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Original Research Article

UNIVERSITY-INDUSTRY COLLABORATION IN RIVERS STATE: LECTURER INCENTIVES, INFLUENCES AND CHALLENGES FOR QUALITY HIGHER EDUCATION

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ABSTRACT: This study examined university-industry collaboration in Rivers State with a focus on lecturer incentives, influencing factors, and challenges for quality higher education. The study was motivated by persistent concerns about graduate employability, inadequate practical skills and weak industry relevance of university programs in Nigeria. A descriptive survey research design was adopted. The population comprised 3,356 academic staff from the University of Port Harcourt, Rivers State University, and Ignatius Ajuru University of Education. A sample of 205 lecturers was selected using the Taro Yamane formula and stratified random sampling technique. Data were collected using a structured questionnaire titled "University-Industry Collaboration through Lecturer Incentives, Influences and Challenges for Quality Higher Education Questionnaire (UICLIICQHEQ)". The instrument was validated by experts and demonstrated a reliability coefficient of .814 using Cronbach Alpha. Data were analyzed using mean and standard deviation to answer research questions, while t-test statistics were used to test hypotheses at .05 level of significance. The study's findings revealed that lecturer incentives significantly influence participation in university-industry collaboration, while institutional, policy, and funding-related factors also affect the effectiveness of such partnerships. However, challenges such as inadequate funding, weak institutional frameworks, poor industry trust, and bureaucratic constraints hinder effective collaboration. The study concluded that strengthening incentive structures and addressing collaboration barriers are essential for improving university-industry engagement and enhancing the quality of higher education in Rivers State. The study recommended that improve funding, policy implementation and stakeholder engagement to promote sustainable collaboration and reduce the influence of the challenges.

Keywords: University-Industry Collaboration, Lecturer Incentives, Influencing Factors, Challenges, Quality Higher Education, Descriptive Survey, Rivers State, Nigeria.

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INTRODUCTION

The quality of higher education is fundamental to national development through the production of skilled manpower, generation of knowledge and promotion of innovation. As such, universities are expected to prepare graduates who possess the competencies required to function effectively in a rapidly changing global economy. However, concerns about graduate unemployability in Nigeria, inadequate practical skills, weak research commercialization and insufficient funding have continued to challenge the quality of higher education in Nigeria.

These challenges have necessitated stronger collaboration between universities and industries to bridge the gap between academic knowledge and workplace requirements (Etzkowitz & Zhou, 2017; Ankrah & AL-Tabbaa, 2015).

University-industry collaboration is the formal and informal partnerships established between higher education institutions and business organizations for the purpose of knowledge exchange, research development, innovation, technology transfer, staff development, and student training (Ololube, 2025). Such collaborations facilitate the sharing of resources, expertise and experiences that contribute to the improvement of educational quality and societal development (Ololube, 2024). According to Perkmann et al. (2013), university-industry partnerships promote the commercialization of research outputs and enhance the relevance of academic programs to labor market demands. Similarly, Etzkowitz and Leydesdorff (2000) argued that collaboration among universities, industries and government institutions creates a knowledge-based economy capable of driving sustainable development and competitiveness.

Rivers State houses the presence of numerous industries, particularly in the oil and gas sector, manufacturing, telecommunications and service industries, provides significant opportunities for collaboration with universities (University of Port Harcourt, Rivers State University, and Ignatius Ajuru University of Education) operate within an environment rich in industrial activities that are able to support research, innovation and practical training. Effective partnerships of these universities and industries can improve curriculum relevance, provide internship opportunities, enhance research funding and strengthen graduate employability. These collaborations are increasingly recognized as essential for achieving quality higher education and addressing the developmental needs of Rivers State and Nigeria (Akinyemi & Bassey, 2018; Okojie et al., 2021).

One critical aspect of university-industry collaboration is lecturer incentives. Lecturer incentives is the financial and non-financial rewards provided to academic staff to encourage active participation in collaborative activities with industry partners. These incentives may include research grants, consultancy opportunities, professional development programs, conference sponsorships, patent royalties, promotion considerations and recognition awards. Incentives on its own motivate lecturers to engage in applied research, innovation and knowledge transfer activities that benefit both universities and industries (Ololube, 2024). According to Bland et al. (2005), academic staff are more likely to participate in collaborative research if institutional support and reward systems are available. Likewise, Siegel et al. (2007) emphasized that appropriate incentive structures enhance faculty engagement in technology transfer and industry-oriented research activities.

The effectiveness of university-industry collaboration is influenced by several factors. These include institutional policies, leadership commitment, availability of funding, organizational culture, research capacity, trust among stakeholders, and government support. Strong institutional frameworks facilitate the establishment of sustainable partnerships that generate mutual benefits for universities and industries. Furthermore, industries are more likely to collaborate with universities that demonstrate research excellence and responsiveness to societal needs. Perkmann et al. (2013) observed that organizational support and strategic alignment significantly influence the success of university-industry partnerships. Similarly, Bruneel et al. (2010) identified trust, communication, and previous collaborative experiences as important determinants of successful university-industry interactions.

In spite of the potential benefits, university-industry collaboration in Rivers State faces several challenges. These challenges include inadequate funding, bureaucratic procedures,

limited research infrastructure, weak policy implementation, lack of trust between universities and industries, intellectual property concerns and insufficient incentives for academic staff. Additionally, differences in organizational goals and expectations often create barriers to effective collaboration. Ankrah and AL-Tabbaa (2015) and Bruneel et al. (2010) noted that while universities may focus on knowledge generation and dissemination, industries are primarily concerned with profitability and market competitiveness. Such differences hinder the development of mutually beneficial partnerships.

