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EFFECTIVENESS OF IPPIS IN ENHANCING ADULT EDUCATORS' PRODUCTIVITY IN TERTIARY INSTITUTIONS IN NORTH CENTRAL, NIGERIA

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CHAPTER ONE

Introduction

Background of the Study

The Integrated Payroll and Personnel Information System (IPPIS), initiated by the Bureau of Public Service Reform (BPSR), is a pivotal component of Nigeria's Federal Government Reform Programme. Managed by the Office of the Accountant-General of the Federation (OAGF), IPPIS centralizes payroll processing, ensuring timely and accurate salary disbursement directly into employees' bank accounts. It also handles deductions for taxes, pensions, housing funds, and other third-party remittances. Prior to IPPIS, payroll systems relied on manual processes, requiring ministry's accountants to maintain extensive records, calculate salaries, and manage deductions using paper files and basic computer tools. This approach was inefficient, error-prone, and time-consuming, necessitating the transition to a centralized, biometric-driven system like IPPIS to enhance transparency, accountability, and efficiency in federal payroll management (Adrian, 2010). This reform has streamlined workforce administration.

The introduction of IPPIS in federal tertiary institutions was aimed at addressing aforementioned challenges in payroll and personnel administration, such as ghost workers, inefficiencies, and a lack of transparency (Okoli & Eze, 2019). This system modernized payroll management by automating processes, reducing corruption, and promoting standardization in human resource practices (Bello, 2015). Previously, manual systems were prone to errors and administrative burdens. IPPIS's computerized framework streamlined operations, improved accuracy, and enhanced accountability. As part of broader civil service reforms, IPPIS aimed to increase transparency within Nigeria's public sector (Okonjo-Iweala, 2011). This technological advancement did not only resolve administrative inefficiencies but also aligned federal institutions with global best practices in payroll and personnel management. In

40 addition, Oyedele (2015) noted that IPPIS as an integral part of the Government Integrated Financial Management Information System (GIFMIS) is a key component of the Nigerian Government's Economic Reform and Governance Project (ERGP). It linked payroll management with broader financial management systems, thereby contributing to the government's overall goals of improving fiscal discipline in governance.

By automating payroll and accounting processes, IPPIS enhances fiscal discipline, transparency, and governance. Okonjo-Iweala (2015) highlighted its role in establishing a reliable database for public sector employees, enabling effective manpower planning, reducing payroll fraud, and streamlining personnel record management. Enakirerhi and Temile (2017) credited IPPIS with saving billions by eliminating ghost workers and improving salary payment systems. Bello (2015) emphasized the transformative impact of automation, noting significant improvements in payroll administration as MDAs transitioned from manual systems, achieving reduced personnel costs, enhanced efficiency, and greater accountability. Collectively, these reforms have bolstered public service remuneration and fiscal governance.

14 The Integrated Payroll and Personnel Information System (IPPIS) is a pivotal reform initiative by the Nigerian Federal Government aimed at enhancing payroll management through Information and Communications Technology (ICT). Designed to improve efficiency, IPPIS provides accurate and reliable personnel data for the 11 Office of the Accountant General of the Federation (OAGF), streamlining payroll 8 administration across Ministries, Departments, and Agencies (MDAs). By centralizing and synchronizing employee information, IPPIS addresses payroll fraud, eliminates 8 duplicity, and ensures transparency and accountability in public financial management (Mede, 2016; Aliyu, 2014). The system's introduction aimed at curbing corruption and improve financial planning by enabling precise budgeting and forecasting under the OAGF, IPPIS has reinforced the government's commitment to fiscal discipline.

According to Daniel and Edoh (2022), IPPIS has significantly reduced inefficiencies in public payroll systems and enhanced trust in financial administration. Aliyu (2014) emphasized its role in addressing wastages through a centralized database, ensuring seamless budget formulation, execution, and auditing. Moreover, the system's use of biometric technology and unique employee identifiers prevents fraudulent practices like ghost workers. This comprehensive approach has modernized Nigeria's public service payroll, ensuring accountability, financial efficiency, and adherence to global best practices in public administration.

Hence, IPPIS is a key reform initiative designed to modernize payroll management in Nigeria's public sector. Its core mandates include fraud detection, timely payment of arrears, remittance of deductions, accurate salary payments, personnel records management, and enrollment of federal workers into the IPPIS database. By replacing manual systems with an automate IT-driven approach, IPPIS ensures efficiency, transparency, and accountability in payroll and personnel management (Public Service Institute of Nigeria, 2011). Launched in October 2006, IPPIS is a cornerstone of Nigeria's civil service reform agenda, aimed at combating waste while improving human resource planning. The system eliminates payroll fraud, facilitates reliable manpower planning, and streamlines personnel record updates and retrieval for administrative and pension purposes (Effiong et al., 2017). As part of the Integrated Financial Management Information System (IFMIS), IPPIS links payroll, budgeting, and personnel management, ensuring seamless data sharing and improved financial coordination (Hyaledzigbor, 2015). Additionally, it enhances budgeting accuracy and prevents wastage by monitoring monthly staff payments against the federal budget. It also ensures prompt deductions and remittances to third parties such as Pension Fund Administrators (PFAs), National Health Insurance Scheme (NHIS), and tax authorities (Enakirerhi & Temile, 2017). The system's digital framework simplifies salary calculations and supports reporting functions, contributing to greater

fiscal discipline and accountability in public administration. By addressing longstanding inefficiencies, IPPIS strengthens Nigeria's public sector productivity and governance.

Before the introduction, Nigeria's payroll management faced inefficiencies, such as ghost workers and multiple salary collections by individuals. These issues stemmed from the government's inability to accurately determine workforce size due to the lack of a centralized database. Akinloye (2020) emphasized that manual payroll systems contributed to substantial financial losses and undermined planning and budgeting. As part of the Economic Reform and Governance Project (ERGP), IPPIS was introduced as a World Bank-supported reform to address these challenges. Farajimakin and Anichebe (2019) identified IPPIS as an intervention aimed at establishing a comprehensive database, improving manpower planning, providing decision-making support, eliminating payroll fraud, and maintaining accurate personnel records. By identifying and removing ghost workers, It has enhanced transparency and accountability in governance. Though, technological challenges, such as inadequate infrastructure and a lack of technical expertise, have hindered the effective implementation of IPPIS, particularly in universities, where salary inconsistencies persist (Ogundele, 2021).

Effectiveness refers to achieving the objectives that ensures operational success. It involves assessing IPPIS effectiveness in processing salaries, updates records timely, and prevents payroll fraud. Research highlights that operational effectiveness minimizes administrative burdens and promotes organizational efficiency (Bhatti, Shah, & Alvi, 2022; Akpan & Umoh, 2023). For federal tertiary institutions in North Central Nigeria, IPPIS's effectiveness is particularly relevant in addressing payroll irregularities and improving adult educators' productivity. A system's success depends on its ability to align with intended outcomes, and in IPPIS's case, this involves reducing errors, enhancing data reliability, and streamlining financial processes to

achieve fiscal discipline. Ultimately, its performance in resolving inefficiencies within payroll administration underscores its critical role in Nigeria's public sector reform agenda.

Furthermore, effectiveness is achieved when a system consistently meets its intended goals. For IPPIS, these objectives include enhancing payroll accuracy, facilitating manpower planning, and supporting data-driven decision-making to boost productivity (Almeida et al., 2023). For adult educators, effectiveness means receiving timely salaries, appropriate allowances, and transparent management of personnel records, leading to job satisfaction and improved performance. This positive outcome directly impacts user satisfaction, reinforcing the link between operational efficiency and productivity (Shaheen et al., 2021). Research indicates that systems aligned with user needs minimize frustrations, fostering engagement and improved outcomes. In this context, the study examines IPPIS's effectiveness in federal tertiary institutions in North Central Nigeria (NCN). It evaluates key functionalities such as payroll accuracy, ensuring educators are paid on time and without errors; manpower planning, which supports optimal resource allocation to meet educational demands; and data-driven decision-making, enabling administrators to make informed choices that enhance productivity. Fraud prevention, by minimizing payroll irregularities, and efficient personnel record management, through accurate archiving and updates, also contribute to transparency and accountability. The study further explores whether IPPIS fulfills its intended role in improving adult educators' productivity, defined by their ability to teach, train, and facilitate learning experiences effectively. By ensuring accurate payments, reducing administrative burdens, and supporting strategic planning, IPPIS aligns with broader public sector reforms aimed at fostering transparency and accountability. This research underscores how the system's operational success directly impacts the professional satisfaction and performance of adult educators in NCN tertiary institutions.

Adult education refers to organized programs aimed at equipping adults with skills, knowledge, and opportunities to improve their quality of life. UNESCO's 1976 Nairobi Conference defined adult education as the entire body of organized educational process, whatever the content, level and method, formal or otherwise, whether they prolong or replace initial education in schools, colleges and universities as well as apprenticeship, whereby persons regarded as adults by the society to which they belong develop their abilities, enrich their knowledge, improve their professional qualifications and bring about changes in their attitude or behaviour in the two fold perspectives of full personal development and participation in balanced and independent social, economic and cultural development. This definition highlights the broad scope of adult education, encompassing diverse methods, content, and levels of learning tailored to adult learners. Andragogy, the practice of adult education, differs from pedagogy in its focus on principles like self-directed learning, where adults take ownership of their education. Knowles (1980) emphasized that adult learners rely heavily on their life and work experiences, which serve as valuable resources in the learning process. They seek relevance in their education, aligning learning goals with career advancement or personal growth, and prioritize problem-solving and the immediate application of new knowledge to real-life scenarios.

Adult educators play a vital role in facilitating this process. According to Merriam and Brockett (2007), they create participatory learning environments, encourage critical thinking, and design educational experiences that build on learners' existing knowledge. They provide mentorship to help adults navigate challenges like balancing work, family, and education, and design curricula tailored to their needs. Employing diverse instructional strategies, adult educators ensure learning remains practical and applicable to real-world contexts. Moreover, they act as advocates for lifelong learning, encouraging continuous skill development to adapt to an evolving world. By embracing these principles and roles, adult education fosters personal growth

and professional development, enabling adults to achieve their goals while contributing to broader societal advancement. Adult educators in higher education play a crucial role in supporting non-traditional students, including working professionals, older adults, and individuals seeking new qualifications. These learners often have distinct needs compared to traditional college students, requiring tailored instructional approaches (Brookfield, 1986). To accommodate their diverse responsibilities, adult educators implement flexible teaching strategies such as evening classes, online courses, and hybrid learning models. More than just instructors, adult educators serve as facilitators, mentors, and guides, helping learners acquire practical skills and knowledge applicable to their careers and personal growth (Merriam & Bierema, 2014). Unlike traditional educators who primarily teach younger students, they focus on experience-based learning, self-directed study, and problem-solving methods that align with adult learning theories (Knowles, 1980).

76 Additionally, adult educators engage in reflective practice, continuously evaluating and adjusting their teaching strategies to meet students' evolving needs. They also contribute to research in adult education, studying best practices and emerging trends to enhance learning outcomes (Brookfield, 2017). By fostering lifelong learning, they empower adults to adapt to changing professional and societal demands based on key theories of learning like experiential learning (Kolb, 1984) and transformative learning (Mezirow, 1991). Experiential learning emphasizes the role of experience and reflection in knowledge acquisition, encouraging learners to apply theoretical concepts in practical settings. Transformative learning, on the other hand, highlights the importance of critical reflection in reshaping perspectives, fostering both personal and professional growth. 15 They play a crucial role in facilitating meaningful learning experiences by designing flexible, relevant, and learner-centered programs. They guide adults in acquiring new knowledge, fostering critical thinking, and applying skills in real-world contexts. Their effectiveness directly impacts the lifelong learning

capabilities of adults, helping them adapt to evolving challenges to enhance their productivity.

Productivity among adult educators, particularly in tertiary institutions, refers to the efficiency and effectiveness with which they deliver instruction, engage learners, and contribute to academic and professional development. It involves optimizing time, resources, and instructional methods to maximize learning outcomes (Merriam & Brockett, 2007). Productive educators create engaging content that aligns with learners' professional needs while accommodating their diverse responsibilities. Incorporating blended learning strategies, as highlighted by Fuchs (2019), enhances adult learning by integrating online and face-to-face instruction, making education more flexible and accessible. This approach ensures that learning remains practical and applicable, improving learner motivation and engagement. Furthermore, efficient resource management allows educators to support a larger number of students while maintaining instructional quality.

The productivity of adult educators is ultimately measured by learner success, how effectively students acquire and apply new skills in their careers and personal lives. Research affirms that focusing on career-oriented learning and practical skill development increases both learner retention and engagement, aligning with Knowles' principles of andragogy. Adult education programs emphasize practical knowledge, fostering career growth and lifelong learning (University of San Diego, 2023). Flexible learning options enable adult learners to balance education with work and family responsibilities. The U.S. Department of Education emphasizes the importance of self-paced and hybrid formats to remove scheduling barriers, increasing adult learners' chances of success (Thinkific, 2023). Studies show that reducing logistical challenges enhances educational attainment. It also involves minimizing wasted time and resources and cost-effective teaching strategies that maximize learning outcomes

efficiently. This includes refining administrative processes and focusing on practical applications that benefit students in real-world scenarios (Merriam & Brockett, 2007).

Aligning education with workforce needs is a critical function of tertiary institutions. Universities increasingly adapt curricula to reflect industry demands, integrating problem-based learning, internships, and industry partnerships (Rutgers, 2021; Oraison et al., 2019). Institutions also collaborate with businesses to ensure students develop relevant skills, using advisory panels and labor market analyses to keep curricula up-to-date, improving graduates' job readiness (Institute for Higher Education Policy, 2022). So tertiary institutions play a dual role: preparing students for immediate employment while fostering lifelong adaptability in evolving labor markets. Productivity among adult educators in these institutions revolves around delivering high-quality, relevant instruction that supports learners' professional and personal development.

11 This study explores how the Integrated Payroll and Personnel Information
3 System (IPPIS) enhances adult educators' productivity in North Central Nigeria's
tertiary institutions. IPPIS aims to establish a reliable public service database, support
manpower planning, and provide critical decision-making data. Additionally, it
eliminates payroll fraud—such as double dipping and falsified credentials—while
ensuring efficient personnel record management for administrative and pension
purposes. By enabling Ministries, Departments, and Agencies (MDAs) to remove ghost
workers, IPPIS fosters transparency, accountability, and institutional efficiency
(Farajimakin & Anichebe, 2019). To assess its effectiveness, the study examines
whether IPPIS has successfully established a comprehensive and reliable data system
that supports adult educators' productivity. Key considerations include the system's data
scope and accuracy, regular audits for error detection, secure database management,
and user-friendly interfaces for data input and retrieval. Additionally, the system's
integration with payroll, pension, and HR platforms, compliance with standardized data

formats, and adaptability to technological advancements are critical. Ensuring ongoing review mechanisms, stakeholder accountability, and responsiveness to user feedback will determine whether IPPIS enhances efficiency in payroll administration and facilitates better workforce management (UN, 2022).

Furthermore, another key objective of the IPPIS is to facilitate manpower planning by ensuring a well-structured and efficient workforce. According to Valentine et al. (2020) and, Cascio and Boudreau (2016), manpower planning involves several critical components. These include workforce forecasting to anticipate staffing needs based on organizational goals, succession planning to identify and develop internal talent for future leadership roles, and talent gap analysis to assess workforce skills against future requirements. Additionally, workforce analytics utilizes data to improve hiring, training, and retention strategies. Effective manpower planning also involves job design and analysis to optimize role efficiency, recruitment strategies that align hiring practices with long-term needs, and employee retention initiatives through training and engagement programs. Other essential aspects include promoting diversity and inclusion, leveraging HR technology for predictive analytics, and ensuring compliance with labor laws and ethical standards to maintain a well-regulated workforce.

The Integrated Payroll and Personnel Information System (IPPIS) also plays a crucial role in providing accurate workforce data for decision-making. It ensures reliable, up-to-date records on employees' demographics, roles, and salaries, thereby improving payroll accuracy and reducing redundancy (OAGF, 2020). By consolidating and automating payment processes, IPPIS enhances transparency and accountability, minimizing the risk of payroll fraud. Additionally, it facilitates workforce planning by offering data-driven insights for staffing forecasts, budgeting, and resource allocation. It supports policy formulation by supplying accurate data for workforce development,

recruitment, and compensation strategies. The system also monitors compliance with employment laws and financial accountability standards.

