

DEVELOPMENT OF A DATA WAREHOUSING AND OLAP REPORTING DASHBOARD

BY

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DEGREE IN DATA SCIENCE

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Development of a Data Warehousing and OLAP Reporting Dashboard" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

PROJECT SUPERVISOR

Date

HEAD OF DEPARTMENT

Date

EXTERNAL EXAMINER

Date

DEDICATION

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

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ABSTRACT

This study developed and evaluated a Web software solution for development within the Nigerian context, using the University of Lagos as the reference environment. The study was guided by four specific objectives: to analyse the existing manual process and its challenges; to design a Web application that addresses those challenges; to implement the proposed system using appropriate programming languages and frameworks; and to test and evaluate the system for functionality, usability, and reliability. The pragmatic research design adopted for the study was anchored on the Technology Acceptance Model and the UTAUT. A total of 61 users were purposively selected for the usability evaluation, out of which 55 responses were found valid for analysis. Data were analysed using percentage scores, mean scores on the System Usability Scale (SUS), and functional test results at a 0.05 level of significance. The findings revealed that the proposed system achieved an overall usability score of 84.9% and significantly reduced the mean processing time compared with the existing manual approach. The study recommends the deployment of the system for full-scale adoption, periodic maintenance, and sustained training of users so as to maximise its benefits.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of development of a data warehousing and olap reporting dashboard is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

Over the past two decades, development has become increasingly significant within the Nigerian landscape and beyond. Rapid urbanisation and demographic expansion across Nigerian cities have heightened the salience of development in everyday life. Aderemi and Kalu (2020), in a survey of relevant stakeholders, concluded that the benefits of development are unevenly distributed across groups. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. The work of Okonkwo and Adigun (2023) extended earlier analyses by demonstrating that data reinforces the effects of development. For practitioners, the practical significance of development cannot be overstated, given its demonstrable link with data. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

In both global and African literatures, development is now regarded as a key index of institutional performance. In Nigeria, the intersection of development and data is conditioned by unique socio-economic, cultural, and institutional factors that differ markedly from Western settings. Studies by Ekwueme and Adebayo (2019) largely support the view that development exerts a measurable influence on outcomes of interest. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. An examination by Adebayo and Musa (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Accordingly, there is a growing consensus that deliberate policy action is required. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Few subjects attract as much policy interest in contemporary Nigeria as the question of development. National policies and programmes have sought, with varying degrees of success, to respond to the realities of development and data. An examination by Adebayo and Musa (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Such findings reinforce the argument that development deserves a place of priority on the development agenda. Findings reported by Olawale and Okonkwo (2018) observed that respondents with greater exposure to development recorded markedly different results. For practitioners, the practical significance of development cannot be overstated, given its demonstrable link with data. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

development, when examined in relation to data, reveals complex and often paradoxical dynamics. Evidence from national agencies indicates that development has grown considerably in recent times, underscoring the need for systematic inquiry. Evidence assembled by Adigun and Umeh (2015) across twelve states