DEMAND FORECASTING AND PRODUCTION PLANNING IN THE FASHION INDUSTRY IN LAGOS STATE, NIGERIA.

CHUKWUMA, MIRACLE CHUKWUNAZAEKPERE
(14CB017531)
B.Sc., Building Technology, Covenant University, Ogun State

JULY, 2024

DEMAND FORECASTING AND PRODUCTION PLANNING IN THE FASHION INDUSTRY IN LAGOS STATE, NIGERIA.

BY

CHUKWUMA, MIRACLE CHUKWUNAZAEKPERE
(14CB017531)
B.Sc., Building Technology, Covenant University, Ogun State

A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF BUSINESS ADMINISTRATION (MBA) DEGREE IN BUSINESS ADMINISTRATION IN THE DEPARTMENT OF BUSINESS MANAGEMENT, COLLEGE OF MANAGEMENT AND SOCIAL SCIENCES, COVENANT UNIVERSITY, NIGERIA

JULY, 2024

ACCEPTANCE

This is to attest that this dissertation is accepted in partial fulfilment of the requirements for the award of Master of Business Administration degree in Business Administration in the Department of Business Management, College of Management and Social Sciences, Covenant University, Ota, Nigeria.

Miss Adefunke F. Oyinloye
(Secretary, School of Postgraduate Studies) **Signature and Date**

Prof. Akan B. Williams
(Dean, School of Postgraduate Studies) **Signature and Date**

DECLARATION

I, **CHUKWUMA, MIRACLE CHUKWUNAZAEKPERE (14CB017531)** declares that this research was carried out by me under the supervision of Dr. Augusta Amaihian. of the Department of Business Management, College of Management and Social Sciences, Covenant University, Ota, Ogun State, Nigeria. I attest that this dissertation has not been presented either wholly or partially for the award of any degree elsewhere. All sources of data and scholarly information used in this dissertation are duly acknowledged.

CHUKWUMA, MIRACLE CHUKWUNAZAEKPERE

Signature and Date

CERTIFICATION

We certify that this dissertation titled "**DEMAND FORECASTING AND PRODUCTION PLANNING IN THE FASHION INDUSTRY IN LAGOS STATE, NIGERIA**" is an original work carried out by **CHUKWUMA MIRACLE CHUKWUNAZAEKPERE (14CB017531)** in the Department of Business Management, College of Management and Social Sciences, Covenant University, Ota, Ogun State, Nigeria, under the supervision of **Dr. Amaihian Augusta**. We have examined and found this research work acceptable as part of the requirements for the award of Master of Business Administration (MBA) Degree in Business Administration.

Dr. Amaihian B. Augusta.
(Supervisor) **Signature and Date**

Dr. Ogbari E. I. Mercy
(Head of Department) **Signature and Date**

Prof. Adedoyin O. Ologunde
(External Examiner) **Signature and Date**

Prof. Akan B. Williams
(Dean, School of Postgraduate Studies) **Signature and Date**

DEDICATION

This research work is dedicated to God, who has been my strength and my guide throughout my academic journey. I am grateful for the wisdom, grace, and love that has sustained me throughout this programme.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to God, who has blessed me with the strength, wisdom, and perseverance to complete this dissertation.

I recognize and appreciate the Chancellor of Covenant University, Dr. David O. Oyedepo for the spiritual ambience and vision. I also appreciate the management team of Covenant University ably led by the Vice-Chancellor, Professor Abiodun H. Adebayo, the Registrar, Mrs. Regina Tobi-David, the Dean School of Post Graduate Studies, Professor Akan B. Williams, the Sub-dean, Dr. Falola H. O, and the Dean, College of Management and Social Sciences, Professor Worlu R. E., for their support and timely approvals.

I would like to express my heartfelt gratitude to the HOD of the department Dr. Ogbari M. E. I., I am deeply grateful for her unwavering patience, constant encouragement, and insightful feedback, which have inspired me to think more critically and creatively. Her guidance has been a true source of motivation for me. I am truly grateful to you ma. To my supervisor, Dr. Amaihian A. B., whose unwavering support, guidance, and expertise have been instrumental in the successful completion of this dissertation. Her unwavering support has been a constant source of inspiration, and I am fortunate to have had the opportunity to learn from her.

I would also like to appreciate PG Coordinator of the department, Dr. Salau, for his administrative support. I am also grateful to Prof. Adebuyi O. A., Prof. Kehinde O. J., Prof. Anthonia A. Adeniji, Prof. Chinonye L. M., Prof. Ogunnaike O., Dr. Agboola G. M., Dr. Itai, H. M., Dr. Chinyere A., Dr. Borishade T. T., Dr. John N. E., Dr. Ufua D. E., Dr. Bisi-Felix O. R., Dr. Adesanya O. D., Dr. Onayemi O., and all other faculty members of the Business Management Department. Thank you very much for all your support throughout this programme.

I express my deepest appreciation to my parents, Mr. and Mrs. Chukwuma, for their unwavering support, prayers and encouragement throughout my academic journey. Their love, sacrifices, and unwavering belief in my potential have been instrumental in my personal and professional growth. They have been my pillars of strength, offering guidance and reassurance during the challenging times and celebrating my achievements with unwavering pride. To my siblings, Chukwuebuka Chukwuma and Tochukwu Chukwuma, thank you for your continuous support and encouragement. I sincerely appreciate my friends and course mates for their support and prayers throughout the course of this programme. I love you all so much.

