

# VIABLE UNIVERSITY-INDUSTRY PARTNERSHIP FOR SUSTAINABLE PEACE IN SOUTH EAST NIGERIA

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## **Abstract**

*The study investigated viable university-industry partnership for sustainable peace in South East Nigeria. Two research questions and two hypotheses guided the study. This study adopted a descriptive survey design. The population for the study is two thousand, three hundred and seventy-three (2373) respondents. This is made up of 668 administrative staff and 1705 Chief Executive Officers. The sample size was 894 (467 administrative staff and 427 Chief Executive Officers). The sample was drawn through stratified random sampling techniques. Viable university-industry partnership for sustainable peace Questionnaire was used for data collection. Face and content validities were ensured by experts. Internal consistency through Cronbach alpha gave reliability coefficient of 0.88 for University-Industry Partnership for sustainable peace. Mean, standard deviation and z-test were used for data analysis. It was found that commissioned research can generate fund for the universities and contract fees; sharing of intellectual property rights; payment for consultancy services; provision of modern facilities and donation of scientific equipment by industries will contribute to sustainable peace in South East Nigeria. It was concluded that strict adherence to policies that promote university-industry partnership are very important for enhancing sustainable peace in South East Nigeria.*

**Key Words:** University-Industry, Partnership, Sustainable Peace and Policies

A university is an institution of higher learning that trains students for a period of time and awards them degrees in different courses and disciplines. One of the objectives of university education in Nigeria according to the Federal Republic of Nigeria (2014) is to intensify and diversify its programmes for the development of high level manpower within the context of the needs of the nation. To be able to carry out this enormous task by universities effectively, huge sums of money need to be invested. It should be recalled that in Nigeria, from time immemorial, funding of universities has been borne solely by the federal government, through its regulating body, the National Universities Commission, ETF & TETFUND. The reasons for carrying this burden by the federal government are not far-fetched. The federal government had enough money

in her coffers to fund the system especially in the seventies and early eighties; for paying academic staff and other personnel, and for the provision of both physical and material plant facilities that enhance teaching and learning. Furthermore, the government of Nigerian in this period had the capacity to accommodate the demand for places in the universities.

However, with the present economic crunch in Nigeria, coupled with dwindling price of oil in the world market, the government no more has the financial capacity to fund the system very adequately without the helping hands of other external stakeholders in education. On the part of the universities, it is becoming increasingly difficult for them to do it alone in terms of servicing as citadel of learning coping with the huge wage bill accruing to them as well as competing with their peers in other parts of the world, due to competitive, economic and other pressures. These have brought about deterioration of conditions of study and teaching in response to financial constraints. Also academic infrastructures, including libraries and laboratories, have been starved of funds (Altbach& Davis, 2019).

Time has therefore now come for the realization that Nigerian government is no longer buoyant enough to solely provide the funds required for managing the university sector. There is a general opinion that the existing universities in Nigeria are not adequately funded despite government allocation to universities in the country. The reason is that universities have expanded beyond the financial resources at government's disposal. Because of this reason, it is therefore expedient that universities supplement government funding by exploring other sources funding. This, in essence, calls for involving in funding the university projects and programmes through mutual collaboration.

Interestingly, most of the graduates from the universities are employed in the industry. An industry is a sector of business making venture that is saddled with the responsibility of rendering goods and services to the end users' (customers') satisfaction. The quality of products from the industries is dependent to a large extent on the capacity of employees that is graduates that are manning these activities. There is no industry that can perform more than the quality, competence, skills and commitment levels of its employees(Oluwuo & Nwabueze, 2016). There is a serious call for the industry to be committed to the programmes and activities of the universities in order to avail the graduate a better standing for optimal performance when eventually employed. Today, under this condition, universities in Nigeria as a whole and South-East geopolitical zone in particular, are left with no option but to device mean of carry their industrial partners along in terms of research and development through the formation of partnerships for their mutual benefits. Since the industrial sector is established for profit making and the universities for knowledge enhancement, such partnerships would help in spreading the cost in terms of provision of knowledge and cost of research.

University-industry partnership is a type of collaboration between universities and industries which facilitates the transfer of knowledge from universities to industries

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with financial support from the industries. This relationship is manifested in areas such as commercialization of research from universities to industries, commissioned/sponsored research from industries to universities, collaborative training programmes, , endowments, donations of scientific equipment and so on (Okejim, 2016).