Given the growing demand for quality higher education and innovation-driven economic development, understanding lecturer incentives, influencing factors and challenges associated with university-industry collaboration is crucial. Examining these dimensions within the context of this study and Rivers State provides valuable insights for policymakers, university administrators, industry leaders and other stakeholders seeking to strengthen higher education quality through strategic partnerships. Therefore, Etzkowitz and Zhou (2017) and Okojie et al. (2021) stated that enhanced collaboration has the abilities to contribute significantly to improved teaching, research productivity, innovation, graduate employability and sustainable socio-economic development in the region.

Statement of the Problem

To attain quality higher education remains a major concern in Nigeria and for Nigerians, particularly in Rivers State, where universities are expected to produce graduates equipped with relevant knowledge, practical skills and innovative capacities required by contemporary industries. As such, in spite the presence of numerous industries within the state, especially in the oil and gas, manufacturing and service sectors, the expected level of collaboration between universities and industries appears inadequate. As a result, many graduates continue to face challenges related to employability, practical competence and adaptation to workplace demands, raising concerns about the quality and relevance of higher education outcomes.

University-industry collaboration has been recognized globally as a strategic approach for enhancing research productivity, innovation, curriculum relevance and graduate employability. However, observations and evidence suggests that the participation of lecturers in collaborative activities with industries is often constrained by inadequate incentives such as limited research funding, insufficient rewards for industry engagement and lack of institutional support. Furthermore, factors that could facilitate effective collaboration: supportive policies, leadership commitment and stakeholder cooperation might not be adequately harnessed.

In addition, so many challenges such as bureaucratic bottlenecks, inadequate infrastructure, funding constraints, weak trust between universities and industries, and differing organizational priorities continue to be barriers to sustainable partnerships. These challenges undermine efforts aimed at improving higher education quality. As a result, the need to investigate lecturer incentives, factors influencing collaboration and the challenges associated with university-industry collaboration in Rivers State was genuine to determine the quality higher education.

Purpose of the Study

The purpose of this study was to examine university-industry collaboration in Rivers State vis-à-vis lecturer incentives, influences and challenges for quality higher education. To achieve this aim, the following objectives were addressed:

- Ascertain the extent to which university-industry collaborate lecturer's incentives contributes to quality higher education in Rivers State.
- Evaluate the factors that influence university-industry collaboration of universities and industries in Rivers State.
- Identify the challenges faced of university-industry collaborations with higher education as an enterprise in Rivers State.

Research Questions

In order to meet the objectives of this study, the following research questions were formulated for the study:

- In what ways does university-industry collaboration collaborate in lecturer's incentives contributes to quality higher education in Rivers State?
- What factors influence collaboration of universities and industries for quality higher education in Rivers State?
- What are the challenges of university-industry collaborations in higher education as an enterprise in Rivers State?

Hypotheses

- There is no significant difference between the mean ratings of male and female lecturers on the university-industry collaboration of lecturer's incentives contributes to quality higher education in Rivers State.
- There is no significant difference between the mean ratings of male and female lecturers on factors influencing university-industry collaboration contributes to quality higher education in Rivers State.
- There is no significant difference between the mean ratings of male and female lecturers on challenges faced by university-industry collaboration contributes to quality higher education in Rivers State, Nigeria.

THEORETICAL FRAMEWORK

Social Exchange Theory

Social Exchange Theory (SET) is one of the most influential theories for explaining social relationships, organizational behavior and collaborative interactions among individuals and institutions. The theory was primarily developed by sociologists such as George C. Homans, Peter M. Blau and Richard M. Emerson. SET posited that social interactions are based on the exchange of resources, benefits, and rewards among parties, with individuals or organizations

seeking to maximize benefits while minimizing costs. According to Homans (1958), human relationships are maintained when the perceived rewards of an interaction outweigh the associated costs. The theory therefore emphasizes reciprocity, mutual benefit, trust and commitment as key determinants of successful relationships and collaborations.

The fundamental assumption of SET is that individuals and organizations engage in relationships because they expect valuable returns from such interactions. These returns may be tangible, such as financial rewards, grants, and material resources, or intangible, such as recognition, prestige, knowledge sharing, and professional development opportunities. Blau (1964) argued that social exchanges create obligations among interacting parties, leading to long-term relationships characterized by trust and cooperation. As exchanges continue and benefits are consistently received, participants become more committed to sustaining the relationship. This principle makes the theory particularly relevant in understanding collaborative partnerships within educational and organizational settings.

In higher education, SET provided a useful framework for explaining the relationships between universities, lecturers, industries and other stakeholders. University-industry collaboration involves the exchange of knowledge, expertise, research outputs, technology, funding and human resources. Universities contribute intellectual capital, research capabilities and skilled graduates, while industries provide financial support, practical experience, technological resources and opportunities for innovation. The sustainability of such partnerships depends largely on the extent to which both parties perceive the collaboration as beneficial (Cropanzano & Mitchell, 2005; Blau, 1964).

SET is particularly relevant to the concept of lecturer incentives in university-industry collaboration. Lecturers are more likely to participate actively in collaborative activities when they perceive that the benefits outweigh the costs involved. Incentives such as research grants, consultancy opportunities, professional development programs, conference sponsorships, promotion prospects, patent royalties, and recognition awards serve as rewards that motivate academic staff to engage with industry partners. On the other hand, when lecturers perceive collaboration as time-consuming, inadequately rewarded, or lacking institutional support, their willingness to participate may decline. SET therefore explains how incentive structures can influence lecturers' commitment to collaborative initiatives (Cropanzano & Mitchell, 2005; Emerson, 1976).

