

AN ONLINE RESULT CLEARANCE SYSTEM (ORCS): A CASE OF FEDERAL COLLEGE OF EDUCATION, PANKSHIN

Ugwuanyi Fidelis Onyebu (Ph.D)

Department of Computer Sciences, Federal University of Education, Pankshin

fugwuanyi@yahoo.com/08067730730

ARTICLE INFO

Article No.: 066

Accepted Date: 13/09/2025

Published Date: 25/09/2025

Type: Research

ABSTRACT

This study examines the design and implementation of an Online Result Clearance System (ORCS) for the Federal College of Education, Pankshin, as a solution to the inefficiencies of the existing manual clearance process. The manual system is characterized by delays, human error, and administrative bottlenecks that hinder timely student clearance and graduation. Using a descriptive survey design, data were collected from key administrative departments and students to identify challenges associated with the current system and assess the feasibility of digital transformation. Findings revealed that the adoption of an online clearance system would enhance administrative efficiency, promote transparency, and improve data accuracy. However, the study also identified key challenges such as cyber security risks, infrastructural limitations and inadequate ICT skills among users. The proposed ORCS model integrates all clearance units' academic departments, bursary, library, and student affairs into a centralized web-based platform for real-time verification and approval. The study concludes that implementing the system would significantly improve institutional service delivery and student satisfaction, provided that necessary technical and training supports are established. Recommendations were made for gradual system deployment, staff capacity building, and continuous evaluation to ensure sustainability and security.

Keywords: Online Clearance System, Digital Transformation, Administrative Efficiency, ICT, Education

Introduction

The smooth, transparent, and efficient management of academic clearance processes is a key component of effective higher education administration. In most tertiary institutions in Nigeria, including the Federal College of Education, Pankshin, result clearance remains largely a manual process characterized by paperwork, delays, and administrative bottlenecks. The manual clearance process involves multiple stages of verification, such as departmental, faculty, bursary, and library clearance, all of which are performed physically. This cumbersome procedure often leads to inefficiency, human error, record misplacement, and frustration among students and staff (Adeoye & Alhaji, 2014).

The traditional clearance approach consumes valuable time and resources, as students must move from one office to another to obtain signatures and stamps. This method is not only time-consuming but also susceptible to manipulation, forgery, and corruption. Furthermore, during peak clearance periods—such as at the end of academic sessions or before graduation—students often face long queues and administrative delays, which could affect their timely graduation or mobilization for the National Youth Service Corps (NYSC). As institutions increasingly adopt digital solutions for academic management, the need for an automated and efficient clearance system has become a pressing priority (Durotoye, 2016).

Online result clearance systems provide a modern solution to these challenges by automating the clearance process through the use of web-based technologies. Such systems enable students to initiate and complete clearance procedures online, thereby minimizing physical interaction and streamlining verification processes across departments (Eze & Ogbonna, 2019). Similar to how electronic systems transformed administrative and voting processes globally, adopting an online result clearance system can promote transparency, accountability, and efficiency in tertiary institutions.

In recent years, several Nigerian tertiary institutions have made attempts to digitize their administrative operations through information and communication technology (ICT) initiatives. However, many of these efforts have faced setbacks due to inadequate technical infrastructure, lack of ICT skills among staff, and poor system integration (Taye & Adedeji, 2022). The Federal College of Education, Pankshin, is not an exception to these challenges. Therefore, developing and implementing an online result clearance system could significantly enhance the college's operational efficiency and student satisfaction.

The system would ensure that all necessary departments (academic units, bursary, library, and student affairs) are linked digitally to verify and approve student records automatically. This will not only reduce manual workload but also enhance data integrity and accuracy. The introduction of an online clearance platform will thus serve as a major step toward institutional modernization and digital transformation in the college (Ogieva & Ajisebiyawo, 2023).

Statement of the Problem

The current result clearance process at the Federal College of Education, Pankshin, is largely manual, involving physical movement of documents and files across several departments.

