

## MANAGING FUNDING OF UNIVERSITIES IN RIVERS STATE THROUGH UNIVERSITY-INDUSTRY-GOVERNMENT PARTNERSHIP

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### ABSTRACT

This study is about managing funding of universities in Rivers State through collaboration between universities, the industry, and government. Two research questions and one hypothesis guided the study. The study adopted a descriptive survey research design. Population of the study consisted of one thousand four hundred and twenty-six (1426) academic staff of University of Port Harcourt, five hundred and forty-seven (547) academic staff of Rivers State University (547) including seven hundred and twelve (712) personnel heads from the industry (712) giving the numerical strength of the population as 2,685. The sample consisted of 663 respondents from the entire population got using a multi-stage sampling approach. A researcher-structured questionnaire titled: “Managing Funding of Universities through Partnerships Questionnaire (MFUPQ)” was the main instrument for data collection. This research instrument was validated by two experts from the area of measurement and evaluation. Reliability of the instrument measured internal consistency using the Cronbach Alpha method and a reliability index of 0.74 was obtained. Data collected were analyzed using mean scores and standard deviation. Findings of the study revealed among others that cooperation between the university, government and industry will greatly enhance funding of universities in Rivers State. Based on the findings, recommendations made include that leadership of the universities should synergize with heads of industries and the government to see how the universities can benefit maximally.

**Keywords:** Funding, Universities, University-Industry-Government Partnership.

### INTRODUCTION

Government is a major stakeholder in education in many developing countries. In Nigeria, funding of the education sector is the prerogative of the government while other stakeholders like industries, non-governmental organizations (NGOs), individuals among others assist in their own capacities. Adequate funding contributes to the success of organizations and institutions. No wonder Ebong and Afangideh (2009) described funding as an important factor in the school system. Adequate allocation of funds can help universities function optimally.

The present economic realities in the country seem to have made it quite difficult for the government to fulfill its financial obligations to universities. Therefore, universities in Rivers State especially must figure out other ways of generating or attracting the funds they need to function effectively. One such way to achieve this is through a university-industry-government collaboration.

Heagerty cited in Okorie & Uche (2004) revealed that university-industry partnership has been in existence for a very long time. It is usually in the form of ownership of intellectual property, knowledge exchange and research among other things. It is in this wise that tobacco manufacturers in the UK paid 250,000 pounds to the Medical Research Council for the purpose of research. The collaboration between universities and the industry exists for the purpose of improving and providing alternatives to goods and services of industries through research (Uche, 2013). This may not be far from the submission of Pavit cited in Hall (2004) that such collaborative partnership exposes industries to ways of tackling difficult tasks using research findings. It seems that this partnership benefits industries alone; but this is not true. The university-industry partnership between the Institute of Petroleum Studies, University of Port Harcourt and Total E&P has helped the University financially in the provision of world-class facilities. In Sweden, pharmaceutical and biotechnology companies involve universities in all stages of drug development. Some have their offices on the campuses of these universities. These partnerships do not change the core identities of the parties involved. Universities still retain their core mandate of knowledge generation (research), knowledge dissemination (teaching) and knowledge application (community service) whereas industries are mainly driven by profit motives.

It must be noted, however, that university-industry collaboration is not solely for profit making. In some cases, students from the universities involved have been trained by experts from the industry in areas such universities may not have a comparative advantage. For university-industry partnership to succeed, the aim of partnering must be clear, long-term plans of both parties must be known, decision making must be made by both partners in line with the goals determined *ab initio*, and the right calibre of personnel must be tasked with the responsibility of executing the plans made by partners.

On the other hand, a triple collaboration of University-industry-government (UIG) partnership is a hybridization of what Etzkowitz (2003) referred to as a "Triple Helix." It is an inter-institutional flow that exists between universities, the industry and government. Each of these institutions has roles to play. The universities play the role of producing the required manpower that may help in solving societal problems through research. The industry, in some cases provides the needed funds for the conduct of research and provision of facilities. They absorb the manpower produced by universities also. Government creates the enabling environment for this partnership to thrive and yield the desired result. Recruitment of qualified personnel, design of curriculum in line with industry and international standards are some of the obligations of the government. The environment where universities and industries operate is controlled by the government. It is therefore important for the government to come up with initiatives that will encourage the growth of universities and industries. These initiatives could be in the form of security, reduction of tax levies, protection of trademark and intellectual property.