Real-time reporting allows decision-makers to access instant payroll and workforce data, improving cost efficiency by identifying ghost workers and unnecessary expenses. Furthermore, IPPIS strengthens strategic decision-making through workforce analytics and ensures efficient records management, aiding in performance evaluations, training needs assessments, and career planning (OAGF, 2020).

Again IPPIS is also mandated to eliminate payroll fraud such as double dipping and credentials falsification as part of its objectives that could enhance productivity of adult educators in tertiary institution. Eliminating payroll fraud such as double dipping and credentials falsification includes biometric capturing of fingerprint or facial recognition for logging in and out of employees profile; conducting regular payroll audits for duplication of employee's record to ensure transparency; cross-check credentials to verify employment history during the hiring process including educational background and previous employment history; use automated payroll software to integrate payroll with attendance; set clear anti-fraud policies that communicate a zero-tolerance policy regarding payroll fraud; monitor for overlapping work times for employees working multiple jobs within the same organization or across departments to enhance productivity; implement access controls to limit who can modify payroll data or input credentials into the system and assign specific roles for data entry, verification, and final approval to create multiple layers of oversight; conduct background checks to verify an employee's background during the hiring process and periodically during their employment to ensure credentials and qualifications remain valid and up to date; track job assignments to identify work locations and leverage analytics for fraud detection (MacDonald & Fuchs, 2019).

Furthermore, IPPIS is also saddled with the responsibility of ensuring efficient archive personnel records through proper storage, updating, and retrieval system for administrative and pension purposes. Achieving this involves implementation of a centralized digital record system that will enable easy access and streamlined updates; use cloud-based backup solutions that ensures data is protected and accessible in case of system failures or physical disasters; automate record updates with employee self-service portals to update relevant information (e.g., contact details, beneficiaries etc); reducing administrative work and keeping records current; ensure compliance with data security and privacy standards through the use of encryption, access controls, and regular audits to protect sensitive information; meeting data privacy regulations and securing personnel information; setting up regular audit and review processes to ensure that personnel data remains current and valid, which is especially crucial for pension and benefits administration; leverage artificial intelligence for data retrieval to quickly locate specific personnel records to speed up processes related to benefits and pension management (Johnson & Lee, 2020).

Additionally, IPPIS is equally responsible for identifying and removing ghost workers in the system. This involves the implementation of real-time worker verification by developing and utilizing real-time verification systems to track worker contributions; ensuring all labor is accounted for in the organization through the introduction of technologies like biometric verification, blockchain-based records, or platform authentication to confirm the identity of workers and ensure proper attribution for tasks (Gray & Suri, 2019). Graham and Woodcock (2018) also suggested audit workflows for hidden labor by conducting regular organizational audits to identify and document unrecognized labor in supply chains and digital platforms to provides actionable insights to make invisible workers visible. The adoption of ethical labor management systems is also very important. This help to incorporate transparent labor management platforms that document all worker's contributions and provide access to

fair compensation (Sundararajan, 2016). This improves the dynamics of crowd-based work management and the ethical systems to avoid worker invisibility and advocate for laws that require companies to provide contracts and protections for all workers, including temporary or freelance contributors. Legislative action to protect against workers invisibility through legal frameworks that mandate the recognition of all workers to provide safeguards against ghost labor practices (Ben-Shahar & Schneider, 2014). It also involves the promotion of worker advocacy and representation to support initiatives that empower workers to advocate for visibility and fair treatment in employment practices. This will help to combat exploitation in digital labor environments (Scholz, 2016). The key focus in this study is how has these objectives of IPPIS enhance the productivity of adult educators in tertiary institutions in NCN.

The North Central Nigeria region comprises six states: Kogi, Benue, Kwara, Plateau, Niger, and Nasarawa including Abuja as the federal capital territory. It is one of the six geopolitical zones in Nigeria. These states are home to several tertiary institutions under the Integrated Payroll and Personnel Information System (IPPIS) that offer adult education programs. These institutions include: Federal College of Education, Okene, Kogi State. Federal College of Education, Kontagora, Niger State. Federal College of Education, Pankshin, Plateau State. University of Jos, Plateau State. University of Ilorin, Kwara State. These institutions play a crucial role in providing accessible adult education and training to equip learners with skills for personal and professional development. However, with the introduction of the Integrated Payroll and Personnel Information System (IPPIS) by the federal government as a key reform to improve payroll management, enhance financial accountability, and eliminate inefficiencies such as ghost workers in the public sector. And its extension to federal tertiary institutions, including those in North Central Nigeria, IPPIS has significantly streamlined payroll systems by ensuring uniform salary disbursement and centralizing payment processes (Adedeji, 2015; Mede, 2016).

Despite these achievements, challenges persist in its application to the academic sector. In particular, adult educators in tertiary institutions often face issues such as delays in salary adjustments, exclusion of certain professional allowances, and inflexibility in addressing the unique payment structures inherent to academia. These challenges have raised concerns about the impact of IPPIS on staff morale, professional satisfaction, and overall productivity (Uzochukwu, 2015; Idris et al., 2015). Adult education programs in North Central Nigeria play a critical role in addressing literacy gaps and providing vocational training for sustainable development. However, the efficiency of these programs depends on the productivity and commitment of adult educators. Inefficiencies in salary administration and payment discrepancies under IPPIS may undermine their effectiveness, potentially impacting the quality of education delivered and the long-term outcomes of these programs (Mede, 2016; Uzochukwu, 2015). This study, therefore, seeks to determine the effectiveness of IPPIS in enhancing the productivity of adult educators in tertiary institutions in NCN. By identifying the limitations and potential benefits of the system, the research aims to offer evidence-based recommendations for aligning IPPIS with the specific demands of academic institutions, thereby enhancing its utility in supporting adult education programs.

Statement of the Problem

The Integrated Payroll and Personnel Information System (IPPIS) was designed to streamline payroll management, eliminate ghost workers, and enhance accountability in Nigeria's public service. However, its implementation in federal tertiary institutions, particularly in North Central Nigeria, has presented significant challenges.

Adult educators, who are critical to delivering literacy and vocational programs in the region, often experience delays in salary adjustments, exclusion of certain professional allowances, and other administrative inefficiencies under IPPIS. These issues have raised concerns about its impact on their productivity, morale, and overall

professional engagement. Given the essential role of adult educators in addressing literacy and development needs, any disruption to their work can undermine the effectiveness of adult education programs. This situation highlights the need to investigate whether IPPIS enhances or hinders their productivity and to identify ways to address the challenges within the system.

Without addressing these issues, the potential of adult education programs in North Central Nigeria to contribute to national development and personal empowerment may remain unrealized. This study seeks to examine these challenges, assess the system's overall impact, and provide recommendations for improving its alignment with the unique demands of academia. Hence this study seeks to unravel the Effectiveness of IPPIS in Enhancing Adult Educators Productivity in Tertiary Institutions in North Central Nigeria.

Purpose of the Study

The general purpose of this study is to assess the effectiveness of Integrated Payroll and Personnel Information System (IPPIS) in enhancing the productivity of adult educators in Federal Tertiary Institutions (FTIs) in North Central Nigeria (NCN). Specifically, it seeks to:

- 1.Examine the extent to which IPPIS has established a reliable data base for enhancing adult educator's productivity in FTIs in NCN.
- 2.Determine the extent to which IPPIS has facilitated manpower planning for enhancing productivity of adult educators in FTIs in NCN.
3. Ascertain the extent to which IPPIS has provided critical information for enhancing adult educator's productivity in FTIs in NCN.
4. Determine the extent to which IPPIS has curtailed payroll fraud to enhance adult educator's productivity in FTIs in NCN.
5. Investigate the extent to which IPPIS has effectively archived personnel records of adult educators for enhancing their productivity in FTIs in NCN.

Research Questions

The following research questions were posed to guide the study.

1. To what extent has IPPIS established reliable-database for enhancing productivity of adult educators in FTIs in NCN?
2. To what extent has IPPIS facilitated manpower planning for enhancing productivity of adult educators in FTIs in NCN?
3. To what extent has IPPIS provided critical information for enhancing adult educator's productivity in FTIs in NCN?
4. To what extent has IPPIS effectively curtailed payroll fraud for enhancing the productivity of adult educators in FTIs in NCN?
5. To what extent has IPPIS effectively archived personnel records of adult educators in FTIs for enhancing their productivity in NCN?

Hypotheses

These null hypotheses will guide the empirical investigation of the study tested at 0.05 level of significance.

HO₁: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has established reliable-database for enhancing their productivity in Federal Tertiary Institutions in NCN.

HO₂: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has facilitated manpower planning for enhancing their productivity in Federal Tertiary Institutions in NCN.

HO₃: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has provided critical information for enhancing their productivity in FTIs in NCN.

HO4: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has curtailed payroll fraud for enhancing their productivity in FTIs in NCN.

HO5: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has effectively archived personnel records for enhancing their productivity in FTIs in NCN.

Significance of the Study

This study holds significance for several key stakeholders such as the Policy Makers and Administrators; Educational Institutions; Adult Educators; Scholars and Researchers; and Public Accountability. The study holds significance for policy makers and administrators by assessing the effectiveness of IPPIS in enhancing adult educator's productivity. This research will provide insights into the strengths and weaknesses of the system. The findings can guide improvements in payroll management and resource allocation to address specific challenges in federal tertiary institutions. The educational institutions will benefit from the study by exposing tertiary institutions in North Central Nigeria to understand the role of IPPIS in supporting their operational efficiency, particularly regarding manpower planning. It will also offer recommendations for aligning IPPIS with institutional needs.

The adult educators will benefit from the research by highlighting areas where IPPIS directly impacts their professional satisfaction and productivity. Addressing identified gaps could lead to better support structures and working conditions, ultimately improving teaching outcomes. Other scholars and researchers benefit from this study through contributions to the body of knowledge on payroll reforms and their impact on education. It will serve as a resource for future research on the intersection of public sector reforms and workforce productivity, particularly in developing countries like Nigeria. It will also enhance public accountability by examining the

8 implementation of IPPIS. In this way, the study promotes transparency and accountability in the public sector. It will shed light on the system's role in curbing payroll fraud, a critical issue in Nigeria's civil service.

19 This study will have theoretical significance and implications in the fields of public administration, education management, and workforce productivity. It will build upon and extends existing theories related to administrative efficiency, human resource management, and organizational behavior. Therefore, the findings of this research will contribute to existing theoretical framework in the following ways:

Public Administration Theory: The study will validate this theory by drawing upon the theories of public sector management, particularly those that emphasize efficiency, accountability, and transparency in government systems. IPPIS, as a reform tool, is a key example of how public sector payroll systems can be designed to enhance operational efficiency, reduce corruption, and ensure financial integrity. The results will contribute to the understanding of how administrative reforms impact public sector institutions and their capacity to deliver services effectively (Ogunyemi, 2019; Nuhu & Olaiya, 2021).

92 Human Resource Management (HRM) Theory: This research will align with HRM theories that focus on improving employee productivity through better planning, compensation, and performance management. By investigating how IPPIS influences the productivity of adult educators, the study contributes to the broader discourse on how modern HR practices, such as data-driven manpower planning and payroll management, can enhance workforce outcomes (Armstrong, 2020). It offers new insights into the relationship between payroll systems and employee engagement, especially in the context of adult education.

110 Decision-Making Theory: The study will explore the role of IPPIS in providing critical data for decision-making. It aligns with decision-making theories that

emphasize the use of accurate, timely information in managerial decisions. By examining how IPPIS supports or hinders decision-making within educational institutions, the study will contribute to understanding the interplay between administrative systems and strategic decision-making in higher education (Simon, 1997; Mintzberg, 2009).

Behavioral Theory of Motivation: From a psychological and behavioral perspective, the study addresses how financial systems (such as IPPIS) can affect employee motivation, job satisfaction, and productivity. The findings will contribute to motivational theory by exploring how pay systems and administrative efficiency can influence the attitudes and performance of adult educators in tertiary institutions (Herzberg, 1959; Maslow, 1943).

Fraud Prevention and Control Theories: The research also examines the effectiveness of IPPIS in curtailing payroll fraud, contributing to the theoretical understanding of fraud detection and prevention within the public sector. It will advance the literature on fraud management by exploring the relationship between technology-driven payroll systems and their ability to reduce fraudulent activities (Cressey, 1953; Albrecht et al., 2009).

Finally, the study's findings have the potential to influence policy decisions, improve institutional management, and enhance the overall effectiveness of adult education programs in North Central Nigeria. Theoretically, this study provides valuable theoretical contributions by bridging the gap between public administration reforms, human resource management, and productivity in the education sector. The findings can enrich theoretical discussions and offer a comprehensive understanding of how integrated payroll systems like IPPIS can be leveraged to improve the efficiency and effectiveness of public institutions.

Scope of the Study

This study is confined to assessing the effectiveness of IPPIS in enhancing adult educators' productivity in federal tertiary institutions in NCN, It includes federal universities and colleges of education offering adult education programs in Kogi, Benue, Kwara, Plateau, Niger, and Nasarawa states including Abuja the federal capital territory, emphasizing literacy, skills, and vocational training initiatives. It focuses on adult educators, including lecturers, trainers, and administrative staff involved in adult education programs. It explores how IPPIS enhances their productivity through database reliability, manpower planning, decision-making support, fraud prevention, and personnel record management. Specifically, it assesses IPPIS's role in manages these variables to improve the job performance of adult educators in federal tertiary institutions in North Central Nigeria. It intends to employs a descriptive approach, integrating quantitative surveys and statistical analysis to assess IPPIS's impact on adult educators' productivity, offering insights to policymakers, administrators, and stakeholders involved in education management and public sector reform.

CHAPTER TWO

Literature Review

This chapter reviews literatures of scholars on this research topic. This review shall be organized under the following sub-headings:

Conceptual Framework

- Effectiveness.
- IPPIS
- Adult Educators Productivity
- Tertiary Institution

Theoretical Framework

- Human Capital Theory by Vroom (1964)
- Expectancy Theory by John Stacey (1963)
- Equity Theory by Becker (1993)

Review of Empirical Studies on:

- Database Reliability
- Manpower Planning
- Decision-Making Support
- Fraud Prevention
- Personnel Record Management.

Conceptual Framework

The following concepts will be reviewed under this subdivision of the literature review. They include: Effectiveness, IPPIS, Adult Educators Productivity, and Tertiary Institution.

Effectiveness

Effectiveness refers to the degree to which a process, system, or action achieves its intended objectives or goals. It is a measure of how well outcomes align with expectations, focusing on the quality and impact of results rather than the resources used to achieve them. Effectiveness is often assessed in relation to its ability to solve problems, improve performance, or fulfill specific purposes (Bhatti, Shah, & Alvi, 2022). Effectiveness exist in several dimension such as organizational effectiveness that evaluates how well an organization meets its goals, such as operational efficiency, stakeholder satisfaction, or financial performance. Educational effectiveness might involve assessing whether teaching methods lead to improved learning outcomes. In another dimension, system effectiveness, such as in the case of IPPIS, considers the reliability, accuracy, and capacity of the system to deliver on its objectives (e.g., eliminating payroll fraud, enhancing productivity, and supporting decision-making)- (Shaheen, Iqbal, & Khan, 2021).

Contextualization this review, effectiveness, refers Integrated Payroll and Personnel Information System (IPPIS), ability to achieve its objectives in improving administrative operations, payroll integrity, and human resource management to enhance the productivity of adult educators in tertiary institution in NCN. Though IPPIS was introduced as a public sector reform in Nigeria to address inefficiencies, enhance transparency, and ensure proper workforce accountability. Its effectiveness is multidimensional, encompassing operational, technical, and organizational aspects that collectively influence institutional productivity, including that of adult educators in tertiary institutions. Some key dimensions of effectiveness in IPPIS in relation to adult educators in NCN are:

Operational Efficiency

Effectiveness is assessed by IPPIS's ability to streamline payroll processes, reduce manual interventions, and prevent delays in salary payments. Systems like IPPIS reduce

redundancy and simplify administrative workflows, allowing institutions to focus resources on core activities such as education delivery. This efficiency directly benefits adult educators by creating a stable work environment (Almeida et al., 2023).