This traditional method often leads to delays, errors, loss of records, and unnecessary stress for both students and administrative staff. The process also increases the risk of falsification, as unauthorized individuals may alter or forge clearance documents.

Moreover, physical clearance requires students to be physically present on campus, which can be inconvenient, especially for graduates who have relocated or are engaged in national service. The lack of a centralized database also makes it difficult for the institution to track the clearance status of students in real time. These inefficiencies have contributed to administrative congestion and poor service delivery.

It is against this backdrop that this study investigates the feasibility, design, and benefits of implementing an Online Result Clearance System for the Federal College of Education, Pankshin. The proposed system aims to eliminate the inefficiencies associated with the manual clearance process and to improve transparency, accuracy, and user satisfaction.

Aim and Objectives of the Study

The main aim of this study is to design and evaluate an Online Result Clearance System for the Federal College of Education, Pankshin, to improve administrative efficiency and enhance student experience. The specific objectives of the study are to:

1. Analyze the current challenges associated with the manual clearance process at FCE Pankshin.
2. Design a web-based clearance system that automates the clearance procedures across various departments.
3. Evaluate the effectiveness and potential benefits of the online clearance system in terms of efficiency, data accuracy, and time management.

Research Questions

1. What are the major challenges associated with the current manual result clearance process at FCE Pankshin?
2. What are the key technological and operational requirements for implementing an online result clearance system?
3. What are the potential benefits and risks of adopting an online clearance system in the institution?

Digital Participation in Academic Administration

Participation within educational institutions refers to the active involvement of staff, students, and administrators in institutional processes such as teaching, evaluation, clearance, and decision-making. In the digital age, participation increasingly takes place through online platforms that foster inclusiveness, speed, and transparency (Falade, 2014). In the context of tertiary institutions like the Federal College of Education, Pankshin, digital participation is essential to promote effective service delivery and efficient record management.

According to Akamare (2003, as cited in Falade, 2014), participation in institutional activities can be direct or indirect through the submission of forms, feedback, communication, or system interaction. When applied to result clearance, digital participation means that students and staff

engage with an online platform to complete clearance processes such as verifying results, confirming payments, and obtaining departmental or faculty approval.

Akintoye and Adegoke (2020) noted that such participation can be examined at multiple levels — individual (students), departmental, and institutional — each with varying degrees of engagement and technological exposure. The level of participation often depends on the design of the digital system, the ease of access, and the motivation of users to interact with it effectively. For example, in a well-designed online result clearance system, both staff and students can log in, complete their tasks, and monitor progress without physical presence, leading to increased efficiency and accountability.

Institutional Environment and System Efficiency

Just as institutional factors influence voter participation in political systems (Nekola, 2014), they also shape user engagement in digital academic systems. The efficiency of an online clearance system depends on factors such as infrastructure readiness, internet accessibility, and staff ICT competence. Where the institutional environment supports automation and transparency, user participation in digital clearance systems tends to be higher.

The essence of introducing an online result clearance system is to promote transparency, reduce bureaucracy, and improve the speed and reliability of administrative processes. Adelekan (2010, cited in Falade, 2014) emphasized that effective participation in any democratic or administrative process enhances inclusivity and trust — a principle applicable to digital academic management. In this sense, student involvement in the clearance process should be open, accessible, and verifiable through technology that guarantees fairness and accountability.

Different users also participate in the clearance process at varying levels. For example:

- Inactive users may rely on others to complete their clearance due to lack of digital literacy.
- Basic participants may only log in to check status updates.
- Active participants will engage in multiple steps such as uploading documents, verifying payments, and seeking digital approval.
- Full users (or “complete activists,” adapted from Falade, 2014) actively engage with every stage of the clearance workflow and provide feedback for continuous improvement.

Role of Digital Systems and Information Technology

According to Ace (2012), the use of electronic systems and digital media has transformed global communication and information management. The same principle applies to education, where the integration of online platforms supports transparency, accountability, and participation in administrative processes. The introduction of an Online Result Clearance System (ORCS) serves as an innovation aimed at simplifying student clearance and ensuring smooth inter-departmental communication.