Furthermore, the theory helps explain factors that influence and challenge university-industry collaboration. Elements such as trust, communication, shared goals, leadership support, and mutual respect facilitate positive exchanges and strengthen partnerships. On the other hand, inadequate funding, conflicting interests, bureaucratic constraints, and unequal distribution of benefits can weaken collaborative relationships. SET suggests that when one party perceives an imbalance in the exchange process, dissatisfaction may arise, leading to reduced cooperation or withdrawal from the partnership (Emerson, 1976; Molm, 2001).

In the context of this study, SET provides a valuable lens for understanding how lecturer incentives, influencing factors and challenges affect university-industry collaboration in Rivers State. The theory highlights that successful collaboration depends on the perception of mutual benefits among stakeholders. When universities, lecturers and industries experience rewarding exchanges characterized by trust, reciprocity, and shared objectives, collaboration is likely to be strengthened, thereby contributing to quality higher education through improved research, innovation, teaching effectiveness and graduate employability in Rivers State, Nigeria.

CONCEPTUALIZATION

Universities

Universities in Nigeria play a vital role in the country's educational, social, economic, and technological development. As the highest level of formal education, universities are responsible for teaching, research, community service, and the production of skilled manpower needed for national growth. The Nigerian university system has expanded significantly since the establishment of the first university, University College Ibadan, in 1948. Today, Nigeria has a diverse network of federal, state, and private universities that cater to the educational needs of millions of students across the country (Federal Ministry of Education, 2024).

The development of universities in Nigeria can be traced to the recommendations of the Ashby Commission of 1960, which emphasized the need for higher education institutions to support the country's post-independence development. Following these recommendations, institutions such as University of Nigeria, Ahmadu Bello University, University of Lagos, and Obafemi Awolowo University were established to expand access to higher education and promote national development (Jubril, 2012).

The Nigerian university system is regulated by the National Universities Commission (NUC), which was established in 1962 to coordinate university education, ensure quality assurance, and accredit academic programmes. The NUC oversees the activities of federal, state, and private universities, ensuring that institutions meet minimum academic standards and contribute effectively to national development (National Universities Commission, 2023).

Universities in Nigeria perform three core functions: teaching, research, and community service. Through teaching, universities provide students with knowledge, skills, and competencies necessary for professional and societal engagement. Research activities contribute to the generation of new knowledge and innovations that address national challenges in areas such as health, agriculture, technology, and environmental sustainability. Community service enables universities to apply their expertise to solve societal problems and support local development initiatives (Okojie, 2015).

Despite their contributions, Nigerian universities face several challenges. These include inadequate funding, deteriorating infrastructure, brain drain, overcrowded classrooms, limited research funding, and recurrent industrial actions. Such challenges often affect the quality of teaching and learning, research productivity, and institutional effectiveness. Furthermore, the rapid increase in student enrolment has placed additional pressure on available resources and facilities, thereby affecting educational outcomes (Saint, Hartnett, & Strassner, 2003).

In recent years, efforts have been made to improve the quality and accessibility of university education in Nigeria through increased investment in information and communication technology (ICT), accreditation exercises, staff development programmes, and the establishment of additional universities. The emergence of private universities has also expanded educational opportunities and reduced pressure on public institutions. However, achieving global competitiveness requires sustained investment in infrastructure, research, innovation, and academic excellence (Okebukola, 2015).

Industries in Nigeria

Industries in Nigeria constitute a critical sector of the economy, contributing significantly to employment generation, wealth creation, technological advancement, and national development.

The industrial sector encompasses manufacturing, oil and gas, construction, mining, agro-processing, telecommunications, and other production-oriented activities that transform raw materials into finished goods and services. As one of Africa's largest economies, Nigeria possesses abundant natural and human resources that provide a strong foundation for industrial growth and economic diversification (Ajakaiye & Fakiyesi, 2009).

The industrial development of Nigeria dates back to the colonial era when manufacturing activities were largely limited to the processing of agricultural products and the importation of finished goods. Following independence in 1960, the government adopted import substitution industrialization strategies aimed at promoting local production and reducing dependence on foreign goods. These policies led to the establishment of various manufacturing industries, including textiles, food processing, cement production, beverages, chemicals, and consumer goods industries (Anyanwu et al., 1997).

The oil and gas industry remains the most dominant industrial sector in Nigeria and serves as the backbone of the nation's economy. Since the discovery of crude oil in commercial quantities in 1956, petroleum production has generated substantial government revenue and foreign exchange earnings. The sector contributes significantly to Nigeria's gross domestic product (GDP), export earnings, and public finances. However, excessive dependence on oil has exposed the economy to fluctuations in global oil prices and highlighted the need for economic diversification (Iyoha & Oriakhi, 2002).

Manufacturing is another important component of Nigeria's industrial sector. Manufacturing industries produce goods ranging from food products, beverages, textiles, and pharmaceuticals to cement, steel, and household items. The sector has the potential to stimulate economic growth through value addition, job creation, and export promotion. However, challenges such as inadequate electricity supply, poor transportation infrastructure, high production costs, and limited access to finance have constrained its growth and competitiveness (Adebayo, 2018).