Fraud Prevention and Transparency

IPPIS was primarily designed to combat payroll fraud by eliminating ghost workers and unauthorized allowances. Its real-time verification and biometric integration ensure that only verified personnel receive salaries. Effective fraud prevention not only saves government resources but also builds trust among employees, fostering morale and productivity among adult educators (Obiyo & Ezeugo, 2021).

Database Management

A key indicator of effectiveness is the system's ability to establish and maintain a reliable database. A well-maintained database supports workforce planning, timely decision-making, and accurate record-keeping. For adult educators, this ensures their records are correctly reflected, mitigating administrative disputes and delays (Bhatti et al., 2022).

Manpower Planning

IPPIS enables institutions to allocate human resources strategically by providing accurate data on personnel availability and deployment. Effective manpower planning ensures that adult education programs are adequately staffed, optimizing teaching quality and program outcomes (Shaheen et al., 2021).

Decision-Making Support

IPPIS provides critical data that supports institutional planning and policy formulation. By ensuring data accuracy and availability, it helps administrators make informed decisions that enhance overall institutional performance and, consequently, the productivity of educators (Adebayo & Jimoh, 2022).

Personnel Record Archiving

Effective archiving ensures that personnel records are updated, stored, and retrieved with ease. This reduces administrative bottlenecks and supports seamless operations, positively impacting adult educators' job performance (Akpan & Umoh, 2023).

From a resource-based view, IPPIS can be considered a strategic asset that contributes to organizational productivity by optimizing the use of human and financial resources. Systems theory further explains its effectiveness by highlighting the integration of technology with human resource functions to achieve efficiency and reliability. Adult educators, who are responsible for delivering critical education programs aimed at lifelong learning and skill development, rely on efficient administrative systems to perform effectively. IPPIS enhances their productivity by ensuring timely and accurate salary payments, reducing financial stress. Providing accurate personnel data to support career planning and professional growth. Eliminating fraud, fostering a transparent and fair work environment. Supporting workforce planning to meet the unique demands of adult education programs. Despite its benefits, IPPIS faces challenges that may hinder its full potential, including the technical issues like downtime, system glitches, and limited accessibility can disrupt operations. There is the training gaps arising from insufficient training for staff to operate the system effectively. And resistance to change from employees and administrators accustomed to traditional payroll systems (Olaiya & Nuhu, 2021).

Addressing these challenges is essential to maximize IPPIS's impact on adult education delivery and educators' productivity. Effectiveness, in relation to IPPIS, is a measure of its success in achieving its intended goals of fraud prevention, administrative efficiency, and enhanced productivity. The effectiveness of IPPIS directly correlates with improved job satisfaction, reduced operational bottlenecks, and a conducive environment for delivering impactful education programs by adult educators. However, continuous system optimization and stakeholder engagement are

critical to sustaining and enhancing its benefits to adult educators in tertiary institution in North Central Nigeria.

The Integrated Personnel and Payroll Information System (IPPIS)

The Integrated Personnel and Payroll Information System (IPPIS) is a public service reform initiative developed by the Nigerian government to improve accountability, efficiency, and transparency in managing personnel and payroll costs. This system has evolved over the years as a response to widespread corruption, inefficiencies, and mismanagement of public funds. This concept was launched in 2006 by the federal government. The move was part of a broader public sector reform agenda driven by the need to eliminate systemic corruption in payroll administration. Prior to IPPIS, the government faced challenges such as ghost workers, duplication of personnel records, and inflated wage bills. These problems significantly hindered the allocation of resources to other critical sectors like health, education, and infrastructure (Adedeji & Adeniji, 2020).

The initial implementation of IPPIS targeted a limited number of ministries, departments, and agencies (MDAs). This phase involved about seven MDAs, including the Federal Ministry of Education, the Federal Ministry of Health, and the Federal Ministry of Works. By focusing on these entities, the government tested the system's feasibility in automating payroll processes and reducing redundancy. The pilot phase exposed challenges such as resistance to change, inadequate technological infrastructure, and limited expertise in operating the automated payroll systems (Ogundele & Akinyemi, 2018). However, IPPIS continues to expanded to cover more MDAs, signaling the government's commitment to deepening the reform. This period saw the enrollment of over 200 MDAs into the system. The initiative also attracted support from international organizations such as the World Bank, which recognized its potential to curb corruption and enhance public sector efficiency. However, challenges

persisted, particularly in managing the cultural shift required for the reform to succeed (Ezeani, 2019).

Furthermore, despite the resistance, or challenges, more Integration of agencies were done which involve the universities and other tertiary institutions. This integration for the inclusion of federal universities, polytechnics, and colleges of education into the IPPIS platform was done in 2016 to 2019. Though, the decision was controversial, especially among the academic staff unions, including the Academic Staff Union of Universities (ASUU), which argued that the policy undermined university autonomy and failed to address the unique payment structures in academia. Despite these protests, the government emphasized the need for uniformity and transparency in payroll administration, leading to the gradual on boarding of tertiary institutions into the system (Fapohunda, 2021). This has led to disputes between the government and unions like ASUU (Academic Staff Union of Universities), which contend that the system fails to accommodate the peculiarities of academic institutions, such as sabbatical pay and external examiners (Idris, Adaja, & Audu, 2015).

By 2020, IPPIS had become one of the most significant public financial management tools in Nigeria, with over 700 MDAs fully integrated. The system was able to recorded successes such as eliminating tens of thousands of ghost workers, thereby saving billions of naira annually. However, issues such as delayed salary payments, technical glitches, and ongoing resistance from some sectors remained persistent hurdles (Adedeji & Adeniji, 2020) which is contrary to the objective of IPPIS.

Aims of IPPIS.

The implementation of IPPIS is guided by several strategic objectives aimed at improving governance and financial accountability in Nigeria. These aims include:

Eliminating Payroll Fraud

One of the primary objectives of IPPIS is to identify and eliminate "ghost workers" from the federal payroll system. Ghost workers are fictitious employees who

exist only on paper but receive salaries. By automating personnel records and linking them with payroll, IPPIS ensures that only legitimate employees are paid (Ogundele & Akinyemi, 2018).

Enhancing Transparency and Accountability

IPPIS serves as a tool for tracking public expenditure on personnel costs, allowing for real-time monitoring of salaries and other emoluments. This transparency helps curb fraudulent practices and ensures that payroll budgets align with actual staffing levels (Ezeani, 2019).

Promoting Financial Discipline:

By providing a centralized system for payroll administration, IPPIS helps the government adhere to budgetary allocations for personnel costs. This prevents overspending and ensures that funds are available for other developmental projects (Adediji & Adeniji, 2020).

Streamlining Personnel Records Management

IPPIS establishes a comprehensive database of employee records across the federal government. This database aids in workforce planning, policy formulation, and decision-making. It also reduces redundancy in personnel data management, as all records are centralized and easily accessible (Fapohunda, 2021).

Ensuring Timely Payment of Salaries

The automated nature of IPPIS minimizes delays in salary payments, ensuring that employees receive their wages promptly regardless of their geographical location. This has been particularly beneficial in remote areas, where manual payroll systems often caused significant delays (Ogundele & Akinyemi, 2018). Since its implementation, IPPIS has saved the Nigerian government billions of naira by identifying and removing fraudulent entries from the payroll. The system has also enhanced trust in public financial management and improved the government's ability

to implement fiscal policies. However, achieving its full potential requires addressing lingering challenges.

Challenges of IPPIS Implementation

The Integrated Personnel and Payroll Information System (IPPIS), while hailed as a transformative tool for managing public sector payroll in Nigeria, faces several challenges. These issues undermine its efficiency, acceptance, and overall effectiveness in achieving its stated goals. Below is a detailed discussion of the challenges faced by IPPIS, along with appropriate references in APA 7th edition.

Resistance from Stakeholders

One of the major challenges of IPPIS is resistance from certain groups, particularly labor unions and academic institutions. Unions, such as the Academic Staff Union of Universities (ASUU), argue that IPPIS compromises the autonomy of universities, leading to disputes and strikes. They contend that the system fails to recognize the unique payment structures of academic staff, such as allowances for research and sabbatical leaves (Fapohunda, 2021). Additionally, employees accustomed to manual payroll systems resist IPPIS implementation due to fear of exposure of fraudulent practices, such as ghost workers or double payments and other illicit benefits linked to manual systems (Ogundele & Akinyemi, 2018).

Technical and Infrastructure Deficiencies

Technical inefficiencies in the system result in delays in salary payments and errors in deductions, such as taxes, pensions, and cooperative contributions. These issues are partly due to inadequate infrastructure and inconsistent internet connectivity, especially in rural areas create tension between employees and the government. (Ezeani, 2019). Moreover, the system struggles with managing the complexities of Nigeria's diverse workforce, particularly in integrating biometric data and addressing discrepancies in employment records (Agboola, 2018).

Limited Coverage and Inclusivity

While IPPIS was designed to be a comprehensive payroll system, it has yet to achieve full coverage of all federal government agencies. Some agencies, particularly those in the security sector, are exempted from the system, raising concerns about fairness and universality (Adedeji & Adeniji, 2020). This incomplete implementation creates loopholes that continue to allow payroll irregularities in sectors not yet integrated into the system.

Inconsistent Policy Implementation

The inconsistency in the implementation of IPPIS policies across ministries, departments, and agencies (MDAs) undermines its efficiency. Some MDAs reportedly bypass the system's centralized control, leading to discrepancies in payroll data and personnel management (Ogundele & Akinyemi, 2018).

Issues with Data Integrity

The quality of data fed into IPPIS is sometimes compromised by inaccurate or outdated personnel records. Errors in employee data, such as incorrect job designations, ranks, or employment statuses, lead to payment inaccuracies. In some cases, the lack of reliable records has delayed the unboundling of certain MDAs (Ezeani, 2019).

Impact on Labor Relations

The implementation of IPPIS has strained labor relations, particularly in the education sector. Workers and unions claim that the system does not adequately capture the peculiarities of certain professions, leading to disputes over underpayments and unrecognized allowances. These issues have resulted in repeated industrial actions, disrupting government operations and public service delivery (Fapohunda, 2021). The system has also faced criticism from labor unions, particularly during its roll out to federal universities, as unions argue that it violates the autonomy of these institutions and sometimes disrupts the timely payment of salaries.

Cybersecurity Risks

As a technology-driven platform, IPPIS is vulnerable to cybersecurity threats. There are concerns about the potential for unauthorized access to sensitive payroll and personnel data, which could lead to data breaches or financial fraud (Adedeji & Adeniji, 2020).

High Implementation and Maintenance Costs

The cost of implementing and maintaining IPPIS has been criticized as being disproportionately high. These expenses include the procurement of software, hardware, training, and technical support. This financial burden raises questions about the sustainability of the system in the long term (Agboola, 2018). While IPPIS has faced these hindrance and bottle neck in it operation, The Integrated Personnel and Payroll Information System (IPPIS) has had a significant impact on personnel management in Nigeria despite aforementioned shortcomings. This is achieved primarily through its role in addressing inefficiencies, enhancing transparency, and eliminating payroll fraud in the public sector.

Other areas that IPPIS has made some positive effects includes reduction of payroll fraud. IPPIS has helped identify and remove ghost workers from the government payroll. For instance, between 2007 and 2016, the system reportedly saved Nigeria over ₦226 billion by removing thousands of fictitious employees from payrolls, a critical step toward ensuring accurate personnel records and minimizing financial losses due to fraud. It has also improved payroll accuracy by centralizes salary payments and links them to biometric data captures that ensure accurate employee identification. This helps to eliminates issues like double payments and errors from manual processing.

Furthermore, it also enhanced resource management by automating payroll and personnel data management, IPPIS provides reliable data for budgeting, workforce planning, and policy-making. This improves resource allocation and fosters accountability in public finance management. It also enhances transparency and

accountability that ensures that all financial transactions related to personnel emoluments are tracked, promoting transparency in public service payroll systems. It also enhances public confidence by making the payroll process more accountable.

Contextually, the effect of IPPIS on adult educators' productivity in tertiary institutions in North Central Nigeria NCN was aimed at enhancing transparency, reducing payroll fraud, and ensuring efficient resource management just like every other government institution. However, its effects on adult educators' productivity are mixed. Having both positive and negative effects.

Adult Educators Productivity.

Productivity in adult education refers to the ability of educators to effectively deliver knowledge, skills, and attitudes that meet the unique learning needs of adults. It encompasses measurable outcomes in teaching, research, community engagement, and professional development that contribute to both individual learner success and broader societal goals (Knowles, Holton, & Swanson, 2015). To elaborately carry out this review, each of these key aspects shall be discussed under a subhead.

Teaching Effectiveness

This is a core determinant of productivity, focusing on the ability to design and deliver learning experiences that are engaging, relevant, and impactful for adult learners. Educators must adopt learner-centered approaches, such as andragogy, which emphasize the active participation and practical application of learning (Knowles, et'al 2015). Factors such as adequate resources, classroom management, and the use of technology also play a role (Brookfield, 2015) Teaching effectiveness

in the context of adult education goes beyond delivering content; it encompasses the ability to design, implement, and evaluate learning experiences that meet the unique needs of adult learners. Adult educators need to adopt strategies that align with the principles of andragogy, acknowledging adults' prior experiences, self-directedness, and motivation to learn (Knowles et al., 2015). Some of the key elements of teaching

effectiveness includes understanding adult learning principles. This involves recognizing the unique characteristics of adult learners that they are autonomous and self-directed learners, they bring a wealth of life experiences that enrich learning contexts, learning is most effective when it is problem-centered and immediately relevant to their personal or professional lives (Merriam & Bierema, 2013). Educators must therefore facilitate learning rather than simply transmitting knowledge, fostering a collaborative environment where learners contribute actively to discussions and problem-solving.

Furthermore, it encompasses the use of active and collaborative learning strategies. It employs techniques like group discussions, role-plays, case studies, and peer learning which fosters deeper engagement. Research shows that active learning enhances retention and application of knowledge, particularly in adult education contexts (Brookfield, 2015; Freeman et al., 2014). Again, another key element that enhances effective teaching is incorporating technology in teaching. Technology plays a critical role in modern adult education. Tools such as learning management systems (LMS), webinars, and virtual simulations can provide flexible and accessible learning opportunities. Research by Means, Toyama, Murphy, Bakia, and Jones, (2013) indicates that blended learning approaches are especially effective in adult education. In addition to this, adaptability and cultural competence is also a key element. Effective educators adapt their methods to accommodate the diverse cultural and professional backgrounds of adult learners. Cultural competence ensures inclusivity, fostering an environment where all learners feel valued and respected (Gay, 2018).

Additionally, assessment and feedback is another key element of effective teaching. Regular assessments, both formative and summative help educators gauge learners' understanding and tailor instruction accordingly. Timely, constructive feedback motivates learners and guides them toward improvement (Hattie & Timperley, 2007). Effective teaching also involves building a supportive learning environment. A

68 positive and supportive atmosphere encourages participation and reduces anxiety, which is particularly important for adult learners balancing education with other life responsibilities (Wlodkowski, 2008). Despite these key elements that enhances effective teaching, challenges are abound in achieving teaching effectiveness. They include resource constraints, such as limited access to teaching aids or technology can hinder the delivery of engaging lessons (Means et al., 2013). Time constraints for learners is challenge. Adult learners often juggle education with work and family, requiring educators to be flexible with schedules and content delivery (Brookfield, 2015).

Research Output

16 Research productivity reflects educators' contributions to knowledge generation and dissemination in adult education. High research output often correlates with improved teaching quality and institutional prestige. Research output in the context of adult education refers to the generation of knowledge through academic publications, conference presentations, grant acquisition, and innovative projects. It serves as a critical measure of productivity, reflecting an educator's contribution to advancing theories, practices, and policies in adult education. Key components of research output include scholarly publications of peer-reviewed articles, books, and conference papers are primary indicators of research productivity. High-quality research publications contribute to the development of evidence-based practices in adult education and enhance the credibility of institutions and educators (Altbach & Salmi, 2011). Current metrics, such as high-index and citation counts, are often used to evaluate the impact of educators' research.

In addition, interdisciplinary and applied research also contributes to research output. Research in adult education often intersects with other fields like psychology, sociology, and workforce development. Applied research, particularly in workplace learning and lifelong education, bridges theory and practice by addressing real-world

challenges (Merriam & Bierema, 2014). For example, studies on e-learning platforms have significantly influenced how adult learners engage with technology (Means et al., 2013). Again, collaboration and networking is another important element in enhancing research output of adult educators productivity. Collaborative projects and interdisciplinary networks can enhance research output. Partnerships between educators and organizations often lead to impactful studies addressing global challenges like adult literacy, digital inclusion, and climate education (UNESCO, 2016). Researchers are increasingly leveraging global platforms for collaborative data collection and publication, particularly in this digital age.

