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A survey of factors determining the employability of science and technology graduates of polytechnics and universities in the Nigerian labour market

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Today in Nigeria, many university graduates complain of high levels of unemployment and prospects for employment have worsened over time. Despite some progress made in extending access to higher education for various groups of Nigerians seeking university education, however, the percentage of graduate unemployment has assumed alarming proportions especially for graduates of science and technology. Does the education they receive not in consonance with today's skill requirements in the labour market or is the curriculum used in the higher institutions too outdated? The public and the press hotly debate these questions, as the questions remain very relevant to both graduates who are seeking employment and also to employers who also consider employing them. Many employers of labour usually complain that graduates are poorly prepared for work. They believe that academic standards have fallen considerably over the past decade and that a university degree is no longer a guarantee of communication skills or technical competence. As a result, university graduates are commonly viewed as "half baked." What is the real situation? Is science graduates unemployment a serious problem? How do employers assess the qualifications of current degree-holders? How well do graduates perform when they are able to obtain employment? These concerns have prompted the present study. It seeks to answer these and other questions regarding the levels of graduate preparedness for productive employment. This study was a survey conducted in June 2007. It was based on an analysis of questionnaire distributed to managers from some public enterprises, private firms, professional associations and non-governmental organizations, the education sector and also to science graduate employees of the various establishments. The analysis of the result of the survey shows a mismatch between university outputs and labour market demands.

Key words: University graduates, graduate unemployment, science and technology, public enterprises, private firms, qualifications, communication, labour market.

INTRODUCTION

From a global perspective, economic and social developments are increasingly driven by the advancement and application of knowledge. Education in general and higher education in particular, are fundamental to the construction of a knowledge economy and society in all nations (World Bank, 1999). Yet the potential of higher education systems in developing countries to fulfil this responsibility is frequently thwarted by long-standing problems of finance, efficiency, equity, quality and

unemployment. Perhaps no one has captured the significance of the global unemployment situation better as the ILO's Director- General, Juan Somavia in the latest ILO Global Employment Trends Report, which remarked that economic growth alone is not adequately addressing global employment, needs. Accordingly, the report said, "they are facing a global job crisis of mammoth proportion and a deficit in decent work that is not going away by itself. They need new policies and practices to address these issues, given the number of people that are out of work today and the millions more that are most likely to join the jobless market tomorrow". The report further showed that the "number of unemployed

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people world-wide reached a new height in 2005, especially among the vast and growing legion of jobless youths". It also stated that the world poor were especially hit hard by weak economies that failed to turn GDP growth into job creation or wage increases, coupled with natural disasters and rising energy prices. According to the report, official estimates of global unemployment rate have remained unchanged after two successive years of 6.3% of decline. It disclosed that the total number of the jobless at the end of 2005 stood at 191.8 million people, an increase of 2.2 million since 2004 and 34.4 million since 1995. These are the grim facts concerning unemployment worldwide for the millions of the jobless, who are increasingly giving up ever getting jobs and also for governments around the world who must be worried about the deepening joblessness situation.

In Nigeria, though accurate data on unemployment is hard to come by, there is no mistaking the fact the country is today faced with very high unemployment rate. The every day sight of the growing army of unemployed youths roaming the streets with despair written all over their faces attests to the gravity of the job market situation in Nigeria. Graduate unemployment, not to talk of secondary school leavers has reached a frightening level. Year in year out, the tertiary institutions turn out tens of thousands of degree and diploma holders but only a tiny fraction find jobs, any job for that matter. Two principal factors, among others may be responsible for the growing unemployment problem in the country. One, the economy is not growing fast enough to absorb the high number of people, especially graduates coming into the job market. This is the classical case of supply out-stripping demand. Two, the universities and other tertiary institutions are not training people with appropriate skills required for a 21st century competitive global economy dominated by Information Technology (IT). Understandably while the Arts and Humanities still play important role in development, the principal road to robust and long-lasting development is inarguably via Science and Technology. In other words, in the development process, science ought to receive a pre-eminent place above everything else because it undoubtedly underpins every aspect of human development. The challenges of job creation, graduate unemployment low growth rate of the gross domestic product and high population growth rate have therefore been advanced as critical factors militating against the rapid industrialization of Nigeria.