In commercialization of research, universities conduct research in significant fields that could be sold to industries to improve their products or create new products. This in reality translates to alternative source of funding for universities to meet up with their capital and recurrent expenditures. The most significant benefit realized by industries in this type of collaboration is an increased access to new university research and discoveries. On the other hand, universities will benefit by complementing their own academic research by securing funds for the university, and by seeking insights into their own research (Yong, 2020).

Industries also resort to a form of collaboration with universities where universities are officially consulted to conduct research on behalf of the industries for product improvement. This type of partnership, conceptualized as ‘commissioned research’, fosters interdependent research relationships between universities and industries, which enable both parties to sustain growth in their respective fields.

University-industry collaboration can also be in form of collaborative training programmes. Universities get contributions from industries for training programmes to develop the manpower of the industries. The essence of the training programmes is to create opportunity for exchange of staff and improve their ability to maximally apply innovative technology discovered by universities for improved services. Akaranta and Uche (2012) identify endowments as another income stream for the university. In their opinion, endowments can be in form of Professional/endowed chairs, scholarship for students, donations towards programmes of interest to the donor etc. Professional chairs are endowed to carry out research of interest to the endowers. The outcome of such research may be patents, which, when licensed become money for the university; thus making endowment of chairs among one of the most important ways of partnering in funding of the university. Ogunwusi and Ibrahim (2014) are of the view that endowment plays a good role in ensuring excellence in the work of the industry and the university because the more chairs a university has endowed, the more prestigious and attractive it becomes in terms of research and development. Seminars, public lectures and research forums held occasionally are avenues for exposing the activities between donor, chair occupant and the university.

Industries can donate or lend scientific equipment to researchers in the universities for the conduct of researches. This generosity may be repaid to industries by universities communicating their research results to them. The use of the equipment by universities may gain them access to cutting-edge scientific equipment which may not always be available in university laboratories; thus enabling university researchers pursue additional lines of research that may contribute to research productivity and additional income for the institutions.

University–industry partnership therefore is necessary as it aids universities in Nigeria generally and those in South East Nigeria to get the funds needed to carry out various services such as provision of equipment’s for adequate teaching and learning, carrying out of quality research, improved conditions of service for staff and so on (Tim, 2015). This partnership is necessary as the government and the universities on their own could no longer provide the needed funds necessary for effective running of the Universities. The university as a tertiary institution is the future of every nation. It needs adequate funding to be effective in offering qualitative education to its citizens which in the long run results to nation building.

### **Theory of Organizational Productivity**

The theory of organizational productivity was propounded by Gilbert in 1947. It states that organizational productivity/outcomes are dependent on the quality and quantity of the resources employed in the production process in the organization. This theory stresses that before an organization (universities inclusive) could make an appreciable progress in implementing and achieving its goals, it must build a strong synergy between the quality and quantity of human and material resources at its disposal. Human components of the education industry must be supplied in both the quantity and quality that is required to meet up with the demands of the institution.

Building a strong synergy between the human and material resources, John and Parson (2014) suggested that an institution has to collaborate with industries that can assist in maintaining the quality of the resources it has through the provision of funds to enhance quality improvements of its goals and objectives. Therefore, one can say that human and material resources are adequate if such resources are in the right proportion when compared to the tasks and goals involved. As the number of tasks and goals to be performed in an education institution increases, it will be equally expected that funds be generated to meet up with the expansion and expectations of the institution.

The ability of the educational managers to strike a balance between quality and quantity of the available human resources and instructional resources in the school system may lead to university-industry collaboration for fund generation. This implies that, proper management of both human and material resources in the school system requires adequate fund. This would create positive growth and development in higher education productivity.

### **Policies that Promote University-Industry Partnership**

Obi-Uzo (2017) opined that the success of university –industry partnership is impinged on several friendly policies that may emanate from the government, universities or industries. The need to include government is borne out from the fact that every university-industry partnership, exist within a particular territory governed by a government. It is therefore important to state that government has a vital role to play in encouraging university-industry partnership. It is this role that gives birth to the triple

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Helix concept (that is, Government-University-Industry Partnership) (Etzkowitz, as cited in Worgu, 2017). Bagyo, Biemo, Satry and Sachi (2012) submit that the Indonesian government via Director General of Higher Education (DGHE) has launched a number of policies to encourage Universities-Industries partnership.