Furthermore, grants and funded research projects form an important component in research productivity. Securing research grants is a major component of productivity. Grants not only provide resources for conducting studies but also contribute to educators' professional growth. For instance, many funding bodies prioritize projects that focus on marginalized adult learners or underserved communities. Most of the time, maintaining a robust research output by an adult educator is an uphill task based on numerous challenges encountered by the researcher. Factors like heavy teaching loads, limited funding, and administrative responsibilities can restrict educators' ability to focus on research. Institutions that support balanced workloads and provide incentives for research activities often see better outcomes (Altbach & Salmi, 2011). The researcher is of the opinion that several strategies enhance research output could be adopted. This may include capacity building, training, workshops on research methods and grant writing to improve educators' skills in producing impactful research. Technology utilization by using tools like citation managers, statistical software, and academic databases to streamline the research process. And finally, institutional support is also important by creating policies that allocate time for research and reward productivity to fosters a research-friendly environment.

Community Engagement

Productivity also involves meaningful engagement with the community, where educators contribute to solving local problems and fostering lifelong learning. Community engagement enhances the relevance of adult education and aligns institutional goals with societal needs (UNESCO, 2016). This dimension of productivity ensures that adult education transcends traditional classroom boundaries, creating opportunities for real-world impact and mutual growth.

Adult educators often collaborate with communities to identify local challenges and develop solutions through participatory methods. These projects enhance the relevance of education and empower communities by building their capacity for self-reliance (UNESCO, 2016). For instance, literacy programs tailored to rural populations improve not only educational outcomes but also social inclusion.

Another area is service-learning which support the idea that service-learning fosters civic responsibility and enhances the learning experience. A recent research study emphasizes service-learning's ability to connect academic knowledge with real-world application, benefiting both students and the community. It demonstrates improvements in students' understanding of civic duties, empathy, and leadership skills while addressing community needs (Lin, Queiruga-Dios, & Ribeiro, 2023; Salam et al., 2019). Recent study also highlights the role of service-learning in developing students' civic-mindedness and democratic awareness. Students reported increased interest in social equity issues and collaboration with diverse groups, showcasing the methodology's transformative impact on civic engagement and societal contributions. (Kolb, & Kolb, 2023)

Cultural and social advocacy is another community engagement. Educators play a pivotal role in promoting cultural awareness, equity, and justice. Recent research reinforces the importance of community engagement activities for marginalized groups, including immigrants, indigenous populations, and older adults.

For example, studies emphasize that inclusive health promotion and community-based interventions tailored to diverse and disadvantaged populations can improve access to services and promote social inclusion. These efforts often address barriers such as financial strains, social isolation, and mistrust of institutions. Programs that focus on collaboration and active participation in addressing health and social needs are particularly effective in fostering equity and well-being (Srivarathan, Jensen, & Kristiansen, 2019). Workforce and economic development partnerships between educational institutions and local industries enable community members to acquire skills needed for employment. Programs like workforce development initiatives or entrepreneurial training directly link education to economic growth, benefiting both individuals and the broader community (Brookfield, 2015).

Public awareness campaigns forms another key element of community engagement. Adult educators often lead campaigns addressing critical social issues such as public health, climate change, and digital literacy. These initiatives enhance public knowledge and foster sustainable behaviors within communities (Merriam et al., 2020). Resource limitations, lack of funding and logistical support can hinder the implementation of engagement initiatives. Added to this is resistance to change, cultural or political resistance within communities can pose challenges to successful interventions. In balancing roles, educators must often juggle teaching, research, and community engagement responsibilities, which can lead to burnout if not well-managed (Altbach & Salmi, 2011). Hence a cohesive strategy to enhance community engagement, collaborative partnerships, engaging local governments, NGOs, and private sectors to fosters resource sharing and enhances program reach, capacity building, training educators, and community leaders in participatory methods has to be put in place to ensures more effective and sustainable outcomes. Again, reflective practice such as regular evaluation of engagement initiatives helps to refine strategies and measure impact.

Professional Development

Professional development refers to the continuous education and skill enhancement opportunities provided to employees, aimed at advancing their capabilities and career trajectories. This practice not only improves individual competencies but also benefits organizations by fostering innovation, enhancing employee engagement, and ensuring adaptability in evolving work environments. Current trends highlight the growing significance of professional development in response to technological advancements, diverse workplace dynamics, and heightened employee expectations for growth opportunities (Harvard Business Publishing, 2023).

Effective professional development integrates diverse learning methods tailored to organizational needs and individual aspirations. These include formal training like workshops, certifications, and conferences that offers structured learning experiences to enhance specific skills, whether technical or managerial. It can also be on-the-job training opportunities such as job shadowing or job rotation to provide hands-on learning and cross-departmental exposure. It can be online learning digital courses and webinars which makes learning accessible, especially in hybrid or remote setups, catering to employees' schedules and locations. Mentoring and coaching through personalized guidance and mentoring relationships to fosters targeted growth in areas like leadership, communication, and conflict resolution (Wharton Online, 2023).

These methods are designed to align with employee goals while addressing organizational priorities, such as innovation, inclusivity, and technological readiness. The benefits of professional development is enormous for employees. Professional development enhances job satisfaction, increases motivation, and improves career prospects. By acquiring new skills and staying updated on industry trends, workers gain confidence and performance efficiencies. Employers, in turn, benefit from a more skilled workforce, better retention rates, and a competitive edge in their industries (Wharton Online. 2023). A recent study by the Wharton School found that upskilling

opportunities were a key factor for employees when choosing or staying with an employer, with nearly 68% of workers identifying professional development as essential in job decisions.

Current trends in professional development focuses on adaptability to global changes and workforce demands digital transformation of organizations that prioritize training in areas like artificial intelligence (AI) and data analytics, preparing employees to thrive in tech-driven industries. It includes diversity, equity, and Inclusion (DEI) that focus on leadership training to promote inclusive work environments. Agile learning models include flexible, on-demand learning experiences which are gaining traction, this is catering to the fast-paced nature of modern workplaces. And finally, leadership development. Companies like Coca-Cola and DuPont are emphasizing the cultivation of balanced leadership that integrates empathy, technical knowledge, and sustainability-focused thinking. While professional development presents numerous advantages, challenges persist. These challenges include time constraints, resource limitations, and inconsistent program quality can hinder effectiveness. Addressing these requires alignment with employees' baseline skills, top-down support from leadership, and embedding learning into workplace culture. For instance, a study by Harvard Business Publishing revealed that customized training aligned with participants' skill levels significantly improved program outcomes.

In this perspective, professional development is a cornerstone of organizational and individual growth. By investing in diverse and tailored development opportunities, companies can cultivate a workforce that is innovative, engaged, and resilient in the face of change. The future of professional development lies in integrating emerging technologies, promoting inclusivity, and ensuring continuous learning as a cultural norm. Finally, adult educator's productivity can be enhanced when effective environment is provided for teaching, research, community

engagement and self-professional development which are part of the statutory responsibility of IPPIS objectives.

Ippis and Adult Educators Productivity

The Integrated Payroll and Personnel Information System (IPPIS) is a public sector reform initiative introduced in Nigeria to enhance accountability, reduce payroll fraud, and ensure the efficient management of government resources. While it is primarily aimed at financial prudence, its impact on educators' productivity has been a subject of significant debate. Introduced in 2007 by the Nigerian government, IPPIS was designed to centralize the payroll system and eliminate "ghost workers," thus ensuring transparency and accountability in public service financial management (Okolie & Odim, 2020). The system requires biometric and personal data of employees to process salaries, making manual payroll systems redundant.

Furthermore, the system was said to have created some level of financial transparency and accountability and has significantly curbed payroll-related fraud, such as "ghost workers" and unauthorized allowances. This ensures that government resources are utilized efficiently, allowing educators to receive salaries directly without intermediaries which has fostered to some extent, trust among some educators who appreciate the transparency it offers (Adepoju, 2021). It has also eliminated administrative bottlenecks that reduces the administrative burden on institutional finance offices. This allows education administrators to allocate more time to academic management, indirectly improving the learning environment and facilitating educators' focus on teaching and research.

The system also creates uniformity and compliance with financial policies that ensures all educators are paid based on government-approved salary structures, creating uniformity in remuneration. This eliminates disparities that could arise from manual payroll systems and enforces compliance with public service rules. It also encourages digital literacy which relies on biometric data and electronic documentation,

this indirectly encourages educators to embrace digital processes, a step toward modernizing the educational system (Okolie & Odim, 2020). it is expected that the system will have catered for the all the needs of the educators, especially adult educators. But there has issues generated by the system that has hampered the productivity of adult of adult educators in tertiary institution in North Central Nigeria. It includes delayed payments and administrative errors particularly during initial implementation or system updates. Such delays cause financial strain on educators, undermining their motivation and productivity. Errors, such as incorrect deductions or omission of allowances, exacerbate these frustrations (Olusegun et al., 2021). there is also inadequate consideration for academic peculiarities to accommodate unique aspects of academic work, such as research grants, conference allowances, and sabbaticals. Educators argue that the system applies a "one-size-fits-all" approach that disregards these specialized needs, resulting in dissatisfaction and conflict with the government (Adebayo & Fagbemi, 2020).

In addition, it reduced job satisfaction and motivation due to frequent payment issues and the exclusion of certain entitlements that leads to demotivation among educators. The perception that their financial and professional needs are not prioritized negatively impacts teaching quality and research output (Eze, 2022).

Furthermore, IPPIS also limited autonomy previously granted for educational institutions. This limitation is the to the centralization of payroll management which restricts universities and colleges from exercising autonomy in managing their personnel finances. Critics argue that this undermines institutional independence, which is crucial for addressing sector-specific issues. It also increased administrative burden during transition. While the system simplifies payroll in the long term, its initial implementation places a significant burden on educators and administrative staff, including the need to comply with biometric data capture and resolve technical issues.

This transitional phase can be disruptive to institutional workflows (Eze, 2022).

15 In this case specific issues, IPPIS may not be not be relevant if it lacks customization for academic institutions in its payroll system. IPPIS should be tailored to accommodate the unique requirements of educational institutions, including allowances and other entitlements peculiar to the academia. While IPPIS has brought financial transparency and reduced corruption, its shortcomings in addressing the unique needs of adult educators in tertiary institutions highlight a gap between policy design and sector-specific requirements. Balancing the system's benefits with modifications to address its negative impacts is essential to improve educators' productivity and job satisfaction.

Tertiary Institutions

30 Tertiary institutions, encompassing universities, polytechnics, and colleges of education, play a critical role in fostering economic development, innovation, and the cultivation of human capital. These institutions are pivotal in equipping individuals with advanced skills and knowledge required to address global and local challenges (Teferra & Altbach, 2004). Tertiary education contributes to societal transformation by promoting research and fostering innovation. According to Marginson (2016), these institutions are central to producing a skilled workforce and enhancing social mobility. 33 Higher education also facilitates the development of critical thinking, problem-solving skills, and civic responsibility, which are essential for national development (Bloom et al., 2006).

Despite their importance, tertiary institutions face numerous challenges. In developing countries, these include inadequate funding, brain drain, infrastructure deficits, and limited access (Altbach & Salmi, 2011). In Nigeria, tertiary education is further hindered by issues such as corruption, mismanagement of resources, and political interference (Obasi, 2020). Such challenges impact the quality of education and hinder institutions from meeting their objectives effectively. Hence, effective governance and accountability are crucial for the success of tertiary institutions.

Okebukola (2015) highlights the importance of clear policies and transparent management systems to enhance institutional performance. Tools like the Integrated Personnel and Payroll Information System (IPPIS) have been introduced in Nigeria to address payroll fraud and improve financial accountability within these institutions. However, access to tertiary education remains unequal. Studies indicate significant disparities based on socioeconomic status, gender, and geographical location (UNESCO, 2021).

In Nigeria, regional imbalances further compound this issue, with the North Central region facing unique challenges in educational access and quality (Okojie, 2017). While tertiary institutions in this region share many of the general challenges faced by higher education in Nigeria, they also encounter unique regional issues such as insecurity, funding gaps, equity and access issues, governance and management. The weak institutional governance has hindered the effective operation of tertiary institutions in the region. Contextually, tertiary institution refers to higher institution payrolled by IPPIS and has a department of adult education under its faculty. These institutions are universities, and colleges of education. The institutions that meet these requirements for this study are University of Ilorin, Federal Colleges of Education, Okene, Kotongara, and Panshine, etc. The Integrated Personnel and Payroll Information System (IPPIS) have been introduced to address payroll fraud and inefficiencies, but their implementation has faced resistance and technical challenges (Ogundele et al., 2022). However, this study is interested in finding out how effective the tool of IPPIS has being able to improve the productivity of adult educators in these tertiary institutions in North Central Nigeria.

Theoretical framework

This section reviews theories that related to this study. The theories are human capital theory, expectancy theory and equity theory.

Human Capital Theory by Becker (1993)

Human capital theory, originally was conceptualized by economists such as Gary Becker and Theodore Schultz, emphasizes the economic value of investing in people. In Becker's seminal work, *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (1993), he argued that individuals, much like businesses, when invested in, can increase their productivity and economic value through investments in education, training, and health. This theory has been instrumental in explaining the link between education, skills development, and economic performance. The key tenets of human capital theory are:

Investment in Human Capital

Human capital refers to the knowledge, skills, competencies, and attributes that individuals possess and which contribute to their economic productivity. Education and training are viewed as forms of investment, analogous to investing in physical capital (e.g., machinery or infrastructure). These investments enhance individuals' ability to perform tasks effectively, leading to better outcomes in the workplace.

Returns on Investment

Becker proposed that investments in human capital yield measurable returns, such as higher earnings, improved job performance, and greater innovation. The returns are not limited to individuals but also extend to organizations and society through increased productivity and economic growth.

Costs of Investment

Investments in human capital involve direct costs (e.g., tuition fees, training expenses etc) and opportunity costs (e.g., income foregone while studying). The decision to invest depends on the expected benefits outweighing these costs. The implication to adult education is that it underscores the importance of lifelong learning and upskilling to adapt to evolving job requirements. Adult educators, as facilitators of this process, play a critical role in building human capital across societies. So, institutions that invest in the professional development of adult educators (e.g., training

53 programs, workshops) enhance their teaching effectiveness and productivity. Adult educators with advanced skills and qualifications are better equipped to deliver high-quality instruction, benefiting students and institutions alike. The adult learners invest in education to improve their career prospects, earning potential, and social mobility. The success of such programs relies on the quality and productivity of adult educators, linking directly to institutional investments in their human capital. In this perspective, the Integrated Payroll and Personnel Information System (IPPIS) can enhance productivity in tertiary institutions by aligning with the principles of Human Capital Theory in the following ways by ensuring timely and equitable remuneration,

44 IPPIS incentivizes educators to invest their time and effort in improving their professional capacities, by addressing payroll inefficiencies and removing ghost workers. This ensures that funds are directed towards legitimate educators, enabling better investment in professional development. The IPPIS has to support the proper allocation of resources, allowing institutions to invest in training programs and infrastructure that enhance the productivity of educators. Doing this will provide a clear link between education, training, and economic growth. This justifies the organizations' investments in employee training and development thereby focusing on lifelong learning that emphasizes continuous skill development to maintain relevance in a changing job market. Human capital theory provides a compelling framework for understanding the relationship between investments in education and productivity. In tertiary institutions, applying this theory to systems like IPPIS ensures that adult educators are adequately supported, motivated, and equipped to perform their roles effectively. This, in turn, contributes to the broader development of human capital and societal progress.

