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New Nigerian News Paper, March 12, 1985.

Obanya, Pai (2004). Education and Productive Work in Africc UNESCO/BREDA.

Robbins, S. (2001). Organisational behaviour (9th Ed.). New Delh Prentice Hall of India.

Sunday Triumph, October 14, 1984.

The Guardian News Paper, May 27, 1985.

Van de Ven, A. (1986). Central problems in the management o innovation. Management Science, 32, 590-607.

Wise, R. E. (2007). Innovations for the improvement of educationa system and programmes. UNESCO/NEIDA.

Commercialization of Universities' Research Results: Implications for Economic Growth and Funding of Universities in Nigeria

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Abstract

The paper leans on the acknowledgement of the importance of commercialization of university research findings to the private sector for long-term economic growth and generation of funds to the Nigerian universities. Specifically, the paper sets out to ascertain if there has been demand for university-based research solutions to economic growth and examine the major constraints preventing Nigerian universities from commercializing their research findings. Two hypotheses were tested during the course of the study and the design of the study was descriptive survey. The sample size comprised of 120 lecturers from each of the six universities selected for the study. The stratified random sampling was employed based on three federal and three state universities. Questionnaire was the instrument for data collection and chi-square was the test-statistics. Among the major findings of the study were that Nigerian universities are confronted with many constraints which have prevented them from fully commercializing research findings and contributing to economic growth of the nation. The study concluded by recommending among others that Nigerian Government must ensure adequate provision of funds, facilities and encourages good linkage with the production sector.

Introduction

The level of education research in Nigeria is far from being desirable. The universities have three main function areas and they are teaching, research and community development. However, it appears that the most neglected aspect of the function areas is research. Whereas in other parts of the world, universities are the engine rooms that drive industry whereby industries are afforded the opportunity to select

marketing. It appears Nigerian universities are confronted with constraints.

Universities in Nigeria are currently in crisis. Funding is o the most compelling and challenging issue in the domain of univ education (Babalola, 2001). The committee of the Vice Chance (CVC) of the Nigerian Federal Universities in a communiqué issue the end of their regular meeting in 2001, indicted that the unive system is in crisis due to under-funding and that beginning from 20 the universities have received only 40% of what is required to salaries monthly. Consequently, universities have been unable to salaries as and when due, while they have recovered only 30% of 2001 capital grants (Ajayi and Awe, 2007).

The Nigerian university system in spite of the increase number, are increasingly unable to absorb students' demand which h increased astronomically. Worse still is the carrying capacity which the maximum number of students that an institution can sustain f qualitative education, based on available human and materi resources have been overshot severally. There is no way rapi expansion cannot impact negatively on the quality of instruction.

Generally, as a result of financial stringency, combined with th demands for improved efficiency, universities have been forced to reduce expenditure, seek new sources of funding and improve on the utilization of existing resource (Uzoka, 2006). Thus, one of the sources which Nigerian universities may consider seriously is marketing and commercializing the results of their researches to the private sector.

The importance of university research in contributing to economic growth is today widely acknowledged in Western Europe (ECD, 2003a). This has among other things led to universities not only are expected to function as providers of human capital but also as growth engines to boost regional and national economies (Rasmussen, Moen, and Gulbrandsen, 2006). This high expectation on universities to support research commercialization is especially evident in engineering, natural sciences and medical faculties as empirical evidence demonstrates a high rate of growth oriented ventures originating from these sources (Shane, 2004; Wright, Clarysse, Mustar and Lockett, 2008).

Most of the commercializable industrial research and development in Nigeria is carried out by government-owned research institutes, only very few university researches were considered for commercial purposes (Igwe, 1990). It appears programmes at the universities have not responded adequately to the research at the developmental needs of Nigeria. Generally, the bulk of research at the universities is conceived in terms of publications and career advancement and tends to have little social relevance. That notwithstanding, appreciable research is done, however, it is very necessary to create an awareness of the need for more researches at Nigerian universities. Kumuyi and Igwe (1989) asserted that Nigeria has not developed revolutionary new products and processes, despite the claims that there have been inventions and breakthroughs. In their words, "most earlier research was in agriculture and its allied industries".

· It appears researches at Nigerian universities are mainly applied researches and it is presumed that many academics are not carrying out researches relevant to local problems. It seems priority is given to applied research only to justify or attract support (Okigbo, 1985). He continued that in the 1970s, basic and applied research at universities were estimated at about 6% and 24% of the national research capacity respectively and these percentages were alarmingly low if research is expected to contribute significantly to national development.

This study leans on the acknowledgement of the importance of technology transfer and knowledge diffusion from Nigerian universities to the private sector for long-term economic growth and generation of more funds to the Nigerian universities.

Statement of the Problem

Increased globalization and reduced basic funding are among the major changes that have influenced the emergence of a new "entrepreneurial" role of universities. Nigerian universities are too budget-dependent without other areas of fund raising. It then becomes imperative for them to assume their potential role of contributors of innovation, job creation and technical change through university-industry collaborations and through their support of new knowledge-intensive start-ups. This thunderstorm of ch.......

to contribute to economic development and means to raise money for the universities.

