Data Handling Stages, Access Control and Information Security Practice among Non-Academic Staff in State-owned Polytechnics, Oyo State, Nigeria

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In Partial Fulfillment of the Requirements for the Award of Master's Degree (M.Sc.) in Office and Information Management

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Certification

This is to certify that **Ibrahim Sunday, OYEKOLA,** with Matriculation Number **LCU/PG/006349**, carried out this research work titled "Data Handling Stages, Access Control and Information Security Practice among Non-Academic Staff in Oyo State-owned Polytechnics, Nigeria" in the Department of Information Management, Faculty of Communication and Information Sciences, Lead City University, Ibadan, Oyo State, Nigeria, for the award of Master of Science (MSc.) in Office and Information Management, and that this has not been previously submitted.

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Dedication

This Thesis is dedicated to Almighty God. Also to my beloved parents, wife and child.

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Acknowledgment

I am deeply grateful to the management and staff of Lead City University, Ibadan, for their support and for providing a conducive environment throughout my study and research journey. Special thanks to the management and staff of The Polytechnic, Ibadan, Adeseun Ogundoyin Polytechnic, Eruwa, and The Oke-Ogun Polytechnic, Saki, for their cooperation during data collection and for sharing valuable information.

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Abstract

Information security serves as the strategic effort to shield data from threats that could compromise its privacy, accuracy, and accessibility. This study investigated the influence of data handling stages, access control and information security practices among Non-Academic staff in Oyo State–owned polytechnics, Nigeria. Traid CIA model, Record Continuum Model and Role-Based Access Control Model guided the study. The study used a descriptive survey design, for the population of 1109. The sample size for the study is 285 which was derived using Krejcie and Morgan sample size table and stratified sampling techniques was employed. Primary tools for data collection was a structured questionnaires which was administered among the non-academic staff of The Polytechnic, Ibadan; Adeseun Ogundoyin Polytechnic, Eruwa; The Oke-Ogun Polytechnic, Saki; after which 272 valid responses were analyzed using SPSS. Descriptive results showed a high level of information security practice x = 3.10, a high implementation of data handling stages x = 2.89, and a high level of access control compliance x = 3.1. Multiple regression revealed that data handling stages and access control significantly predicted information security practice ($R = .700$, $R^2 = .490$, $F(2,269) = 129.311$, $p < .001$). Access control was the main predictor ($\beta = .655$, $t = 14.438$, $p < .001$), while data handling stages made a smaller but significant contribution ($\beta = .125$, $t = 2.752$, $p = .006$). The findings indicate that strong role and permission management substantially enhance confidentiality, integrity, and availability of institutional records, whereas gaps in systematic classification, archiving, monitoring of system use, and control of unauthorized software weaken overall resilience. The study concludes and recommended that strengthening access-control mechanisms, institutionalizing clear data-handling procedures, instituting regular training and periodic user-access reviews will substantially improve information security among registry staff.

Keywords: Information security practice, Data handling stages, Access control, Non-Academic staff, Oyo State

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List of Acronyms

Abbreviation	Meaning
AI	Artificial Intelligence
ABAC	Attribute-Based Access Control
CIA	Confidentiality, Integrity, and Availability
DAC	Discretionary Access Control
DRBAC	Dynamic Role-Based Access Control
GDPR	General Data Protection Regulation
ICT	Information and Communication Technology
IoT	Internet of Things
MAC	Mandatory Access Control
NBTE	National Board for Technical Education
NIST	National Institute of Standards and Technology
PBAC	Policy-Based Access Control
RBAC	Role-Based Access Control

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