summary of Findings

The concern of the study was to find out the determinants of the choice of courses among students in South -West Nigeria Universities and the likely implications on the achievement of the millennium development goals. This was in order to identify some of the social and economic factors that actually induce and influence students on the courses they select, the effect of their selection decisions on the kind of human resources available for nation and the implications of these decisions on Nigeria's place in the global development target so as to provide some sort of data and information to those agencies involved in administration and supervision of the university education. Specifically, this study investigated the influence of some determinants (social-parental influence and social prestige) and (economic- earning potentials and employment opportunities) on students' choice process and pattern in South- West Nigerian Universities.

The study used both primary and secondary source data obtained with the aid of two research instruments namely:

- Undergraduates Choice of Courses Description Questionnaire
- Checklist that obtained data secondary source data from JAMB.

The subjects consisted of 3186 undergraduate students randomly selected from public universities in the South -West, Nigeria. The selected students were from all the faculties

in each of the universities involved in the study. The descriptive survey research design was employed. The summary of the major findings are as follows:

- The trend of choice of courses has persistently deviated from national targets. There were no significant changes in the choice pattern over the years. Among the nine categories of courses, administration remained the consistent favourite of students seeking admission into universities. Courses in arts, education and agriculture were the least sort as they consistently interchange the last three spots.
- Gender differences in choice of courses persisted for the period of study. Men outnumber women in all categories of courses except in few courses traditionally labeled as women field of studies (arts, education,) and men also held extreme high representation in traditionally men labeled fields like (Engineering ,Agriculture)
- Undergraduates perceptive rankings of courses based on earning potentials placed courses in different hierarchies with engineering being ranked first, medical science second, law third, administration fourth, social science fifth, science sixth, agriculture seventh, arts eight and education ninth.
- Perceptive rating of courses on employment opportunities provided another form of ranking that followed this order-medical science, engineering and technology, education, administration, law, social sciences, sciences, agriculture and arts. Medical science topped the ranking on employment opportunities while art courses had the least employment opportunities.
- Students' perceptive rating of courses on social prestige rated medical sciences ahead of other nine courses while education, arts and agriculture emerged among the least in social prestige.

- Students' ratings of courses on the three variables of earning potentials, employment opportunities and prestige of courses were mostly based on students' personal conviction of what they see around them about those who studied the courses rather than any reliable document or evidences from published sources.
- Reasons for gender differences in choice of courses are related to societal and long held cultural traditions, students' belief about traditional dichotomy in what males and female do and differences in courses meant for gender subsets.
- That there is a significant relationship between course earning potentials as rated by students and choice of courses.
- That there is a significant relationship between students rating of courses on social prestige and their choice of courses.
- That the relationship between students rating of courses on employment opportunities is weak and was found not to be significant.
- On the overall, the independent variables of employment opportunities, earning potentials and social prestige significantly determines the dependent variable of choice of courses.
- There is no significant difference among undergraduates on the influence of parents on their choice of courses in the four universities. Students from different universities (both federal and state) do not differ significantly on the influence of choice of course as they reported that parents do not really influence their choices.

CHAPTER FIVE

DISCUSSION OF FINDINGS, IMPLICATIONS, RECOMMENDATIONS AND CONCLUSION

Introduction

This chapter presents the discussion of the findings of the study, implication of the findings for Nigeria's attainment of the relevant millennium development goals, implications of the findings for educational administration, contribution of the study to knowledge, conclusion and recommendations. The limitations of the study and suggestion for further research are also highlighted.

Discussion of Findings

Variations in the trend of choice of courses

The result of the analysis of the first research question (Table 9) shows that the trend of the choice of course has persistently and continuously deviated from national target of 60:40 in favour of sciences. Cumulative rankings of the choice of courses on the overall between 1994 – 2006 revealed administration as the most sought course followed by social science courses. Courses in Arts, Agriculture and education remained the least sought courses.

This trend of choice of course through application trend is definitely the mirror of the output pattern. This finding agrees with previous situations in Nigeria reported by Olagboye (1988), Yoloye (1999), Olagboye (1999) who all found that the choice of courses in Nigerian universities has continuously tilted towards humanities. What became more evident is that recent analysis up to year 2006 as found in this study

confirmed the trend. This trend which has been described as worrisome by JAMB and duly lamented to the National Council on Education, the highest decision making body in Nigeria has persisted. This means that it is either there is no intervention to ensure compliance in the choice process directed towards realization of national goals or the interventions have failed. The latest updated findings from this study aligned with the findings of Okebukola (2002) who reported that majority 36% of students enrolled for Arts courses while 30% enrolled for social science indicating a complete reversal of the expected national target. Education was found incapable of filling its quota whereas, accounting was oversubscribed. The output pattern from the universities between 2001/2002 & 2004/2005 which was found to be 62.17% of humanities reflected the link between the findings of the study on choice process and pattern and the output structure of specific fields from the university. It strongly supports the adage "garbage in garbage out".

Beyond the trend in Nigeria, the findings of the study in respect of trend of choice of courses appear to align with (Orr 2005) who reported the status of study programmes in Czech Republic where a relatively low number of the students 3.9% are enrolled in Agricultural programs, 17% in art program, where social science and economics enrolled 38% except that enrolment in technology programmes which was 29.5% could not be compare with that of Nigeria. Also in Mexico, concentration of choice of courses tilted towards humanities with law, accounting and administration, responsible for one-third of the enrolment, which reflects the choice of course chosen by undergraduates. The study also aligned with the findings of Johanson (1999) in the Phillipines where Business Administration led the choice of course with 27.2% while agriculture had the least with

1.8%. Furthermore, findings from Australia (Norton 2001) reflected the domination of humanities and social sciences which make up a sixth of all applications.

One common feature of the trend of choice of courses found in this study has been the propensity for applications into courses broadly defined as humanities. This trend however surpass national boundaries with studies in Czech Republic, Mexico, The Phillipines and Australia reporting a trend similar to what was found out in Nigeria except in a few instances. However, one thing remained striking about the trend from other countries apart from Nigeria, choice of courses in engineering and technology and enrolment in that area of study exceeded that of Nigeria. This may possibly be an explanation for the technological challenges facing the country.