They include, but not limited to (a) law 25/2007 on investment providing incentives and facilities for investment (that is, land ownership, income and export tax) in certain industries, (B) government regulation 35/2007 initiated by Ministry of Research and Technology (MoRT) providing tax incentive to drive industries to invest in research and development (R&D), and (C) Presidential decree enacted by Ministry of Information geared towards encouraging the foregoing commitment of government policies to encouraging universities-industries partnership has been unearthed. In the light of the foregoing, Bayh-Dole act of 1980 in Zuniga (2011), unearth that government of other countries like: Philippines, South Africa, Mexico, Brazil, and China have initiated polices to encourage University-Industry partnership.

#### **Statement of the Problem**

One of the most key issues in the administration of universities is the question of funding. It is very obvious that universities in Nigeria, with its complexity, require huge funds for their administration. Government budgetary allocations to these universities are no longer sufficient to contain their repertoire of undertakings in terms of research and development. There are no enough funds to run the cost of educational and other service functions such as community engagements. Universities' role in conducting basic research as a logical extension of teaching activities to advance knowledge as well as contributing to the development and assimilation of technology is being hampered by meager funds from the government. Application of science for the purpose of devising commercial technologies has had a more uneven passage. The pursuit of science and research in universities, which opens doors to technology with commercial applications, seems unrealizable in Nigeria due to lack of enough funds. These knowledge spillovers from institutions of higher learning are lagging behind as a result of inadequate funding from the government.

On the part of the industries, it appears that majority of industries in Nigeria do not encourage through financial and other channels expansion of their staff training and research in universities. Moreover, industries in Nigeria are not being encouraged to adopt "open" innovation systems that favour collaboration, partnerships, alliances, consortia and coordination of research with universities. Again, many firms attach more importance to informal contacts with universities that relate to the recruitment of graduates, internships, and consulting, and in some cases, industries seem to be having difficulty with aggressive behavior of universities regarding sharing of property rights and licensing. In addition, due to absence of intensive research in Nigerian universities, majority of the universities in the country seems not to commercialize the fruits of few

existing research results through transfer of knowledge, spinoffs, and equity in stakes in start-ups.

Therefore, what bothers the research is that policies relating to university-industry links in funding of universities are not strictly followed; thereby leaving the bulk of university funding on government alone.

### **Purpose of the Study**

The purpose of the study investigated viable university-industry partnership for sustainable peace in South East Nigeria. The specific objectives were to:

1. find out policies that promote university–industry partnership for sustainable peace in South East Nigeria.
2. examine ways commissioned research by industry to universities contribute to sustainable peace in South East Nigeria.

### **Research Questions**

The following research questions were answered in the study.

1. What are the policies that promote viable University–industry partnerships for sustainable peace in South East Nigeria?
2. What are the ways commissioned research by industries to universities contributes to sustainable peace in South East Nigeria?

### **Hypotheses**

The following hypotheses are tested at 0.05 level of significance

1. There is no significant difference between the mean scores of administrative staff and Chief Executive Officers of industries on the policies that promote university–industry partnership for sustainable peace in South East Nigeria.
2. There is no significant difference between the mean rating score of administrative staff and Chief Executive Officers of industries on contributions of commissioned research to sustainable peace in South East Nigeria.

### **Methodology**

This study adopted a descriptive survey design. The population for the study was two thousand, three hundred and seventy three (2373) administrative staff in the universities in South-East, Nigeria and Chief Executive Directors. This included 668 administrative made up of all the 489 heads of departments, 102 faculty deans and 77 directors of institutes at the ten Federal and State Universities in South East Nigeria and 1705 Chief Executive Officers in industries in South East Nigeria. The sample size was 894 (467 administrative staff of universities and 427 Chief Executive Officers of industries) was used for the study. Instrument used for data collection was a self-designed questionnaire tagged ‘Viable University-Industry Partnership for Sustainable Peace Questionnaire (VUPSPQ)’. Responses were coded using a modified 4 point Likert

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Scale of strongly agree (SA), Agree (A), Disagree (DA), and Strongly Disagree (SD) with values of 4,3,2 and 1 respectively.