The changing landscape between higher education and the world of work

Labour market success is a subjective term, which tends to be ill defined in academic literature. In a macro sense, labour market success for an economy may be judged in a number of ways terms including, the total number of jobs created, the level of unemployment in the economy, the extent of underemployment or the level of real wages,

normally in comparison to some international benchmarks. At the individual level the issue is much more complex and depends upon the subjective preferences of the individual worker. To many individuals, labour market success goes beyond just obtaining employment to include issues relating to the desirability of the job in terms of conditions, status and continuity. Studies on graduate employment and work often give a limited description of graduates' professional success. Sometimes, only the employment status (employed/ not employed) at a certain time after graduation is considered as an indication of professional success. Such approaches often ignore that graduates themselves do have complex work orientations and career plans in which other factors such as autonomy at the work place and the content of work play a much more prominent role than income. According to Schomburg (2007), income and employment status are equally not satisfying indicators of professional success, while the question of being employed or not is not really relevant if the employment conditions are not considered. Furthermore, he said that most graduates work during their course of study in order to contribute to the course of study or to obtain work experience and the time of graduation is not the start of employment. Schomburg (2007) further listed some of the dimensions of graduate professional success to include the following:

- (i) The smoothness of the transition process,
- (ii) Status and income,
- (iii) Success with regard to the nature of work, e.g. use of knowledge and the extent to which work is characterised by autonomy and challenging tasks, and
- (iv) Overall appreciation of employment and work.

In recent times, however, one major interest that have attracted public debate in many advanced countries as well as International organisations has centred on the relationship between Higher education and the world of work. Various reasons for this development are worth mentioning. Enrolment in higher education had increased in various countries of the world since the 1980s and growing unemployment in the 1990s fuelled fears that the 'mismatch' between education and employment might be more pronounced. Furthermore, greater attention was paid to an increasingly complex and often protracted process of transition from higher education to employment. Moreover, rapid changes in technology also suggested that graduates could no longer expect to remain in a single profession or with a few employers; they have to be more flexible and better prepared for lifelong learning.

According to Teichler (2007), the relationship between Higher Education and the world of work now tend to emphasize popular issues such as the contribution of educational expansion to economic growth, the dangers of 'over-education', the diversity of higher education and employment opportunities, the rise of precarious employment, the growing role of 'key qualifications' and trends

towards a globalization of the graduate labour markets.

The Nigerian higher education system and the problem of science graduates unemployment

The role of universities in human capital development, research and technological innovation therefore cannot be underestimated. All over the world investment in university education is a critical component of national development effort. Nations today depend increasingly on knowledge, ideas and skills, which are produced in universities (World Bank, 1997; OECD, 1996). As a nation's knowledge industry, universities increase the productive capacity of the labour force. In the developed countries university scientists are able to monitor global technology trends, assess their relevance to national needs and assist in developing the national technological capacity for economic growth. University education as popularly suggested is for three purposes. These are (i) to train the minds of young people (ii) for research activities and (iii) to recognize achievements. Considering these purposes the need for quality and relevance of the education in any university cannot be overstressed. The quality and relevance of higher education in today's dynamic world should exist between the objectives and content of education. On the other hand, this means that the social expectation and skills needed within the world of work should be achieved through the teaching and learning programs in tertiary institutions. Today, Nigeria possesses the largest university system in Sub-Saharan Africa.