Gender Differences in Choice of Courses

On choice of courses and gender, the result of the analysis shows that courses are very much gendered. The nine courses studied in this research have different participation rates by gender. Figure III and IV show of the analysis by gender. Women are severely under-represented in courses in engineering and technology and agriculture

Male domination of choice of courses in Engineering and Agriculture was persistent throughout the period covered by the study. Male also show slight domination in the fields of social sciences and natural sciences, gender integration were noticed in choice of courses in administration where female were slightly underrepresented initially but grew and between 2002 and 2006 exceeded male representation. However, results of study in respect of arts and education reveal conspicuous domination of the field by women with women severely out-numbering men among those who choose courses in education and

arts. Medical sciences also started off in 1996 – 2003 as a slightly dominated by males but experienced gender integration and almost gender parity in choice pattern between 2004 and 2006. Female applicants to medical sciences exceeded men in 2006. The revelation that female applicants exceeded men in 2006 should raise our hope that very soon there may be equitable number of female doctors and men available in Nigerian labour market contrary to the present situation where just 17.5% of the doctors nationwide are women. The finding of this study is consistent with the work of Bradley and Charles (2004). Bradley and Charles (2004) found that men over choose engineering, physical science, pre-medical and business and that women are more likely than men to enter the curriculum of education, humanities, fine art, social sciences and biological science. Except that in Nigeria, men still severely over choose social sciences and proportion of women enrolled in biological science could not be ascertained as they were collectively lumped up into the natural sciences which was chosen more by men than women. The result of the study also slightly agreed with the work of Jacob (1995) who reported that between 1980 and 1990 women representation in business majors grew by 3.5% and became more balanced by sex. Courses in Business are categorized under administration in most institutions. The women representation on courses tagged administration grew and even became more balanced by sex with women slightly exceeding men in that course in 2006. This finding is also consistent with Charles and Bradley (2000) who affirmed that female are overrepresented in fields such as humanities, social science, education and health. Though, their over- representation in social science was not found, but what is being aggregated together as social science in these countries may somehow slightly differ from what is obtainable in Nigeria. However, what may likely be constant is over- representation in humanities or non-

science based courses which define a range of programmes that are not science and engineering / technology disciplines.

The trend of growth of female representation in different courses was aptly depicted in figures III and IV and provided information on growth and move towards gender integration and more feminisation of disciplines. The study found slow integration of females in science and engineering field very consistent with the report of United Nations (1995) European Commission (2000), and Ramirez and Wotikpa (2001). The rate of feminization in engineering had lagged far behind that in other fields especially education, humanities and social sciences. This may be so in Nigeria because of some social and cultural barriers that have plagued women education included the perceived reference of science and technical education as fields reserved for men and that the nature of employment prospect and jobs available for graduate of science and technology which include working in workshops, underground, climbing appears not in agreement with societal perception of female roles. Bradley and Charles (2004) have argued that one of the reasons why women may not chose engineering courses is that it leads to a career that appears incompatible with family life and motherhood. The finding of the study in respect of gender participation in choice of course is consistent with the situation in Malaysia when Aziz, Ruan, Hock and Sanyal(1992) revealed that social science including education was more popular among female students than male students and that engineering and technology courses were more popular among the male students than among female students. The finding is also consistent with reports from USA by Jacobs (1995) which noted that education courses drew almost half of the women undergraduate and over 70% of women graduate were concentrated in an extremely limited range of field like English, Fine Art, History and Home Economics though what women pursued

changed as business major became the leading field of study for women. The findings of the study on the trend of gender representation has not show a significant entry of male into female dominated courses, over the years. This was not consistent with Jacob (1995) who found that women entry into male dominated fields has been the principal cause of decline in sex segregation of field of study/courses. This situation might have remained so because of long stereotypes that has labeled courses along gender lines. Courses where women are severely over- represented as found by this study are Arts and Education and there appears to be no gender integration as there were no improvements in male representation.

The study also further investigated the reasons for continued gender segregation and differentiation in course of study. The respondents from Nigerian universities 76.8% felt that course of study liked by men and women naturally differ, 71.2% agreed that some courses are naturally meant for a specific gender subset. These findings affirmed the work of Jacob (1996) who noted that men and women pursued different fields of study in the college and that increased female participation could be associated with creation of fields of home economic and short cycle education programme designed to prepare young women for marriage. Further descriptive analysis of reason for gender differences anchored on societal attitude about male and female roles, 72.1% of the respondents agreed to this, 67.2% of the respondents believed that technology and science based course are often considered by most students as male preserves, 87.1% felt that men and women have different thought about the future and this influence their choice of courses, 60.2% attributed it to cultural factor and sex role socialization factors and that 53.5% attributed it to the fact that courses already dominated by either male or female are their preserves. This findings have been found consistent with work of England and Allison

(2003) who found that men see it as stigmatising to enter into fields that are too feminine. The gender system was perceived too asymmetrical with much greater stigma accruing to men for engaging in female activities than for women-engaging male activities. Furthermore, the work of Reid (2002) and Gaskell (1992) noted that sex role patterns and norms conveyed by schools and families have made females to continue to participate in female appropriate courses and that choice of major are themselves shaped by what is seen to be socially acceptable for a person by his/her own gender. The findings of these studies on some cultural and social factors influencing women choice of course find support in the work of Bradley and Charles (2004) who noted that despite cultural and institutional provisions to ensure women's tertiary access a lot of women and men still continue to make a very different pragmatic choices which calls on every one trying to understand the cultural and structural context in which preferences are developed to consider the interaction of the norms concerning men and women in the society with the ways educational choices unfold. In essence whether there are interventions to ensure changes in gender patterns of courses the individuals are still constrained to look at their biological self and make choices of courses. Courses in the science and technical field historically in Nigeria are not female friendly. Ndahi (2005) reported that women were often discouraged from enrolling in industrial technical education and this goes a long way to determine proportion of women selecting such course when the composition, ideas and perception of those who make up the society remains unchanged about women role, responsibilities and capacities. The Nigerian Labour law specifically noted that women should not be employed in some specific jobs that require underground operations except they were trained to do so but never said that men should not be employed in related works if they were not trained. The appearance of a provision like this speaks a lot about female appropriate roles. They were allowed to be

employed with conditions. This provision appears to partly enlarge, the sex segregation experienced in Nigerian higher education and the preponderance of women pursuing some disciplines that have been tagged disciplines where starting salaries are low and job classified as low status profession.

Relationship between Undergraduate Perceptive Ranking of Courses on Earning Potentials and Choice of Courses.

The result of analysis of research question 3 in Table 11 the test of relationship of the rankings on earning potentials and choice of courses in Table 17 provides information on the findings in respect of the relationship between earning potentials and choice of courses.

Combined analysis of students ratings of courses from all the four universities ranking of nine course categories on earning potentials ranked Engineering and Technology course 1, Medical Sciences 2, Law 3, Administration 4, Social Science 5, Science 6, Agriculture 7, Arts 8 and education 9.

An observations of the rankings on earning potentials by students from each of the four universities reveals a similar pattern across the universities. The finding of the study that ranked engineering first, medical science second as found by this study aligned with an empirically based finding of Jacob(1995) in USA, Norton(2001) in Australia where it was averred that engineering, medicine and dentistry are more financially rewarding.

The fact that scholarships are rare in Nigeria will definitely want to make students selecting courses into university education consider earning potentials of courses as

choosing courses that will eventually make them earn less in the labour market may not be an option given the impression, thought and belief that some course are more lucrative. The fact that university education students and their sponsors incur a lot of private cost on running their education would make them to be weary of the cost and also the future benefits in terms of earning. Further analysis by test of hypothesis of the relationship between earning potential and choice of course pattern revealed a significant relationship.

