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Strike Actions, Human Capital Development, and Institutional Productivity in Nigerian Public Universities: Evidence from ASUU–FGN Disputes (2010–2025)

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Abstract

This study empirically investigates the tripartite impact of strike actions arising from the protracted disputes between the Academic Staff Union of Universities (ASUU) and the Federal Government of Nigeria (FGN). The study specifically examines the effect of ASUU-FGN strike actions, research productivity and institutional productivity in Nigerian public Universities from 2010 to 2025. Grounded exclusively in Human Capital Theory, which frames education as a critical investment, the research examines how industrial disruptions degrade this investment cycle. A descriptive survey design was employed, with data collected from 359 academic staff and final-year students across three selected public universities using a structured questionnaire. The sample was determined via the Taro Yamane formula, and data analysis utilized descriptive statistics and simple linear regression techniques in SPSS version 27. Findings reveal that strike actions exert a statistically significant negative effect on core university outputs: they impair students' academic progression and skill acquisition ($\beta = -0.563$, $p<.001$), diminish the research productivity of academic staff ($\beta = -0.601$, $p<.001$), and erode institutional productivity indicators such as graduation rates and academic calendar stability ($\beta = -0.575$, $p<.001$). The study concludes that while industrial action remains a legitimate bargaining tool, its recurrent

and protracted use critically undermines the university's fundamental mandates of human capital formation and knowledge production, with severe long-term socioeconomic consequences. Key recommendations include establishing a legally-backed permanent dialogue mechanism, enforcing collective agreements, progressive increases in education funding to UNESCO benchmarks, mandatory alternative dispute resolution protocols, and the development of digital academic continuity plans to mitigate systemic disruption.

Keywords: Strike actions, Human capital development, Institutional productivity, ASUU, Nigerian universities, Industrial disputes

1.1 Introduction

Universities are globally recognized as the primary engines for knowledge creation, innovation, and advanced human capital development, serving as critical catalysts for national development and global competitiveness (World Bank, 2018; UNESCO, 2021). In Nigeria, the public university system bears the monumental responsibility of producing the nation's skilled workforce. According to the National Universities Commission [NUC] (2023), over 70% of Nigeria's tertiary education enrollment is in public universities, making them the principal producers of professionals in critical sectors such as medicine, engineering, law, education, agriculture, and the sciences. The effective functioning of these institutions is therefore not merely an educational concern but a fundamental socioeconomic imperative.

The Nigerian higher education landscape, however, has been perennially overshadowed by industrial unrest. The relationship between the Academic Staff Union of Universities (ASUU) and the Federal Government of Nigeria (FGN) has been characterized by cycles of negotiation, agreement, breach, and consequent industrial action (Ike, 2019; Okafor, 2021). ASUU, established in 1978, has consistently advocated for improved funding, better infrastructure, enhanced staff welfare, and university autonomy. The period from 2010 to 2025 has been particularly tumultuous, witnessing over ten major nationwide strikes, each lasting from several weeks to over nine months cumulatively (Adewale, 2022; Nwankwo, 2024). For instance, the 2020 strike lasted for nine months, while the cumulative strike days between 2010 and 2025 exceed 1,500 days, effectively rendering multiple academic sessions incomplete (Eze, 2023).

From the perspective of Human Capital Theory (Becker, 1964; Schultz, 1961), education is an investment with expected

future returns in the form of individual productivity and earnings, and aggregate economic growth. The university years are a critical incubation period for developing the advanced cognitive skills, technical competencies, and research capabilities that constitute high-level human capital. Institutional productivity, conversely, refers to the efficiency and effectiveness with which universities convert inputs (funding, staff, students) into valued outputs (graduates, research, community service) (Ololube, 2015; Titus & Adetunde, 2019). Frequent and prolonged industrial actions systematically disrupt this conversion process, truncating instructional time, stalling research, demoralizing stakeholders, and creating systemic inefficiencies.

The consequences are far-reaching: delayed graduation (often by years), a phenomenon pejoratively termed "carry-over" in the local context; erosion of the quality of learning and skill acquisition; brain drain as frustrated academics seek stability abroad; and a steady decline in the global ranking and reputation of Nigerian universities (Omodan, 2022; Ugwu & Onoh, 2020). Consequently, there is an urgent need to move beyond anecdotal accounts and media reports to a rigorous, empirical assessment of the multidimensional impacts of these recurrent strikes. This study seeks to provide such an assessment, focusing on the tripartite impact on human capital development, research productivity, and overall institutional productivity.