In their study, Bagyo, Biemo, Satry and Sachi (2012) revealed that the Indonesian government through the Directorate General of Higher Education (DGHE) launched a number of programmes, including laws to aid universities' research and other community services. Some of the laws include: law 25/2007 on investment which provides land incentives and facilities for investment in specified industries, government regulation 35/2007 initiated by the Ministry of Research and Development providing tax incentive to drive industries to invest in research and development, and the presidential decree enacted by the Ministry of Information geared towards encouraging industries to invest in research and development (R&D). It was reported that these laws did not yield the desired objectives.

However, these efforts showed government's willingness to initiate university-industry-government partnership.

According to James (2005), the Bayh-Dole Act also known as University and Small Business Patent Procedure Act of 1980 - which empowers universities and small businesses to control their inventions and other intellectual property from government sponsored research - has seen patent licensing which was less than 250 per year increase to 3625 in 2003, with a revenue base of \$1 billion. This goes to show that the right legislations and government efforts geared towards accommodating investors will yield income for partners.

Anuna and Ukpabi (2004) reported that the American federal government offered 154 million acres of land to universities. This implies that universities could use the medium to attract industries to erect research laboratories or other infrastructures that may be beneficial to university-industry partnership. Ogbodo and Nwaoku (2007) pointed out that the United States government supported universities by paying them for developing and upgrading her defense system. Through this means, the government has supported universities financially to improve their funding base apart from the statutory allocation to them. This also puts universities in a good position to attract jobs of similar magnitude from potential partners. Jose (2013) stated that majority of the countries in the Organization for Economic Co-operation and Development (OECD) have made policies to encourage researches by universities. These sponsored researches have helped in the creation of new products and improving on existing industries' products (Uche, 2013).

### **Statement of the Problem**

Every organization seems to be laden with myriads of problems and challenges. Universities like other organizations, have their own problems, too. Some of these problems include poor funding which is evident in inadequate facilities, shortage of personnel, inadequate research grants, and more.

In Nigeria (Rivers State in particular), although it is the responsibility of the government to fund universities; other stakeholders like alumni associations, industries, individuals and the like can assist government in funding universities. Nevertheless, the present economic situation has adversely affected sources of revenues to universities as highlighted by some government officials and university heads. Therefore continuous overdependence on government only for funds by universities seem to lead to the existence of poor laboratory facilities, dilapidated lecture halls, even attrition of teaching staff (through brain drain), ill-equipped libraries to name a few. Could a collaboration of universities with industries and the government enhance the universities' funding base? This constitutes the problem of the study.

### **Purpose of the Study**

The aim of the study was to assess ways universities in Rivers State can collaborate with industries and the government to enhance their funding base. Specifically, the study objectives were to:

1. investigate ways university-industry collaboration alone improve funding of universities in Rivers State;
2. examine avenues through which university-industry-government cooperation can enhance funding of universities in Rivers State.

### **Research Questions**

The study was guided by the following research questions:

1. In what ways can university-industry collaboration improve funding of universities in Rivers State?
2. What are the ways university-industry-government partnership can improve funding of universities?

### Hypothesis

The following null hypothesis was tested in the study:

H<sub>01</sub>: There is no significant difference in the mean ratings of the opinions of academic staff of universities and representatives from industry on ways university-industry partnership can improve funding of universities in Rivers State.

### Method

The study adopted a descriptive survey research design. Population of the study consisted of one thousand four hundred and twenty-six (1426) academic staff of University of Port Harcourt, five hundred and forty-seven (547) academic staff of Rivers State University and seven hundred and twelve (712) personnel heads from the industry. The sample of this study consisted of six hundred and sixty-three (663) respondents drawn from the academic staff of the University of Port Harcourt (188), Rivers State University (119) and personnel heads of industry (356). "Managing Funding of Universities through Partnerships Questionnaire (MFUPQ)" was the main instrument for data collection. The instrument was arranged in two clusters and patterned after a modified four (4) point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) with ratings SA=4, A=3, D=2 and SD=1 respectively. Validity of the research instrument was done by three measurement and evaluation experts. Reliability of the instrument was measured using the Cronbach Alpha method and a reliability index of 0.74 was obtained. Data collected were analyzed using mean scores and standard deviation while the hypothesis was tested at 0.05 significant level using a z-test.