The instrument was validated by experts in test and measurement. The reliability was established using Cronbach alpha with reliability coefficient of ViabLe University-Industry Partnership for Sustainable Peace was 0.88. The reliability coefficients of the various subscales were 0.86, 0.83 for policy and Commissioned Research. The researcher and research assistants administered 894 copies of the questionnaire and 783 copies of the questionnaire were completely filled which represented 88% success. Mean and standard deviation were used to answer the research questions while z-test was used to test hypotheses at 0.05 level of significance using a criterion mean score of 0.50

**Results**

**Research question 1:** What are the policies that promote viable University–industry partnerships for sustainable peace in South East Nigeria?

**Table 1: Mean and standard deviation scores on the policies that promote viable university-industry partnership for sustainable peace in South East Nigeria**

s/n	I	t	e	m	s	Administrative Staff			Chief Executive Officers		
						Mean	std	decision	Mean	Std	decision
1	Providing specific policy support services (tax holiday) to industries and universities in the search for partners	2.57	.63	Agree	3.09	.51	Agree				
2	Designing policies on research grants, matching grants and tax incentives	2.97	.59	Agree	2.89	.76	Agree				
3	Creation of technology transfer offices in universities	3.23	.51	Agree	2.88	.78	Agree				
4	Developing science parks, spin –offs and business incubators.	2.96	.48	Agree	2.74	.84	Agree				
5	Introduction of reward systems for researchers	2.98	.31	Agree	2.92	.67	Agree				
<b>Grand mean and standard deviation</b>						<b>2.94</b>	<b>0.50</b>		<b>2.90</b>	<b>0.71</b>	

Table 1 showed that items with serial numbers 1 to 5 have their various mean values above the criterion mean value of 0.50 and were agreed by the respondents. However, it could be seen that the grand mean and standard deviation of Chief executive officers are higher than that of Administrative staff of universities. This implies that chief executive officers of Industries in south – east Nigeria have a higher opinion on the policies that promote viable University–industry partnerships for sustainable peace in South East Nigeria.

**Research question 2:** What are the ways commissioned research by industries to universities contributes to sustainable peace in South East Nigeria?

**Table 2: Mean and standard deviation on ways commissioned research by industries to universities contributes to sustainable peace in South East Nigeria**

Items	Administrative staff			Chief executive officers		
	Mean	Std	Decision	Mean	Std	Decision

6. C o n t r a c t F e e s	3.07	.48	Agree	3.43	.49	A g r e e
7. Sharing of intellectual property rights	3.09	.46	Agree	3.28	.45	A g r e e
8. Payment for consultancy services	3.23	.49	Agree	3.43	.49	A g r e e
9. Provision of modern facilities by industries	3.10	.46	Agree	3.43	.49	A g r e e
10. Donation of scientific equipments by industries	3.12	.38	Agree	3.29	.45	A g r e e
<b>Grand mean and standard deviation</b>	<b>3.12</b>	<b>0.45</b>		<b>3.37</b>	<b>0.47</b>	

Table 2 showed that items with serial numbers 6 to 10 have their various mean scores above the criterion mean value of 0.50 and were agreed by the respondents as ways commissioned research by industries to universities contributes to sustainable peace in South East Nigeria. It could be seen from the grand mean and standard deviation of administrative staff (3.12); (0.45) and chief executive officers of industries (3.37); (0.47) that chief executive officers had a higher opinion on the ways commissioned research by industries contributes to sustainable peace in South East Nigeria.

**Hypothesis 1:** There is no significant difference between the mean scores of administrative staff and CEOs of industries on the policies that promote university–industry partnership for sustainable peace in South East Nigeria.

**Table 3: z-test analysis of the mean scores of administrative staff and CEO on the policies that promote university–industry partnership for sustainable peace in South East Nigeria.**

Category	N	S d	Df	z-cal.	p-value	Alpha level	Remarks
Administrative staff	401	2.94	0.50			0 . 0 5	Null hypothesis is accepted
Chief Executive Off	382	2.94	0.71	781	.86	.070	

Table 3 shows that Administrative staff have mean and standard deviation scores of 2.94 and 0.50 while the CEO’s have mean and standard deviation scores of 2.94 and 0.71 respectively. With a degree of freedom of 781, the calculated z value of .86 is not significant because the probability value of .070 is greater than the alpha level of 0.05. Therefore, the null hypothesis was accepted. By implication, there is no significant difference on the mean scores of Administrative and Chief executive officers on policies that promote university industry partnership for sustainable peace in South East Nigeria.