1.2 Statement of the Problem

Strike actions by ASUU have become a distressing norm within Nigeria's higher education ecosystem, transitioning from exceptional events to institutionalized disruptions (Ajayi & Ekundayo, 2016). This normalization of crisis has severe, multi-layered consequences. Academic calendars are rendered meaningless, with sessions often overlapping and students spending six or more years for four-year degree programs. Learning is fragmented, leading to superficial coverage of curricula and compromised skill acquisition. Research projects are abandoned, data becomes obsolete, and international collaborations wither. The morale of both staff and students is severely battered, leading to apathy and a "just-get-by" mentality (Enebe, 2021; Nwosu, 2023).

Despite the prevalence and severity of these disruptions, there exists a significant gap in comprehensive, empirical research that quantifies and triangulates their impacts. Existing studies often adopt a narrow focus.

Some examine the effects on students' academic performance or psychological well-being in isolation (e.g., Mgbenkemdi et al., 2022; Okoli & Ezeh, 2021). Others focus on the causes of strikes or the welfare of academic staff (e.g., Okafor, 2021; Salami, 2020). Few studies integrate these perspectives to analyze the broader systemic decay in human capital development and institutional productivity. There is a particular dearth of research that simultaneously measures the impact on the student (the human capital product), the academic (the knowledge producer), and the institution (the production system) within a unified theoretical and analytical framework.

This lack of holistic evidence hampers effective policy formulation, evidence-based negotiation, and the development of sustainable conflict resolution mechanisms. Policymakers and negotiators often operate without robust data on the true cost of strikes, leading to a cycle of short-term fixes and repeated breakdowns. Therefore, this study aims to address this critical gap by empirically investigating the effect of ASUU-FGN strike actions on human capital development, research productivity, and institutional productivity in Nigerian public universities.

1.3 Research Objectives

This study is guided by the following three specific objectives:

i. To examine the effect of ASUU–FGN strike actions on human capital development in Nigerian public universities.

ii. To determine the effect of ASUU–FGN strike actions on the research productivity of academic staff in Nigerian public universities.

iii. To assess the effect of ASUU–FGN strike actions on institutional productivity in Nigerian public universities.

1.4 Research Questions

The study seeks to answer the following research questions:

i. What effect do ASUU–FGN strike actions have on human capital development in Nigerian public universities?

ii. How do ASUU–FGN strike actions affect the research productivity of academic staff in Nigerian public universities?

iii. What effect do ASUU–FGN strike actions have on institutional productivity in Nigerian public universities?

1.5 Research Hypotheses

The following null hypotheses were formulated and tested at a 0.05 level of significance:

i. H_{01}: ASUU–FGN strike actions have no significant effect on human capital development in Nigerian public universities.

ii. H_{02}: ASUU–FGN strike actions have no significant effect on the research productivity of academic staff in Nigerian public universities.

iii. H_{03}: ASUU–FGN strike actions have no significant effect on institutional productivity in Nigerian public universities.

1.6 Significance of the Study

The findings of this study will be valuable to several stakeholders:

Policy Makers (FGN & Legislatures): The study will provide empirical evidence on the devastating cost of industrial disputes, compelling a more proactive, evidence-based approach to funding, agreement enforcement, and sustainable conflict resolution in the education sector.

University Administrations & ASUU: It will offer data to inform more strategic negotiations, highlighting the long-term damage of protracted strikes and fostering a mutual interest in durable solutions and academic continuity planning.

Students & Parents: The study validates their lived experiences and provides an evidence-based platform for advocacy regarding their right to stable, quality education.

Academia & Researchers: It contributes to the scholarly literature on industrial relations in higher education, human capital theory in developing contexts, and the sociology of education. It also identifies key areas for further research.

International Community & Donor Agencies: The findings can guide interventions and partnerships aimed at stabilizing and strengthening Nigerian higher education.

1.7 Scope of the Study

The study is delimited to public universities in Nigeria. It focuses on the period from 2010 to

2025, covering an era of intense and recurrent ASUU-FGN disputes. Geographically, the study covered three selected universities (two federal and one state) across different geopolitical zones for representativeness. The study population comprised academic staff and final-year undergraduate students, as the latter have experienced the full cycle of academic disruptions. The study is conceptually bounded by the variables of strike actions (independent variable), human capital development, research productivity, and institutional productivity (dependent variables).

