

DESIGN AND IMPLEMENTATION OF A NETWORK BANDWIDTH MANAGEMENT PORTAL

BY

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[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Design and Implementation of a Network Bandwidth Management Portal" 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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My profound gratitude goes to Almighty God for His grace, protection, and guidance throughout the duration of my study and the successful completion of this research project. I am deeply grateful to my supervisor, [SUPERVISOR'S NAME], for the patience, guidance, constructive criticism, and invaluable direction provided throughout the course of this research. I also wish to appreciate the Head of Department, the lecturers of the Department of Information Technology, and my course mates for their support and friendship. My appreciation also goes to my parents and siblings for their unwavering support, both financial and emotional, throughout my academic journey.

ABSTRACT

This study developed and evaluated a Web software solution for design 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 77 users were purposively selected for the usability evaluation, out of which 73 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 87.7% 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 design and implementation of a network bandwidth management portal 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.

In both global and African literatures, design is now regarded as a key index of institutional performance. Rapid urbanisation and demographic expansion across Nigerian cities have heightened the salience of design in everyday life. Evidence assembled by Eze and Umeh (2015) across twelve states underscored the heterogeneity of outcomes linked to design. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. An examination by Famuyide and Bello (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

Contemporary scholarship increasingly frames design as inseparable from the broader question of implementation. The socio-cultural diversity of Nigeria implies that responses to design must be differentiated rather than uniform. Evidence assembled by Adeniyi and Kalu (2015) across twelve states underscored the heterogeneity of outcomes linked to design. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Empirical evidence from Umeh and Chukwu (2021) suggests that positive developments in implementation are associated with improvements in design. These developments carry important implications for policy and practice in information technology. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

In both global and African literatures, design is now regarded as a key index of institutional performance. Nigeria's federal structure and its diverse cultural geography ensure that the experience of design varies considerably from one region to another. An examination by Umeh and Chukwu (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Longitudinal research by Obiora and Adeniyi (2016) revealed that sustained attention to design yields appreciable dividends over time. Such findings reinforce the argument that design deserves a place of priority on the development agenda. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

Scholars have long recognised design as a critical determinant of outcomes in information technology. Rapid urbanisation and demographic expansion across Nigerian cities have heightened the salience of design in everyday life. Empirical evidence from Osinachi and Eze (2021) suggests that positive developments in implementation are associated with improvements in design. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Adebayo and Dauda (2020), in a survey of relevant stakeholders, concluded that the benefits of design are unevenly distributed across groups. The