### Results

Research Question 1: In what ways can university-industry collaboration improve funding of universities in Rivers State?

**Table 1: Weighted mean scores and standard deviation of opinions of academic staff of universities and representatives from industries on ways university-industry partnerships can improve funding of universities in Rivers State**

S/N	University-industry collaboration can improve funding through	Academic Staff N = 307		Representatives from Industry N = 356		Mean Set	Rank	Remark
		Mean	SD	Mean	SD			
1	Research	3.94	0.34	3.03	1.03	3.61	2nd	Agree
2	Intellectual property	3.41	0.34	3.13	1.19	3.27	6th	Agree
3	Knowledge exchange	3.61	0.94	3.19	0.92	3.40	5th	Agree
4	Replacing damaged facilities	3.66	0.83	3.24	0.99	3.45	4th	Agree
5	Donation of equipment used during collaborative research	3.86	0.46	3.67	1.85	3.77	1st	Agree
6	Donation of books covering some fields of study to universities	3.79	0.58	3.39	1.06	3.59	3rd	Agree
<b>Total</b>		22.02	4.09	20.2	6.03	21.12		
<b>Grand mean</b>		3.67	0.68	3.37	1.01	3.52		

Table 1 shows that all the items have mean scores above the criterion mean of 2.50, indicating that the respondents agreed that university-industry collaboration can improve funding of universities through research, protection of intellectual property, knowledge exchange, donation of equipment and books covering different fields of study.

Research Question 2: What are the ways university-industry-government partnership can improve funding of universities?

**Table 2: Weighted mean scores and standard deviation scores of opinions of academic staff of universities and representatives from industry on ways university-industry-government (UIG) partnerships can improve funding of universities in Rivers State**

S/N	Ways UIG partnership can improve university funding	Academic Staff N = 307		Representatives from Industry N = 356		Mean Set	Rank	Remark
		Mean	SD	Mean	SD			
7	Government initiates policies to encourage investors	3.31	1.10	3.09	1.24	3.20	7th	<b>Agree</b>
8	Government provides land for universities to help industries erect laboratories	3.81	0.52	3.29	1.22	3.55	3rd	<b>Agree</b>
9	Additional funding from government for embarking on special programs like software development	3.79	0.63	3.14	1.19	3.47	6th	<b>Agree</b>
10	Setting aside funds for universities' researches by government	3.83	0.59	3.31	1.08	3.57	1st	<b>Agree</b>
11	Patent licensing	3.75	0.65	3.37	1.02	3.56	2nd	<b>Agree</b>
12	Research grants	3.83	0.62	3.19	1.19	3.51	5th	<b>Agree</b>
13	Government supporting universities' projects	3.56	0.88	3.49	1.09	3.53	4th	<b>Agree</b>
<b>Total</b>		25.88	4.99	22.88	8.03	24.39		
<b>Grand mean</b>		3.69	0.71	3.27	1.15	3.48		

Analysis of Table 2 shows that items 7, 8, 9, 10, 11, 12, and 13 have mean scores above the criterion mean of 2.50, thus, were accepted as ways university-industry-government (UIG) partnerships can improve funding of universities in Rivers State.

### Testing of Hypotheses

The null hypothesis tested:

$H_{01}$ : There is no significant difference in the mean ratings of the opinions of academic staff of universities and representatives from industries on ways university-industry partnership can improve funding of universities in Rivers State.

**Table 3: Mean, standard deviation and z-test of opinions of academic staff of universities and representatives from industries on ways university-industry partnerships can improve funding of universities in Rivers State**

S/N	Category	N	Mean	SD	df	z-cal	z-crit	Significance level	Remark
1	Academic staff of universities	307	3.67	0.67	661	4.29	1.96	0.05	Rejected
2	Industry Reps.	356	3.37	1.01					
	<b>Total</b>	<b>663</b>							

Table 3 shows that academic staff of the universities have mean and standard deviation scores of 3.67 and 0.67 respectively, while representatives from the industry have mean and standard deviation scores of 3.37 and 1.01 respectively. With a degree of freedom of 661, the calculated z-test value of 4.29 is greater than the critical z-test value of 1.96. Therefore, the null hypothesis is rejected. By implication, there is a significant difference between the mean ratings of the opinions of academic staff of universities and representatives from the industry on ways university-industry partnerships can improve funding of universities in Rivers State.

