FEASIBILITY STUDY REPORT
Commercialization of an Automated System for Examination Timetable, Hall Distribution, and Seat Allocation

Submitted by: Federal Polytechnic, Ilaro
Date: October 16, 2025

1. Executive Summary

This feasibility study assesses the Examination Management System (EMS), a proprietary software program created at the Federal Polytechnic, Ilaro, in terms of its technological, financial, operational, and commercial viability. The software automates three crucial, prone to mistakes, tertiary education processes: seat allocation, hall distribution, and examination schedule production. Technical maturity, economic sustainability, operational viability, and commercial promise are all confirmed by the study for EMS. Nigeria's 200+ tertiary institutions will be able to successfully scale out the initiative thanks to strong institutional support, a lean implementation plan, and connection with national digital education goals.

2. Background and Problem Statement

Exam planning in Nigerian higher education institutions is still done manually or with little automation, which results in:

1. Regular scheduling conflicts and venue overlaps
2. Inefficient seating arrangements that result in crowding or underuse
3. Predictable seating raises the possibility of exam misconduct
4. An administratively heavy workload (60–100 staff hours per exam cycle)
5. Exam-related student discontent and logistical difficulties

The EMS was created internally to overcome these obstacles by utilising real-time data validation and constraint-based algorithms. It has undergone a successful internal pilot at the Federal Polytechnic, Ilaro.

3. Objectives

The objectives of the feasibility study include the following:

1. Examine the technological preparedness for commercial use
2. Assess the financial requirements and cost-effectiveness
3. Examine how different institutional frameworks incorporate operations.
4. Assess market prospects and long-term revenue viability
5. Verify compliance with the NASENI indigenous innovation mission.

4. Methodology

The research used:
1. Review of system design and pilot report documentation
2. Interviews with stakeholders, including students, IT personnel, and academic planners
3. A cost comparison between automated and manual processes
4. A market study on the adoption readiness of ten postsecondary institutions
5. Risk evaluation with PESTEL and SWOT frameworks

5. Technical Feasibility

EMS is a functional prototype with a responsive web interface that is built on a Python-Django + PostgreSQL stack. Although technically possible, the proposed budget only funds modest improvements (UI/UX, mobile layer).

1. Scalable Architecture: Multiple campuses can have users at once thanks to the cloud-ready design.
2. Security: Makes use of role-based access, data encryption, and audit trails.
3. Mobile Integration: To assist students in finding their seats, a native iOS and Android app is being developed.
4. Interoperability: Suitability for use with common student information systems is confirmed**.**

6. Economic Feasibility

Metric	**Value**
Total Project Cost	₦29,247,500
NASENI Request	₦25,747,500
Institutional Contribution	₦3,500,000
Cost per Institution (Pilot)	₦3,250,000 / 5 = **₦650,000**
Estimated Annual License Fee (Post-Grant)	₦500,000 – ₦1.5M per institution
Break-Even Point	**Year 2** (with 20 institutional subscribers)

Cost-Benefit Insight:

NASENI investment will provide a high social return on investment through educational efficiency and integrity; institutions will save between ₦300,000 and ₦800,000 year in administrative overhead. In conclusion, it is economically feasible and has a clear route to sustainability.

7. Operational Feasibility

Operationally feasible and causing the least amount of disturbance to current processes. The duration of deployment, including data migration, is less than 72 hours for each institution. The EMS team also offers Tier-2 support, whilst the institution's IT department offers Tier-1 support, which includes the following:
1. User Acceptance: According to our survey, 92% of employees claimed they would be open to adopting provided they received training.
2. Training Schedule: two days of on-site instruction with digital guides that are budgeted.

8. Market and Commercial Feasibility

Our EMS is intended for use by 110+ polytechnics and colleges, 47 State universities, and 43 Federal universities. The national push for digital transformation in education (NUC, NBTE regulations), growing worries about exam cheating, and financial restraints that favour cost-saving automation are some of the factors driving demand. As the first Nigerian-built, context-aware solution, our model has a competitive advantage over international alternatives (like EMS from India or the UK) due to its localised support and customisation, as well as its reduced cost.

Revenue Model:

1. Tiered SaaS licensing (Basic: ₦500k, Premium: ₦1.5M/year)
2. One-time setup fee waived during pilot phase

9. Risk Analysis & Mitigation

Risk	Likelihood	Impact	Mitigation Strategy
Low institutional buy-in	Medium	Medium	Free pilot + stakeholder workshop
Technical failure during exams	Low	High	Redundant servers, offline mode, 24/7 support
Budget overrun	Medium	Medium	5% contingency + phased rollout
Data privacy concerns	Low	High	GDPR-inspired protocols, penetration testing

10. Alignment with NASENI Mandate

This project directly supports NASENI’s strategic pillars:

- Indigenous Technology Development
- Commercialization of R&D Outputs
- National Problem-Solving through Engineering Innovation
- Capacity Building in Digital Infrastructure

11. Conclusion and Recommendation

The Exam Management System (EMS) is viable from a technical, financial, operational, and business standpoint. It offers a domestically developed, scalable, and sustainable solution to a pressing national issue.

Recommendation:
To support the 12-month commercialisation phase, which includes deployment in five pilot institutions, mobile app development, stakeholder engagement, and independent evaluation, NASENI ought to consider the ₦25,747,500 grant request.
By improving examination integrity, administrative effectiveness, and Nigeria's innovation environment, EMS will evolve from a campus prototype to a nationally recognised digital public benefit.

Prepared by:
Dr. Mrs Esther Oduntan
Prinicpal Investigator
For EMS Team
Federal Polytechnic, Ilaro
Ogun State, Nigeria