The agricultural processing industry also plays a vital role in Nigeria's industrial landscape. Agro-based industries process crops such as cassava, cocoa, palm oil, rice, maize, and rubber into marketable products. These industries contribute to rural development, increase farmers' incomes, and reduce post-harvest losses. The integration of agriculture with industrial production has become increasingly important in promoting sustainable economic development and food security (CBN, 2022).

In recent years, the telecommunications and information technology industries have emerged as key drivers of economic growth in Nigeria. The expansion of digital technologies, mobile communication services, and internet connectivity has transformed business operations, financial services, education, and governance. The growth of fintech companies and digital enterprises has further strengthened Nigeria's position as a leading innovation hub in Africa (World Bank, 2023).

Despite the potential of Nigerian industries, several challenges continue to hinder their development. These include inadequate infrastructure, inconsistent government policies, insecurity, corruption, limited technological capacity, and dependence on imported machinery and raw materials. Addressing these challenges requires strategic investments in infrastructure, human capital development, technological innovation, and industrial policy reforms (UNIDO, 2021).

Thus, industries in Nigeria are essential for economic growth, employment generation, and national development. A vibrant and diversified industrial sector can reduce dependence on

oil, enhance productivity, promote innovation, and improve living standards. Sustained government support and private-sector participation are necessary to unlock the full potential of Nigeria's industrial economy.

University-Industry Collaborations in Nigeria

University-industry collaboration refers to the strategic partnership between higher education institutions and industries aimed at promoting research, innovation, knowledge transfer, technology development, and workforce preparation. In Nigeria, such collaborations have become increasingly important as the country seeks to strengthen its innovation ecosystem, enhance graduate employability, and accelerate economic development. Universities are expected to generate knowledge through research, while industries utilize such knowledge to develop products, services, and processes that contribute to economic growth. Effective collaboration between these two sectors therefore creates mutual benefits and supports national development objectives (Etzkowitz & Leydesdorff, 2000).

The concept of university–industry collaboration is rooted in the recognition that universities are major producers of scientific knowledge and skilled human resources, while industries possess the resources, market experience, and practical challenges that can guide research toward solving real-world problems. In Nigeria, collaborations often take the form of research partnerships, internship programmes, industrial training, consultancy services, technology transfer initiatives, joint conferences, and innovation projects. These partnerships enable universities to align their curricula and research activities with industry needs while helping industries gain access to new technologies and highly skilled graduates (Akinyemi & Abiddin, 2013).

One of the most visible forms of university–industry collaboration in Nigeria is the Students Industrial Work Experience Scheme (SIWES), which provides students with practical industrial exposure during their academic programmes. Through SIWES, students acquire workplace skills, gain hands-on experience, and become better prepared for employment after graduation. The programme bridges the gap between theoretical knowledge acquired in universities and the practical competencies required in industry, thereby improving graduate employability and productivity (Industrial Training Fund [ITF], 2022).

University-industry collaborations also contribute significantly to research and innovation. Nigerian universities increasingly engage with industries in sectors such as agriculture, information technology, manufacturing, health, energy, and telecommunications. These partnerships facilitate the commercialization of research findings and the development of innovative products and services. A collaborative research in agriculture has supported improvements in crop production, food processing, and agricultural technologies, while partnerships in information technology have fostered digital innovation and entrepreneurship among students and researchers (Oyelaran-Oyeyinka, 2006).

Furthermore, university-industry partnerships promote entrepreneurship development and economic diversification. Many Nigerian universities have established entrepreneurship centres, technology incubation hubs, and innovation laboratories that collaborate with private-sector organizations to nurture entrepreneurial skills and support startup ventures (Ololube, 2025). Such initiatives contribute to job creation, innovation and the development of small and medium-sized enterprises (SMEs), which are crucial for sustainable economic growth (National Universities Commission [NUC], 2021).

In spite of the benefits, university-industry collaborations in Nigeria face several challenges. One major challenge is that of the weak linkages between academic research and industrial needs. Many research outputs generated by universities remain largely theoretical and are not effectively translated into commercially viable products or services. Inadequate funding for research and development (R&D) further limits the capacity of universities to undertake innovative projects that attract industrial partners (Ololube, 2024). Additionally, industries often perceive universities as being disconnected from market realities, while universities may view industries as insufficiently committed to supporting academic research (Akinyemi & Abiddin, 2013).

Other challenges include poor infrastructure, bureaucratic bottlenecks, limited intellectual property management systems and inadequate government policies that support innovation and technology transfer. The absence of strong frameworks for protecting research outputs and sharing benefits from innovation can discourage both universities and industries from engaging in long-term collaborative ventures (World Bank, 2021).

University-industry collaborations are said to be essential for enhancing innovation, improving graduate employability, promoting entrepreneurship and driving national development in Nigeria. Strengthening these partnerships enable universities to contribute more effectively to economic transformation while ensuring that industries benefit from cutting-edge research and a skilled workforce. Sustainable collaboration between universities and industries remains the pathway for achieving knowledge-based development and global competitiveness.

METHODOLOGY

Research Design

This study adopted a descriptive survey research design. The design was considered appropriate because it enabled the researcher to systematically describe and examine the characteristics, opinions, and perceptions of respondents concerning university-industry collaboration and its contribution to quality higher education in Rivers State, Nigeria.

Population of the Study

The population for this study comprised 3,356 academic staff drawn from the three public universities in Rivers State. Specifically, the population consisted of 1,385 academic staff from the University of Port Harcourt (UNIPORT), 1,585 from Rivers State University (RSU), and 386 from Ignatius Ajuru University of Education (IAUE).