Nigeria's entire tertiary education system (Federal, State and Private) comprises 244 institutions as at July 2007: 17 Federal universities, 4 Federal Universities of Technology, 3 Federal Universities of Agriculture, 1 National Open University, 4 National Centres for Specialized Tertiary Instruction, 25 State Universities, 24 Private Universities, 1 Military University, 17 Federal Polytechnics, 27 State Polytechnics, 7 Private Polytechnics, 22 Federal Teacher Training Colleges, 38 State Teacher Training Colleges, 4 Private Teacher Training Colleges, 36 Colleges of Agriculture, 12 Specialized Training Institutes, and 4 Parastatal Supervisory Agencies. The government traditionally categorizes its federal universities into groups based on their dates of establishment, as follows: 1st Generation (Benin, Ibadan, Ile-Ife, Lagos, Nsukka, Zaria); 2nd Generation (Calabar, Ilorin, Jos, Kano, Maidugari, Port Harcourt, Sokoto); 3rd Generation (Abeokuta, Abuja, Akure, Akwa, Bauchi, Makurdi, Minna, Owerri, Umudike, Uyo, Yola).

According to Okebukola (2007), the past three decades have witnessed significant changes within the university system in Nigeria. Notable among such changes are the increase in the number of universities and programmes offered in these institutions. By the end of 2005, there were over two thousand programmes across the entire universities with staff strength of about 140,000. By far,

however, the greatest change has been in the explosion in student population and the number of aspirants seeking university admissions. The total student enrolment in all Nigerian universities grew from just over 200 in 1962 to over 750,235 in 2006. Enrolment into Nigerian universities has been growing steadily over the last 54 years. From a take-off enrolment of 210 in 1948 at the University College, Ibadan emerged six universities in 1962 enrolling a total of 23,000 students. By 1996, the total number of universities stood at 37 with a student population of 234,581. The rate of growth quickened beginning from 1988 when the first set of products of the Universal Primary Education (UPE) scheme, which began in 1976, came knocking on the doors of the universities for admission. In the 1990s, the annual growth rate averaged 12%.

Okebukola (2007) further remarked that three plausible reasons could be advanced for the upsurge in enrolment rate. One, the number of applicants is ten times more than the number of places. Many applicants therefore go for whatever places are available during an admission season. Second, poor job opportunities even for choice courses are limited; hence the lack of care for whatever course is available in the University of first or second choice. The third reason is the craze for a university degree, regardless of discipline. This is seen as the push factor for some holders of polytechnic diplomas applying for degree programmes in universities. The fourth reason is the pervasive belief that university education, regardless of discipline, trains the mind to be able to do any job better than without university education.

Concerns about graduate unemployment in Nigeria

Concerns about graduate unemployment are growing daily and at an accelerated rate in Nigeria, yet the strength of student enrolment and graduate output of the institutions of higher learning are growing rapidly. Many of the graduates of the higher educational institutions resent public service employment especially the teaching profession even though vacancies exist in such jobs at various levels. The common ambition of most fresh graduates is to be employed in the oil companies or the banks. These are popular because of their much higher pay. Many graduates are even willing to accept retraining in order to be employed in the oil company or the banks and some of them do train fresh graduates to acquire relevant skills before job placement. Some University students came into university as employees of establishments on in-service training. This category of students has the opportunity of going straight to a job immediately they graduate. Majority of the graduates who had no prior experience and work may have some delay in entering the workforce. The only prospect of jobs for fresh graduates is their participation in the National Youth Service Corps (NYSC). The graduates try to impress the prospective employer during the one-year period of NYSC

so as to have some edge over others during recruitment exercises.

Observation however suggests that employment opportunities for graduates are not mainly a function of the employment system and its requirement but also of the quantitative structural skill linkages. It has been noted as well that in many countries, the views and the reputation of certain institutions and departments influence the employability of their students. Hence, some institutions of higher learning try to maintain higher competitive edge for their graduates by including different professional experiences during the course of study. The observation is that employers' expectations are varied and cannot easily be determined because of the numerous factors that may influence the need for recruitment or the recruitment requirement. Sometimes, employers' views about the reputation of certain institutions and departments may tend to influence recruitment, hence, some institutions of higher education consequently try to ensure higher competitive edge for their graduates by establishing some direct professional experiences during the students' course of study (learning visits, internships). The responsibility of Universities in training students is not limited to imparting academic skills. It should include training the individuals to be disciplined by instilling in them those society's desirable human characteristics such as honesty, hard work and loyalty. There have been, constantly, calls from different arms of the society for a look at the problem of the increasing unemployment rate in Nigeria. Provision of employment opportunities to all graduates is a means of ensuring participation of all in the national development process.