TABLE OF CONTENTS

CONTENTS	PAGES
COVER PAGE	**i**
TITLE PAGE	**ii**
ACCEPTANCE	**iii**
DECLARATION	**iv**
CERTIFICATION	**v**
DEDICATION	**vi**
ACKNOWLEDGEMENTS	**vii**
TABLE OF CONTENTS	**viii**
LIST OF TABLES	**xi**
LIST OF FIGURES	**xii**
ABSTRACT	**xiv**
CHAPTER ONE: INTRODUCTION	**1**
1.1 Background to the Study	1
1.2 Statement of Research Problem	3
1.3 Research Questions	5
1.4 Objectives of the Study	5
1.5 Research Hypotheses	5
1.6 Significance of the Study	5
1.7 Scope of the Study	6
1.8 Operationalization of Research Variables	7
1.9 Operational Definition of Terms	8
CHAPTER TWO: LITERATURE REVIEW	**11**
2.0 Preamble	11
2.1 Conceptual Review	11
2.1.1 Demand Forecasting	11
2.1.2 Simple Moving Average	23
2.1.3 Weighted Moving Average	29
2.1.4 Exponential Smoothing	34
2.1.5 Production Planning	39
2.1.6 Inventory	46
2.1.7 Resources Optimization	49
2.1.8 Price	53
2.2 Theoretical Review	54
2.2.1 Consumer Behavior Theory	54
2.2.2 Diffusion of Innovation Theory	56
2.2.3 Theory of Constraints	57

2.3 Empirical Review 58
2.3.1 Demand Forecasting and Production Planning 58
2.3.2 Simple Moving Average and Inventory 59
2.3.3 Weighted Moving Average and Resources 60
2.3.4 Exponential Smoothing and Price 61
2.4 Gaps in the Literature 62

CHAPTER THREE: METHODOLOGY 64
3.0 Preamble 64
3.1 Study Area 64
3.2 Research Philosophy 64
3.3 Research Design 65
3.4 Population of the Study 65
3.5 Sample Size Determination 65
3.6 Sampling Techniques 67
3.7 Sources of Data 67
3.8 Research Instruments 67
3.9 Validity of Research Instruments 68
3.10 Reliability of Research Instruments 69
3.11 Method of Data Presentation and Analysis 69
3.12 Ethical Consideration 70

CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION 71
4.0 Preamble 71
4.1 Data Presentation and Analysis 71
4.1.1 Demographic Profile of Respondents 72
4.2.2 Descriptive Statistics of Data on Significant Variables 74
4.2Test of Hypotheses 78
4.2.1 Hypotheses One 78
4.2.2 Hypotheses Two 81
4.2.3 Hypotheses Three 84
4.2.4 Hypotheses Four 86
4.3 Discussion of Results 87
4.4 Implications of Findings 88
4.4.1 Theoretical Findings 88
4.4.2 Empirical Findings 89

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS **93**
5.0 Preamble 93
5.1 Summary 93
5.2 Conclusion 94
5.3 Recommendations 95
5.4 Contributions to Knowledge 96
5.5 Limitations of Study 98
5.6 Suggestions for Further Studies 98

REFERENCES **99**
APPENDICIES **121**

LIST OF TABLES

TABLES	LIST OF TABLES	PAGES
Table 4.1	Response Frequency	71
Table 4.2	Demographic Profile	73
Table 4.3	Frequency Distribution for Demand Forecasting	75
Table 4.4	Frequency Distribution for Demand Forecasting	76
Table 4.5	Frequency Distribution for Resource Optimization	77
Table 4.6	Factor loading for Weighted Moving Average on Resource Optimization	79
Table 4.7	Path coefficients for Weighted Moving Average and Resource Optimization	81
Table 4.8	Factor loading for Demand forecasting on Production Planning	82
Table 4.9	Path coefficients for Demand forecast on Production planning	83
Table 4.10	Forecast of price with exponential smoothing	85
Table 4.11	Forecast of inventory with Simple moving average	86

LIST OF FIGURES

FIGURES	LIST OF FIGURES	PAGES
Figure 4.1	Predictive relevance (Path coefficient) of Weighted Moving Average and Resource Optimization	80
Figure 4.2	Path Co-efficient and P-values for Weighted Moving Average and Resource Optimization	80
Figure 4.3	Predictive relevance (Path coefficient) of Demand forecasting on production planning	83
Figure 4.4	Path Co-efficient and P-values for Demand forecasting on production planning	83
Figure 4.5	Exponential Smoothing and Price for the Fashion Industry	84
Figure 4.6	Simple Moving Average and Inventory in the Fashion Industry	87

ABBREVIATIONS

SMA: Simple moving Average

WMA: Weighted Moving Average

ES: Exponential Smoothing

ABSTRACT

The purpose of this study is to evaluate the influence of demand forecasting on production planning in the fashion industry in Lagos State, Nigeria. The study aims to address the challenges of inventory control, resource allocation, and pricing strategies by analyzing the effectiveness of simple moving average (SMA), weighted moving average (WMA), and exponential smoothing in predicting demand and optimizing production processes. Utilizing a mixed-methods approach, the study combines primary data collected through 105 filled questionnaires using random and purposive sampling techniques, analyzed using SEM-PLS, alongside secondary data from a clothing store, organized and analyzed with Microsoft Excel for historical sales and inventory data. The findings reveal that demand forecasting significantly impacts production planning ($\beta=0.565$, $t=9.132$, $p<0.05$). Exponential smoothing is found to be particularly effective in forecasting prices, while SMA proves beneficial for inventory management despite its limitations. The study highlights that while SMA provides basic forecast accuracy, WMA and exponential smoothing offer superior precision and adaptability in resource allocation and pricing strategies. These insights underscore the critical importance of selecting appropriate forecasting methods to optimize various aspects of production planning in the fashion industry, ultimately enhancing operational efficiency and strategic decision-making.

Keywords: Demand forecasting, inventory, production planning, moving average, exponential smoothing