This finding confirmed the work of Reid (2002), Miriami (1997), Jacobs (1995), Berger (1988) and Norton (2001). Students who are determined to make a lot of money and who perhaps have seen some people who read some other courses and ended up earning less and having less rewarding financial opportunities in the world of work are more likely to pitch their tent with courses that are perceived to provide a lot of money in respect of lifetime earnings. The fact that the ranking of the students of courses on earning potentials in all the universities follow the same pattern implies that a similar understanding of the potentials to earn based on courses exist across state boundaries and even geographic location and institutions. Furthermore, the finding of this study on earning potential being related to choice confirmed the work of Johan (1999) who reported that the fact that salaries of teacher in The Philippines increased from PS 30,000 in 1988 to PS 81,216 in 1998 led to the change in rankings of education from the 4th ranked course in 1988 to 3rd ranked course in 1998.

Relationship between Undergraduate Perception Rankings of Courses on Employment Opportunities and Choice of Courses.

The result of the analysis on students ranking of course in employment opportunities (table 12) and relationship between employment opportunities in choice of courses table

(18) provided responses to whether a significant relationship existed between students' ranking of courses on employment and choice of courses.

The result of the analysis of the rankings of courses on employment opportunities however differ from that of earning potentials. Undergraduate students ranked medical science first, engineering and technology second, education third, administration fourth, law fifth, social science sixth, science seventh, agriculture eighth and arts ninth. Unlike the rankings in earning potentials where there were no differences, ranking by students of University of Ibadan of course in Agriculture appears very much different from the trend of others. Also, ranking of courses in social science, students of Adekunle Ajasin and University of Ibadan were slightly different from that of University of Lagos and Olabisi Onabanjo University. The study also found a very weak positive relationship between employment opportunities and choice of courses which was statistically not significant. The result of the study partly agreed with the work Erim & Stewart (1997) who reported that there existed a relationship between market opportunities and educational choices. The ranking of courses by employment opportunities as revealed in this study agreed with previous study of Neave (1985) and Dale (1979) that labour market opportunity was extremely influential in USA and Britain for choice courses and that 24% of students who choose course are motivated by the need for more secured employment.

The ranking of courses based on employment opportunities by students infers that different disciplines/courses/major as the case may be faces different stress and strains in terms of employment opportunities of graduate for such fields and students who are aware of the level of difficulties of getting employed with certain programme of study may not willingly opt for such courses notwithstanding the human resource policy in

operation, more so that the students are not beneficiaries of government scholarships that would have constrained them to study what the nation wants. The fact that most students undergoing university education are privately sponsored especially in South-West Nigeria will make them to be conscious of employment opportunities available after investing in such type of education. The perceived employment opportunities ascribed to different choice of courses by students might have reflected the low level of patronage of students of agriculture, science, arts and education courses. The relationship between employment opportunities and choice of courses and students ranking pattern of choice of course partly relates to the findings of Cornor (2001) who noted that different courses have different graduate employment. Also the findings of Dabalen, Oni & Adekola on vacancy adverts by field of study did confirmed that some courses may have lesser employment appeal like education with 6%, agriculture 2% vacancy adverts an arts which had none. Agriculture which was the ranked eight in employment opportunities had the least vacancy advertisement. One striking finding for the ranking was the ranking of education third on employment opportunities. This could be explained in the sense that, the education sector has been opened up for long especially at the primary and secondary levels for private sector participation and even states like Lagos within the South West have been reported to have more private sector driven primary and secondary education providers than the state government. The possible-existence of these schools could provide employment opportunities even though the pay packet may not really be substantial thus offering opportunities to remain engaged. The preponderance of vacancy adverts seeking for graduate of marketing, economics, accounting, banking and finance even in year 2006 – 56% may have been responsible for the choice pattern that saw courses in administration being the most preferred courses among university seekers in Nigeria. The possibility of university graduates and qualified candidates getting

information through the vacancy adverts might have been a contributory factor to the observed pattern of choice of courses that puts humanities ahead of science related field and the fact that science related courses except for engineering graduate had lesser number of vacancy advertisement might constrain university course choice decision makers to systematically avoid choosing a course that could end up becoming an invitation to unemployment and subsequently poverty.

FME (2003) reported that the areas of critical manpower needs of the economy and noted that about 66,000 personnel are needed to propel the economy in five different areas which are science and technology based. However, the proportion of graduates being produced in the labour market still tilted towards humanities and the choice of courses too also tilted towards humanities and the mismatch reported by Saint, Hartnet and Strausner (2003) still continued. The mismatch is evidenced by whether a particular discipline is over supplied or undersupplied. Humanities courses that are welcomed are definitely over produced. Ejiogu (1993) had argued that the accountants, science or computer scientist who are in hot demand in the labour market are likely to earn more without inferring inferiority or superiority skills. Though, it may be claimed that these categories of people are in short supply as pointed out by (Ejiogu, 1993). This might have accounted for earning differentials in the time past but it seems uncertain that the earning differentials in courses now can be attributed to supply or demand pattern alone instead other factors related to the value placed on various courses and profession may eventually affect the courses.

The Relationship between Social Prestige and Choice of Courses

Analysis of undergraduate ranking of courses on social prestige in (table 13) and further analysis of relationship of the ranking and choice of courses in table (19) provided responses on whether a significant relationship existed between social prestige and choice of courses.

Student ranking of courses on social prestige revealed that the overall rank followed this order- medical science first, law second, engineering and technology third, administration fourth, science fifth, social science sixth, education seventh, art eighth and agriculture ninth. A further analysis showed that there is a strong positive relationship between the social prestige and choice of courses. This finding on ranking on social prestige agreed with Izuwah (1983) who reported that choice of course follow the prestige pattern, Kenbe Cence Lai; Murphy and Yuen (1992) who affirmed that there is a widely accepted hierarchy of prestige of courses in Hong Kong, Pryor (1987) who reported relationship between course selection behaviour and increasing course prestige. Course with more prestige rankings are more likely to attract applicants. The prestige rating of science which puts it on the fifth position among nine course categories agreed with the finding of OECD (2004) which reported that scientists are among the professional, the public trust most despite the fact that their prestige declined as higher management or government positions rarely held by scientists or engineers. It is the opinion of the researcher that people who are non-scientist appeared more known being captain of industries as manager or holding other high profile and prestigious posts. Except for engineering and medical science that are ranked as prestigious courses other science related fields were seen as less prestigious and as such receive low patronage of students.

This result of this study which shows difference in undergraduate ranking of courses by social prestige partially disagrees with the opinion of Ejiogu (1993) who affirmed that the fact that a particular course is in hot demand makes them to earn more and that ranking more does not provide inferiority on superiority. However, having differences in social prestige of course possibly present a superiority and inferiority complexity into courses ratings by undergraduates and the finding of its relationship to course choice behaviour calls for caution of exceeding the argument that earning does not infer superiority on inferiority advantages on courses.

Parental Influence and Choice of Courses

The result of the analysis of hypothesis four (table 23) shows that there is a significant difference in the influence of parents on choice of courses among undergraduates in the South -West universities covered by the research. This means that students from different universities in South Western Nigeria differ significantly on the level of the influence exerted by their parents on their choice of courses.