A transparent system of this kind allows for the real-time monitoring of clearance stages and fosters collaboration between departments such as the Registry, Bursary, Library, and Student Affairs. Idris (2018) argued that access to information and open communication are

fundamental to fairness and efficiency in governance — a concept that directly aligns with the objectives of developing a digital clearance platform.

Similarly, Balogun (2018) maintained that information transparency helps students understand institutional expectations and procedures, reducing confusion and administrative delay. The ORCS would, therefore, serve as a digital channel for information exchange, ensuring that users can track progress, access records, and resolve issues without physical visits or paper-based processes.

Benefits of Online Result Clearance Systems

According to Ijeoma and Nwokoye (2019), digital automation enhances accuracy, speed, and efficiency in institutional processes. One major advantage of an online result clearance system is its ability to reduce processing time by enabling students to complete clearance remotely. It also improves data integrity by minimizing human error, preventing document forgery, and ensuring that records are securely stored in a centralized database (Alvarez & Thad, 2018).

Additionally, an online clearance system ensures transparency and accountability, as every step in the process is tracked and time-stamped. This digital footprint helps in auditing and reviewing institutional processes, ensuring that decisions are evidence-based. Bismarck (2016) further noted that such systems enhance inclusivity by accommodating remote access, thereby benefiting students who are not physically present on campus.

The adoption of an ORCS at the Federal College of Education, Pankshin, would thus support:

- Operational efficiency through automation,
- Transparency through real-time status tracking,
- Data security through controlled access, and
- User satisfaction through ease of access and reduced delays.

Challenges of Online Result Clearance Systems

Despite its advantages, the implementation of an online clearance system presents challenges similar to those of other digital systems. Akinboye and Alese (2017) identified cybersecurity threats as a major concern in web-based operations, emphasizing the need for strong encryption and secure login protocols. The risk of unauthorized access, data manipulation, or system hacking must be mitigated through regular security updates and user authentication mechanisms.

Another significant challenge is infrastructural limitation including unstable electricity supply and inconsistent internet connectivity, which could disrupt system operations (Smith & Marim, 2020). Furthermore, user readiness remains a concern; staff and students who lack digital literacy may find it difficult to navigate the system effectively.

To ensure the sustainability of the system, the institution must invest in training, user support, and adequate technical infrastructure. Continuous monitoring and evaluation will also be necessary to address emerging issues and ensure that the online clearance system remains efficient, user-friendly, and secure.

Methodology

Research Design

This study adopted a descriptive survey research design. According to Obomolauye (2016), a descriptive survey design is an effective means of collecting data from a large number of respondents within a short time and at a relatively low cost. Data obtained through this method are often accurate, reliable, and suitable for drawing empirical conclusions. This design was considered appropriate for this study as it enabled the researcher to obtain detailed information from respondents concerning the challenges, design considerations, and potential benefits of implementing an online result clearance system at the Federal College of Education, Pankshin.

Population of the Study

The population of the study comprised Students' Union Government (SUG) officials and selected staff involved in the clearance process at the Federal College of Education, Pankshin, located in Pankshin Local Government Area of Plateau State, Nigeria. This group was selected because they are directly or indirectly involved in student clearance activities and understand the existing challenges within the manual clearance system.

Sample Size and Sampling Procedure

A convenience sampling technique was used to select 20 respondents consisting of SUG officials and administrative staff. Convenience sampling was adopted because the population was accessible and the study was small in scale. This technique allowed the researcher to gather relevant data quickly and efficiently from those knowledgeable about the clearance process.