1.8 Operational Definition of Terms

Strike Actions: Prolonged work stoppages by ASUU members, characterized by the total withdrawal of teaching, research, and administrative services, arising from disputes with the FGN over funding, welfare, and autonomy.

Human Capital Development: The process of enhancing the stock of advanced knowledge, skills, competencies, and innovative capacities embodied in students through structured university education and training.

Research Productivity: The output and impact of scholarly activities by academic staff, measured by the continuity, completion, and publication of research projects, as well as sustained academic motivation.

Institutional Productivity: The efficiency and effectiveness of a university in achieving its core mandates, measured by indicators such as graduation rates, stability of the academic calendar, research output, and administrative coherence.

2.1 Conceptual Review

2.1.1 The Nature and Causes of Strike Actions in Nigerian Universities

Industrial strikes are a global phenomenon, but their frequency and duration in Nigerian universities are exceptional (Okafor, 2021). A strike is defined as a collective, organized withdrawal of labour to enforce demands relating to working conditions (Fajana, 2020). In the Nigerian context, ASUU strikes are predominantly triggered by the government's failure to implement previously negotiated agreements, chronic underfunding of universities, poor infrastructure, and inadequate staff remuneration and welfare packages (Ike, 2019; Salami, 2020). Ugwu and Onoh (2020) identify a cyclical pattern:

crisis, strike, negotiation, Memorandum of Understanding (MoU), partial implementation, followed by a new crisis. This cycle has persisted for decades, suggesting a systemic failure in the industrial relations framework.

2.1.2 Human Capital Development in Higher Education

Human capital development (HCD) transcends mere certification. It involves the systematic acquisition of complex cognitive skills, technical expertise, critical thinking abilities, and innovative capacities that increase an individual's productive potential (Becker, 1964; Schultz, 1961). In universities, HCD is facilitated through continuous, sequenced instruction, practical experiences, research engagement, and mentorship (Ololube, 2015). Any disruption to this sequenced process compromises the depth and quality of learning. As Titus and Adetunde (2019) argue, the fragmentation of academic programs leads to "half-baked graduates" who lack the proficiency required in a competitive labour market. According to Ani, Abba and Ojiako (2025), Nigeria has always been located at the bottom line at the human capital index over the years. This has implication for higher education in the country.

2.1.3 Research Productivity in Academia

Research productivity is the lifeblood of a university's contribution to knowledge. It encompasses activities leading to peer-reviewed publications, patents, conference presentations, and funded grants (Enebe, 2021). Productivity is not instantaneous; it requires sustained focus, consistent data collection, collaborative teamwork, and uninterrupted writing time. Prolonged strikes create "research dead zones" where projects are stalled, datasets expire, grant timelines are missed, and collaborative networks dissolve (Nwosu, 2023). The demotivation and financial strain during strikes further exacerbate this decline.

2.1.4 Institutional Productivity: Metrics and Measurement

Institutional productivity in higher education is a multi-dimensional construct.Key metrics include:

Graduate Throughput Rate: The efficiency with which students progress and graduate within stipulated timeframes (Ajayi & Ekundayo, 2016).

Academic Calendar Stability: The adherence to planned schedules for semesters,

examinations, and graduation ceremonies (Omodan, 2022).

Research Output: The volume and impact of publications and innovations per academic staff.

Administrative Efficiency: The smooth running of non-academic support services.

Strikes directly and negatively impact all these metrics,leading to institutional paralysis and reputational damage (Mgbenkemdi et al., 2022).

2.2 Theoretical Framework: Human Capital Theory

This study is firmly anchored on Human Capital Theory (HCT), as developed by Schultz (1961) and Becker (1964). HCT posits that expenditures on education, training, and health are investments that yield future economic returns by enhancing an individual's productive capacity. Education is not merely consumption but an investment in human capabilities that drives personal income growth and, in aggregate, national economic development (Psacharopoulos & Patrinos, 2018).

2.2.1 Key Assumptions:

1. Rational Investment Behavior: Individuals and organizations are rational actors who engage in cost-benefit analysis when making human capital investments.

2. Productivity-Wage Link: Wages reflect marginal revenue product; therefore, enhancing an individual's human capital directly raises their productivity and justifies higher compensation.

3. Embodiment: Human capital is "embodied" in the person it cannot be separated from the individual who possesses it.

4. Future-Oriented Returns: The benefits of investments in human capital are realized over a long future period, requiring a long-term perspective.