Further analysis of this result using Scheffe's multiple classification actually revealed the pairs of institution with significant differences. Significant difference on parental influence on choice of course was found to exist between response of students of University of Lagos and that of University of Ibadan one hand and that of University of Lagos and that of Olabisi Onabanjo on another hand. Also, significant difference was found between data obtained from undergraduates of Adekunle Ajasin University and those of Ibadan and Olabisi Onabanjo Univeristy. The grand mean was found to be lower than expected average mean for agreeing statements and strongly agreeing statements, thus confirming that parental influence on choice of courses was not found by the study.

This result however negates the findings of scholars from so many parts of the world. The findings contradicted the work of Bowman (1981) from Japan, Sanyal (1981) from The Philippines, Kahn (1981) from Botswana, Hansen (1997) from Norway, Brooks (2003 & 2004), Helmsay-Brooks (1999). The study also contradicted the findings on parental influence on student's decision to study some specific courses. For instance the findings of Anyung and Sand (1997) that parents influence their students on the choice of accounting courses in Australia, Taiwan and Hong Kong, Muira(1997) also found parental influence rife on student's decision to study computer science.

Some other studies even went ahead to specifically note that working parents in specific field and particular sex of parents- male/female influence students decision more (Dryler ,1998;Otto,1998). While literature from different parts of the world suggested that parental influence is a key factor on students' choice, findings from the South West Nigeria universities suggested otherwise despite the fact that the culture of respect for elders and parent which was noted to have contributed to the reported trend in Japan and other place existed in South-West, Nigeria. One plausible reason for this may be socio-economic background and educational attainment level of the parents. Literacy rate in Nigeria is low and if individual student parental literacy level is low, the possibility of having information that could be utilized by a parent to exert pressure on students to choose a particular course of study may not be available. Also poverty level in Nigeria has been documented to be extremely high and Sanyal (1983) had reported that the higher the economic status of parents, the more parents intervene in decision making. Beyond that too, the socioeconomic status and parental occupation was found to be highly influential in choice of college major in USA (Lappel, William & Waldaner ,2007). Socio-economic status of parents of students from public universities in Nigeria may have

created the present result that showed that parental influence is low on choice of courses. The possibility of having majority of parents of students in public universities not necessarily belonging to the higher socio-economic status and professions that would make them to influence students choice become a plausible explanation. However, if studies had involved students from private universities where higher fees are paid which infers a likely category of students who probably have higher socio-economic background, the result might possibly be different and more so, the present study did not collect information on students socio-economic background but merely asked them to indicate the level of influence of parents on their choice of courses.

Further analysis of the items clearly indicates that student disagreed with the fact that their choice of course was influenced by parent 76.6%, parent or guardian choose course for then 83.33%, my parents influence my choice of course 86.7%. The descriptive statistics shed more light on students responses that clearly indicated that across the public universities in South West Nigeria, undergraduates choice of courses were not influenced by parents.

Source of information for decision of variable ratings

Students' ratings of courses on the variable of employment opportunities, earning potentials, social prestige are not really based on any empirically substantiated or official document but on what students hear or perceive and these ratings have been found to be significantly related to students choice of courses pattern experienced in Nigeria today.

In essence, students' ratings of courses have been done even when they have no genuine information leading to a very high level of risk and uncertainty and even the possibility of

being misguided and choosing the wrong choice of courses becomes imminent. These findings agreed with postulations on Bounded Rationality theory as opined by Koontz Weihrich (1994) that the decision maker makes decision when information available is even incomplete. The findings of this study confirmed reported studies from Australia, McInnis Jana (1995), Yorke (1999) in UK and James (2003) which showed that students choose course whether they have genuine information source. Graduate tracer studies report and genuine employment and unemployment statistics are really not available and where they are available they are either doubtful or not updated (Dabalen, Oni and Adekola, 2000) or they are not disaggregated by courses to be useful to students who may want to use it for decisional purposes. As long as this critical information source are unavailable, students will rely on some sort of information source to make uninformed or mis-informed judgments about courses, and thus continue to choose based on what they belief. This has serious implication for national development and millennium development goal target.

Implications for Achieving the Millennium Development Goals

The study has revealed that courses in administration are the most preferred by majority of students choosing courses into the universities in Nigeria. Courses in Agriculture, arts and education are the least sought by students. The result of this study in respect of trend of choice where university ready candidates are not so inclined to pursuing agriculture as a choice of courses put at serious risk the possibility of halving the number of people living in abject poverty and ensuring food security that are part of MDG number one.

Getting young people to choose agricultural related courses in the university may enhance food production as discoveries in the ivory towers in relation to every aspect of

agricultural development enhances and boosts the capacity of practicing farmers to ensure food security. Universities are centers of human development and the collaboration of universities in developing the appropriate skills for the nation is one of the cardinal goal of higher education (FRN,1998).Though, some people might argue that specialized agricultural institutions are abound but we also very much aware of the speed at which these specialized universities abandon their mandate to enroll and produce technological and agriculturally based human resources to offer programmes in administration and social sciences(NUC,2006)

World Development Report (2007) canvassed for placing agriculture at the centre of the development agenda if the goals of halving extreme poverty and hunger by 2015 are going to be achieved. The Report had noted that a GDP growth originating from agriculture is almost four times more effective in raising incomes of over 75 % of the world poor that are leaving in Africa (including Nigeria) than GDP growth outside the sector. Dynamic agricultural development that steers the interest of the youth towards active participation especially by university system will also help to combat poverty where over 60% of Nigerians have been reported to be living below the poverty level. The fact that agricultural inventions are seriously needed to ensure that better breeds of crops are produced become important. A situation where Nigeria was the world leading producer and exporter of cocoa and had suddenly found out that our breed of cocoa do no longer find serious relevance in the market calls for concern. This is happening despite having a cocoa research institute. The fact that agricultural venture was related to poverty by findings of Nigerian Bureau of Statistics (2006) and the rating of agriculture low on employability may further send youth away from the course and the possibility of providing enough food for the nation may become endangered and hence food security

becomes impaired. The global food crises could be worsened when a highly populous African nation like Nigeria, having relegated agriculture to the background found it difficult to feed herself. With rising poverty, more people may be unable to afford the cost of food that would be imported and hence three- square meal becomes a problem and the proportion of people living in poverty and who are likely to die of hunger may be increased.

In relation to the result of this research study, students have ranked agriculture 7th on the overall behind other courses in respect of earning potentials, 8th in terms of employability and 9th (last) in terms of social prestige. Also courses in education have been ranked low on all variables mentioned above except on employability. All the variables listed have been established by this study to be related to choice of courses, ranking low on all these indices, have a major set back for the possibility of achieving the millennium development goals in respect of poverty reduction and the achievement of universal primary education.