Expectancy Theory by Vroom (1964)

39 Expectancy theory, developed by Victor H. Vroom in 1964, is also a
39 motivational theory that explains how individuals decide to act based on their

expectations of the outcomes of their actions. The theory emphasizes the cognitive processes individuals use to evaluate potential rewards and their likelihood of achieving them, linking effort, performance, and reward. The core components of expectancy theory is built on three keys. The first component is expectancy ($E \rightarrow P$) defined as the belief that increased effort will lead to improved performance. The influencing factors are availability of resources (e.g., time, tools, training), the individual skill level and self-confidence, and clarity of goals and expectations. An instance is if an adult educator might believe that investing extra time in developing interactive teaching materials will improve student engagement. The second components are instrumentality ($P \rightarrow O$). It is defined as the belief that good performance will result in specific outcomes or rewards. The influencing factors are transparency of the reward system, trust in the organization or management, and a clear link between performance and rewards. This is noticed when an adult educator may expect that achieving high student satisfaction ratings will lead to recognition or promotion. And the third component is valence (V). This is the value an individual place on the reward they expect to receive. The influencing factors affecting valence are personal preferences, needs and goals of the individual. This is shown when an educator may value professional development opportunities more than monetary bonuses if career growth is their priority. Vroom formalized the relationship between these components in the following equation: $[Motivation = Expectancy \times Instrumentality \times Valence]$. This implies that if any of the components (expectancy, instrumentality, or valence) is zero, motivation will also be zero. Hence, motivation is highest when all the three components are strong. The implication of this in enhancing productivity in the context of adult educators in tertiary institutions are explained as:

Expectancy

Institutions should provide adequate resources, training, and clear guidelines to help educators perform effectively. For example, offering workshops on technology integration can empower educators to enhance their teaching methods.

Instrumentality

Educators must perceive a direct link between their performance and rewards. Transparent performance evaluation systems and clear communication of reward policies (e.g., promotions, bonuses) build trust and encourage effort.

Valence

Institutions should tailor rewards to what educators' value most. While some may prioritize financial incentives, others might value opportunities for research, sabbaticals, or public recognition. The Integrated Payroll and Personnel Information System (IPPIS) can improve educators' productivity through the lens of expectancy theory by providing timely and accurate salaries. Adult educators are assured that their efforts will lead to the expected outcome (financial stability). IPPIS supporting of instrumentality builds trust in the reward mechanism by eliminating payroll inconsistencies and favoritism in the system. And finally, enhancing valence, IPPIS addresses the need for equitable treatment, ensuring that all educators are rewarded fairly based on their roles and performance. Expectancy theory has the strength of personalization, It accounts for individual differences in motivation and reward preferences. The practical framework is that organizations can use it to design effective reward systems highlighting the role of thought processes in decision-making and motivation. Expectancy theory provides a robust framework for understanding and influencing motivation by linking effort, performance, and rewards. In tertiary institutions, applying this theory to systems like IPPIS can create a more motivated and productive workforce by aligning organizational goals with adult educators' personal expectations and needs.

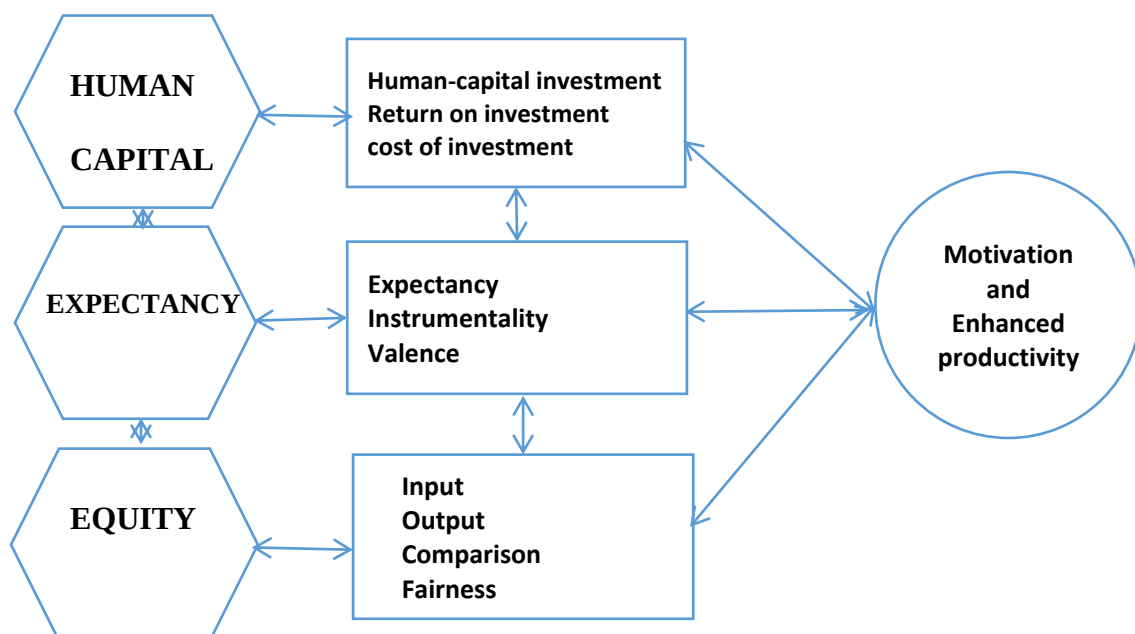
Equity Theory by John Stacey Adams 1963

Equity theory was developed by John Stacey Adams in 1963. It is a motivational theory that focuses on the concept of fairness and its impact on individual motivation and behavior within the workplace. The theory posits that employees assess the fairness of their work outcomes relative to their inputs and compare this ratio to that of others. When individuals perceive inequity, it can lead to dissatisfaction, reduced motivation, and even withdrawal from work tasks. The first core components of equity theory is inputs. Inputs refer to the contributions that employees bring to their job. These include: skills, effort, experience, time, education, and loyalty. The second core components are outputs. Outputs are the rewards or outcomes employees receive from their work. Examples include are: salary, benefits, recognition, job security and promotions. The third core component is comparison. This implies when employees compare their input-to-output ratio with that of others (peers, colleagues, or even industry standards). This comparison result in equity. When the ratios are perceived as equal, leading to satisfaction. It can also result in inequity when there is a perceived imbalance, causing dissatisfaction. The fourth core component is perception of fairness. The theory emphasizes perception, meaning that fairness is subjective. What one employee considers fair might differ from another's view, even if their situations are objectively the same.

The implication of this especially to adult educators productivity in tertiary institution in NCN are when they perceive fairness, they are more likely to be motivated, committed, and productive. If they perceive inequity (e.g., they are underpaid or underappreciated compared to peers with similar inputs), they may reduce their effort, demand higher compensation or recognition, or seek alternative employment. The relevance of equity theory in enhancing adult educators' productivity in the context of tertiary institutions, is transparent payroll systems in which systems like IPPIS will ensure standardization and fairness in salary payments, and reduce perceived inequities. This motivates educators to perform at their best, knowing they are compensated fairly

relative to their colleagues. Another area of relevance is recognition of contributions. Adult educators often bring unique skills and experiences to the teaching process. Ensuring that these contributions are fairly rewarded through promotions, bonuses, or recognition that aligns with the theory of equity especially by capturing the peculiarities of adult educators in tertiary institutions to enhance their productivity. Equity Theory provides a robust framework for understanding how fairness impacts motivation and productivity. By ensuring equitable treatment, institutions can enhance the productivity of adult educators, fostering a motivated workforce and improving overall institutional performance.

Figure 1: Schematic Representation of the Theoretical Framework



When all the tenets of theories are observed or put to work, it will improve motivation leading to enhanced productivity of adult educators in tertiary institution in North Central Nigeria.

Source: Zainab, M. 2025

Review of Empirical Studies

The review of empirical studies will be based on the key variables of the study. They are database reliability, manpower planning, decision-making support, fraud prevention, and personnel record management.

Database Reliability

In a study on database reliability through IPPIS, Olatunji, and Balogun (2022), carried a study on "Cybersecurity Challenges in Public Sector Database Management: Lessons from IPPIS". The purpose of the study is to identify cybersecurity vulnerabilities in the Integrated Payroll and Personnel Information System (IPPIS) and evaluate their implications for public sector database management. It also sought to propose strategies for mitigating these challenges and improving the security of IPPIS. The study addressed three research questions. The study employed a case study design, focusing specifically on IPPIS as a representative example of public sector database management systems in Nigeria. This approach allowed an in-depth exploration of the challenges and vulnerabilities unique to this system. Data were collected from 100 IT professionals and payroll administrators working with IPPIS across federal ministries, departments, and agencies (MDAs). Purposive sampling was used to select participants with relevant expertise and experience. A mixed-method approach was employed. Quantitative data were gathered using structured questionnaires and qualitative data were obtained through interviews with IT experts. Quantitative data were analyzed using descriptive statistics such as percentages and frequencies and qualitative data were analyzed thematically to identify recurring patterns and insights related to cybersecurity challenges. Results identified cybersecurity challenges such as phishing attacks due to weak password management and inadequate firewalls. Data breaches and unauthorized access were noted as significant risks, undermining the trust of public sector employees in the system. The weaknesses of the study is in the small sample size of 100 participants which may not

provide a comprehensive representation of all stakeholders involved in IPPIS operations. This study will fill this gap by adopting large sample size for the study which will improve a better representation of the stakeholders. This study shed light on critical cybersecurity challenges facing the IPPIS platform, emphasizing their impact on database reliability and public trust. While the study provides valuable recommendations for enhancing system security, its limited scope and reliance on self-reported data highlight the need for further research with broader and more objective methodologies.

In another study on database reliability through IPPIS, Ibrahim, Lawal, and Musa, (2021) carried out a study on 'Usability and Efficiency of IPPIS in Nigeria's Public Sector'. The purpose of the study is to evaluate the usability and operational efficiency of the Integrated Payroll and Personnel Information System (IPPIS) in Nigeria's public sector. Specifically, it sought to assess how the system influences payroll processing, reduces fraud, and improves the overall human resource management process. The study was guided by three research questions and hypotheses. The study adopted a descriptive survey design. The study surveyed 150 HR personnel and payroll managers from various federal ministries, departments, and agencies (MDAs). A simple random sampling method was used to ensure inclusive representation. A structured questionnaire was employed, featuring both closed and open-ended questions designed to capture respondents' perceptions of IPPIS usability and efficiency. Descriptive statistics (percentages and means) were used to summarize responses. Inferential statistics, specifically chi-square tests, were applied to determine the relationship between IPPIS implementation and observed improvements in payroll management. The key findings of the study showed that 80% of respondents agreed that IPPIS significantly reduced payroll errors, ensuring timely and accurate salary disbursements. But experience challenges with system down times, making it difficult in accessing the platform in rural areas. Weaknesses of the study identified is the limited

scope of been restricted to MDAs in urban areas, excluding institutions in rural settings where access to IPPIS may be more challenging. And a small ample size of 150 respondents which may not comprehensively represent all the MDAs in Nigeria, especially given the scale of the federal workforce. This study will fill this gap by including tertiary institutions in the rural areas and adopting a large sample size for the study.

Manpower Planning

In a study on Manpower Planning, Aganga (2011) carried out a study on "Reforming Nigeria's Public Sector through IPPIS". The purpose of the study the study was to evaluate the role of the Integrated Payroll and Personnel Information System (IPPIS) in reforming public sector management in Nigeria, with a focus on improving payroll processes and enhancing workforce accountability. The study addressed two primary research questions. A descriptive survey design was adopted to explore the impacts of IPPIS on public sector administration. Structured interviews and questionnaires were distributed to HR personnel in federal MDAs. Data were analyzed using descriptive statistics (mean and percentages) and thematic content analysis for qualitative insights. Results shows that. centralized payroll management improved efficiency and reduced fraudulent practices such as ghost workers and accurate workforce data facilitated manpower planning and budgeting. The weaknesses identify in the study are limited geographical scope, focusing primarily on urban MDAs and limited sample size, which may not fully represent the diversity of federal MDAs. This study will fill this gap by adopting a wider scope for the study and larger sample size. This study demonstrated the transformative potential of IPPIS in enhancing transparency and efficiency in Nigeria's public sector manpower management.

In another study on Manpower Planning, Adagunodo (2012) carried out a study on "Impact of IPPIS on Federal Workforce Management in Nigeria". the purpose of the study aimed to assess the effectiveness of the Integrated Payroll and Personnel

Information System (IPPIS) in improving the management of federal workforce data and reducing payroll inefficiencies in Nigeria. The study explored three questions. A case study design was utilized to examine the operational impact of IPPIS within selected federal MDAs. Structured questionnaires were administered to HR personnel and payroll managers in federal institutions. Descriptive statistics were employed, supplemented with thematic analysis for qualitative data. Results showed significant reduction in payroll fraud through the elimination of ghost workers. And improved accuracy and timeliness of salary disbursements and enhanced manpower planning via centralized personnel data management. Weaknesses identified are small sample size and heavy reliance on self-reported data which may introduced potential bias. This study will fill this gap by adopting a large sample size and expand the respondent's net to none academic staff that contributes directly to enhance adult educators' productivity in tertiary institutions in NCN. This study also highlighted IPPIS's critical role in enhancing payroll accuracy and workforce management in Nigeria but emphasized the need for infrastructural upgrades and continuous training for manpower development.

Decision-Making Support

In a study on decision making support, Ibrahim, Afolabi, and Bello, (2021), carried out a study on "Evaluating IPPIS Efficiency in Nigeria's MDAs". The purpose of the study was aimed at assess the efficiency of the Integrated Payroll and Personnel Information System (IPPIS) in addressing payroll fraud, streamlining personnel management, and improving financial transparency in Nigeria's Ministries, Departments, and Agencies (MDAs). The study posed three research questions. A descriptive survey was adopted, using mix method design targeting staff members in selected MDAs. Structured questionnaires were distributed to HR and payroll personnel with focused group discussion schedule. Quantitative data were analyzed using descriptive statistics (percentages and mean scores), while qualitative data were interpreted through thematic analysis. Results shows significant reduction in ghost

workers and payroll discrepancies. And improved data centralization for workforce planning. Weaknesses identify in the study are the limited geographical scope, focusing only on a few MDAs and over-reliance on self-reported data, which could introduce bias. This study will fill this gap by expanding the respondent's net to none academic staff that contributes directly to enhance adult educators' productivity in tertiary institutions' departments in NCN. The study also underscored IPPIS's role in improving public sector payroll and personnel management but recommended addressing infrastructure gaps and providing extensive training to enhance its effectiveness.

In a related study on decision making support, Farajimakin, and Anichebe, (2017) carried out a study on "The Effect of Integrated Personnel Payroll Information System (IPPIS) on Employee Welfare: Evidence from Federal Ministries in Nigeria." The study aimed to evaluate how the implementation of the IPPIS impacts employee welfare, particularly in federal ministries within Nigeria. The study was guided by a specific research question. The research adopted a descriptive research design. Data were collected through a questionnaire structured in a binary format. The analysis was performed using binary logistic regression, allowing the researchers to assess the strength and significance of the relationship between IPPIS implementation and employee welfare. Results shows a that the implementation of IPPIS had a weak positive relationship with employee welfare, but the relationship was statistically significant. It indicated some benefits, such as improved accuracy and efficiency in salary payments, but challenges remained in fully addressing employee welfare concerns. Weaknesses of the study is on reliance on a binary questionnaire which might have limited the depth of insights into specific welfare challenges faced by employees and a narrow focus on federal ministries which excluded other public institutions that might have experienced different impacts of IPPIS. The weak relationship highlighted in the study suggests that there might be other unexplored factors influencing employee

welfare. This study will fill this gap by using a structured questionnaire and interview schedules for data collections.

Fraud Prevention

In a related study on fraud prevention by IPPIS, Kabiru and Abdullahi (2014) carried out a study on "Fraud Detection and Prevention Using the Integrated Payroll and Personnel Information System (IPPIS) in Nigeria's Public Sector". The study aimed to assess the effectiveness of IPPIS in reducing fraudulent activities such as ghost worker schemes and payroll mismanagement in Nigeria's public sector. The study was structured around three key research questions. The study employed a descriptive survey design. Structured questionnaires and interviews were used to collect data from officials in selected MDAs. Quantitative data were analyzed using descriptive statistics (percentages, and mean scores), and qualitative data were subjected to thematic analysis to identify recurring patterns. The results shows that

IPPIS was instrumental in detecting and removing over 45,000 ghost workers during its initial phases. Financial savings were significant, with estimates of over 160 billion Naira saved by the Nigerian government from 2010 to 2013. Enhanced transparency in payroll and personnel management. Though there were resistance to change from some employees who benefited from the old system. The weaknesses is that the study focused primarily on federal MDAs, excluding state and local government agencies where fraud dynamics may differ and insufficient emphasis on how internal collusion might bypass the IPPIS controls. This will fill this gap by expanding the scope of the to involve none academic staff who are directly involved in enhancing adult programs for enhanced productivity in tertiary institutions.