Sample and Sampling Technique

A sample size of 205 lecturers was determined using the Taro Yamane formula. The sample comprised 110 male lecturers and 95 female lecturers selected from the three public universities in Rivers State. A stratified sampling technique was initially employed to categorize the academic staff into male and female strata. Thereafter, a simple random sampling technique was used to select respondents from each stratum, ensuring that every member of the population had an equal opportunity of being included in the study.

Instrument for Data Collection

Data were collected using a researcher-developed instrument titled "University-Industry Collaboration through Lecturer Incentives, Influences and Challenges for Quality Higher Education Questionnaire (UICLIICQHEQ)". The questionnaire consisted of 35 items structured on a four-point modified Likert scale of Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. The criterion mean for decision-making was established at 2.50, obtained by dividing the aggregate score of the scale points by four.

Validity and Reliability of the Instrument

The face and content validity of the instrument were established through expert evaluation by three Professors in the Department of Educational Management, Ignatius Ajuru University of Education, Nigeria. Copies of the questionnaire, along with the study title, purpose, research questions, and hypotheses, were provided to the experts for assessment. They examined the instrument for clarity, relevance, adequacy of content coverage, and appropriateness of the items. Their observations, suggestions, and corrections were incorporated into the final version of the questionnaire to enhance its validity.

To determine the reliability of the instrument, the test-retest method was employed. The questionnaire was administered to a group of respondents on two separate occasions with an interval of two weeks between administrations. Prior to the second administration, the items were reshuffled to minimize response bias and recall effects. The reliability coefficient was determined using Cronbach's Alpha, which yielded a coefficient value of 0.814, indicating that the instrument was sufficiently reliable for the study.

Method of Data Collection and Data Analysis

A total of 300 copies of the questionnaire were distributed to respondents across the three public universities in Rivers State through direct hand delivery by the researcher and two trained research assistants. This approach ensured effective coverage and enhanced the rate of retrieval. Out of the 300 copies administered, 205 were successfully retrieved and found usable for analysis. The research questions were answered using mean and standard deviation statistics, while the hypotheses were tested using the t-test statistical technique at the 0.05 level of significance.

RESULTS

Answer to Research Questions

Research Question 1: In what ways does university-industry collaboration contribute to lecturer's incentives for quality higher education in Rivers State?

Table 1: Mean ratings and standard deviation analysis of responses on the ways university-industry collaboration contribute to lecturer's incentives for quality higher education.

S/N	Items	Male Lecturer = 110		Female Lecturer = 95		Mean Set	Decision
		Mean	SD_1	Mean	SD_2		
1.	The university-industry collaboration can create activities that recognize the efforts of the lecturers participating in partnerships with the industry	2.56	0.68	2.52	0.60	2.54	Agree
2.	The university-industry collaboration provide access to skills and knowledge gaps between academia and industry which can lead to the development of new skills and knowledge	2.66	0.85	2.94	1.20	2.80	Agree
3.	The university-industry collaboration can provide resources to engage in collaborative research projects as not all lecturers can afford to participate.	2.64	0.76	2.88	0.72	2.76	Agree
4.	The university-industry collaboration provide a level of awareness as most lecturers may not be aware of the opportunities arising from university-industry collaborations.	2.92	0.63	2.74	0.69	2.83	Agree
5.	The university-industry collaboration can help bridge some of these gaps and create a more conducive environment for professionals to harness the benefits of research collaborations.	2.75	0.81	2.56	0.92	2.66	Agree
	Grand Mean	**2.80**	**0.64**	**2.90**	**0.79**	**2.72**	**Agree**

Table 1 indicates the respondents agree that university-industry collaboration can create activities that recognize the efforts of the lecturers participating in partnerships with the industry, as they provide access to skills and knowledge gaps between academia and industry which can lead to the development of new skills and knowledge. Furthermore, they provide resources to engage in collaborative research projects as not all lecturers can afford to participate. Also, university-industry collaboration provides a level of awareness as most lecturers may not be aware of the opportunities arising from university-industry collaborations. However, university-industry collaboration can help bridge some of these gaps and create a more conducive environment for professionals to harness the benefits of research collaborations. Therefore, with the grand mean set score 2.72, it was shown that the respondents agree with the items raised as the ways do university-industry collaboration contribute to lecturer's incentives for quality higher education in Rivers State.

Research Question 2: What are the factors influencing the collaboration of university-industry for quality higher education in Rivers State?

Table 2: Mean ratings and standard deviation analysis of responses on the factors influencing the collaboration of university-industry for quality higher education

S/N	Items	Male Lecturers = 110		Female Lecturers = 95		Mean Set	Decision
		Mean	SD_1	Mean	SD_2		
6.	Effective supervision of university budgetary and accounting system	2.66	0.88	2.60	1.14	2.63	Agree
7.	Organizing programs in order to sensitize and educate university administrators on the dangers of misappropriating funds	3.04	0.95	3.20	1.30	3.12	Agree
8.	Organizing training programs to train school administrators on how to budget.	3.12	0.83	2.70	1.02	2.91	Agree
9.	Contribution of university – industry collaborators to the universities.	2.54	0.92	2.80	1.09	2.67	Agree
10.	Mobilization of fund from identified private donors.	3.18	0.71	2.60	1.14	2.89	Agree
	Grand Mean	**2.91**	**0.86**	**2.78**	**1.14**	**2.83**	**Agree**

Table 1 showed the respondents agree that the effective supervision of university budgetary and accounting system, organizing programs in order to sensitize and educate university administrators on the dangers of misappropriating funds, organizing training programs to train school administrators on how to budget, contributing of university-industry collaborators to the universities, and mobilization of funds from identified private donors. However, with the grand mean set score of 2.83, it was shown that the respondents agree with the items raised as the factors influencing the collaboration of university-industry for quality higher education in Rivers State.