At present, the achievement of universal primary education is suspicious and with students' unwillingness to enroll in courses in education because of low earning potentials and low social prestige will aggravate the problem of quality provision of education. As enrolment drives increases, the classrooms may be continuously starved of qualified teachers and this will have serious implication on learning achievement and outcomes for the enrolled students. The proportion of out of school children in Nigeria is already one of the highest in the world and as the findings of this study points to the possibility of limited qualified teachers to teach a large number of students that are being encouraged to enroll. We would be in for another round of trouble of having pupils without teachers,

having them taught by an array of unqualified teacher which has already become a problem to educational development and outcomes in Nigeria. We would then be getting farther rather than being closer to the attainment of MDG. This explanation appears plausible because higher education has been found to provide both private and public good and found to benefit individuals more than society. Though, this has been challenged by (Bloom, Canning and Chan 2005), it still suffices to infer that classifying and ranking these courses low on earning potentials and employability place them at risk of generating and attracting the needed human resources that are to drive the achievement of the millennium development goals especially in reducing hunger and achieving universal primary education. Achieving universal primary education goes beyond getting children to school and recording 100% net enrolment ratio but also calls for the availability of qualified teachers to enhance quality in the delivery of educational services.

In the area of gender representation the findings of this study shows that women are less represented in courses perceived critical to national development like agriculture, science technology, medical sciences etc. The issue of gender parity appears far from being realized. With female enrolment hovering between 30% and 39% for several years and lower than 40% midway into the year of reckoning of 2015, gender parity may not be attained at the tertiary level not to begin to think of gender equity in having women represented in equal amount in each course of study may take greater decades to achieve especially in science and technology and agriculture that are critical to national development.

The courses women are more represented are courses with lower prestige ratings by students. Courses with higher employability and earning potentials are also courses that

men are more represented and the possibility of having women increasing among the stock of people with high incidence of poverty increases. If women gets more and more hooked to courses that has less employment appeal as the labour market situation in Nigeria's reveals, the implication is that more women will likely suffer from unemployment and become delayed in getting a first time job because the waiting period for courses with limited employment appeal will be more and this may end up becoming an invitation to poverty thus increasing the proportion of poor women relative to men. The incidence of increase in proportion of women that are poor could also aggravate the incidence of HIV/AIDS, maternal mortality and child mortality. This health related MDG have been reported to be increased by poverty. Poverty does not allow women to negotiate safe sex, be able to attend clinics where skilled professionals would attend to them. The proportion of health professional like doctors being produced may not be enough to attend to health related challenges of MDG. A nation where women are limited in medical line and cultural reason do not allow some people in the northern part to allow male doctors examine their wives may increase low hospital attendance in those parts of the country except these belief are dealt with or more women are encouraged into medicine. Though we have a high proportion of women as nurses but fewer numbers as doctors and FRN (2006) records has it that we have doctors/patients ratio of 1:70,000 patients. This situation may not likely be improved upon with on going trends coupled with the fact that the few medical personnel that are produced even migrate to the developing world and this aspect of human resource migration appear not to have been taking into consideration when developing the millennium development goal benchmarks.

Implications for Educational Administration

Arising from the findings of this study are some theoretical and practical implications for educational administration and planning. University or higher educational administration is an aspect of the broad educational management. All those that are involved in the administration of university education (State ministry of education, National Universities Commission, Federal Ministry of Education, National Education Research and Development Council, Joint Admission and Matriculations Board need to realize that government policy on the direction human resources production, making available the right skills for national economy towards the realization of the national development targets will not just begin and end with the existence of a policy paper work like 60:40 ratio or being a signatory to the attainment of the eight millennium development goals

University education policies that existed on paper will not just in any way implement itself as we have found out through this study that the existence of the policy does not automatically impose compliance on students, educational institutions and other relevant stakeholders like parents.

The university system in Nigeria has up till now failed to appreciate the dynamics of some important changes that have started taking place globally. What has become evident from the findings of this study is the increasing need for university education to recognize that the system has become a product market where students opting to study courses in Nigerian universities have systematically become consumers of the university services including the academic and professional courses offered. University system must respond to this by devising means through aggressive course marketing, information sharing and dissemination to their large proportion of clientele - the school leavers in a way to

convince them to enroll and engage in programmes that would bring relevance to the nation, enhance national development and encourage the capacity to achieve millennium development goals.

The achievement of national development could be hinged on development in science and technology. Where universities had found it extremely difficult to enroll students in science and technology implies the need for aggressive response from university administration to intervene at transition points by supporting government policy efforts at institutionalizing market strategy approach of going out to promote the advantages of courses significant for national development under university-school linkages that works with secondary school level counseling units and administration.

Unless there are concerted efforts prior to decision making or at decision making points, choice of courses will continue to follow the tradition of four decades where higher education agencies merely lament non-realisation of agreed policy target hence the impairment of national development. School- community relationship efforts in education at secondary and higher education level nowadays are expected to result in the practice of sharing information that are needed for those that are at the decision points of choosing courses to fill the vacuum created by lack of genuine and adequate choice of courses information.

JAMB, NERDC, NUC, FME have only lamented the mismatch of choice of courses. Their is need to respond through the practice of product marketing strategies if truly national development is better enhanced by the courses that have been given larger share of enrolment in both the universities and polytechnics.

Contributions to Knowledge

Evidences from review of literature did not point to any research conducted locally to understand students' choice of courses behaviour. There is neither a research report highlighting the reasons for the students' choice of courses behaviour pattern that has made it impossible for the country to achieve the policy targets of 60:40 enrolment ratio in favour of science based disciplines. Also, there is no research report highlighting the implications of the course choice behaviour pattern on the nation's capability of achieving the millennium development goals. There is no formal empirical research that investigated the variables of this study- course employability, earning potentials, social prestige, gender and parental influence as determinants of students' course choice behaviour pattern in the university level in Nigeria. The findings have therefore, added literatures from Nigeria to this area of knowledge globally where reports from other countries on related issue have been documented.

It has revealed the trend of the choice of courses among intending undergraduates in Nigerian universities, the pattern of changes, the degree of dominance of some courses, and how consistently Nigeria has been unable to meet its national development objective targets in terms of enrolment of students vis-à-vis science/technology and humanities ratio as entrenched in the national policy for long and how these would affect the possibility of meeting some of the goal of MDG which have been found to be science and technology related as well. The degree of gender domination by male students in courses like sciences, engineering and technology critical to national development and MDG attainment was revealed. Female students were found to be higher participants in courses ranked by undergraduates as having low earning potentials, employability and even social

prestige. The study also found that earning potentials, social prestige and employability are important reasons for choice of courses while gender roles played a significant differentiating factor in choice of courses.

This study found that students in public universities in Nigeria are not radically influenced by their parents in their choice of courses thus challenging previous findings from researches conducted in Japan, Botswana, The Philippines, United Kingdom, United States of America where parents influenced students choice of courses. This particular finding is throwing up the need for further investigations in Nigeria. More so, that the issue of parental influence has been linked to cultural practice of respect in some countries and also socio-economic background. It is likely that conducting similar research among private university students in Nigeria who may have more aggregation of students in higher socio-economic background and also in other geopolitical zones may present a completely different finding even in Nigeria.