In order to eradicate unemployment and poverty, the Nigerian Government under the former leadership of President Olusegun Obasanjo, GCFR reiterated the need to approach the issues of employment generation from a systemic point of view. Hence, this informed the invitation of the Federal Government to the International Labour Organisation in 2001 to understudy the Nigerian labour market with a view to recommending strategies for a holistic turnaround of the nation's economy. Furthermore, President Olusegun Obasanjo approached UNESCO, for assistance in the reform of Nigerian's Science and Technology and Innovation System. A principal component of this reform is the promotion of entrepreneurship in Nigerian Post Basic Education Sector. The Higher Education Sector in complementing the efforts of government and in compliance with the directives of President Obasanjo introduced a training module on entrepreneurship with a view to giving students basic knowledge and skills in enterprise development and management. The massive introduction of entrepreneurial education in the university curricula was also a precursor to the establishment of Entrepreneurial Study, Innovation, and Career Advisory Centres in Nigerian Higher Education Institutions (HEIs).

The Federal government of Nigeria also introduced in

2004, the National Economic Empowerment and Development Strategy (NEEDS), which is the Government of Nigeria's poverty reduction strategy plan for the country's prosperity. NEEDS recognises education as the vital transformational tool and a formidable instrument for empowerment. NEEDS goals of wealth creation, employment generation, poverty reduction and value re-orientation can only be effectively attained and sustained through an efficient education system. Consequently, education is both an object for the effective pursuit of NEEDS as well as a subject for reform. The Nigerian education sector will have the responsibility to produce and supply the required manpower and human capital to propel and sustain these initiatives.

Factors affecting labour market success in Nigeria

Labour market success in Nigeria is a subjective term which tends to be ill-defined in academic literature but which may be judged in a number of ways terms including, the total number of jobs created, the level of unemployment in the economy, the extent of underemployment or the level of real wages, normally in comparison to some international benchmarks. At the individual level for example, the issue is much more complex and depends upon the subjective preferences of the individual worker which might include issues relating to the desirability of the job in terms of conditions, status, satisfaction and continuity. Furthermore, a number of factors stand out as increasing the likelihood of gaining labour market successes in Nigeria. Some of those that are already well known for increasing employment chances include education where having either higher or middle level education increase the ratio of gaining employment. Linguistic characteristics are also identified as another important factor. The third factor has to do with age. Socio-economic factors are important to employment success. The fourth is the type of university attended and the class of degree awarded. Science graduates with first class degree are definitely sure of gaining employment in banks and oil companies, but the question is how many science graduates come out in first class?

Presently in Nigeria, three main sources of employment opportunities exist for university graduates. These are the public sector, which includes government ministries, schools, and parastatals; the private sector, which encompasses small to medium-sized private business as well as multinational corporations; and finally self-employment category. The Public Sector Employment for Graduates in Nigeria has been the single biggest formal sector employer. The establishment surveys show that the public sector in Nigeria absorbs about 60% of the formal sector workers. It is reasonable to expect that many of these workers are university graduates. Data on graduate employment in the private sector and in self-

employment are exceedingly rare. The little data available regarding private sector share of graduate employment come from tracer studies. A tracer study of graduates of the University of Benin found that only 33% of the sampled respondents worked in the private sector (Omoifo et al., 1998), while just 8% were self-employed.

Statement of the problem

High unemployment and under-employment among science graduates of the institutions of higher learning, especially the universities, and the sharp rise in the universities' enrolment, call for quantitative and empirical assessment to determine solution to the problem. However, this is a function of decreasing job opportunities and increasing enrolment. Graduates of Nigerian universities take up various kinds of jobs in the public and private sector. How do science graduates get their first employment and what are the factors for gaining employment? Quite a few go into self-employment. It is expected that science graduates would take up jobs related to their training. It is also expected that the self-employed science graduates would start businesses related to their areas of study. There is a need to find out the extent to which this is true among science graduates from the universities.