In a related study, Okoro and Onyebueke (2021) carried out a study on "Enhancing Transparency in Payroll Systems Through the Integrated Payroll and Personnel Information System (IPPIS) in Nigeria". The purpose of the study was aimed at examining the role of IPPIS in promoting transparency, accountability, and fraud

prevention in payroll management within Nigerian public institutions. The study addressed three primary research questions. Descriptive survey research design was adopted for the study. Public sector employees from Ministries, Departments, and Agencies (MDAs) in Nigeria were sampled for the study. Data were obtained through structured questionnaires administered to key personnel in payroll and accounting units. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative responses were coded and thematically analyzed. Results shows that IPPIS Successfully eliminated ghost workers, saving billions of Naira and promoted transparency in payroll administration by integrating biometric verification systems. It was recommended that there should be continuous user training to enhance familiarity with the system and upgrading IT infrastructure to support seamless operation. Weaknesses identified in the study is the study's scope was limited to selected MDAs at the federal level, neglecting state and local government institutions and over-reliance on self-reported data could introduce bias in assessing IPPIS's effectiveness. This study will fill this gap by expanding the scope of the study to involve none academic staff who are directly involved in enhancing adult programs for enhanced productivity in tertiary institutions.

Personnel Record Management.

In a study on Personnel Record Management, Abiodun, and Anichebe, (2019) carried a study on "Efficiency in Personnel Record Management Through IPPIS in the Nigerian Public Sector." the purpose of the study was to evaluate the effectiveness of the Integrated Payroll and Personnel Information System (IPPIS) in improving personnel record management, eliminating payroll fraud, and promoting administrative transparency in the Nigerian public sector.

The study addressed three research questions. Descriptive survey design was adopted for the study. The study involved personnel from key government MDAs that had adopted the IPPIS platform. Structured questionnaires and interviews were used for

data collection. Quantitative data were analyzed using descriptive statistics, while qualitative data were thematically analyzed to provide insights into implementation challenges. Results shows some positive impact on personnel records and that IPPIS significantly enhanced record accuracy by centralizing data on a digital platform. It also eliminated issues of duplicate and fictitious records, contributing to transparency. Though there were resistance from employees who benefited from prior inefficiencies. It recommended continuous training for personnel to improve system adoption and upgrading of IT infrastructure for smoother operation and scalability. Weaknesses identified in the study is over-reliance on self-reported data which could introduce bias in assessing IPPIS effectiveness. This study fill this gap by sensitizing the respondents on how the outcome of their responses will impact them positively, hence the need to eliminate biases in their responses.

2 In a related study, Nwosu, (2010) carried out a study on "Implementation of
28 IPPIS in Nigeria: A Review of Its Effectiveness in Personnel Management." The
purpose of the study aimed to assess the implementation and effectiveness of the
Integrated Payroll and Personnel Information System (IPPIS) in achieving transparency,
19 efficiency, and accountability in personnel management in Nigeria's public sector. The
13 study explored three research questions. Descriptive survey design was adopted for the
19 study. The population comprised Staff from selected federal Ministries, Departments,
and Agencies (MDAs). 250 respondents were purposively drawn from MDAs that
had adopted IPPIS for the study. A light combination of questionnaires and interview
4 were used, but with more focus on interviews for data collection. Quantitative data were
analyzed using statistical methods (percentages, mean scores), while qualitative data
were examined through thematic analysis. Results shows elimination of ghost workers
and duplication in payroll records. There was improved personnel data accuracy,
fostering better workforce planning and enhanced payroll processing efficiency,
reducing delays and errors. Though there were resistance from some public servants

due to fear of exposure of irregularities and technical challenges such as inadequate IT infrastructure and connectivity issues. It was recommended that there should be continuous training programs to build staff capacity in using IPPIS, upgrading IT infrastructure for smoother system operation and stronger policies to ensure compliance across all MDAs. Weakness of this study is heavy reliance on qualitative feedback, which could introduce subjectivity. This study will fill this gap by balancing the use of both questionnaire and interview schedule.

Summary of Literature Review.

The summary of literature review for this study shall be organized under the following subheads. They include the concepts/variables of the study, the theoretical framework, review of empirical studies, and addressing the gaps in literatures reviewed. The key variables of the study are database reliability of IPPIS, manpower planning, decision making support, fraud prevention and personnel record management. Database reliability refers to the accuracy, consistency, and dependability of the IPPIS database in managing personnel records and ensuring data integrity for seamless administrative operations. Manpower planning involves the strategic use of IPPIS to forecast, allocate, and manage workforce needs effectively in alignment with institutional demands and budgets. Decision-making support emphasizes how IPPIS provides timely and accurate personnel data to facilitate informed administrative and financial decisions. Fraud prevention highlights IPPIS's effectiveness in eliminating payroll irregularities, such as ghost workers and unauthorized payments, to ensure accountability and transparency. Lastly, personnel record management focuses on the use of IPPIS to maintain and update comprehensive employee records, improving administrative efficiency and decision-making capabilities. These definitions collectively outline IPPIS's role in enhancing the operational framework of tertiary institutions, especially regarding administrative transparency, efficiency, and productivity.

9 The theories relevant to the study are the human capital, expectancy, and equity theory. Human capital theory suggests that investment in education, training, and development enhances the skills, knowledge, and abilities of individuals, thereby increasing their productivity and economic value. The expectancy theory posits that individuals are motivated to act based on the expectation that their effort will lead to desired performance, and that performance will result in rewards. And the equity theory, argues that individuals assess fairness in the workplace by comparing their input-output ratio (effort and rewards) to those of others. Perceived inequities can lead to decreased motivation and productivity, as individuals may feel underappreciated or overburdened. Integrating and relating these theories into the evaluation of IPPIS reveals its potential to enhance adult educators' productivity in tertiary institutions by fostering a supportive, equitable, and motivating work environment. This alignment with theoretical frameworks highlights the importance of systems like IPPIS in addressing both structural and psychological factors that influence educator performance and productivity.

4 The review of related empirical studies encompasses ten studies and anchored within the key variables of the study. After a comprehensive review of these studies, the result shows that IPPIS has strengthened fiscal discipline and established a more transparent framework for managing public service remuneration. Its success underscores its role in modernizing administrative processes and fostering trust in the Nigerian public sector. Despite the apparent benefits of IPPIS, there are notable gaps in existing literature. These gaps include a lack of regional focus, as most studies provide broad national overviews with little attention to tertiary institutions in North Central Nigeria. The unique challenges of this region remain under explored. Additionally, while the general impact of IPPIS on payroll management is widely discussed, empirical evidence specifically linking it to adult educators' productivity in tertiary institutions is absent. This study seeks to bridge these gaps by examining the specific

58 impact of IPPIS on the productivity of adult educators in tertiary institutions in North Central Nigeria.

CHAPTER THREE

Methods

107 The procedures for carrying out this study were presented in this chapter. They
4 are arranged under the following headings: design of the study, area of the study, population of the study, sample and sampling techniques, instrument for data collection, validity of the instrument, reliability of the instrument, method of data collection and method of data analysis.

Design of the Study

56 Descriptive survey research design was adopted for this study. Nwankwo (2016), remarked that the strength of descriptive survey research lies in its ability to provide a comprehensive understanding of the subject under investigation, making it particularly useful for studies aiming to explore characteristics, behaviors, or perceptions of a given population. This design is often employed in educational and social science research to analyze current conditions and provide a foundation for informed decision-making or further research. 38 Therefore, this design was considered appropriate for the study because it aimed at collecting and describing in a systematic

manner data from the male and female, teaching and non-teaching staff of IPPIS pay rolled tertiary institutions with a department of adult education in NCN to determine the effectiveness of IPPIS in enhancing their productivity in their various institutions.

Area of the Study

The study focuses on the North Central region of Nigeria, which includes the states of Benue, Kogi, Kwara, Nasarawa, Niger, and Plateau, as well as the Federal Capital Territory (FCT), Abuja. Geographically, the region spans diverse terrain, including savannahs, plateaus, and riverine areas, and is bordered by the North West, North East, and Southern regions of Nigeria. This central location, positions the region as a critical bridge between Nigeria's northern and southern parts. This region is characterized by a mix of urban and rural settings, with a diverse population and a strong presence of tertiary institutions such as universities, polytechnics, and colleges of education.

Key institutions in the region include the University of Ilorin (Kwara), Benue State University (Makurdi), Federal University of Technology (Minna), Nasarawa State University (Keffi), University of Jos (Plateau), and Kogi State University Anyimba and Polytechnic (Lokoja) to name but a few. The geographical boundary of the study is limited to tertiary institutions in these states to ensure a focused examination of the Integrated Personnel and Payroll Information System (IPPIS) and its impact on adult educators' productivity within the region's unique socio-economic and political context. Demographically, the North Central region is home to a diverse population with numerous ethnic groups, such as the Ebira, Tiv, Idoma, Igala, Nupe, Gbagyi, and Berom. This ethnic diversity contributes to the cultural richness of the region but also creates challenges in achieving cohesion and addressing socio-economic disparities. The region is religiously pluralistic, with Islam and Christianity as the predominant religions, along with traditional African religious practices. This diversity influences the values and belief systems of its inhabitants and impacts attitudes toward education, gender

roles, and governance. The education land scape in the North Central region is characterized by significant variability in access and quality. While urban areas such as Abuja and Jos boast better educational facilities, rural areas often face challenges such as inadequate infrastructure, teacher shortages, and low literacy levels. Despite the aforementioned disparities, the region hosts several prominent tertiary institutions, which serve as centers for academic and professional development.

Culturally, the region values communal living, respect for elders, and traditional governance structures. However, certain cultural practices, such as early marriage in some communities, can impact education, particularly for women and girls. Agriculture is the primary economic activity in the region, with crops like yam, maize, and cassava widely cultivated. Urban centers also engage in trade, small-scale industries, and public sector employment, including roles in education.

105 The Justification for the Study in North Central Nigeria is that the region hosts several prominent tertiary institutions, making it a vital hub for higher education in Nigeria. Studying these institutions provides a representative understanding of IPPIS implementation and its impact on adult educators in similar contexts nationwide. Again, adult educators in the region often face unique constraints such as inadequate remuneration, delayed salaries, and limited professional development opportunities. The study aims to determine whether IPPIS has addressed these issues and improved their productivity. The findings from this region can inform policymakers and stakeholders on how to tailor reforms to address local challenges while optimizing the effectiveness of IPPIS. The insights will help enhance governance and accountability in tertiary institutions. Furthermore, existing studies on IPPIS often take a national perspective, with limited focus on specific regions like North Central Nigeria. This study fills the gap by providing empirical evidence from this region, contributing to a more nuanced understanding of the system's impact. By focusing on tertiary institutions in North Central Nigeria, the study addresses critical gaps in understanding the regional

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dynamics of IPPIS implementation and its implications for enhancing adult educators' productivity.

Population of the Study

The population of the study is 200, it was drawn from IPPIS pay rolled tertiary institutions that has a department of Adult Education in its faculty in North Central Nigeria. These institutions are University of Ilorin with a population of 47 and University of Jos having a population of 44. Others are Federal College of Education (FCE) Okene having a population of 38, Federal College of Education (FCE) Kotongara having a population of 35 and Federal College of Education (FCE) Panshin Plateau State having a population of 36. (See Appendix A Page 98).

Sample and Sampling Techniques

The sample size of the study is 200. This sample size was arrived at using census sampling technique. In this method, the entire population were adopted due to its manageable size. (See Appendix B page 99)

Instrument for Data Collection

The instrument for data collection is a structured questionnaire titled 'Effectiveness of IPPIS in Enhancing Adult Educators Productivity in Tertiary Institutions' (EIEAEPTI). The instrument consisted of sections A and B. Section A covered the demographic data of the respondents, while 'B was arranged in five clusters covering the five variables of the study. Cluster A consist of eight (8) items examining the extent to which IPPIS has establish a reliable database to enhance adult educators' productivity in federal tertiary institutions in NCN. Cluster B consist of seven (7) items investigating the extent to which IPPIS has effectively facilitated critical information for manpower planning to enhance adult educators' productivity in federal tertiary institutions in NCN. Cluster C consist of six (6) items relating to the extent to which IPPIS has provide critical information for decision making that enhances adult

educator's productivity in federal tertiary institutions in NCN. Cluster D consisting eight (8) items relating to the extent to which IPPIS has curtail payroll fraud to enhance adult educators' productivity in federal tertiary institutions in NCN. Cluster E consist of six (6) items relating the extent to which IPPIS has effectively manage personnel records to enhance adult educators' productivity in federal tertiary institutions. The instrument consists of 35 items in all. The responses were rated on a 4-point rating scale of Very High Extent (VHE=4 Points), High Extent (HE = 3Points), Low Extent (LE = 2 Points), and Very Low Extent (VLE = 1 Point) respectively. (See Appendix C Page 100).

Validity of the Instrument

To ensure the validity of the instrument, it was subjected to face validation by three experts. Two from the Department of Continuing Education and Development Studies and one from Measurement and Evaluation Unit of the Department of Science Education, all from University of Nigeria, Nsukka. These experts were requested to examine the instrument on the basis of its relevance, suitability and clarity of the items. The experts recommended changes to some items were effected in the final version of the instrument. (See Appendix E Page 103).

Reliability of the Instrument

To check how consistent the questionnaire is, 15 copies were tested on staff at the Department of Continuing Education and Development Studies University of Nigeria, Nsukka who were not part of the study. The choice of this location is because they possess similar characteristics with the target population. The reliability of the instrument was analyzed using Cronbach Alpha. The reliability co-efficient obtained for cluster A-E were, .78, .89, .80, .89, and .89 respectively while the grand reliability co-efficient of the instrument was .85. This indicates that the instrument is reliable. (See Appendix D Page 112).

Method of Data Collection

Data for this study were collected using questionnaire instrument developed by the researcher. The researcher used the direct delivery method (DDM) to distribute and retrieve the questionnaires from respondents with the help of five research assistants through on the spot collection method. One research assistance for each institution selected for the study. The research assistants were briefed by the researcher on how to administer and retrieve the instrument. The researcher and her assistants administered the questionnaire to the respondents during their work hours and collect it right on the spot after they responded. This was done to ensure a high return rate and to avoid depletion which resulted to 95% rate of return.

Method of Data Analysis

Data collected were analyzed using mean and standard deviation to answer the research questions. The respondents' acceptance or rejection levels were determined using real limit of numbers as follows: Very High Extent (VHE) = 3.50-4.00, High Extent (HE) = 2.50-3.49, Low Extent (LE) = 1.50-2.49, and Very Low Extent (VLE) = 1.00-1.49. The t-test was used to test the null hypotheses at a 0.05 level of significance. A result was considered significant if the probability value is 0.05 or less, and insignificant if it is greater than 0.05. Expressed mathematically as: $P\text{-value} \leq 0.05$ is significant and insignificant if $P\text{-value} > 0.05$ and accepted or not accepted as the case may be.

CHAPTER FOUR

Results

This chapter present the result, interpretation and summary of major findings of the study.

Presentation and Interpretation of the Results

Research question 1: To what extent has IPPIS established reliable-database for enhancing productivity of adult educators in Federal Tertiary Institutions in NCN?

Table 1: Mean and standard deviations of respondents on the reliability of IPPIS database to enhance the productivity of adult educators. N=194

S/N	Item Statement	Mean	SD	Dec
1	Providing a reliable data base has reduced administrative distractions for enhanced job performance	2.14	.70	LE
2	Providing a reliable data base has enhances my teaching delivery	2.21	.71	LE
3	Providing a reliable data base has enhanced my research output	2.33	.74	LE
4	Providing a reliable data base has impacted on my collaboration with other researchers.	2.08	.88	LE
5	Providing a reliable data base has improved my training output to community youths.	2.25	.80	LE
6	Providing a reliable data base has improved timely delivery of student results.	2.83	.81	HE
7	Providing a reliable data base has affected my willingness to engage more effectively in community service.	2.13	.89	LE
8	Providing a reliable data base has promoted my timely completion of assigned content	2.59	.98	HE
Grand mean and SD		2.32	.81	LE

Key: VHE=Very High Extent. HE=High Extent. LE=Low Extent. VLE=Very Low Extent

Table 1 presents the responses to items (1-8) indicating an overall low level of agreement except items (6 and 8) that presents a high level of agreement that IPPIS has effectively establish a reliable database to enhance the productivity of adult educators in Federal Tertiary Institutions (FTIs) in North Central Nigeria (NCN). The grand mean score of 2.32 reflects this strong consensus, suggesting that the system has performed very poorly in providing accurate and dependable database to enhance adult educator's productivity in FTIs. Additionally, the standard deviation of 0.81 indicates a relatively low level of variability in responses underscoring the consistency and reliability of the mean data. These findings deductively, shows that IPPIS database can be perceived as an ineffective tool for improving the productivity of adult educators FTIs in NCN.