The study generated a theoretical model on students' choice of course pattern which reflects the linkages of the determinants to the choice of courses before and after receiving entry qualifications into universities. The model provided a framework for the factors to pay attention to if we are to ensure production of skills in areas critical to development for the realisation of global development targets as well.

The ranking of some courses low on employability and earning potential opens up another dimension in the area of curriculum content and education for self reliance especially at the tertiary level. This study provokes the need for more innovations in curriculum content, development and delivery at university level.

Conclusion

Students' decisions to enroll in courses at the universities are determined by certain variables. While government and their agencies create policies that directs the proportion of students expected to be enrolled in one form of course or the other based on national development targets and priorities, students made their choices as dictated by other motives which are related to their own understanding of what benefits accrue to them socially and economically now and possibly in the future for studying a particular course of study. Government policy in respect of what sort of person(s) and human resources input and output pattern should be are based on what is commonly acceptable to government as roots that will enhance national development agenda and also possibly enhance global development agenda enumerated in the millennium development goals.

What has become evident in this study is that students have a general and perceived hierarchical classification of all the categories of courses based on course earning potentials, employment opportunities, social prestige of courses and their course selection behavioural pattern is related to their perceptive rankings of the courses on these variables.

Mere publication of policies that needs behaviour compliance from people who are not receiving the university education for free will not just bring about automatic compliance from all the actors. Expecting universities to also just comply with the policy pattern of human resources production where higher internally generated revenue could be obtained through the creation of more admission spaces in the field of administration and social sciences(especially in these times that university fundings have declined) is like a wishful thinking.

Recommendations

To ensure that students' course selection aligns more with nationally set target of human resource production from university system, the following recommendations are made:

- *Course curriculum redesigning and updating:* This study found students labeling courses and ranking them either low or high on very critical indices of employment opportunities and earning potentials. The rankings accorded some courses is important to make it mandatory for universities to re-examine their curricular offerings and assess whether the courses are really teaching skills that could make graduates employable or create employment opportunities. This recommendation is slightly different from the present effort of NUC that is introducing entrepreneurial course as a general studies programme in Nigerian universities. While this is good to improve employability status of students from varying degree of courses, the one being recommended is expected to be generated and inbuilt into each course of study. Providing this at academic discipline level provides evidence that each course could make individual students employable and provides higher earning potentials as well. The general course that will be taught as entrepreneurial courses that utilizes knowledge from other fields of study will continue to emphasize that some courses have higher employability and employment opportunity status. This belief that reflected in students' rating of courses will become more reinforced by the NUC approach and will also make what started as a perception that some courses possibly have limited employment opportunities /employability status become more real thus further making the chances of their selection more remote irrespective of whether

they are likely to contribute more to national development or enhance the attainment of MDG.

- *Need to imbibe the product market approach to ensuring compliance with national targets:* There is need to advertise the skill contents of the courses particularly courses that have become identified critical to national development which students have been turning their back at. Some universities of technologies and agriculture were reported to have abandoned their mandate to pursue courses in administration and social sciences because courses critical to national development that they were established to produce human resources for could not find appeal from students entering university (NUC, 2006). If universities begin to package courses incidental to national development and brand them more effectively and fight extinction vigorously instead of beating retreat by offering only what the higher education students are asking for which incidental their demand for such courses are not even so much based on evidences that are incontrovertible, more students may be attracted to courses that are having limited choice appeal pattern from Joint Admissions and Matriculations Board.
- *Need for introduction of affirmative action policies on gender representation in university education:* There have been several interventions at the basic and secondary levels in respect of gender parity and equity in educational enrolment and output. The need to change the gender blind orientation in university education development becomes imperative if Nigeria will not feature among the countries that will miss the attainment of goal number three of MDG which calls for gender parity in enrolment at all levels in 2015. Noteworthy is that we have been conspicuously listed among the countries that missed the gender parity goal of Education for All EFA for basic and secondary education in 2005. It is very

surprising that the published national gender policy of the federal republic of Nigeria (2006) unlike the national policy on education was not bold enough to recommend the acceptable quota for university admission for women and provide progressive plan toward gender parity. The affirmative action being recommended will stipulate quota admission for women in various discipline and this should be progressively set to ensure that the goals of MDG 3 is aggressively pursued so that we can record significant improvement by target date.

- *Building gender parity and equity principles into university quality assurance measurement.* The incidence of university non-compliance with national development targets for production of human resources to ensure the attainment of relevant parts of MDG that are hampered by availability of human resources in the right quantity needs to be more adequately handled. Increased female gender education has been linked to achieving almost all other development goals. University quality assurance yardsticks designed by NUC could incorporate aspects of extent of gender mainstreaming that reveals progress made by institutions and rating attached to such as gender equality issue has become a global development issue and the inclusion of these in quality assurance measurement may speed up institutional and university response to tackling the challenge of in-depth gender mainstreaming required in aspects of university life including choice behaviour that universities could also help to achieve.
- *The need for graduate destination survey and application of labour market intelligence study to institutional planning:* There is need for NUC to collaborate with universities to conduct series and periodical graduate tracer studies which identifies where university graduates of various courses from different universities employed and in what type of work. This helps institutions to further attract

students to some courses that are erroneously perceived as having low employment appeal.

- *Adequate strategic planning efforts:* All the universities are to be encouraged to have strategic planning document that lay a systematic and detailed outline of the future of the university in the instant. Strategic planning that takes cognisance of national priorities in enrolment, attainment and output is desirable. Most institutions have strategic plans but most of them do not align with national demands in respect of what the nation prioritize, others just make strategic plan that are not operational as nobody even remembers to use it in relation to present actions and activities. A situation where the nation requires skills in specific vocation or areas of endeavour and universities that are expected to churn out persons with such needed skills continue to produce skills that are out of tune with national demands calls for a more collaborative effort where NUC scrutinizes the areas of these strategic plans and ensure universities are producing skills in the area outlined as area of need for attainment of MDG and national development. These should really be the areas in which NUC be more concerned with since they were established to monitor universities and ensure production of skills relevant to national economic development.
- *Government should make available relevant information needed by people making choices into university education:* Government and university websites should make available employment and unemployment information of their graduates by fields of study. There is need for the earning potentials data. These are information freely made available to the citizens in United Kingdom and United States of America that really enhance students' decision of choice of courses. A situation where students decision making for university education are based on

hearsay, unreliable sources and mere rule of thumb by decision makers makes the possibility of erroneous decisions into courses in higher education more than expected. The publication of related information could help boost the hidden prestige, income potentials and employability values of a lot of courses like agriculture and science related fields which are being erroneously rated low on variables linked to choice of courses investigated.