Research Question 3: What the challenges faced by university-industry in collaborating with higher education as an enterprise in Rivers State?

Table 3: Mean ratings and standard deviation analysis of responses on the challenges faced by university-industry in collaborating with higher education as an enterprise in rivers state

S/N	Variable	Male Lecturers = 110		Female Lecturers = 95		Mean Set	Decision
		Mean	SD_1	Mean	SD_2		
11.	Lack of awareness of the opportunities arising from university-industry collaborations	2.68	0.89	2.56	0.68	2.62	Agree
12.	There is lack of healthy matrimony between government and the University – Industry Collaborators in order to ensure effective human resource management which is a key issue for quality higher education	2.72	0.85	2.60	0.85	2.66	Agree
13.	There is no cordial relationship between University – Industry Collaborators and government to guarantee effective physical resource management which is a vital factor for quality higher education.	2.54	0.67	2.61	0.66	2.58	Agree

14.	The University – Industry Collaborators are not proactive in forging meaningful partnership with the government to ensure adequate financial resource management which is a formidable factor for quality higher education.	2.86	0.77	2.82	0.53	2.84	Agree
15.	There is no closer interaction among governments, universities, the industry, and other relevant actors.	2.84	0.80	2.76	0.91	2.80	Agree
	Grand Mean	**2.73**	**0.80**	**2.67**	**0.73**	**2.70**	**Agree**

Table 3 showed the respondents agree that lack of awareness of the opportunities arising from university-industry collaborations, lack of healthy matrimony between government and the university-industry collaborators in order to ensure effective human resource management which is a key issue for quality higher education, no cordial relationship between university-industry collaborators and government to guarantee effective physical resource management which is a vital factor for quality higher education, university-industry collaborators are not proactive in forging meaningful partnership with the government to ensure adequate financial resource management which is a formidable factor for quality higher education, and there is no closer interaction among governments, universities, the industry, and other relevant actors. However, with the grand mean set score of 2.70, it was shown that the respondents agree with the items raised as the challenges faced by university-industry in collaborating with higher education as an enterprise in Rivers State.

Test of Hypotheses

Hypothesis One: There is no significant difference between the mean ratings of male and female lecturers on the university-industry collaboration of lecturer's incentives for quality higher education in Rivers State.

Table 4: t-test analysis between the mean ratings of male and female lecturers with respect to the ways university-industry can collaborate with lecturer's incentives for quality higher education in rivers state

Gender	N	Mean	SD.	Df.	t-cal.	t-crit.	Level of Sig.	Decision
Male	110	2.66	0.83	203	0.71	1.96	.05	Accepted
Female	95	2.54	0.63					

Table 4 indicated that at 203 degrees of freedom and .05 level of significance, the table value of t-crit. of 1.96 was more than the estimated t-cal. value of 0.71 and for this reason, the null hypotheses was retained and this indicated that there was no significant difference between the mean ratings of lecturers on the university-industry collaboration of lecturer's incentives for quality higher education in Rivers State, Nigeria.

Hypothesis Two: There is no significant difference between the mean ratings of male and female lecturers on factors influencing the university – industry collaboration for quality higher education in Rivers State, Nigeria.

Table 5: t-test Analysis between the mean ratings of male and female lecturers on factors influencing the university-industry collaboration for quality higher education in Rivers State

Gender	N	Mean	SD.	Df.	t-cal.	t –crit.	Level of Sig.	Decision
Male	110	2.56	0.68	203	0.75	1.96	.05	Accepted
Female	95	2.78	0.76					

Table 5 shows that at 203 degrees of freedom and .05 level of significance, the table value of t-crit. of 1.96 was more than the estimated t-cal. value of 0.75 and for this reason, the null hypotheses were retained and this indicated that there was no significant difference between the mean ratings of lecturers on factors influencing the university-industry collaboration for quality higher education in Rivers State, Nigeria.

Hypothesis Three: There is no significant difference between the mean ratings of male and female lecturers on challenges faced by university-industry collaboration for quality higher education in Rivers State, Nigeria.

Table 6: t-test Analysis of between the mean ratings of male and female lecturers on challenges faced by university-industry collaboration for quality higher education in Rivers State

Variable	N	Mean	SD.	Df.	t -cal.	t- crit.	Level of Sig.	Decision
Male	110	2.88	0.82	203	0.69	1.96	.05	Accepted
Female	95	2.52	0.60					

Table 6 shows that at 203 degrees of freedom and .05 level of significance, the table value of t-crit. of 1.96 was more than the estimated t-cal. value of 0.69 and for this reason, the null hypotheses were retained and this indicated that there was no significant difference between the mean ratings of lecturers on challenges faced by university – industry collaboration for quality higher education in Rivers State, Nigeria.