HO₁: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has established reliable-database for enhancing their productivity in Federal Tertiary Institutions in NCN.

Table 2: Summary of t-test on the mean ratings of respondents on the reliability of IPPIS database to enhance adult educators' productivity.

Group	Number	mean	sd	df	t-value	Sig(2 tailed)
Male	89	2.24	.81	192	0.29	0.64
Female	105	2.33	.82			

This table indicates that there is no significant difference in the mean ratings of male and female respondents regarding the reliability of IPPIS database in enhancing the productivity of adult educators. With the t-calculated value = 0.29 and p-value = 0.64, which exceeds the value of 0.05 level of significance, the null hypothesis is therefore accepted.

Research question 2: To what extent has IPPIS facilitated manpower planning for enhancing productivity of adult educators in Federal Tertiary Institutions in NCN?

Table 3: Mean and standard deviations of respondents on manpower planning of IPPIS to enhance the productivity of adult educators. N=194

S/N	Item Statement	Mean	SD	Dec
9	Improving teaching delivery	2.47	.74	LE
10	Improving the momentum of my conference attendance	2.22	.65	LE
11	Reducing workload imbalance among adult educators.	2.18	.73	LE

12	Improving teaching scheduling thereby reducing conflict among colleagues	2.28	.84	LE
13	influencing timely payment of salaries and allowances, which contribute to my research productivity	2.24	.81	LE
14	Improving the actualization of promotion target among adult educators via effective manpower planning.	2.62	.88	HE
15	Improving my career stability by supporting career development	2.10.	.95	LE
Grand mean and SD		2.00	.79	LE

Key: VHE=Very High Extent. HE=High Extent. LE=Low Extent. VLE=Very Low Extent

Table 3 presents the responses to items (9-15) indicating an overall low level of agreement except item (14) that presents a high level of agreement that IPPIS has facilitated effective manpower planning to enhance the productivity of adult educators in Federal Tertiary Institutions (FTIs) in North Central Nigeria (NCN). The grand mean score of 2.00 reflects this strong consensus, suggesting that the system has performed poorly in facilitating effective manpower planning to enhance adult educators' productivity. Furthermore, the standard deviation of 0.79 indicates a relatively low level of variability in responses showing the consistency and reliability of the overall mean data. These findings deductively, shows that IPPIS through facilitating effective manpower planning can be perceived as an inadequate tool for improving the productivity of adult educators' in FTIs in NCN.

HO₂: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has facilitated manpower planning for enhancing their productivity in Federal Tertiary Institutions in NCN.

Table 4: Summary of t-test on the mean ratings of respondents on IPPIS facilitation of manpower planning to enhance adult educators' productivity

Group	Number	mean	sd	df	t-value	Sig(2 tailed)
Male	89	2.01	.91	192	0.13	0.67
Female	105	2.00.	.81			

This table indicates that there is no significant difference in the mean ratings of male and female respondents regarding the IPPIS facilitation of manpower planning to enhance adult educators' productivity. With the t-calculated value = 0.13 and p-value = 0.67 which exceeds the 0.05 level of significance, the null hypothesis is therefore accepted.

Research question 3: To what extent has IPPIS provided critical information for enhancing adult educators' productivity in Federal Tertiary Institutions in NCN?

Table 5: Mean and standard deviations of respondents on critical information provided by IPPIS to enhance the productivity of adult educators. N=194

S/N	Item Statement	Mean	Mean	SD
16	Impacting my promotions leading to job motivation.	3.13	.86	HE
17	Impacting my pensions planning leading to job motivation.	2.91	.80	HE
18	Providing information regarding entitlement thereby impacting timely publication of research work	3.00	.73	HE
19	Providing information in my career advancement decisions for improved community service	2.90	.84	HE
20	Providing critical information which promote administrative Efficiency.	2.82	.86	HE
21	Providing critical information which helps academic and non-academic staff to make informed decisions regarding workload balance	2.86	.89	HE
Grand mean and SD		2.93	.85	HE

Key: VHE=Very High Extent. HE=High Extent. LE=Low Extent. VLE=Very Low Extent

Table 5 presents the responses to items from 16-21 indicating a high level of agreement that IPPIS has provided critical information to enhance the productivity of adult educators' in Federal Tertiary Institutions (FTIs) in North Central Nigeria (NCN). The grand mean score of 2.93 reflects this strong consensus, suggesting that the system has performed effectively in providing critical information to enhance adult educators' productivity. Again, the standard deviation of 0.85 indicates a relatively low level of variability in responses solidifying the consistency and reliability of the mean data. These findings deductively, shows that IPPIS through the provision of critical information can be perceived as a valuable tool for improving the productivity of adult educators' in FTIs in NCN.

HO₃: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has provided critical information for enhancing their productivity in Federal Tertiary Institutions in NCN.

Table 6: Summary of t-test on the mean ratings of respondents on IPPIS provision of critical information to enhance adult educators' productivity

Group	Number	mean	sd	df	t-value	Sig(2 tailed)
Male	89	2.89	.85	192	-0.69	0.58
Female	105	2.97.	.82			

This table indicates that there is no significant difference in the mean ratings of male and female respondents regarding the IPPIS provision of critical information to enhance adult educators' productivity. With the t-calculated value = -0.69 and p-value = 0.58, which exceeds the 0.05 level of significance, the null hypothesis is therefore accepted.

Research question 4: To what extent has IPPIS curtailed payroll fraud for enhancing the productivity of adult educators in Federal Tertiary Institutions in NCN?

Table 7: Mean and standard deviations of respondents on curtailing payroll fraud by IPPIS to enhance the productivity of adult educators. N=194

S/N	Item Statement	Mean	SD	Dec
22	Improving job satisfaction and commitment to work.	2.25	.84	LE
23	Reducing financial stress, thereby allowing staff focus better on teaching.	2.16	.74	LE
24	Increasing staff motivation to work.	1.90	.78	LE
25	Promoting a more productive work environment for adult educators.	2.11	.82	LE
26	Helping to maintain professional efficiency.	2.18	.79	LE
27	Improving workplace harmony and trust among colleagues in institutional management.	2.10	.85	LE
28	Increasing trust in institutional leadership.	2.10	.93	LE
29	Helping to maintained work-life balance.	2.31	.97	LE
Grand Mean and SD		2.14	.84	LE

Key: VHE=Very High Extent. HE=High Extent. LE=Low Extent. VLE=Very Low Extent

Table 7 presents the responses to items from 22-29 indicating an overall low level of agreement that IPPIS curtailed payroll fraud to enhance the productivity of adult educators' in Federal Tertiary Institutions (FTIs) in North Central Nigeria (NCN). The grand mean score of 2.14 reflects this strong consensus, suggesting that the system has failed to curtail payroll fraud to enhance adult educators' productivity in FTIs. In addition, the overall standard deviation of 0.84 indicates a relatively low level of variability in responses showing the consistency and reliability of the overall mean data.

These findings therefore, shows that IPPIS through activities has not been able to curtail payroll fraud and hence can be perceived as ineffective tool for improving the productivity of adult educators' in FTIs in NCN.

HO₄: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has curtailed payroll fraud for enhancing their productivity in Federal Tertiary Institutions in NCN.

Table 8: Summary of t-test on the mean ratings of respondents on IPPIS curtailing payroll fraud to enhance adult educators' productivity.

Group	Number	mean	sd	df	t-value	Sig(2 tailed)
Male	89	2.91	.81	192	0.30	0.54
Female	105	2.87.	.86			

This table indicates that there is no significant difference in the mean ratings of male and female respondents regarding the IPPIS on curtailing payroll fraud to enhance adult educators' productivity. With the t-calculated value = 0.30 and p-value = 0.54, which exceeds the 0.05 level of significance, the null hypothesis is therefore accepted.

Research question 5: To what extent has IPPIS effectively archived personnel records of adult educators in Federal Tertiary Institutions for enhancing their productivity in NCN?

Table 9: Mean and standard deviations of respondents on archiving personnel records by IPPIS to enhance the productivity of adult educators. N=194

S/N	Item Statement	Mean	SD	Dec
30	Improving access to promotions, salary adjustments, and leave entitlements	2.08	.88	LE
31	Reducing administrative bottlenecks thereby increasing focus on teaching	2.90	.78	HE
32	Providing clear documentation of qualification and performance records to enhanced my job performance	2.91	.85	HE
33	Reducing disputes related to entitlements thereby improving my community service.	2.09	.86	LE
34	Facilitating accurate pension planning and retirement processing thereby allowing focus on research	2.87	.88	HE
35	Facilitating accurate pension planning and retirement processing thereby allowing focus on teaching	2.18	.98	LE
	Grand Mean and SD	2.51	.87	HE

Key: VHE=Very High Extent. HE=High Extent. LE=Low Extent. VLE=Very Low Extent

Table 9 presents the responses to items from (30-35) indicating an overall high level of agreement except items (30, 33, and 35) that presents a low level of agreement

that that IPPIS has effectively archived personnel records to enhance the productivity of adult educators' in Federal Tertiary Institutions (FTIs) in North Central Nigeria (NCN). The grand mean score of 2.51 reflects this strong consensus, suggesting that the system has effectively archived personnel records to enhance adult educators' productivity. In addition, the overall standard deviation of 0.84 indicates a relatively low level of variability in responses showing the consistency and reliability of the overall mean data. These findings therefore, shows that IPPIS through its activities has been able to effectively archived personnel records and hence can be perceived as a valuable tool for improving the productivity of adult educators' in FTIs in NCN as regard adult educator's employment information.

HO₅: There is no significant differences in the mean ratings of male and female adult educators on the extent to which IPPIS has effectively archived personnel records for enhancing their productivity in Federal Tertiary Institutions in NCN.

Table 10: Summary of t-test on the mean ratings of respondents on IPPIS archiving personnel records to enhance adult educators' productivity

Group	Number	mean	sd	df	t-value	Sig(2 tailed)
Male	89	2.49	.69	192	0.91	0.39
Female	105	2.54.	.90			

This table indicates that there is no significant difference in the mean ratings of male and female respondents regarding the IPPIS on archiving personnel records to enhance adult educators' productivity. With the t-calculated value = 0.91 and p-value = 0.39, which exceeds the value of 0.05 level of significance, the null hypothesis is therefore accepted.

Summary of Findings.

The result of the data analysis as presented and interpreted from the table; the findings of the study shows that:

- IPPIS database can be perceived as an ineffective tool for improving the productivity of adult educators FTIs in NCN.
- IPPIS through facilitating effective manpower planning can be perceived as an inadequate tool for improving the productivity of adult educators' in FTIs in NCN.
- IPPIS through the provision of critical information can be perceived as a valuable tool for improving the productivity of adult educators' in FTIs in NCN.
- IPPIS through activities has not been able to curtail payroll fraud and hence can be perceived as ineffective tool for improving the productivity of adult educators' in FTIs in NCN.
- IPPIS through activities has been able to effectively archived personnel records and hence can be perceived as a valuable tool for improving the productivity of adult educators' in FTIs in NCN as regard information.
- there is no significant difference in the mean ratings of male and female respondents regarding the IPPIS on all the key variables to enhance adult educators' productivity.

CHAPTER FIVE

Discussion, Conclusion, Recommendation and Summary.

This chapter will be discussed under the following subhead. They include discussion of the findings, conclusions, contribution to knowledge, implications of the study, recommendations, limitations of the study, suggestions for further study and summary.

Discussion of findings

IPPIS database

The finding that the IPPIS database is perceived as an ineffective tool for enhancing the productivity of adult educators in federal tertiary institutions reflects growing dissatisfaction with centralized personnel management systems in Nigeria's public sector. This perception may be rooted in the system's technical, administrative, and structural limitations, particularly regarding its inability to address the unique needs and dynamics of educational institutions. Studies have highlighted that the rigidity of IPPIS often overlooks the peculiarities of academic scheduling, promotion structures, and allowances, especially for adult educators whose roles include part-time facilitation, community engagement, and research (Ezeani & Oladele, 2021). Adult educators frequently face delays in remuneration, exclusion of earned academic allowances, and limited input in data updates, all of which contribute to reduced motivation and morale.

Furthermore, the lack of integration of key institutional HRM (Human Resource

Management) functions into IPPIS has created gaps in decision-making support, which is crucial for performance evaluation and productivity improvement (Okoli & Eze, 2019). The system was designed more as a fiscal control mechanism to reduce ghost workers and payroll fraud (Adelakun, 2020), but it has not evolved to become a tool that actively supports human capital development or professional growth. This misalignment between the platform's operational goals and educators' professional needs likely accounts for its perceived ineffectiveness. Moreover, IPPIS's centralized structure undermines institutional autonomy, limiting the capacity of federal tertiary institutions to tailor human resource processes to their educational missions (Adebayo & Akinbode, 2022). As productivity among adult educators is closely linked to supportive institutional policies, prompt remuneration, and recognition of diverse work schedules, the current structure of IPPIS appears inadequate in facilitating these needs, hence the negative perception.

Man power planning

The finding that IPPIS, despite its intended role in facilitating effective manpower planning, is perceived as inadequate for enhancing the productivity of adult educators in federal tertiary institutions highlights the persistent mismatch between centralized payroll systems and the operational realities of academic environments. In theory, IPPIS was introduced to streamline personnel records, ensure accurate salary payments, and enhance transparency in public service payroll systems. One of its core objectives is to support manpower planning by maintaining a centralized and accurate database of staff across Ministries, Departments, and Agencies (MDAs) (Federal Ministry of Finance, 2018). Ideally, this database should enable strategic HR decisions such as deployment, workforce projections, and capacity development initiatives. However, in practice, studies show that IPPIS lacks the flexibility and contextual intelligence to accommodate the unique human resource needs of tertiary institutions, particularly those involved in adult education (Ezeani & Oladele, 2021). Adult

educators often work under non-traditional schedules, engage in community-based learning, and offer services across institutional boundaries, all of which are difficult to capture using a standardized, centrally managed platform like IPPIS (Onah & Ugwu, 2022). Moreover, the manpower planning enabled by IPPIS has largely remained administrative rather than developmental. That is, while it tracks numbers, it does little to support qualitative improvements such as staff training, career progression, and performance management key drivers of productivity (Okoli & Eze, 2019). This operational focus reduces IPPIS to a bureaucratic tool rather than a system that empowers institutions to make data-driven, productivity-enhancing HR decisions. Another critical issue is the inaccessibility of real-time data to institutional managers. Federal tertiary institutions do not have full control over their staff records in IPPIS, thereby limiting their ability to conduct internal manpower planning and staff development (Adebayo & Akinbode, 2022). This disconnect affects planning around workload balancing, recruitment, and the allocation of adult education resources directly impacting educator productivity. As a result, adult educators may perceive IPPIS as a compliance mechanism rather than a supportive planning tool, leading to reduced morale, inadequate workforce utilization, and administrative bottlenecks.

Provision of Critical Information

The finding that IPPIS can be perceived as a valuable tool for improving the productivity of adult educators through its provision of critical information is aligned with global best practices on digitalized human resource management systems (HRMS). At its core, IPPIS provides a centralized database that consolidates essential personnel and payroll information across federal institutions. This centralization enables efficient data-driven decision-making, which is essential for improving academic staff productivity, especially within adult education programs that require strategic resource deployment and performance monitoring. Access to timely and accurate personnel information allows institutional administrators to make informed decisions regarding

workload distribution, training needs, promotions, and optimal deployment of adult educators.

