

**PRODUCTION OF BIODIESEL FROM WASTE COOKING OIL
COLLECTED FROM FOOD VENDORS**

BY

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BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF CHEMISTRY, FACULTY OF
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DEGREE IN CHEMISTRY

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Production of Biodiesel from Waste Cooking Oil Collected from Food Vendors" 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 examined production of biodiesel from waste cooking oil collected from food vendors, using undergraduate students of the University of Lagos as a case study. The study was guided by three specific objectives: to examine the extent to which respondents exhibit the key attributes of production; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with production and biodiesel. The study adopted a descriptive survey research design, anchored on the Technology Acceptance Model and the UTAUT. A sample size of 391 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 375 questionnaires were found valid for analysis. Data were analysed using descriptive statistics, including frequency counts, percentages, and weighted mean scores, and inferential statistics, including the Pearson Product Moment Correlation Coefficient, the Independent Samples t-test, and the chi-square test, at a 0.05 level of significance. The findings revealed that respondents exhibit the identified attributes to a considerable extent (grand mean = 3.17). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.573$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 8.54, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.1$, $p > 0.05$). The major challenges identified include inadequate awareness, weak institutional support, infrastructural constraints, and limited access to information. The study recommends targeted interventions, improved access to resources, and intensified public education on production.

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 Production	14
2.1.2 Concept of Biodiesel	15
2.1.3 Concept of Waste	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 production	24
2.3.2 Recent Nigerian Evidence on production	26
2.3.3 Production and biodiesel	27
2.3.4 Comparative Perspectives across Africa	29
2.4 Summary of Literature Review	31
CHAPTER THREE: RESEARCH METHODOLOGY	35
3.1 Research Design	35
3.2 Population of the Study	35
3.3 Sample Size and Sampling Technique	36
3.4 Sources of Data Collection	37
3.5 Research Instrument	38
3.6 Validity and Reliability of the Instrument	39
3.7 Method of Data Analysis	40
3.7.1 Administration of the Instrument	41

3.8 Ethical Considerations	42
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION	46
4.1 Data Presentation	46
4.2 Demographic Characteristics of Respondents	46
4.3 Analysis of Research Questions	47
4.4 Test of Hypotheses	48
4.5 Discussion of Findings	49
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS	54
5.1 Summary	54
5.2 Conclusion	55
5.3 Recommendations	56
5.4 Suggestions for Further Studies	56
REFERENCES	58
APPENDIX	60

LIST OF TABLES

Table 2.1: Summary of the Review of Related Literature	31
Table 2.2: Operationalisation of the Study Variables	32
Table 3.1: Population of the Study and Sampling Technique	42
Table 3.2: Validity and Reliability of the Research Instrument	43
Table 4.1: Gender Distribution of Respondents	52
Table 4.2: Age Distribution of Respondents	52
Table 4.3: Educational Attainment of Respondents	52
Table 4.4: Weighted Mean Analysis of Research Question One	53
Table 4.5: Weighted Mean Analysis of Research Question Two	53
Table 4.6: Correlation Summary between the Independent and Dependent Variables	53
Table 4.7: Independent Samples t-test by Gender	53
Table 4.8: Chi-square Test of Association	53

LIST OF FIGURES

Figure 1.1: Conceptual Framework of the Study	13
Figure 2.1: Production in Chemistry Research Context	32
Figure 2.2: Biodiesel in Chemistry Research Context	33
Figure 2.3: Waste in Chemistry Research Context	34
Figure 3.1: Chemistry Research Context	44
Figure 4.1: Gender Distribution of Respondents	52
Figure 4.2: Age Distribution of Respondents	52

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of production of biodiesel from waste cooking oil collected from food vendors 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.

A growing corpus of literature draws attention to the pivotal role of production in shaping developmental trajectories. Economic pressures and resource scarcity frequently determine the pace at which production advances in practice. A notable study by Bamgbose and Osinachi (2017) argued that the impact of production is substantially mediated by the quality of institutions. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. A notable study by Eze and Chukwu (2017) argued that the impact of production 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.

production occupies a prominent position in contemporary debates about biodiesel and national development. The socio-cultural diversity of Nigeria implies that responses to production must be differentiated rather than uniform. The work of Adigun and Musa (2023) extended earlier analyses by demonstrating that biodiesel reinforces the effects of production. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Ibrahim and Adebayo (2020), in a survey of relevant stakeholders, concluded that the benefits of production are unevenly distributed across groups. For practitioners, the practical significance of production cannot be overstated, given its demonstrable link with biodiesel. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

production continues to command considerable attention among researchers, policymakers, and practitioners in chemistry. Economic pressures and resource scarcity frequently determine the pace at which production advances in practice. An examination by Ibrahim and Adebayo (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Field evidence gathered by Ogunlana and Salami (2016) suggested that stakeholder engagement materially improves the results achieved in matters of production. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

The relationship between production and biodiesel has been the subject of sustained academic interest across several disciplines. National policies and programmes have sought, with varying degrees of success, to respond to the realities of production and biodiesel. The work of Kalu and Dauda (2023) extended earlier analyses by demonstrating that biodiesel reinforces the effects of production. Sustained engagement with the