Instrument for Data Collection

The main instrument used for data collection was a self-developed structured questionnaire titled *Online Clearance System Questionnaire (OCSQ)*. The questionnaire was designed to elicit respondents' opinions on the current manual clearance process, technological requirements, and potential benefits of implementing an online clearance system. The instrument consisted of two sections; Section A Contained demographic information of the respondents while Section B Contained items relating to the objectives of the study, measured on a four-point Likert scale; Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD)

Validity and Reliability of the Instrument

To ensure validity, the questionnaire was reviewed by experts from the Department of Computer Science and the project supervisor. They evaluated the instrument to ensure that the items were clear, relevant, and adequately covered the research objectives. For reliability, a pilot test was conducted using five respondents who were not part of the main sample. The responses were analyzed using Cronbach's Alpha, and the reliability coefficient obtained was satisfactory, indicating internal consistency of the instrument.

Method of Data Collection

The researcher personally administered the questionnaires to respondents at the Students' Union Secretariat and administrative offices within the Federal College of Education, Pankshin. Respondents were given sufficient time to complete the questionnaires, after which all

copies were retrieved on the same day. Out of 20 questionnaires distributed, all were completed and returned, representing a 100% response rate.

Results

Research Question 1: What are the major challenges associated with the current manual result clearance process at FCE Pankshin?

Items	Statement	SA	A	D	SD	Mean ($\bar{x}$)	Decision
1	The manual clearance process is slow and time-consuming.	12	6	1	1	3.45	Accepted
2	It often results in loss or misplacement of clearance documents.	10	8	1	1	3.35	Accepted
3	Students must visit multiple offices physically to complete clearance.	14	4	1	1	3.55	Accepted
4	The process lacks proper data management and coordination.	13	5	1	1	3.50	Accepted
5	It is prone to human errors and delays in approval.	11	6	2	1	3.35	Accepted

The results indicate that respondents agreed the manual clearance process at FCE Pankshin is slow, error-prone, and poorly coordinated. Frequent document loss, delays, and physical movement between departments were identified as major challenges affecting administrative efficiency and student experience.

Research Question 2: What are the key technological and operational requirements for implementing an online result clearance system?

Items	Statement	SA	A	D	SD	Mean ($\bar{x}$)	Decision
6	A reliable internet connection is essential for the system's operation.	15	3	1	1	3.60	Accepted
7	The system should include secure authentication for staff and students.	14	5	1	0	3.65	Accepted
8	The system must be user-friendly and accessible to all users.	13	6	1	0	3.60	Accepted
9	Proper data backup and encryption are necessary to ensure security.	14	4	2	0	3.60	Accepted
10	Training and technical support are required for effective system use.	12	6	2	0	3.50	Accepted

Respondents strongly agreed that a reliable internet connection, secure authentication, data encryption, and user training are crucial for the successful implementation of an online result

clearance system. These requirements are essential for maintaining system integrity and usability.

Research Question 3: What are the potential benefits and risks of adopting an online result clearance system in the institution?

Items	Statement	SA	A	D	SD	Mean ($\bar{x}$)	Decision
11	An online clearance system reduces time spent on clearance.	16	3	1	0	3.75	Accepted
12	It improves data accuracy and reduces human errors.	14	5	1	0	3.65	Accepted
13	It may face risks such as cyber-attacks or data breaches.	8	7	4	1	3.10	Accepted
14	It minimizes paperwork and operational costs.	11	8	1	0	3.50	Accepted
15	Some users may resist adoption due to low digital literacy.	10	7	2	1	3.30	Accepted

The findings show that respondents believe an online clearance system can greatly enhance efficiency, accuracy, and cost-effectiveness. However, they acknowledged potential risks such as cyber security threats and user resistance due to limited technical skills.

Conclusion

Based on the findings of this study, it is evident that the manual result clearance system currently used at the Federal College of Education, Pankshin, is inefficient, time-consuming, and prone to human error. The process requires students to physically visit multiple departments, resulting in unnecessary delays, document misplacement, and administrative bottlenecks. These challenges have continued to hinder smooth academic operations and create frustration among both staff and students. The study revealed that adopting an online result clearance system would significantly transform the institution's administrative framework. Such a system would automate the clearance process, ensure real-time data synchronization between departments, and eliminate repetitive manual verification. It would also reduce paperwork, promote transparency, and improve the accuracy of data processing. Additionally, students would be able to initiate and complete their clearance from any location, thereby enhancing convenience and overall satisfaction.