According to Ezenwoke and Tijani (2020), IPPIS enhances transparency in payroll management and provides a verifiable source of information that aids in staff planning, thereby contributing to institutional efficiency and productivity. Moreover, Onyeonoru (2018) highlights that the ability to analyze workforce data through digital systems like IPPIS is crucial for maintaining a high-performance environment in tertiary institutions. Adult educators, who often engage in non-traditional forms of teaching, such as community outreach and flexible learning schedules, benefit from systems that streamline personnel record keeping, identify skill gaps, and align competencies with institutional goals. The Federal Ministry of Finance (2018) also acknowledges that IPPIS contributes to improved human capital management by ensuring accurate data collection, which is essential for managing promotions, budgeting for staff development, and addressing staffing deficits. When these aspects are efficiently managed, adult educators experience enhanced support, which translates to higher morale, reduced administrative burdens, and ultimately improved productivity. Furthermore, the availability of critical information fosters greater institutional accountability and transparency, elements that are directly tied to performance motivation (Adebayo & Akinbode, 2022). The ability to track career progression, compensation status, and leave management on a reliable platform increases trust in administrative processes and allows adult educators to focus more on instructional delivery and community impact. Therefore, the provision of critical, accurate, and accessible information through IPPIS strengthens human resource planning and operational effectiveness, making it a potentially indispensable tool for supporting the performance and productivity of adult educators in federal tertiary institutions.

Curtail Payroll Fraud

The finding that IPPIS has not effectively curtailed payroll fraud in federal tertiary institutions highlights growing concerns among stakeholders, including adult educators, about the system's reliability and effectiveness. Although IPPIS was introduced by the Nigerian government to promote transparency, eliminate ghost workers, and streamline payroll processes, evidence suggests that significant fraudulent practices still persist, undermining the system's credibility and its intended impact on staff productivity. Studies such as Okoli and Eze (2019) indicate that despite initial improvements in payroll control, instances of duplicated salaries, incorrect deductions, delayed payments, and the persistence of ghost names have continued to plague institutions. These failures not only reflect gaps in the technological and human interfaces of IPPIS but also fuel distrust among educators, especially adult educators whose work conditions often lack structural stability and clear career progression paths. Adult educators are particularly vulnerable when payroll irregularities disrupt income flow, delay allowances, or result in underpayment. According to Akindele and Aluko (2020), such financial inconsistencies demoralize staff, reduce engagement in teaching and community programs, and shift attention toward survival rather than educational service delivery. Moreover, Ogunyemi and Ogundele (2021) argue that bureaucratic bottlenecks and lack of institutional autonomy in using IPPIS have created inefficiencies that worsen payroll discrepancies. In many cases, institutions are unable to update staff records or address salary anomalies without prolonged delays from the central IPPIS office, which further affects productivity. In addition, non-comprehensive integration of university peculiarities into IPPIS has been widely criticized by academic unions, including the Academic Staff Union of Universities (ASUU), which argues that the platform does not account for special allowances, sabbaticals, or multiple job roles often performed by adult educators (ASUU, 2020). These oversights have resulted in the systemic under-recognition of their contributions, leading to lower morale and reduced productivity. Therefore, when adult educators perceive that a supposedly

reformative system like IPPIS fails to address fundamental payroll irregularities, the outcome is a decline in institutional trust, which ultimately hinders their performance and effectiveness.

Archiving Personnel Records

The finding that IPPIS has been effective in archiving personnel records underscores one of the system's notable strengths in federal service management, especially in federal tertiary institutions across North-Central Nigeria. By centralizing staff data and maintaining digital archives, IPPIS contributes to improved administrative efficiency, transparency, and access to critical personnel information, which ultimately enhances the productivity of adult educators. According to Olatunji and Akinwunmi (2020), the digitization and centralization of employee records through IPPIS have reduced the duplication of files, improved data accuracy, and enabled quicker access to staff information such as employment history, salary grade, and promotion status. This accessibility enhances decision-making at both institutional and policy levels and allows adult educators to receive timely updates regarding entitlements and administrative changes.

Abdullahi (2021) further observes that institutions in North-Central Nigeria report improved workflow efficiency due to better record management systems. Staff are no longer burdened with physically tracking personnel files, and administrators can retrieve real-time data for audits, planning, and promotions. This streamlined access fosters an environment where adult educators can focus more on instructional delivery, curriculum development, and community outreach, thus increasing their overall productivity. Moreover, the reliable archiving function of IPPIS has also been linked to enhanced career planning and accountability. As noted by Ahmed and Ojo (2022), centralized records help in identifying training needs, monitoring career progression,

and detecting anomalies such as redundant roles or ghost workers, which in turn ensures that resources are efficiently allocated to genuinely productive personnel.

In addition, the Federal Ministry of Finance, Budget and National Planning (FMoFBNP, 2021) acknowledges that IPPIS has led to better manpower planning and staff deployment through accurate personnel records. For adult educators who often work in multidisciplinary or outreach-driven roles, this improves their ability to contribute effectively, knowing their profiles and contributions are formally documented and accessible for institutional planning. Thus, within the context of federal tertiary institutions in North-Central Nigeria, IPPIS's role in effective personnel record archiving is rightly perceived as a valuable asset in promoting the efficiency, transparency, and productivity of adult educators.

Hypotheses

The study tested the null hypothesis that there is no significant difference in the mean ratings of male and female respondents regarding the IPPIS on all the key variables to enhance adult educators' productivity. The analysis revealed that the null hypothesis was not rejected, indicating that both male and female respondents shared similar perceptions on the effectiveness of the Integrated Personnel and Payroll Information System (IPPIS) across key productivity variables. This finding suggests that gender does not significantly influence how adult educators perceive the impact of IPPIS on their productivity. Whether in areas such as payroll transparency, access to personnel records, facilitation of manpower planning, or provision of critical data for decision-making, both male and female respondents demonstrated comparable levels of agreement or disagreement.

Such a result aligns with prior research by Adebayo and Salawu (2021), which found that gender differences do not substantially influence attitudes toward digital

payroll systems among tertiary education workers in Nigeria. Similarly, Eze and Nwankwo (2020) noted that professional roles, rather than gender, are more likely to shape stakeholders' views on IPPIS implementation outcomes. The uniformity in perception may be attributed to the institutional and systemic nature of IPPIS, which provides the same user experience and benefits to all employees, regardless of gender. It may also reflect the shared challenges and expectations adult educators face within Federal Tertiary Institutions (FTIs), such as delays in salary payments, lack of transparency in deductions, or difficulty accessing updated personnel data issues that affect all staff members equitably. In conclusion, the finding underscores that policy reforms and improvements to IPPIS aimed at enhancing adult educators' productivity can be designed and implemented without needing to differentiate strategies based on gender. Stakeholder engagement, training, and system enhancements should be inclusive and address common institutional needs, ensuring equity and fairness in service delivery.

Conclusion

20 The study highlights a critical assessment of the effectiveness of Integrated Personnel and Payroll Information System (IPPIS) as it relates to the productivity of adult educators in Federal Tertiary Institutions (FTIs) in North Central Nigeria. The findings revealed a mixed perception of the effectiveness of IPPIS in achieving its stated goals—particularly as it pertains to adult educators' professional output, administrative efficiency, and overall job satisfaction. On one hand, the study found that IPPIS has shown positive outcomes in areas such as record archiving and the provision of critical information. These aspects are vital for personnel management, planning, and administrative transparency, and they suggest that IPPIS can indeed serve as a valuable tool for improving adult educators' productivity when optimally implemented. Effective data management contributes to decision-making and resource

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allocation, both of which are essential for supporting educators' functions (Agbonyeme & Okoye, 2021).

However, on the other hand, the study revealed persistent limitations in the system's ability to curb payroll fraud, streamline salary administration, and enhance manpower planning, these are factors that directly influence morale and efficiency. These inadequacies reflect systemic issues in the implementation and monitoring of IPPIS, thereby limiting its potential to boost productivity (Ogunyemi, 2020). The conclusion, therefore, calls attention to the gap between policy design and practical impact. Importantly, the study concludes that while IPPIS has infrastructural potential, its current operation requires reform and refinement. This call for a more responsive and inclusive policy framework that considers the unique challenges of adult educators is crucial. Policymakers must ensure that IPPIS is not merely a control mechanism, but a dynamic administrative tool that promotes transparency, equity, and professional growth.

Contribution to Knowledge

1. Empirical Insight into IPPIS Impact on Adult Educators:

3 This study provides empirical evidence on how the Integrated Personnel and Payroll Information System (IPPIS) influences the productivity of adult educators, an area that 8 has received limited scholarly attention, particularly in the context of Nigeria's Federal Tertiary Institutions in NCN

2. Reveals Perceptual Gaps in Policy Implementation:

The study contributes to knowledge by revealing perceptual disparities regarding the effectiveness of IPPIS. It shows that while the system is seen as efficient in archiving personnel records and providing critical information, it is perceived as ineffective in

curbing payroll fraud and enhancing manpower planning insights that inform both policymakers and system developers.

3. *Gender-Based Analysis of Perceptions:*

Through hypothesis testing, the study shows that there is no significant gender-based difference in the perception of IPPIS's effectiveness, contributing to the discourse on equity and inclusivity in administrative system evaluation.

4. *Practical Recommendations for Policy Reform:*

The findings offer practical, evidence-based recommendations for improving IPPIS's structure and application, particularly tailored to the productivity needs of adult educators. This adds value to administrative reform literature.

5. *Bridges the Gap between ICT Tools and Human Capital Development:*

By focusing on adult educators, the study bridges a critical gap between the deployment of digital payroll systems and their actual contribution to human capital development within the education sector.

6. *Foundation for Future Research*

The study lays the groundwork for future comparative or longitudinal studies on digital payroll systems and academic staff productivity, especially in developing countries.

Implication of the findings of study

The study has the following implications based on the major findings regarding the effectiveness of the Integrated Personnel and Payroll Information System (IPPIS) in enhancing adult educators' productivity in Federal Tertiary Institutions (FTIs) in NCN:

1. *Policy Reform is Urgent and Necessary*

The finding that IPPIS is perceived as ineffective in areas such as curbing payroll fraud and facilitating manpower planning implies a need for urgent policy review and reform.

If IPPIS cannot deliver transparency and accountability in payroll systems, its intended goal of improving institutional efficiency remains unmet.

2. *Potential Productivity Constraints on Adult Educators*

Since IPPIS does not adequately support strategic workforce planning, adult educators may face irregular promotions, poor deployment decisions, and administrative delays, which can reduce motivation and lower overall productivity.

3. *Missed Opportunities for Data-Driven Decision-Making*

The study revealed that IPPIS's ability to provide critical information is valued. This suggests that when leveraged properly, digital payroll systems like IPPIS can be powerful tools for real-time decision-making in HR and policy development. However, underutilization may limit institutional growth.

4. *Gender-Neutral Response to IPPIS Use*

With no significant difference in perceptions between male and female respondents, institutional efforts to reform or improve IPPIS can be implemented without needing to tailor interventions based on gender, simplifying policy strategies.

5. *Need for Capacity Building and System Optimization*

The findings suggest that the perceived inefficiencies in IPPIS may stem from inadequate system optimization or lack of user training. This implies that improved ICT literacy among administrators and educators could enhance the effectiveness of IPPIS in workforce management.

6. *Strategic Importance of Record Archiving*

Since IPPIS is seen as effective in personnel record management, institutions should capitalize on this strength to streamline human resource processes, support academic planning, and ensure timely staff benefits, promotions, and transfers.

7. *Stakeholder Confidence and Institutional Trust*

If payroll fraud remains inadequately addressed, stakeholder confidence in government-led digital initiatives may erode. This has broader implications for the adoption of future e-governance initiatives in the education sector.

Recommendations

Based on the major findings of the study regarding the effectiveness of Integrated Personnel and Payroll Information System (IPPIS) in enhancing the productivity of adult educators in Federal Tertiary Institutions (FTIs), the following recommendations are made:

1. *Strengthening the Anti-Fraud Mechanism within IPPIS*

The Federal Government should enhance the fraud-detection and accountability components of IPPIS. This can be achieved by integrating biometric verification, periodic audits, and cross-institutional payroll reconciliation to curtail payroll fraud and improve transparency.

2. *Review and Reengineer Manpower Planning Functions.*

To improve its effectiveness, IPPIS should be restructured to support dynamic manpower forecasting and planning. This would enable data-driven decisions regarding staff recruitment, deployment, promotion, and workload management for adult educators.

3. *Provide Continuous Training for IPPIS Users.*

Regular capacity-building workshops should be organized for both administrative staff and adult educators to ensure effective utilization of IPPIS tools, especially in areas like accessing records, updating profiles, and retrieving payroll information.

4. *Improve Integration Between IPPIS and Institutional HR Systems*

There should be seamless integration between IPPIS and institutional human resource management systems (HRMS) to enhance personnel record accuracy, streamline reporting processes, and ensure timely updates on staff data.

5. *Leverage IPPIS Data for Policy Development and Budgeting.*

Government ministries and educational administrators should utilize the data generated from IPPIS for evidence-based planning, especially in funding, staffing, and programme evaluation in adult education.

6. *Institutionalize Feedback Mechanisms on IPPIS Operations.*

Create channels (e.g., digital surveys, helplines) within each institution to gather periodic feedback from staff on IPPIS performance. This would allow for real-time troubleshooting and system refinement.

Limitations of the study

The following are the possible limitations of the study

1. *Limited Geographical Scope*

The study may have been confined to Federal Tertiary Institutions (FTIs) within a specific geopolitical zone (e.g., North-Central Nigeria), which limits the generalizability of the findings to other regions or states in Nigeria.

2. *Self-Reported Data*

The study relied on questionnaire responses, which are inherently subjective and may be influenced by social desirability bias, personal opinion, or limited understanding of IPPIS operations.

3. *Focus on Adult Educators Only*

The research exclusively targeted adult educators, excluding other categories of academic or non-academic staff. This narrow focus may not capture the broader institutional impact of IPPIS on overall productivity

4. *Access to IPPIS Operational Data*

The study did not involve direct access to internal IPPIS system data, such as audit reports, system logs, or payroll error frequencies, which could have provided objective evidence to complement the perceptions gathered.

5. *Dynamic Nature of IPPIS Policies*

IPPIS is a government-managed system subject to frequent policy changes and updates, which may have occurred during or after the study period, potentially affecting the relevance or accuracy of some findings.

6. *Lack of Longitudinal Analysis*

The study was cross-sectional in nature, capturing data at a single point in time. It did not track changes or impacts over a longer duration, which could reveal more sustained or evolving effects of IPPIS on productivity.

7. *Variability in Institutional Implementation*

Differences in how IPPIS is implemented or managed across various institutions (due to administrative efficiency, IT infrastructure, or staff training) may have influenced participants' experiences and perceptions, introducing variability that was difficult to control.

Suggestions for further study

The following topics are suggested for further study based on the findings and limitations of the study on IPPIS and adult educators' productivity in Federal Tertiary Institutions.

1. Comparative Analysis of IPPIS Implementation Across Nigeria's six Geo-Political Zones.
2. The Effect of IPPIS on Non-Academic Staff Productivity in Federal Institutions.
3. Assessment of IPPIS in Enhancing Payroll Transparency and Accountability in Public Institutions
4. The Role of Digital Literacy in Maximizing the Benefits of IPPIS Among Academic Staff

- 1 5. Longitudinal Study on the Impact of IPPIS on Career Development of Academic Staff
6. Evaluation of IPPIS Policy Reforms and their Effectiveness in Addressing Identified System Gaps
7. Staff Perception and Satisfaction with IPPIS in State-Owned vs Federal Tertiary Institutions in Nigeria
8. Impact of IPPIS on Timely Remuneration and Financial Wellbeing of University Lecturers
9. Exploring the Relationship Between IPPIS Data Accuracy and Institutional Planning in Higher Education
10. Gender-Based Analysis of IPPIS Effectiveness on Workforce Productivity in Academia

14 Summary of the Study

8 This study investigated the impact of the Integrated Personnel and Payroll Information System (IPPIS) on the productivity of adult educators in Federal Tertiary Institutions in North Central Nigeria. It examined key areas such as the effectiveness of IPPIS in providing critical information for decision-making, curtailing payroll fraud, facilitating manpower planning, and archiving personnel records. Using a descriptive survey design, data were collected from both male and female adult educators across selected institutions. Findings revealed mixed perceptions: while IPPIS was seen as valuable in archiving records and providing decision-making data, it was perceived as ineffective in curtailing payroll fraud and enhancing manpower planning. Additionally, no significant gender differences were found in respondents' perceptions across the studied variables. The study concluded that for IPPIS to fully enhance adult educators' productivity, systemic reforms are needed to address its current limitations.