2.2.2 Criticisms and Limitations

1. Measurement and Attribution: It is empirically challenging to isolate the productivity increase attributable solely to human capital investments from innate ability, social capital, or technological change.

2. Oversimplification of Labor Markets: The theory has been criticized for underplaying the role of institutional factors (unions, discrimination, internal labor markets), market imperfections, and power relations in determining wages (Heckman, 2000).

3. Equity and Access: By focusing on investment returns, it can legitimize inequality, overlooking systemic barriers that prevent equal access to human capital investments.

4. Motivational Complexity: Its economistic view can neglect non-pecuniary sources of motivation, such as job satisfaction, autonomy, and a sense of purpose.

2.2.3 Application to the Study:

1. University as an Investment Platform: A university degree represents a significant investment of time, money, and foregone earnings by students and the state.

2. Strikes as Investment Disruption: Strike actions represent a catastrophic disruption to this investment process. They halt the accumulation of human capital, leading to:

· Depreciation of Skills: Learned concepts are forgotten during prolonged idle periods (Eze, 2023).

· Obsolescence of Knowledge: In fast-evolving fields, delayed graduation can mean skills are outdated upon entry into the workforce.

· Reduced Return on Investment (ROI): For the individual, delayed graduation reduces lifetime earnings. For the state, it means a delayed and diminished contribution of skilled manpower to the economy (World Bank, 2018).

3. Impact on Knowledge Producers: For academic staff (the trainers), strikes disrupt their own continuous skill development (research), reducing their capacity to produce new knowledge and train students effectively, thereby diminishing the quality of the human capital they produce.

4. Institutional Efficiency: HCT implies that the efficiency of the "knowledge production factory" (the university) matters. Strikes drastically reduce institutional efficiency, increasing the cost per graduate and per research output, thereby lowering the social rate of return on public investment in education.

Thus, HCT provides a powerful lens for understanding strikes not just as labour disputes, but as events that systematically degrade a nation's stock of human capital and the productivity of its key developmental institutions.

2.3 Empirical Review

2.3.1 Strike Actions and Human Capital Development

Studies consistently report negative impacts.Okoli and Ezeh (2021) found a significant correlation between strike periods and increased student academic failure rates in South-East Nigerian universities. Mgbenkemdi et al. (2022) reported high levels of anxiety, loss of interest in learning, and skill decay among students during prolonged strikes. In a broader analysis, Omodan (2022) argued that strikes create "academic wastelands" that produce graduates with significant competency gaps, undermining their employability and Nigeria's global human development indices.

2.3.2 Strike Actions and Research Productivity

Research on this specific impact is growing. Enebe (2021) surveyed academics in South-East Nigeria and found that 78% reported abandoning research projects during strikes, with 65% experiencing a decline in publication output. Nwosu (2023) highlighted the "collateral damage" of strikes on postgraduate supervision, leading to prolonged and often abandoned Masters and PhD programs. International collaborations are particularly vulnerable, as foreign partners lose confidence in systems plagued by instability (Adewale, 2022).

2.3.3 Strike Actions and Institutional Productivity

Ajayi and Ekundayo (2016) documented how strikes lead to compressed academic calendars, rushed teaching, and superficial assessment, ultimately lowering graduation standards. Ugwu and Onoh (2020) noted that the reputational damage from strikes affects university rankings, reduces international student enrollment, and jeopardizes accreditation of programs. Institutional planning becomes impossible, fostering a culture of crisis management over strategic development (Titus & Adetunde, 2019).

2.4 Summary of Literature and Gap Identification

The extant literature confirms that strike actions are detrimental. However, critical gaps remain:

1. Fragmented Focus: Most studies examine impacts on a single stakeholder group (students or staff) or a single outcome variable.

2. Theoretical Thinness: Few studies explicitly ground their analysis in a robust theoretical framework like Human Capital Theory to explain the broader economic implications.

3. Lack of Integrated Analysis: There is a paucity of research that simultaneously investigates the tripartite impact on human capital (student), research (staff), and institutional productivity within a single study.

This study aims to fill these gaps by providing an integrated, theoretically-grounded empirical analysis of the multifaceted impacts of ASUU strikes.

3.0 Research Methodology

This discusses the approaches and techniques the researcher used when collecting data, analyzing the data and presenting the findings. These include the research design, target population, data collection methods and data analysis techniques.