- *Strategic alliance by universities with the secondary school administration:* The highest proportions of school leavers that make choices of courses do so at the exit point of secondary education or during secondary education. There is need for universities to change their "stand aloof" approach to potential university seekers choice process and partner with the institutions that houses the students at the point of decision making. This strategic alliance could also be made with Parents Teachers Associations, School Based Management Committees (SBMC), Parents Clubs (who are also in contact with grassroots education system stakeholders that are of importance or who may be of influence on students choice process) to disseminate information on the benefits of enrolling in courses that are of national relevance that could also speed up attainment of millennium development goals.
- *Using federal and state scholarship award as incentive for students who make choices to study courses that are of national importance:* Public universities have continued to complain of inadequate funding. Federal universities do not charge tuition fees in Nigerian universities. Only state universities and private universities charge fees. Even the state universities still charge minimal fees that are not really equal to the unit cost of educating a graduate. What becomes clear is that despite the fact that students incur a lot of private cost on their own to run their university education, government still subsidizes university education as

observed in the report of Okebukola (2002) that noted that total average unit cost for science based discipline in Nigerian universities is NGN 239,408 while that of art based disciplines is NGN 186,505. Government recurrent and capital expenses released to federal universities through NUC confirms that the cost is being subsidised. Apart from subsidies, federal government also provides federal scholarships to both undergraduates and postgraduate students. However, evidence from the distribution of the award of the scholarship by courses and gender have not shown that government uses the award to encourage enrolment in area of national interest that students have avoided to choose. The proportion of females awarded scholarships by fields of study is also considerably low. It is therefore the opinion of this researcher that government is not expected to continue to subsidise students and also provide scholarships in courses that have less relevance to national development. The application of no tuition and the award of scholarships in federal universities could be selectively applied to students offering courses of national relevance which had recorded low patronage. The researcher is aware of increasing agitation of federal universities to charge fees and if and when government bows to this demand, the suggestion being made in this research should be incorporated into the implementation plan.

- *There is need for effective collaboration among relevant higher education agencies* : Agencies that are statutorily saddled with roles and functions in respect of actualizing the national goals of human resources production need to collaborate. The National Manpower Board, NUC, JAMB and FME need perform team work and operations to effectively deliver on national targets of human resources production.

In essence, the approaches so far undertaken which the researcher described as non interventionist which expects that students will automatically enroll in some field of study perceived as being of national importance and that girls and boys will automatically fix themselves into courses that will bring about gender parity is not only a loose dependence on possible achievement of national developmental and millennium development goals by chance but an invitation to failure.

Ki-moon (2007) noted that if we are to reach the realization of millennium development goals, teachers, engineers, nurses and doctors etc must be developed and the development sufficient number of these personnel do not just happen overnight. The globalization of everything and the migration of personnel across border do not even guarantee that the production and development of these people will make them available for use to better national economies and achieve MDGs.

To think that students who are now behaving like consumers of education products in the sphere of higher education market will automatically fit into university education policy of 60: 40 in favour of science to humanities is a big gamble that should be stopped. The trend of choice pattern that had tilted towards humanities than science and technology, the differential rankings of courses on variables of study, the relationship of variables of earning potential, employment opportunities and social prestige to students, choice of courses pattern, the gendered nature of choice behaviour that endangers the achievement of millennium development goals calls for the adoption of more interventions that utilises some of the recommendations of this study namely a better strategic planning approach to university development that incorporates a connectivity between individual strategic orientation and other institutions of government concerned with ensuring compliance of

nationally set targets, curriculum redesigning and updating, conducting graduate destination survey to appropriately provide employment opportunities indicators for graduates in different courses ,provision of affirmative action policies that mainstream gender consciousness in respect of gender equity and parity in admission to courses that have implementation strategies at individual university level .These interventions and others mentioned under recommendations should be annually monitored and evaluated for compliance.

Suggestions for Further Research

The findings of this study for the first time has exposed the hidden challenges and factors that has controlled students' choice behaviour in respect of university education in Nigeria. It has unlocked the determinants of factors that had stirred students towards certain courses which does not align with national policy targets of human resources production for university education. Its findings have also provided pointers to the implications for millennium development goals. Therefore, there is need to replicate this study in universities in other geopolitical zones of the federation. Follow-up studies that investigates some other variables like self efficacy, students' interest, peer, friends, teachers and counselors influence on the choice of courses are also recommended .Beyond this, studies focusing on choice of courses incorporating the private university students is necessary since the socioeconomic background of students in these type of universities may be different from those of public universities covered in this research.

In addition, further researches could focus on individual academic disciplines rather than groups of courses as this will possibly provide more detailed knowledge and reports that

could help to further shape the packaging of individual course curriculum and enhance more students and gender participation in areas women are grossly underrepresented

Lastly, the study of choice of courses could be extended to other levels of higher education institutions like polytechnics that are also expected to enroll ratio 70:30 science based against humanities.

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APPENDIX 1

QUESTIONNAIRES

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

UNIVERSITY OF LAGOS, AKOKA, NIGERIA

UNDERGRADUATES' CHOICE OF COURSES QUESTIONNAIRE

Dear Sir/Madam,

This questionnaire solicits information about undergraduates' choice of courses in Nigeria Universities. The aim of the study is to provide data-based knowledge on choice of courses. The research is purely for academic purposes.

Kindly provide information on the items raised in the questionnaire. For the purpose of anonymity, your name or information that could link you to the responses is not needed. All information provided will be treated with utmost confidentiality.

Gboyega Ilusanya
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Section A: Please fill in the information below. You may tick () where appropriate.

1. Name of University: _____
2. Students' Faculty: _____
3. Course of Study: _____
4. Sex: Male ☐ Female ☐
5. Level of Study: 100L ☐ 200L ☐
 300L ☐ 400L ☐
 500L ☐ 600L ☐

Section B

1. Please tick () the box that is most appropriate to your choice of response.

Items	Strongly Agree	Agree	Disagree	Strongly Disagree
(i) Course of study liked by men and women differ.				
(ii) Some courses are naturally meant for a specific gender subset e.g. female.				
(iii) Secondary school co-curricular activities differentiate along gender lines.				
(iv) Societal attitude about male and female roles determine course of study at the university level.				
(v) The curricular content of secondary and primary schools differentiate roles and prepare male and female for different courses in the university.				
(vi) Entry credit levels in specific subjects/qualifications for some courses are easily obtained by a particular sex than the other.				
(vii) Certain courses with quantitative backgrounds are traditionally less considered by the female sex				
(viii) Technology & science based courses are often considered by most parents as male preserves.				
(ix) Technology & science based courses are often considered by most students as male preserves.				

Items	Strongly Agree	Agree	Disagree	Strongly Disagree
(x) Men and women have different thoughts about the future and thus influence their choice of course.				
(xi) Cultural factors and sex role socialization factors influence choice of courses at the university.				
(xii) Sex role differentiation and norms conveyed by secondary school influence choice of courses at the university.				
(xiii) Courses already dominated by either male or female are seen as belonging to them.				
(xiv) Professional fields of specialization with many women attract low pay.				
(xv) Teaching and learning process in some courses is gender biased.				
(xvi) Courses taught mostly by women attract more female enrolment.				
(xvii) Courses taught mostly by male attract more female enrolment				

Section C

2. Please tick () the box that is most appropriate to your choice of response.

Items	Strongly Agree	Agree	Disagree	Strongly Disagree
(i) My choice of course was significantly influenced by my parents.				
(ii) My parents/guardians chose my university degree course for me.				
(iii) My choice of study was influenced by the income of my parents/guardians.				
(iv) My parents influenced my present course of study by continuously encouraging my choice of subjects at secondary school level.				
(v) My parents influenced my present course of study by continuously encouraging my choice of subjects at secondary school level..				
(vi) I have been counselled by my parents/guardian on choice of course long before I gained admission into the university.				

