

DESIGN OF A BI ANALYTICS DASHBOARD FOR SMALL AND MEDIUM ENTERPRISES

BY

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DEGREE IN DATA SCIENCE

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Design of a BI Analytics Dashboard for Small and Medium Enterprises" 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.

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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 Data Science, 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 62 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 84.1% 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 of a bi analytics dashboard for small and medium enterprises 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.

Scholars have long recognised design as a critical determinant of outcomes in data science. Evidence from national agencies indicates that design has grown considerably in recent times, underscoring the need for systematic inquiry. Empirical evidence from Famuyide and Alade (2021) suggests that positive developments in analytics are associated with improvements in design. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. A notable study by Kalu and Chukwu (2017) argued that the impact of design is substantially mediated by the quality of institutions. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

design continues to command considerable attention among researchers, policymakers, and practitioners in data science. National policies and programmes have sought, with varying degrees of success, to respond to the realities of design and analytics. Evidence assembled by Nnamdi and Adekunle (2015) across twelve states underscored the heterogeneity of outcomes linked to design. Such findings reinforce the argument that design deserves a place of priority on the development agenda. Findings reported by Famuyide and Alade (2018) observed that respondents with greater exposure to design recorded markedly different results. Such findings reinforce the argument that design deserves a place of priority on the development agenda. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

The relationship between design and analytics has been the subject of sustained academic interest across several disciplines. Nigeria's federal structure and its diverse cultural geography ensure that the experience of design varies considerably from one region to another. Famuyide and Alade (2020), in a survey of relevant stakeholders, concluded that the benefits of design are unevenly distributed across groups. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Umeh and Bakare (2020), in a survey of relevant stakeholders, concluded that the benefits of design are unevenly distributed across groups. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Contemporary scholarship increasingly frames design as inseparable from the broader question of analytics. Nigeria's federal structure and its diverse cultural geography ensure that the experience of design varies considerably from one region to another. The work of Olawale and Bakare (2023) extended earlier analyses by demonstrating that analytics reinforces the effects of design. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Chukwu and Oyelaran (2020), in a survey of