Research questions

- (1) How do science graduates get their first job/employment?
- (2) What are the important factors for gaining employment?
- (3) To what extent is the knowledge acquired during the course of study used by the graduates in their current jobs?
- (4) What types of skills are possessed by science graduates as perceived by their employers?
- (5) What are the different attitudes to work exhibited by science graduates as perceived by their employers?

METHODOLOGY

The study populations used involve 100 science graduates working in various establishments. Two sets of questionnaires were given, one for the Chief Executive/Managers of the employers of labour from some large, medium and small sized public, private and voluntary sectors of the Nigerian economy in manufacturing sector, textile industry, telecommunications, food and beverages and the education sector and the second set of questionnaires for the graduate employees of these organizations.

The instruments

The instruments used consisted of a set of two questionnaires, one for employees and the other for employers of labour. The

questionnaires were further subdivided into three major sections for ease of administration. Section A was the demographic section, which focused on the personal characteristics of respondents and employers history. Section B of the employee's questionnaire required certain information about their employment records. The questionnaire addressed the mode of science graduates job searches as well as the factors, which they considered as important for getting employment. It also examined the extent to which graduates considered their position and tasks as linked to higher education. For the employers of labour, section B required them to rate graduates in their employment in ten related skills, while section C required employers to indicate their agreement or disagreement with different types of attitudes exhibited by graduates under their employment.

The pilot testing of the instruments provided the basis for refining of the items and also for the development of the final version. Face validity was established by the review of the instruments by a panel of five science educators. Reliability was determined by calculating the internal consistency for each subscale. Cronbach's alpha coefficient for each subscale is as follows: Employees Instrument Scale (0.75), while the employers' instrument scale (0.79), indicating good internal consistency

Data collection and analyses

Copies of the survey instruments were distributed to the respondents in their various establishments through the assistance of students who were on the Supervised Industrial Work Experience Scheme (SIWES) for three months duration during the period of the survey. The students were instructed to drop the questionnaires for the respondents in their respective work places. In addition, to ensure a good rate of return, the students were also to retrieve completed questionnaires from the respondents. The data were collected and analysed using mainly frequencies, percentages and Means. The SPSS software was used for the analysis.

FINDINGS

Mode of first employment after graduation

Several approaches could be used to seek for and secure employment upon graduation from institutions of higher learning in Nigeria. For example, graduates may choose to apply for advertised jobs, unadvertised jobs or through family relationships or even start their own private business. Jobs may be secured in the private or public sector. In this study, the respondents were asked to indicate how they secured their first post-graduation employment. The distribution of the responses is shown in Table 1.

Table 1 indicates that overall, the most common means of first employment by science graduates is through the schools management boards in their various domains (48%), while family relationships connection/contacts is about second (45%). This may in part be due to influences of parents or relatives, which is closely related to personal connection. The third in the order of importance is employment secured by direct offer of employment (15%), while application to vacant position (8%) came fourth. Employment through employer's campus visitations, university's placement and employment

Table 1. Strategies for seeking employment.

Strategies for securing employment by science graduates	% of responses
Through advertisement to vacant positions	08
Through personal contacts	10
Through family relationships	45
Through direct offer of employment	15
Through public employment centres	00
Through employers campus visits	00
Through university placement	00
Through self-employment	05
Through schools management boards	48

Table 2. Percentage response of important employment factors.

Important factors for being employed	% no. of responses
Field of study	75
Subject specialisation	67
Reputation of university attended	54
Class of degree	50
Age of applicant	40
Previous work experience	05
Theme of thesis/project work	03

centres all came last (0.00%). In the past, several prospective employers used to interview graduating students on-campus. This practice according to these findings has dropped to zero for science graduates. Thus, the campus “employers” visit, and the “university placement office” as avenues of getting first employment are almost non-existent. Public employment agency (00%), which should be the most important means of science graduate employment than university placement office, does not exist at all.