Despite the importance of research and development to Nigeria's technological take off, there has been little increase in scientific activity at the nation's universities. Whereas research should have been a platform for Nigerian universities to showcase their achievements and development-oriented research projects and programmes. Undoubtedly, universities should be in a better position to provide opportunities for networking and collaboration among themselves and between them and industries and to provide a forum for industry to select research outputs for further developing mass production and commercialization. However, it appears some factors may be responsible and some of the constraints are poor research facilities, inadequate funds, poor linkage with the production system, lack of incentives and motivation among others. However, the main constraint appears to be poor funding. Hence, the need for this study to explore the possibility of commercialization of university research findings to private sector.

Purpose of the Study

The main trust of the study is to explore the extent to which the commercialization of university research findings in Nigeria will enhance economic growth and generation of more funds to the universities in Nigeria.

Specifically, the study sets out to ascertain if there has been demand for university-based research solutions to economic growth and examine the major constraints if any preventing Nigerian universities from commercializing their research findings. The study will also determine whether there are measures put in place to promote diffusion of university-based innovations and also find out if universities will generate fund through commercialization of their research results.

Research Hypotheses

The following hypotheses were postulated to guide the investigation:
1.   There is no significant relationship between constraints faced by Nigerian universities and commercialization of their research findings.

2.   There is no significant relationship between demand fo
university-based research and solutions to economic growtl
in Nigeria.

Research Methodology
Research Design

The descriptive survey research design was adopted for this study. The
design was adopted since the researchers' aim was to describe and
examine the marketing and commercialization of university research
and implication for more funding to universities and economic growth
of Nigeria.

Sample and Sampling Technique

The sample size comprised of 120 lecturers from each of the si:
universities selected for the study from six States of South Western
Nigeria. The universities and the lecturers were selected on the basis o
stratified random sampling based on three Federal Universities and
three State Universities to have a fair selection of universities to be
used. The stratified random sampling method was used to pick the
lecturers on equitable basis. Other considerations were based on the
fact that universities selected (State and Federal) have been in existence
for a period of not less than twenty years and that such universities have
recognized and adequate programmes of making research available to
their universities for other uses (i.e. interpretation and record keeping)
The universities chosen also, have programmes in Social Sciences
Engineering, Pure and Applied Sciences as well as Arts and Humanities
The universities also have research grants to cover doctoral and post
doctoral levels.

Instrument

Questionnaire was the only instrument used in collecting data for thi:
study. A set of questionnaire was developed and administered on the
lecturers to elicit information with respect to their perceptions on the
relationship between marketing and commercialization of universit
research and implication for more funding to universities and economi(
growth of Nigeria. Out of the 720 copies of the questionnaire

for the analysis. Chi-square statistical tool was used to test the hypotheses stated.

The participants' questionnaire was divided into two parts. The first part sought information on lecturers' biographic data with reference to name of university, location of university, name of settlement of university, status of the university (i.e. State or Federal), lecturers' sex, age, marital status, educational qualifications, lecturers' academic position (i.e. Lecturer II, Lecturer I, Senior Lecturer, Associate Professor or Reader and Professor) and number of years of teaching experience. The second part was a rating scale which the lecturers were asked to rate some items based on their belief about marketing and commercialization of university research with implication for more funding to universities and economic growth of Nigeria. The rating scale section was based on adapted four point Likert scale (4 – 1) with the highest rating of 4 indicating the highest level of agreement and the least of 1 showing the lowest level of agreement. The response pattern was meant to determine the observed frequency, the expected frequency and the total frequency in order to determine the chi-square value from the response pattern. There are twenty-six items on the questionnaire. The first part contains eleven items while the second part contains fifteen items based on marketing and commercialization of universities research results and their implications for more funding to universities in South Western Nigerian and economic growth of the entire nation.

Validity and Reliability of the Instrument
To ensure that the lecturers' questionnaire actually measured what they intended to measure, experts in Educational Finance, Educational Planning and Economics of Education of the University of Lagos, Akoka, Lagos, Nigeria were asked to validate the questionnaire. The experts agreed that the questions were relevant and appropriate. As a result of their opinions, some items were restructured while some were added and the inappropriate ones were deleted.

The use of test-retest technique was adopted to determine the reliability of the instrument. This was after the final instruments had been administered over three weeks to a sample of forty lecturers of four universities representing one university from each state where two of the universities were federal while the oth-

universities to ensure balancing. The correlation co-efficient of the questionnaire was calculated and found to be 0.74. This figure was found to be highly significant at P < 0.05 level of significance and therefore implies that the instrument was highly reliable.

Presentation of Data and Interpretation of Results

Hypothesis One

HO.:   There is no significant relationship between constraints faced by Nigerian universities and commercialization of their research findings.

The table below represents the relationship between constraints faced by Nigeria universities and commercialization of their research findings.