3.1 Research Design

This study employed a descriptive survey research design. This design is appropriate as it allows for the collection of quantitative data from a sample of a population to describe attitudes, perceptions, and effects regarding the phenomenon under study (Creswell & Creswell, 2018). It facilitates the systematic investigation of the relationships between the independent variable (strike actions) and the dependent variables (human capital development, research productivity, institutional productivity).

3.2 Population of the Study

The target population comprised all academic staff and final-year undergraduate students in three selected public universities in Nigeria for the 2024/2025 academic session. The universities were purposively selected to include: one first-generation federal university (University A, South), one second-generation federal university (University B, North), and one state university (University C, South). Final-year students were chosen because they have experienced the cumulative effect of academic disruptions throughout their degree programs.

Table 1: Population Distribution

Category	University A	University B	University C	Total
Academic Staff	420	380	300	1,100

Final-Year Students	900	820	680	2,400
Total	1,320	1,200	980	3,500

3.3 Sample Size and Sampling Technique

The sample size was determined using the Taro Yamane (1967) formula for finite populations:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

N= Population size (3,500)

e= Margin of error (0.05 or 5%)

.

$$n = \frac{3500}{1 + 3500(0.05)^2} = \frac{3500}{1 + 8.75} = \frac{3500}{9.75} \approx 359$$

Therefore, a minimum sample size of 359 respondents was required. A stratified proportional allocation technique was used to ensure representation from each subgroup (staff and students) across the three universities. Simple random sampling was then used to select the actual respondents within each stratum

Table 2: Sample Allocation

Category	**Population**	**Sample Size (Proportional)**
Academic Staff	1,100	113
Final-Year Students	2,400	246

Total	3,500	359

3.4 Instrument for Data Collection

A structured, self-administered questionnaire titled "Strike Actions and University Productivity Questionnaire (SAUPQ)" was the primary instrument. It consisted of five sections:

· Section A: Demographic information (5 items).

· Section B: Strike Actions (SA) – 5 items measuring frequency, duration, and perceived intensity of disruptions.

· Section C: Human Capital Development (HCD) – 6 items measuring impact on skill acquisition, academic competence, and graduation timeliness.

· Section D: Research Productivity (RP) – 5 items for academic staff only, measuring impact on projects, publications, and motivation.

· Section E: Institutional Productivity (IP) – 6 items measuring impact on graduation rates, calendar stability, and administrative efficiency.

All items in Sections B-E used a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

3.5 Validity and Reliability of the Instrument

Face and content validity were established by presenting the instrument to three experts: two in Educational Management and one in Industrial Sociology. Their feedback was used to refine item clarity, relevance, and comprehensiveness. A pilot study was conducted with 40 respondents (staff and students) from a university not included in the main study. Data from the pilot were analyzed using Cronbach's Alpha to test internal consistency. The resulting coefficients were: SA (.84), HCD (.82), RP (.86), IP (.81). The overall alpha was .87, indicating high reliability (Taber, 2018).

3.6 Method of Data Collection

Ethical approval was sought and obtained from the relevant university authorities. Research assistants were trained for administration. Questionnaires were

distributed physically and, were convenient, via electronic links (Google Forms) to the randomly selected respondents. Informed consent was obtained, and anonymity/confidentiality were assured. A response rate of 94% (338 out of 359) was achieved.

3.7 Method of Data Analysis

Collected data were coded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 27. Analysis proceeded in two stages:

1. Descriptive Statistics: Frequencies, percentages, means, and standard deviations were used to summarize demographic data and describe the major variables.

2. Inferential Statistics: Simple linear regression analysis was used to test each of the three null hypotheses. This test was appropriate for examining the linear relationship and predicting the effect of the independent variable (Strike Actions) on each dependent variable (HCD, RP, IP). The decision rule was to reject the null hypothesis if the p-value (Sig.) was less than the .05 alpha level.

4.1 Demographic Characteristics of Respondents

Analysis showed that 33.4%(n=113) of respondents were academic staff, while 66.6% (n=225) were final-year students. Gender distribution was 58% male and 42% female. In terms of experience, 45% of staff had over 10 years of service, indicating a cohort deeply familiar with the strike cycle.

