

# **DEVELOPMENT OF A FINANCIAL DATA ANALYSIS AND FORECASTING SYSTEM**

BY

[STUDENT'S FULL NAME]

[MATRIC NUMBER]

BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF STATISTICS, FACULTY OF  
SCIENCE, UNIVERSITY OF LAGOS, AKOKA, LAGOS STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.)  
DEGREE IN STATISTICS

[MONTH, YEAR]

## CERTIFICATION

This is to certify that this research project titled "Development of a Financial Data Analysis and Forecasting System" 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.

## **ACKNOWLEDGEMENT**

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 Statistics, 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 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 60 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 86.9% 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.

# TABLE OF CONTENTS

|                                                      |      |
|------------------------------------------------------|------|
| Title Page .....                                     | i    |
| Certification .....                                  | ii   |
| Dedication .....                                     | iii  |
| Acknowledgement .....                                | iv   |
| Abstract .....                                       | v    |
| Table of Contents .....                              | vi   |
| List of Tables .....                                 | vii  |
| List of Figures .....                                | viii |
| CHAPTER ONE: INTRODUCTION .....                      | 1    |
| 1.1 Background to the Study .....                    | 1    |
| 1.2 Statement of the Problem .....                   | 4    |
| 1.3 Objectives of the Study .....                    | 7    |
| 1.4 Research Questions .....                         | 7    |
| 1.5 Research Hypotheses .....                        | 7    |
| 1.6 Significance of the Study .....                  | 8    |
| 1.7 Scope and Limitation of the Study .....          | 11   |
| 1.8 Definition of Terms .....                        | 13   |
| CHAPTER TWO: LITERATURE REVIEW .....                 | 14   |
| 2.1 Conceptual Review .....                          | 14   |
| 2.1.1 Concept of Development .....                   | 14   |
| 2.1.2 Concept of Financial .....                     | 15   |
| 2.1.3 Concept of Data .....                          | 17   |
| 2.2 Theoretical Framework .....                      | 19   |
| 2.2.1 Technology Acceptance Model .....              | 19   |
| 2.2.2 UTAUT .....                                    | 20   |
| 2.2.3 Diffusion of Innovation Theory .....           | 21   |
| 2.2.4 Systems Development Life Cycle .....           | 22   |
| 2.3 Empirical Review .....                           | 24   |
| 2.3.1 Early Studies on development .....             | 24   |
| 2.3.2 Recent Nigerian Evidence on development .....  | 26   |
| 2.3.3 Development and financial .....                | 27   |
| 2.3.4 Comparative Perspectives across Africa .....   | 29   |
| 2.4 Summary of Literature Review .....               | 31   |
| CHAPTER THREE: RESEARCH METHODOLOGY .....            | 33   |
| 3.1 Research Design .....                            | 33   |
| 3.2 Population of the Study .....                    | 33   |
| 3.3 Sample Size and Sampling Technique .....         | 34   |
| 3.4 Sources of Data Collection .....                 | 35   |
| 3.5 Research Instrument .....                        | 36   |
| 3.6 Validity and Reliability of the Instrument ..... | 37   |
| 3.7 Method of Data Analysis .....                    | 38   |
| 3.7.1 Administration of the Instrument .....         | 39   |

|                                                                |    |
|----------------------------------------------------------------|----|
| 3.8 Ethical Considerations .....                               | 40 |
| CHAPTER FOUR: SYSTEM ANALYSIS, DESIGN AND IMPLEMENTATION ..... | 42 |
| 4.1 System Requirement Analysis .....                          | 42 |
| 4.2 System Design .....                                        | 42 |
| 4.3 System Implementation .....                                | 43 |
| 4.4 System Testing .....                                       | 44 |
| 4.5 Discussion of Findings .....                               | 45 |
| CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS .....    | 49 |
| 5.1 Summary .....                                              | 49 |
| 5.2 Conclusion .....                                           | 50 |
| 5.3 Recommendations .....                                      | 51 |
| 5.4 Suggestions for Further Studies .....                      | 51 |
| REFERENCES .....                                               | 53 |
| APPENDIX .....                                                 | 55 |

## LIST OF TABLES

|                                                                             |    |
|-----------------------------------------------------------------------------|----|
| Table 2.1: Summary of the Reviewed Existing Systems .....                   | 32 |
| Table 2.2: Comparison of the Existing Process and the Proposed System ..... | 32 |
| Table 3.1: Development Tools and Technologies Used .....                    | 41 |
| Table 3.2: System Modules and Their Functions .....                         | 41 |
| Table 4.1: Summary of Functional Test Results .....                         | 47 |
| Table 4.2: System Usability Scale (SUS) Results .....                       | 48 |
| Table 4.3: Comparison of Manual and Automated Processes .....               | 48 |
| Table 4.4: Test of Hypothesis (Paired Sample t-test) .....                  | 48 |

## LIST OF FIGURES

|                                                       |    |
|-------------------------------------------------------|----|
| Figure 4.1: Home Page of the System .....             | 46 |
| Figure 4.2: Dashboard Interface of the System .....   | 47 |
| Figure 4.3: Administration Module of the System ..... | 47 |

## CHAPTER ONE: INTRODUCTION

### 1.1 Background to the Study

The study of development of a financial data analysis and forecasting system 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. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream development into routine governance. Studies by Aderemi and Okonkwo (2019) largely support the view that development exerts a measurable influence on outcomes of interest. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Empirical evidence from Aderemi and Eze (2021) suggests that positive developments in financial are associated with improvements in development. Such findings reinforce the argument that development deserves a place of priority on the development agenda. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

The relationship between development and financial has been the subject of sustained academic interest across several disciplines. Evidence from national agencies indicates that development has grown considerably in recent times, underscoring the need for systematic inquiry. Longitudinal research by Nnamdi and Dauda (2016) revealed that sustained attention to development yields appreciable dividends over time. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Bello and Alade (2020), in a survey of relevant stakeholders, concluded that the benefits of development are unevenly distributed across groups. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Contemporary scholarship increasingly frames development as inseparable from the broader question of financial. National policies and programmes have sought, with varying degrees of success, to respond to the realities of development and financial. Comparative work by Bello and Alade (2022) across several states uncovered a consistent pattern linking development with financial. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Studies conducted within the West African subregion by Umeh and Ibrahim (2018) reached conclusions broadly consistent with the Nigerian evidence. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

development occupies a prominent position in contemporary debates about financial and national development. National policies and programmes have sought, with varying degrees of success, to respond to the realities of development and financial. Studies by Bello and Olawale (2019) largely support the view that