DISCUSSION OF FINDINGS

The Extent to which University-Industry can Collaborate Lecturer's Incentives for Quality Higher Education

The fifth finding indicated the ways university-industry collaboration contribute to lecturer's incentives for quality higher education to include; university-industry collaboration create activities that recognize the efforts of the lecturers participating in partnerships with the industry, they provide access to skills and knowledge gaps between academia and industry which can lead to the development of new skills and knowledge, provide resources to engage in collaborative research projects as not all lecturers can afford to participate, provide a level of awareness as most lecturers may not be aware of the opportunities arising from university-industry collaborations, and university-industry collaboration help bridge some of these gaps and create a more conducive environment for professionals to harness the benefits of research collaborations. The corresponding test of hypothesis established no significant difference between the mean ratings of male and female lecturers with respect to the ways university-industry collaboration contribute to lecturer's incentives for quality higher education. The result has the support of

Chen and Song (2021) and Baban et al. (2021). The researchers found that they may be comfortable with their existing practices and may not be willing to adapt. This can create legal and contractual complexities that may deter some from getting involved. Differing Priorities is the priorities and timelines of academia and industry can be quite different. Academics may focus on long-term research goals, while industry may prioritize short-term commercial objectives (Chen & Song, 2021).

Factors Influencing the Collaboration of Universities and Industries

The sixth finding indicated the factors influencing the collaboration of university-industry for quality higher education to include; effective supervision of university budgetary and accounting system, organizing programs in order to sensitize and educate university administrators on the dangers of misappropriating funds, organizing training programs to train school administrators on how to budget, contribution of university-industry collaborators to the universities, and mobilization of fund from identified private donors. Its parallel hypothesis showed no significant difference between the mean scores of male and female lecturers with respect to the factors influencing the collaboration of university-industry for quality higher education. The finding is supported by the study of Cheta-Maclean et al. (2025) and Ololube (2024, 2025) who reported that universities can generate funds by embarking on consultancy services to the public and organized private sector, they should organize commercial business venture to raise funds, organizing programs in order to sensitize and educate university administrators on the dangers of misappropriating funds, universities should collaborate with multinational business corporations, endowment funds are good sources of funds for universities, and alumni associations should contribute in funding universities.

The Challenges Faced by University-Industry in Collaborating with Higher Education as an Enterprise

The seventh finding indicated the challenges faced by university-industry in collaborating with higher education to include; lack of awareness of the opportunities arising from university-industry collaborations, there is lack of healthy matrimony between government and the University-Industry Collaborators in order to ensure effective human resource management which is a key issue for quality higher education, there is no cordial relationship between university-industry collaborators and government to guarantee effective physical resource management which is a vital factor for quality higher education, the university-industry collaborators are not proactive in forging meaningful partnership with the government to ensure adequate financial resource management which is a formidable factor for quality higher education, and There is no closer interaction among governments, universities, the industry, and other relevant actors. The hypothesis revealed that there is no significant difference between the mean values of male and female lecturers with respect to the challenges faced by university-industry in collaborating with higher education in Rivers State, Nigeria. The finding agrees with Okebukola (2015), Ololube (2024), Cheta-Maclean et al. (2025) and Ololube (2025), university-industry partners caught in the middle may find it challenging to align their own career goals with these disparate priorities. Because it might according to research and development be negatively associated with the benefits of research, and also only very few universities and

departments worldwide commercialize their knowledge and technologies, and generally, a minority of UICs is driven by the expectations of commercial products.

The organization of the project is important and impacts the deepness and the capability to add value to the company with the final output. The collaboration can be included or not within a course or a program. Including it in a program has positive effects due to the interest of the students in the grade. It was positive because students do not need to find extra time, and they just need to follow the course structure and timing (Saint et al., 2003). On the other hand, adapting the project to the course structure can create a challenge in terms of time limitations due to the size of the project and available time. In this study, it was observed that the goals were previously set by the university, which is good to avoid conflicts according to current literature (Siegel et al., 2007). This can have benefits such as avoiding using time from the course for the definitions of goals. It is positive because the academic staff knows the regular performance of students better than companies. On the other hand, setting the goals previously presents some cons, such as students struggling to understand them as they did not participate when they were created.

CONCLUSION

This study has successfully investigated university-industry collaboration in Rivers State, Nigeria with reference to lecturer incentives, influences and challenges for quality higher education. Therefore, this study concluded that university-industry collaboration is a critical strategy for improving the quality of higher education in Rivers State. Effective collaboration between universities and industries enhances curriculum relevance, promotes research productivity, and strengthens graduate employability. However, the extent to which these benefits are realized depends largely on the availability of adequate lecturer incentives, supportive institutional frameworks, and enabling policy environments. When lecturers are properly motivated through financial and non-financial incentives, their participation in collaborative activities with industry partners increases significantly, leading to improved academic and practical outcomes.

The study further concluded that several factors such as institutional support, funding availability, leadership commitment and stakeholder engagement, play important roles in shaping the success of university-industry partnerships. Nevertheless, persistent challenges such as inadequate funding, bureaucratic bottlenecks, weak trust between stakeholders and limited infrastructural support continue to hinder effective collaboration. Ultimately, improved collaboration contribute to enhanced teaching, research innovation and sustainable development within the higher education system in Rivers State, Nigeria.

Recommendations

On the basis of the findings, the following recommendations were given:

- Universities and relevant government agencies should implement robust incentive schemes: research grants, consultancy opportunities, patent rewards, promotion points for industry collaboration and conference sponsorships.
- University management and policymakers should develop clear, stable and implementation-driven policies that promote collaboration with industries.

- Government and institutional leaders should invest in research infrastructure, increase funding for collaborative projects and create enabling environments for knowledge exchange.

REFERENCES

Adebayo, A. A. (2018). Industrialization and economic development in Nigeria. *International Journal of Economics and Business Management, 4*(2), 45-57.