4.2 Descriptive Statistics of Major Variables

Table 3: Descriptive Statistics of Major Variables (N=338)

Variable	Mean	Std. Deviation	Interpretation
Strike Actions (SA)	4.21	0.68	Very High Perception
Human Capital Dev.	2.34	0.74	Low Level

(HCD)			
Research Productivity (RP)	2.48	0.71	Low Level
Institutional Prod. (IP)	2.29	0.76	Low Level

The high mean for Strike Actions (4.21) confirms the perceived severity and frequency of disruptions. The notably low means for HCD (2.34), RP (2.48), and IP (2.29) suggest that respondents strongly believe these constructs are negatively affected.

4.3 Hypothesis Testing

Hypothesis One (H_{01}): Strike actions have no significant effect on human capital development.

Table 4: Simple Linear Regression of Strike Actions on Human Capital Development

Model	**Unstandardized coefficients (B)**	**Std. Error**	**Unstandardized coefficients (Beta)**	**t-value**	**Sig. (p-value)**
(Constant)	4.812	0.221		21.78	.000
Strike Actions	-0.613	0.054	-0.563	-11.35	.000

$R = .563$; $R^2 = .317$; Adjusted $R^2 = .315$; $F(1, 336) = 128.82$, $p < .001$

Decision: The regression model is significant ($F=128.82$, $p<.001$). The Beta value ($\beta = -0.563$) indicates a strong negative relationship. Since the p-value (.000) is less than 0.05, we reject the

null hypothesis (H_{01}). We conclude that strike actions have a significant negative effect on human capital development in Nigerian public universities. The R^2 value of .317 indicates that approximately 32% of the variance in human capital development is explained by strike actions.

Hypothesis Two (H_{02}): Strike actions have no significant effect on the research productivity of academic staff.

Table 5: Simple Linear Regression of Strike Actions on Research Productivity (n=113)

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t-value	Sig. (p-value)
(Constant)	4.701	0.298		15.77	.000
Strike Actions	-0.587	0.056	-0.601	-10.44	.000

$R = .601$; $R^2 = .361$; Adjusted $R^2 = .355$; $F(1, 111) = 109.01$, $p < .001$

Decision: The model is significant ($F=109.01$, $p<.001$). The Beta ($\beta = -0.601$) shows a strong negative effect. The p-value (.000) < 0.05. Therefore, we reject the null hypothesis (H_{02}). Strike actions have a significant negative effect on the research productivity of academic staff. About 36% ($R^2=.361$) of the variance in research productivity is attributed to strikes.

Hypothesis Three (H_{03}): Strike actions have no significant effect on institutional productivity.

Table 6: Simple Linear Regression of Strike Actions on Institutional Productivity

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t-value	Sig. (p-value)
(Constant)	4.945	0.234		21.13	.000

Strike Actions	-0.642	0.053	-0.575	-12.02	.000

$R = .575$; $R^2 = .331$; Adjusted $R^2 = .329$; $F(1, 336) = 144.48$, $p < .001$

Decision: The model is significant ($F=144.48$, $p<.001$). Beta is -0.575, indicating a strong inverse relationship. The p-value (.000) < 0.05. Hence, we reject the null hypothesis (H_{03}). Strike actions have a significant negative effect on institutional productivity. Approximately 33% of the variance in institutional productivity is explained by strike actions.

4.4 Discussion of Findings

The findings provide robust empirical validation for the pervasive negative impacts of ASUU strike actions, aligning with and extending the existing literature.

4.4.1 Strike Actions and Human Capital Development

The significant negative effect (β = -0.563) confirms that strikes are a major impediment to human capital formation. This finding supports the work of Omodan (2022) on "academic wastelands" and Mgbenkemdi et al. (2022) on skill decay. From the Human Capital Theory perspective, strikes represent a catastrophic failure in the educational investment pipeline. The interruption of sequenced learning leads to the depreciation of acquired knowledge (forgetting) and prevents the acquisition of new, complementary skills (Eze, 2023). The resultant graduate, produced from a fragmented system, embodies a lower quality of human capital, reducing their personal ROI and the social returns to the state's investment (Psacharopoulos & Patrinos, 2018). The compressed calendars that follow strikes force rushed teaching and assessment, further compromising depth for breadth.

4.4.2 Strike Actions and Research Productivity

The strong negative impact on research productivity (β = -0.601) underscores a critical yet often under-discussed casualty of industrial actions. This finding resonates with

Enebe (2021) and Nwosu (2023). Research is a cumulative, time-sensitive enterprise. Strikes freeze this process, leading to abandoned experiments, missed grant deadlines, lapsed ethical approvals, and broken collaborative rhythms. The demotivation and financial anxiety experienced by staff during unpaid strike periods further cripple the intellectual drive necessary for innovative research (Salami, 2020). This not only affects Nigeria's global research footprint but also impoverishes the learning environment for students, who are deprived of research-led teaching and up-to-date knowledge.

