

REUSE OF FRYING OIL BY AKARA VENDORS AND PUBLIC HEALTH IMPLICATIONS

BY

[STUDENT'S FULL NAME]

[MATRIC NUMBER]

BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF FOOD SCIENCE AND
TECHNOLOGY, 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 FOOD SCIENCE AND TECHNOLOGY

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Reuse of Frying Oil by Akara Vendors and Public Health Implications" 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 Food Science and 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 examined reuse of frying oil by akara vendors and public health implications, 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 reuse; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with reuse and frying. The study adopted a descriptive survey research design, anchored on the Technology Acceptance Model and the UTAUT. A sample size of 396 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 357 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 = 3.0). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.476$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 8.41, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.34$, $p > 0.05$). 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 reuse.

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	6
1.4 Research Questions	7
1.5 Research Hypotheses	7
1.6 Significance of the Study	7
1.7 Scope and Limitation of the Study	10
1.8 Definition of Terms	12
CHAPTER TWO: LITERATURE REVIEW	14
2.1 Conceptual Review	14
2.1.1 Concept of Reuse	14
2.1.2 Concept of Frying	15
2.1.3 Concept of Oil	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	23
2.3.1 Early Studies on reuse	23
2.3.2 Recent Nigerian Evidence on reuse	25
2.3.3 Reuse and frying	27
2.3.4 Comparative Perspectives across Africa	29
2.4 Summary of Literature Review	30
CHAPTER THREE: RESEARCH METHODOLOGY	34
3.1 Research Design	34
3.2 Population of the Study	34
3.3 Sample Size and Sampling Technique	35
3.4 Sources of Data Collection	36
3.5 Research Instrument	37
3.6 Validity and Reliability of the Instrument	38
3.7 Method of Data Analysis	39
3.7.1 Administration of the Instrument	39

3.8 Ethical Considerations	40
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION	43
4.1 Data Presentation	43
4.2 Demographic Characteristics of Respondents	43
4.3 Analysis of Research Questions	44
4.4 Test of Hypotheses	45
4.5 Discussion of Findings	46
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS	51
5.1 Summary	51
5.2 Conclusion	52
5.3 Recommendations	53
5.4 Suggestions for Further Studies	53
REFERENCES	55
APPENDIX	57

LIST OF TABLES

Table 2.1: Summary of the Review of Related Literature	31
Table 2.2: Operationalisation of the Study Variables	31
Table 3.1: Population of the Study and Sampling Technique	41
Table 3.2: Validity and Reliability of the Research Instrument	41
Table 4.1: Gender Distribution of Respondents	49
Table 4.2: Age Distribution of Respondents	49
Table 4.3: Educational Attainment of Respondents	49
Table 4.4: Weighted Mean Analysis of Research Question One	50
Table 4.5: Weighted Mean Analysis of Research Question Two	50
Table 4.6: Correlation Summary between the Independent and Dependent Variables	50
Table 4.7: Independent Samples t-test by Gender	50
Table 4.8: Chi-square Test of Association	50

LIST OF FIGURES

Figure 1.1: Conceptual Framework of the Study	13
Figure 2.1: Reuse in Food Science and Technology Research Context	32
Figure 2.2: Frying in Food Science and Technology Research Context	32
Figure 2.3: Oil in Food Science and Technology Research Context	33
Figure 3.1: Food Science and Technology Research Context	42
Figure 4.1: Gender Distribution of Respondents	49
Figure 4.2: Age Distribution of Respondents	49

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of reuse of frying oil by akara vendors and public health implications 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.

The salience of reuse in national discourse has grown steadily, driven by changing social conditions and technological penetration. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which reuse unfolds. Empirical evidence from Kalu and Adebayo (2021) suggests that positive developments in frying are associated with improvements in reuse. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Longitudinal research by Umeh and Bamgbose (2016) revealed that sustained attention to reuse yields appreciable dividends over time. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

In both global and African literatures, reuse is now regarded as a key index of institutional performance. The socio-cultural diversity of Nigeria implies that responses to reuse must be differentiated rather than uniform. Findings reported by Eze and Adebayo (2018) observed that respondents with greater exposure to reuse recorded markedly different results. For practitioners, the practical significance of reuse cannot be overstated, given its demonstrable link with frying. Empirical evidence from Umeh and Adekunle (2021) suggests that positive developments in frying are associated with improvements in reuse. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Scholars have long recognised reuse as a critical determinant of outcomes in food science and technology. Economic pressures and resource scarcity frequently determine the pace at which reuse advances in practice. A notable study by Umeh and Adekunle (2017) argued that the impact of reuse is substantially mediated by the quality of institutions. For practitioners, the practical significance of reuse cannot be overstated, given its demonstrable link with frying. Empirical evidence from Eze and Musa (2021) suggests that positive developments in frying are associated with improvements in reuse. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

reuse occupies a prominent position in contemporary debates about frying and national development. Within Lagos State, the country's most populous commercial hub, the dynamics of reuse are observed in their starkest form. Longitudinal research by Obiora and Adeniyi (2016) revealed that sustained attention to reuse yields appreciable dividends over time. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Comparative work by Nwosu and Ogunlana (2022) across several states