Ajakaiye, O., & Fakiyesi, T. (2009). *Global financial crisis and economic development in Nigeria*. Lagos: Nigerian Institute of Social and Economic Research.

Akinyemi, G. M., & Abiddin, N. Z. (2013). Quality administration and management in higher education in Nigeria: Implications for human resource development. *International Education Studies, 6*(4), 225-235.

Akinyemi, S., & Bassey, P. O. (2018). University-industry collaboration and sustainable development in Nigerian higher education. *International Journal of Educational Development*, 62, 145-153.

Ankrah, S., & AL-Tabbaa, O. (2015). Universities–industry collaboration: A systematic review. *Scandinavian Journal of Management, 31*(3), 387-408.

Anyanwu, J. C., Oyefusi, A., Oaikhenan, H., & Dimowo, F. A. (1997). *The structure of the Nigerian economy (1960-1997)*. Joanee Educational Publishers.

Bland, C. J., Center, B. A., Finstad, D. A., Risbey, K. R., & Staples, J. G. (2005). The impact of faculty development programmes on research productivity. *Academic Medicine, 80*(3), 225-237.

Bruneel, J., D'Este, P., & Salter, A. (2010). Investigating the factors that diminish the barriers to university–industry collaboration. *Research Policy, 39*(7), 858-868.

Central Bank of Nigeria (CBN). (2022). *Annual economic report*. Central Bank of Nigeria.

Cheta-Maclean, S., Ananyi, S. O., & Ololube, N. P. (2025). Public-private partnership dynamics and the role of institutional leadership in Nigeria's public universities economic development. In N. Baporikar (Ed.), *Public Private Partnership Dynamics for Economic Development* (pp. 289-322). Information Science Reference (an Imprint of IGI Global). DOI: 10.4018/979-8-3693-9153-2.ch014.

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874–900. https://doi.org/10.1177/0149206305279602

Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology, 2*, 335–362. https://doi.org/10.1146/annurev.so.02.080176.002003

Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: From national systems and Mode 2 to a Triple Helix of university–industry–government relations. *Research Policy, 29*(2), 109-123.

Etzkowitz, H., & Zhou, C. (2017). *The Triple Helix: University–Industry–Government Innovation and Entrepreneurship*. Routledge.

Federal Ministry of Education. (2024). *Education sector performance report*. Federal Ministry of Education.

Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology, 63*(6), 597–606. https://doi.org/10.1086/222355

Industrial Training Fund (ITF). (2022). *Students Industrial Work Experience Scheme (SIWES) operational guidelines*. Industrial Training Fund.

Iyoha, M. A., & Oriakhi, D. E. (2002). Explaining African economic growth performance: The case of Nigeria. *African Development Review, 14*(1), 65-92.

Jubril, M. (2012). *Higher education in Nigeria: Development and challenges*. National Universities Commission.

Molm, L. D. (2001). Theories of social exchange and exchange networks. In J. H. Turner (Ed.), *Handbook of Sociological Theory* (pp. 260–272). New York: Kluwer Academic/Plenum Publishers.

National Universities Commission (NUC). (2021). *Benchmark minimum academic standards and entrepreneurship education guidelines for Nigerian universities*. National Universities Commission.

National Universities Commission. (2023). *Guidelines for the administration of Nigerian universities*. NUC.

Okebukola, P. (2015). Towards world-class universities in Nigeria. *Journal of Higher Education in Africa, 13*(1), 25-42.

Okojie, J. A. (2015). Higher education in Nigeria: The challenges and opportunities. *Nigerian Journal of Educational Administration and Planning, 15*(2), 1-12.

Okojie, J. A., Nwosu, A. A., & Eze, C. M. (2021). Industry partnership and quality assurance in Nigerian universities. *Nigerian Journal of Educational Management, 20*(1), 45-58.

Ololube, N. P. (2024). Institutional leadership: Laying the foundation for success. Pearl Publishers.

Ololube, N. P. (2025). Public-private partnership dynamics for economic development of Nigeria. In N. Baporikar (Ed.), *Public Private Partnership Dynamics for Economic Development* (pp. 105-130). Information Science Reference (an Imprint of IGI Global). DOI: 10.4018/979-8-3693-9153-2.ch006.

Oyelaran-Oyeyinka, B. (2006). *Learning to compete in African industry: Institutions and technology in development*. Ashgate Publishing.

Perkmann, M., Tartari, V., McKelvey, M., Autio, E., Broström, A., D'Este, P., Fini, R., Geuna, A., Grimaldi, R., Hughes, A., Kitson, M., Krabel, S., Llerena, P., Lissoni, F., Salter, A., & Sobrero, M. (2013). Academic engagement and commercialization: A review of the literature on university-industry relations. *Research Policy, 42*(2), 423-442.

Saint, W., Hartnett, T. A., & Strassner, E. (2003). Higher education in Nigeria: A status report. *Higher Education Policy, 16*(3), 259-281. https://doi.org/10.1057/palgrave.hep.8300021Blau, P. M. (1964). *Exchange and Power in Social Life*. New York: John Wiley & Sons.

Siegel, D. S., Veugelers, R., & Wright, M. (2007). Technology transfer offices and commercialization of university intellectual property: Performance and policy implications. *Oxford Review of Economic Policy, 23*(4), 640-660.

United Nations Industrial Development Organization (UNIDO). (2021). *Industrial development report 2021: Industrializing in the digital age*. UNIDO.

World Bank. (2021). *Nigeria development update: Resilience through reforms*. World Bank.

World Bank. (2023). *Nigeria development update: Seizing the opportunity*. World Bank.