Table 1: Relationship between constraints faced by Nigerian universities and commercialization of their research findings

Variable	Commercialization of Research Findings						
	Observed Frequency	Expected Frequency	Total Frequency	X^2	Table Value	N	Remark
Constraints faced by Nigerian Universities	1,336	1,200	18.496	15.41	11.07	6	Ho Rejected

P < 0.05; DF = 5

The calculated chi-square value from the table above is 15.41 and the degree of freedom is 5 while the table value or the critical value is 11.07 at 0.05 level of significance. Since the calculated value was found to be higher than the table value, it therefore means that the operational hypothesis one which states that, "there is no significant relationship between constraints faced by Nigerian universities and commercialization of the research findings" is hereby rejected. This implies that there is significant relationship between constraints faced by Nigerian universities and commercialization of research findings. It therefore shows that the inability of university lecturers in Nigeria to commercialize their research findings can be attributed to many constraints and factors. Such constraints could be attributed to poor research facilities, inadequate funding ...

Hypothesis Two

HO_2:   There is no significant relationship between demand for university-based research and solutions to economic growth in Nigeria.

The table below represents the relationship between demand for university-based research and solutions to economic growth in Nigeria.

Table 2: Relationship between demand for university-based research and solutions to economic growth in Nigeria

Variable	Demand for University-based Research						
	Observed Frequency	Expected Frequency	Total Frequency	X^2	Table Value	N	Remark
Solutions to economic growth in Nigeria	1,242	1,200	1,764	1.47	11.07	6	Ho Accepted

$P < 0.05$; DF = 5

The calculated chi-square value from the above table is 1.47, and the degree of freedom is 5 while the table value is 11.07 at $P < 0.05$ level of significance. Since the calculated value was found to be lower than the table value, it therefore means that the operational hypothesis which states that "there is no significant relationship between demand for university-based research and solutions to economic growth in Nigeria is hereby accepted. This implies that solution to economic growth in Nigeria is determined by more than demand for university based research. It shows that other factors have higher influence on the economic growth of Nigerian than demand for university-based research. It therefore shows that the influence of other factors such as the provision of electricity, infrastructural facilities, prudent financial management and availability of adequate and appropriate human resources should be considered in determining the solutions to economic growth in Nigeria.

Discussion of Results

This study has revealed that there is significant relationship between

based research and solutions to economic growth in Nigeria. It was observed that there was significant relationship between constraints faced by Nigerian universities and commercialization of research findings. This study supports the findings of Igwe (1990) who believes that most of the commercializable industrial research and development in Nigeria are carried out by government-owned research institutes with only very few university researches were considered for commercial purposes. According to her, it seems progammes at the universities have not responded adequately to the research at the developmental needs of Nigeria.

This study is also in support of the study of Lomas (1997) who equally recommended that attempt should be made to commercialize the research findings of university professor, for improved economic well-being of the people. To ensure constraints-free Nigerian universities in terms of the commercialization of research findings in Nigeria, appropriate research facilities, adequate funding, good linkage with the production sector and provision of incentives and motivation should be made available to university lecturers in order to be able to produce research reports that will be of benefit to the development of the nation's economy.

Furthermore, in order to ensure significant influence of the university-based research on the economic growth in Nigeria, the provision of other factors that can influence the economic growth of Nigeria must be put in place: Such factors as the provision of electricity, infrastructural facilities, adequate and prudent financial management as well as availability of adequate and appropriate human resources should be guaranteed. The availability of these factors will determine the solutions to economic growth in Nigeria.

Conclusion

This study has drawn relevant information from the perceptions of university lecturers in six universities in South Western part of Nigeria. The universities studied cut across the federal and state universities in the region. The result had shown that there is significant relationship between constraints faced by Nigerian universities and commercialization of their research findings. The result of the study also showed that there is no significant relationship between demand

for university-based research and solutions to economic growth in Nigeria.

Recommendations

The government and other stakeholders must ensure that there is maximum support to enjoy maximum benefits desirable from the commercialization of Universities' research results.

This implies that Nigerian government must ensure adequate provision of research faculties, ensure adequate funding, encourage good linkage with the production sector and also provide incentives and motivation in order to guarantee any form of relationship between university-based research and solutions to economic growth in Nigeria. Furthermore, adequate arrangement must be made to remove the obvious constraints faced by Nigerian universities that have continued to hinder the commercialization of lecturers' research findings.

Furthermore, there will be the need for the government of the day to ensure that the economic system does not lack constant electricity supply, adequate infrastructural facilities as well as prudent financial and human resources management. This will be aimed at encouraging the university lecturers to engage in meaningful research work which are aimed at improving the economic situation of Nigeria.

References

Ajayi, I. A. and Awe, B. (2007). Quality assurance functions in Nigeria universities in access, equity and quality in higher education. NAEAP.

Babaloia, J. B. (2001). University funding responses and performance under a declining economy in Nigeria. Ibadan: CPPU.

Kumuyi, A. J. and Igwe, B. U. (1987). Commercialization of technological research and development results in Nigeria Research for Development, 6(1), 112 – 732.

Lomas, J. (1997). Improving research dissemination and uptakes in the health sector: Beyond the sound of one hand clapping. Ontario, Canada: HEPA Publications.

Okiabo, B. N. (1985). The universit...

Uzoka, N. E. (2006) Private sector participation in the funding of federal universities: A case study of University of Lagos in *Educational Management International*, Vol. 1, No. 2.