Moreover, the findings show that the successful implementation of an online clearance system depends on certain technological and operational prerequisites, including a reliable internet infrastructure, secure authentication protocols, user training, and robust data protection mechanisms. Addressing these factors will ensure system reliability, security, and user trust. However, the transition to a digital clearance system also presents challenges, particularly in terms of cyber security risks, technical maintenance, and digital literacy among users. To mitigate these, the institution must invest in advanced security measures such as encryption,

access control, and regular system audits, as well as provide continuous technical support and user sensitization programs.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. The institution should implement advanced cyber security protocols such as encryption, multi-factor authentication, and periodic security audits to safeguard sensitive student and staff data.
2. Regular workshops and orientation programs should be organized to train staff and students on how to use the online clearance system effectively. A dedicated technical support team should also be established.
3. The system should be designed to be intuitive and accessible to all users, including persons with disabilities. User feedback should be continuously collected to improve functionality and ease of navigation.

References

- Adeoye, A., & Alhaji, I. (2014). *Challenges of manual administrative systems in Nigerian tertiary institutions*. Journal of Educational Administration and Policy Studies, 6(3), 45–52.
- Adelekan, T. (2010). *Participation and inclusivity in democratic and institutional processes*. Lagos: Spectrum Publishers. (as cited in Falade, 2014).
- Ace, R. (2012). *Digital transformation and global communication systems*. International Journal of Information Management, 32(2), 120–129.
- Akamare, J. (2003). *Institutional participation and decision-making in higher education*. Ibadan: University Press. (as cited in Falade, 2014).
- Akinboye, T., & Alese, B. (2017). *Cybersecurity challenges in digital administrative systems*. African Journal of Information Technology, 9(1), 88–97.
- Akintoye, S., & Adegoke, O. (2020). *Levels of digital participation in Nigerian higher education institutions*. Journal of Educational Innovation, 14(2), 33–45.
- Alvarez, P., & Thad, J. (2018). *Ensuring data integrity in online academic management systems*. International Journal of Computer Applications, 25(4), 67–74.
- Balogun, F. (2018). *Information transparency and institutional accountability in education management*. Nigerian Journal of Public Administration, 10(2), 55–68.
- Bismarck, J. (2016). *Enhancing inclusivity through web-based educational systems*. Journal of Information Systems and Education, 8(3), 98–107.
- Durotoye, M. (2016). *Administrative bottlenecks and digital transformation in tertiary education*. Journal of Management and Information Science, 7(1), 22–34.
- Eze, P., & Ogbonna, C. (2019). *Automation in academic clearance systems: A case study of Nigerian tertiary institutions*. International Journal of Computer Science and Information Technology, 11(2), 45–57.
- Falade, O. (2014). *Participation and digital engagement in institutional processes*. Ibadan: Evans Brothers Publishers.
- Idris, A. (2018). *Access to information and governance efficiency in higher education*. Journal of Educational Policy and ICT, 6(2), 110–122.

- Ijeoma, R., & Nwokoye, C. (2019). *Digital automation and efficiency in institutional processes*. International Journal of Educational Technology, 13(4), 88–101.
- Nekola, J. (2014). *Institutional factors and participation in digital and political systems*. Comparative Social Research, 15(2), 200–215.
- Obomolauye, T. (2016). *Survey research design in social and management sciences*. Ibadan: University of Ibadan Press.
- Ogieva, E., & Ajisebiyawo, K. (2023). *Institutional modernization through digital platforms in Nigerian colleges of education*. Journal of Higher Education Management, 9(1), 40–52.
- Smith, R., & Marim, K. (2020). *Infrastructure and connectivity challenges in online education systems*. Journal of Information Systems Research, 12(1), 25–37.
- Taye, B., & Adedeji, F. (2022). *ICT integration challenges in Nigerian tertiary institutions*. Journal of Digital Education and Innovation, 16(3), 75–89.