Factors considered as important for being employed

The respondents’ rating of important factors for being employed is shown in Table 2. The ratings indicated field of study as the most important criterion for being employed (75%). The next most highly rated factor was the subject area of specialization (67%), which is closely related to field of study. Other important criteria were the reputation of the university (54%), class of degree (50%) and the age (40%). The theme of graduates project work and their previous work experiences appear to be of little significance.

Extent to which knowledge acquired during studies is used in current job

Under normal circumstances, science graduates tend to secure employment in areas related to their academic

disciplines. Quite often, however, individual graduates sometimes may find themselves working in areas quite unrelated to their disciplines principally because of dearth of appropriate jobs. The different specialities often create opportunities for getting appropriate jobs. The respondents were asked to indicate their overall rating of the extent to which the knowledge and skills acquired during studies were used in current job on a descending order of 1 - 5 (where, 1 = very high, 2 = high, 3 = medium, 4 = low and 5 = very low), The results are shown in Table 3.

The distribution of the responses show that knowledge of English (69%), Scientific and Technical knowledge (57%), and theory and course content (65%) rank in highest in the rating of Use of Knowledge and Skills Acquired During Study Programme in current work situation. It is not a surprise that knowledge of English was rated the highest since it is the medium of instruction in tertiary institutions in Nigeria. The findings in Table 3 are quite satisfactory because it indicates that the academic programmes of some Nigerian Universities are quite relevant, at least in certain work related. Furthermore, since the establishments covered did not include the banking and oil sectors, it is quite possible that the graduates find easy relevance to course content studied. However, situations might arise resulting from scarcity of jobs, which could force many science graduates to work in areas often unrelated to their major areas of study. It is equally important to remark that the Knowledge of ICT (45%), Faculty courses (40%) and practical experiences

Table 3. Percentage use of previous knowledge/skills to current work.

Extent of application of knowledge/skills to current work	% No of responses
Theory and course content	65
Scientific and technical knowledge	57
Knowledge of practical experiences	35
Knowledge of English	69
Knowledge of general faculty courses	40
Knowledge of final year project	10
Knowledge of information, communication and technology	45

Table 4. Mean scores of employers rating of skills possessed by graduates.

Types of skills	Mean	SD
Oral communication skills	4.64	0.87
Subject specific knowledge skills	4.55	0.88
Basic skills of reading and writing	4.36	0.67
Entrepreneur skills	4.30	0.62
Mathematical skills	4.21	1.23
Technical/Technological skills	4.21	0.93
Problem solving/Decision making skills	4.19	0.61
ICT skills	4.13	0.64
Self-directed learning skills	4.02	0.96
Analytical/critical thinking skills	3.91	1.01

Table 5. Percentage of agreement on work related attitudes.

Types of work related attitudes	% of agreement
Cooperative/Helpful	93.6
Dedicated/Honest/Reliable	87.3
Efficient/Effective	87.3
Follow Directives/Regulations	93.6
Resourceful/Productive	87.3
Regular/Punctual	95.7
Persistent	74.4
Enthusiastic	95.8
Hostile/Rude/Selfish	68.1
Negligent/Careless at work	95.8

(35%), come next in importance. It is equally sad to note that graduates knowledge of their final year projects have no bearings to their current work situation. This may in part be due to the total absence of Private-University partnership.

Employers' assessment of graduates in the work places

One hundred Chief executives/Managers across the various

organisations visited, who worked directly with the science graduates and who were in position to know their deficiencies/ weaknesses, skill gaps and attitudes to work also filled the employer's questionnaire and their opinions were analysed using various indicators to measure types of skills deficiencies, competences and attitudes. The results are shown in Tables 4 and 5. Beyond their general agreement regarding falling standards of university education, an analysis of Table 4 show that many employers rated certain key skill areas as particularly worrying. Four of these skills were Problem Solving Skills (Mean = 4.19), ICT Skills (Mean = 4.13), Self Directed Skills (Mean = 4.02) and Analytical Skills (Mean = 3.91). This finding only confirms that the universities are still emphasizing "too much theory and too little practical training." hence most graduates cannot solve problems or think analytically and are not practically equipped or knowledgeable when faced with job situations. Furthermore, science graduates are deficient in ICT Skills. The other skill area of great concern to employers is the technical/technology skill preparation of graduates whose mean = 4.21. This shows that employers expressed disappointment with the preparation of the graduates in those applied technical skills necessary for solving problems and enhancing business productivity. On a good note however is graduates' Communication Skills (Mean = 4.64) and Subject Specific Skills (Mean = 4.55) which were both rated high. The analysis of this