**Hypothesis 2:** There is no significant difference between the mean score of administrative staff and Chief Executive Officers on contributions of commissioned research to sustainable peace in South East Nigeria.

**Table 4: z-test analysis of the mean scores of administrative staff and CEOs on contributions of commissioned research to sustainable peace in South East Nigeria**

<b>C a t e g o r y</b>	<b>N</b>	<b>Sd</b>	<b>df</b>	<b>z-cal.</b>	<b>P-val.</b>	<b>Alpha level</b>	<b>Remarks</b>
administrative staff	401	3.12	0.45				Null hypothesis is accepted
Chief Executive Officer	382	3.37	0.47	781	.99	.05	

Table 4 shows that administrative staff have mean and standard deviation scores of 3.12 and 0.45 while the Chief Executive Officers have mean and standard deviation scores of 3.37 and 0.47 respectively. With a degree of freedom of 781, the calculated z value of .99 is not significant because the probability value of .99 is greater than the alpha level of 0.05. Therefore, the null hypothesis was accepted. By implication, there is no significant difference between the mean score of administrative staff and Chief Executive Officers on contributions of commissioned research to sustainable peace in South East Nigeria.

### **Summary of Findings**

The findings of this study are summarized as shown below:

1. Table 1 showed that policies promote viable University–industry partnerships for sustainable peace in South East Nigeria and there is no significant difference on the mean scores of Administrative and Chief executive officers on policies that promote university industry partnership for sustainable peace in South East Nigeria.
2. Table 2 showed that commissioned research by industries to universities contributes to sustainable peace in South East Nigeria and there is no significant difference between the mean score of administrative staff and Chief Executive Officers on contributions of commissioned research to sustainable peace in South East Nigeria

### **Discussion of Findings**

#### **Policies that promote viable University–industry partnerships for sustainable peace**

The study showed that policies promote viable University–industry partnerships for sustainable peace in South East Nigeria. Policies are very important in backing and authenticating activities of formal organizations. The policy that can support industry-university partnership for mutual benefits are the Provision of specific support services (tax holidays) to industries and universities in the search for partners; designing research and development research grants, matching grants and tax incentives; creation of technology transfer offices in universities; developing science parks, spin –offs and business incubators and Introduction of reward systems for researchers. The signing of memorandum of understanding cannot be over emphasized.

That is why Siyanbola, Oladipo, Oyewale, Famurewa and Ogundari (2012) who examined the types, nature and intensity of academia-industry interactions in Nigeria’s pharmaceutical innovation system found that interactions are predominantly in the form of knowledge flow and consultancy, staff exchange/fellowship programmes as well as

sponsored workshop participations. Still buttressing this finding was Olaleye (2012) who reported that private sector should continue to participate in the provision of access, funding and management of higher education. Therefore, there is no significant difference on the mean scores of Administrative and Chief executive officers on policies that promote university industry partnership for sustainable peace in South East Nigeria.

### **Commissioned Research by Industries to Universities Contribute to sustainable peace**

The study revealed that the ways commissioned research by industries to universities contributes to sustainable peace in South East Nigeria, through: contract fees; sharing of intellectual property rights; payment for consultancy services; provision of modern facilities by industries and donation of scientific equipment by industries. Adelokun, (2015) posited that mutual association with the industries are likely to bring about mutual benefits. The establishment of contract by the university with the industries will go a long way in providing fund that can be used by the universities in their administrative functions. This assertion above could be one of the reasons while Onaolapo, Uche and Raimi (2013) found that post graduate students from different Universities across the country have had opportunity to engage in research with SPDC under internship programmes in different fields, donation of books covering on all field of study by SPDC, intellectuals from Universities are instruments of technology transfer from Universities to industries and provision of University liaison office provided incentives for partnership for research development. Therefore, there is no significant difference between the mean score of administrative staff and Chief Executive Officers on contributions of commissioned research to sustainable peace in South East Nigeria.

### **Conclusion**

Based on the findings of this study, it was concluded that strict adherence to policies that promote university-industry partnership and commissioned research by industries to universities would contribute sustainable peace in South East Nigeria.

### **Recommendations**

1. The administrative staff of the universities should strengthen their effort in reaching out to captains of industries in order to share intellectual property rights and also enlighten them on other services they can render to them.
2. The university should form a strong partnership with the industries of various fields of endeavour on the training of university human resources in order to be effective and efficient in their job responsibilities.

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