Section D:

1. Instruction: The following are fields of study. Please assign position from 1st to 9th for these fields base on your understanding of the opportunity they offer in terms of pay/salary to graduate in the labour market. Let the 1st position be for the one that offers the highest pay and the last position for the one that offers the least pay.

Field of Study	Rank
Education	
Agriculture	
Administration	
Arts	
Engineering and Environmental Technology	
Law	
Medical Science	
Science	
Social Science	

2. Instruction: Below is an inventory of fields of study. Based on your understanding of courses that offer better employment opportunities on graduation, please rank as appropriate using 1st position to 9th position. The one with the best employment opportunity should be ranked first and the one that offers the least opportunity the last position.

Field of Study	Rank
Education	
Agriculture	
Administration	
Arts	
Engineering and Environmental Technology	
Law	
Medical Science	
Science	
Social Science	

3. Instruction: Below is an inventory of fields of study. Based on your understanding of social prestige of courses, assign positions to these fields. Let the 1st position be for the one with the best social prestige and the last position for the one with the least social prestige.

Field of Study	Rank
Education	
Agriculture	
Administration	
Arts	
Engineering and Environmental Technology	
Law	
Medical Science	
Science	
Social Science	

Section E

Which of these do you have access to on the rankings of the courses? Tick Yes or No

Item	Yes	No
Access to published document by government agencies on employment opportunities available for each field.		
Access to universities website publication detailing information related this.		
Published documents on earning potentials.		
Information from state government agencies		
Based on my personal conviction of what I see around me about those who have studied most of these courses		
Based on what I just think		

APPENDIX 2
List of Federal Universities in Nigeria

S/N	Federal	Year
1.	University of Ibadan, Ibadan	1948
2.	University of Nigeria, Nsukka	1960
3.	Obafemi Awolowo University	1962
4.	Ahmadu Bello University, Zaria	1962
5.	University of Lagos, Lagos	1962
6.	University of Benin, Benin City	1970
7.	Bayero University, Kano	1975
8.	University of Calabar, Calabar	1975
9.	University of Ilorin, Ilorin	1975
10.	University of Jos, Jos	1975
11.	University of Maiduguri, Maiduguri	1975
12.	Usman Danfodiyo University, Sokoto	1975
13.	University of Port-Harcourt, Port-Harcourt	1975
14.	Federal University of Technology, Owerri	1980
15.	Federal University of Technology, Akure	1981
16.	Federal University of Technology, Yola	1981
17.	Federal University of Technology, Minna	1982
18.	Nigerian Defence Academy, Kaduna	1985
19.	University of Abuja, Abuja	1988
20.	Abubakar Tafawa Balewa University, Bauchi	1988
21.	University of Agriculture, Makurdi	1988
22.	University of Agriculture, Abeokuta	1988
23.	Nnamdi Azikiwe University, Awka	1992
24.	University of Uyo, Uyo	1991
25.	Michael Okpara University of Agriculture, Umudike	1992
26.	National Open University, Abuja	2002
27.	Federal University of Petroleum Resources, Effurun	2007

APPENDIX 3
List of State Universities in Nigeria

S/N	State	Year
1.	Rivers State University of Science & Technology, Port-Harcourt	1979
2.	Ambrose Alli University, Ekpoma	1980
3.	Abia State University, Uturu	1981
4.	Enugu State University of Science & Technology, Enugu	1982
5.	Olabisi Onabanjo University, Ago-Iwoye	1982
6.	Lagos State University, Ojo, Lagos	1983
7.	University of Ado-Ekiti, Ado-Ekiti	1982
8.	Ladoke Akintola University of Technology, Ogbomoso	1990
9.	Imo State University, Owerri	1992
10.	Benue State University, Markudi	1992
11.	Delta State University, Abraka	1992
12.	Adekunle Ajasin University, Akungba-Akoko	1999
13.	Kogi State University, Anyigba	1999
14.	Niger-Delta University, Yenagoa	2000
15.	Anambra State University of Science & Technology	2000
16.	Kano State University of Technology, Wudi	2000
17.	Ebonyi State University, Abakaliki	2000
18.	Nasarawa State University, Keffi	2000
19.	Adamawa State University, Mubi	2002
20.	Gombe State University, Gombe	2004
21.	Kaduna State University, Kaduna	2004
22.	Cross River University of Science & Technology, Calabar	2004
23.	Plateau State University, Boko	2005
24.	Akwa Ibom State University of Technology	2005
25.	Ibrahim Babangida University, Lapai, Niger State	2005
26.	Tai Solarin University of Education, Ijagun	2005
27.	Katsina State University, Katsina State	2006
28.	Bukar Abba Ibrahim University, Damaturu, Yobe State	2006
29.	Kebbi State University of Science and Technology, Aliero	2006
30.	Osun State University, Osogbo	2006
31.	University of Education, Ikere-Ekiti	2008

APPENDIX 4
List of Private Universities in Nigeria

S/N	Private	Year
1.	Babcock University, Ilishan Remo	1999
2.	Madonna University, Okija	1999
3.	Igbinedion University, Okada	1999
4.	Bowen University, Iwo	2001
5.	Covenant University, Ota	2002
6.	Pan-African University, Lagos	2002
7.	Benson Idahosa University, Benin City	2002
8.	ABTI-American University, Yola	2003
9.	Redeemers University, Mowe	2005
10.	Ajayi Crowther University, Ibadan	2005
11.	Al-Hikmah University, Ilori	2005
12.	Caritas University, Amorji-Nke, Enugu	2005
13.	CETEP City University, Lagos	2005
14.	Bingham University, Jos	2005
15.	Kastina University, Kastina	2005
16.	Renaissance University, Enugu	2005
17.	Bells University of Technology, Badagary	2005
18.	Lead City University, Ibadan, Oyo State	2005
19.	Crawford University, Igbesa, Ogun State	2005
20.	Wukari Jubilee University	2005
21.	Crescent University, Abeokuta	2005
22.	Novena University, Ogume, Delta State	2005
23.	University of Mkar	2005
24.	Joseph Ayo Babalola University, Ikeji-Arakeji, Osun State	2006
25.	Caleb University, Lagos	2007
26.	Fountain University, Oshogbo	2007
27.	Obong University, Obong Ntak	2007
28.	Salem University, Lokoja	2007
29.	Tansian University, Umunya	2007
30.	Veritas University, Abuja	2007
31.	Wesley University of Science & Technology, Ondo	2007
32.	Western Delta University, Oghara, Delta State	2007
33.	The Achievers University, Owo	2007
34.	African University of Science & Technology, Ibadan	2007