analysis of this result confirms that the main problem facing employers in Nigeria is not a lack of skilled labour but a shortage of good quality skilled labour. It should be clear that skilled labour refers to persons holding diplomas and degrees from polytechnics and universities, respectively.

The opinions of supervisors, Chief executives/employers were analyzed with regards to the different work related attitudes of science graduates in their employment using various indicators as shown in Table 5. An analysis of the results in Table 5 shows that science graduates possess good attitude to work such as being cooperative (93.4%), dedicated (87.3%), follow directions/regulations (93.6%) and quite regular and punctual at work (95.7%). However, majority of the employers of labour believe that science graduates are negligent and careless at work (95.8%) and sometimes can be hostile, rude and selfish (68.1%).

Conclusion

From the analyses given, a large mismatch appears to exist between university outputs and labour market demands. Without doubt, one main reason for this mismatch is the policy environment, which in this case includes the institutions that structure incentives to reward investment in productive assets. The second reason is the inadequate level and quality of inputs that businesses in the economy employ. One vital input is the skilled human resources, especially the quality of the university-trained portion of the work force. As shown in the results of the findings, many science graduates were not good enough in technical and practical skills, poor in entrepreneurship skills and are deficient in information technology skills.

Although, Nigeria has many problems to contend with, but that of the education sector is a major one. The quest for higher education in Nigeria, even though has increased almost exponentially in the last quarter of the last century, however, this has brought about large scale of graduate unemployment. Because of the obvious structural and dynamic relationship between higher education and a country's level of development, they can safely conclude that a society's system of education has a direct and critical bearing on the types of job that can potentially be available for graduate employment. However, the objective realities of the Nigerian university system do suggest that the country may not be able to provide employment for all her graduates, as the continuous decline in the performance of the universities is quite obvious. It runs through absence of critical teaching/research personnel, lack of facilities, lack of textbook, poorly equipped libraries and laboratories. In this very depressing situation therefore, the process of teaching, research, publication and knowledge development may have no relevance to the challenges of the present global market. Clark (2001) suggests that

university departments will need to change their curricula every two or three years in order to ensure that the content of their teaching reflects the rapidly advancing frontiers of scientific knowledge and the global market. Furthermore, employers are increasingly demanding new curricula that include skill standards and perhaps even vendor-specific certifications that are not typically included in traditional university curricula. These employers simply do not trust that the traditional, faculty-developed curriculum will meet their needs especially in the area of information technology as different companies now adopt new vendor products and then search for individuals who have mastered the technology. The cultural factor dimension may also be one of the reasons that unemployment rate in Nigeria is so high. Nigerians tend to berate those who work in less fashionable jobs. This culture must change. They must cultivate the culture of the fact that there is dignity in labour. The findings of this study particularly indicate that the science graduates are negligent/careless and also hostile at work. This attitude to work generally negates with the attitudes of scientist at work. There should therefore be some form of culture for graduates.

Finally, the Nigerian business community and the government are not innovative in creating jobs. There is no reason why businesses and government should not establish call centres and websites where people can phone in to seek information about vacancies available in private and public establishments. This idea can generate thousands of jobs for Nigerians. Elsewhere in the world, emerging institutional adaptations to the problem of labour market mismatch include the formation of "knowledge coalitions" with other knowledge producing centres in society. Hence, the establishment of more effective labour market information systems and centres that are linked to career counselling in universities, and greater private sector involvement in curriculum consultations, faculty attachments, student placements and research funding are very important to reduce the graduate unemployment rate in Nigeria.

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