## DISCUSSION OF FINDINGS

This study clearly revealed ways through which university-industry partnership can improve funding of universities in Rivers State. This is possible through research, protection of intellectual property, knowledge exchange, replacing of damaged facilities, donation of equipment used during collaborative researches and donation of books covering different fields to universities. In line with this finding, Hegearty cited in Okorie & Uche (2004) is of the view that university-industry partnership improves funding of universities through intellectual property protection, knowledge exchange among others. This finding also corroborates with the study carried out by Uche (2013) where research was identified as a way of improving funding of universities.

Some industries have helped universities, especially with replacing old facilities that are no longer functional. Studies by Astrom and Fryklund cited in Okorie & Uche (2004), Moratta, Mark, Blom and Thorn (2007), Uche (2013), Dinah, Peter and Caroline (2013) all point to the fact that donation of equipment used during collaborative researches is one way universities can benefit from their partnership with the industry.

On the other hand, the study discovered that there is a significant difference between the mean ratings of the opinions of academic staff of the universities and representatives from the industry on ways university-industry cooperation can attract more funding for the universities. This does not mean that academic staff of universities and industry representatives disagree on this pathway. It may mean that both adopt different approaches with regard to improving funding. This is evident in the study by Hall (2004) which highlighted the fact that different organizations have different approaches of conducting researches, especially with respect to cultural norms. In a similar vein, Creso (n.d.) affirmed that there exist cultural differences between universities and the industry, particularly in the area of research. Most times, industries as profit-driven organizations may want quick solutions to profit making using universities as a research tool. On the contrary, universities may take a longer time to conclude their researches, for the sake of objectivity.



Another finding of this study shows that university-industry-government partnership through: policies initiated by government to encourage investors, provision of land for universities to help the industry erect laboratories, additional funding from government for embarking on special programmes like software development can help universities to attract more funds. Other avenues include: earmarking special funds for researches by government, patent licensing, research grants and assistance from government in projects carried out by universities. No wonder James (2005) stated clearly that government policies have facilitated and encouraged university-industry-government partnership in the United States. The study by Bagyo, Biemo, Satry and Sachi (2012) also affirmed this. The Indonesian government's regulation 35/2007, spearheaded by the Ministry of Research and Technology (MoRT) using tax incentive has encouraged industries to invest. Anuna and Ukpabi (2004) agree with the findings of this study that provision of land by universities for industries to erect laboratories is another way university-industry-government cooperation could benefit universities.

Again, the finding of this study is in agreement with the finding of Ogbodo and Nwaoku (2007) that additional funding from the government for special programmes like software development, is a viable way of funding through university-industry-government partnership. A good example is the Swedish government's funded strategic research where funds were set aside for research in areas like electronics, information technology and biotechnology.

It was further discovered from this study that patent licensing is a veritable medium university-industry-government partnership can improve funding of universities in Nigeria. This finding is in tandem with James (2005) study which revealed that the Bayh-Dole Act of 1980 increased universities' patent licensing which was less than 250 per year to 3,629 in 2003 with a revenue base of \$1 billion.

As part of government's role in improving funding of universities in Rivers State, the study identified research grant as a way of improving funding. This is corroborated by the study of Bagyo, Biemo, Satryo and Sachi (2012). They noted that the Indonesian government through the Directorate General of Higher Education (DGHE) has made available more than 20 grants for basic and collaborative researches. This agrees with Jose (2013) study which revealed that the Chilean government awarded scholarships to PhD students and other research scholars on a particular economic development project to improve their employability.

## **CONCLUSION**

The funding base of the universities studied can improve by their productive collaboration with industries on one hand and also with the industries and government combined.

## **RECOMMENDATIONS**

Among the recommendations made include that:

1. Universities in Rivers State should come to terms with the current economic realities that government alone cannot shoulder the responsibility of funding them. They should explore other avenues.
2. Members or leadership of intellectual property unit of universities through the vice chancellor should visit industries within and outside their domain to ascertain the needs as well as challenges of industries, and how universities can help them proffer solutions through research. Using this channel, industries may partner with universities or buy their research findings.

3. Government should roll out incentives such as a tax holiday to encourage industries to partner with universities.

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