4.4.3 Strike Actions and Institutional Productivity

The significant negative effect on institutional productivity (β = -0.575) highlights the systemic damage. This aligns with Ajayi and Ekundayo (2016) and Ugwu and Onoh (2020). Strikes cripple the administrative machinery, disrupt strategic planning, and erode stakeholder confidence. The instability makes long-term academic planning a farce, forces constant rescheduling, and wastes resources. The reputational damage is immense, affecting university rankings, partnerships, and the perceived value of its degrees. The institution's productivity—its ability to efficiently produce graduates and knowledge—plummets, transforming it from a centre of excellence into a site of perpetual crisis management (Titus & Adetunde, 2019).

The consistency of the negative Beta coefficients across all three hypotheses paints a coherent picture of a system under severe strain, where the tool of industrial action, while aimed at securing long-term improvements, inflicts profound short- and medium-term damage on the very system it seeks to save.

5.0 Summary of the Study

This study set out to investigate the impact of ASUU-FGN strike actions on human capital development, research productivity, and institutional productivity in Nigerian public universities from 2010 to 2025. Grounded in Human Capital Theory, the study adopted a descriptive survey design. Data were collected from 338 academic staff and final-year students from three selected universities using a validated and reliable questionnaire. Data analysis involved descriptive statistics and simple linear regression. The key findings are:

1. Strike actions have a significant and strong negative effect on human capital development ($\beta = -0.563$, $p<.001$).

2. Strike actions have a significant and strong negative effect on the research productivity of academic staff ($\beta = -0.601$, $p<.001$).

3. Strike actions have a significant and strong negative effect on institutional productivity ($\beta = -0.575$, $p<.001$).

5.1 Conclusion

The study conclusively demonstrates that recurrent and prolonged ASUU strike actions are not merely temporary inconveniences but are structurally damaging to the core mission of Nigerian public universities. While the right to industrial action is constitutionally guaranteed and remains a crucial tool for demanding better working conditions and systemic reform, the evidence indicates that its current cyclical and protracted application is counterproductive. It systematically degrades the quality of human capital produced, stifles the generation of new knowledge, and erodes the operational efficiency and reputation of the institutions. The cycle of strike, fragile agreement, and another strike represents a tragic paradox where the fight for a better university system actively cripples it in the process, ultimately defeating its own long-term objectives.

5.2 Recommendations

Based on the findings, the following recommendations are made:

1. Establish a Statutory Industrial Relations Framework: The National Assembly should enact a law establishing a Permanent University System Conciliation and Arbitration Commission (PUSCAC). This independent body, with representation from FGN, ASUU, NUC, and civil society, should be the first port of call for disputes, with mandates for continuous dialogue, monitoring of agreements, and compulsory arbitration before strikes can be legally invoked.

2. Legally Binding Agreements: All collective agreements (Memoranda of Understanding/Understanding) between FGN and ASUU must be gazetted as subsidiary legislation, making their implementation legally enforceable in court. This removes the current regime of voluntarism and political discretion that breeds distrust.

3. Progressive and Transparent Funding Model: The FGN must commit to a clear, multi-year plan to progressively increase education funding to meet the UNESCO-

recommended 15-20% of the national budget. This should be backed by a transparent disbursement mechanism and an independently audited University Development Fund as previously agreed.

4. Mandatory Alternative Dispute Resolution (ADR): The law should mandate mediation and arbitration as compulsory steps in the dispute resolution sequence. Strikes should only be permissible as a last resort after ADR has been exhausted and a cooling-off period observed.

5. Academic Continuity and Digital Resilience: Individual universities, supported by the NUC, must develop and fund Digital Academic Continuity Plans. This involves robust LMS infrastructure, digital repositories, and protocols to ensure core academic activities (access to materials, assignments, some supervision) can continue minimally during any future disruption, mitigating total system collapse.

6. Strengthened Staff Welfare and Performance Management: A comprehensive review of the remuneration package for academic staff, linked to a transparent and merit-based performance management system, should be undertaken. Improving welfare reduces grievance, while linking pay to productivity (teaching, research, service) can help align individual and institutional goals.

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