

Waste Management Revolution: Innovating Sustainability in Small Food Establishments

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Abstract- This study, titled “Waste Management Revolution: Innovating Sustainability in Small Food Establishments,” explores how small food businesses in Quezon City manage their waste and how these practices relate to sustainability. The study used a descriptive- correlational approach and gathered data from 50 respondents, composed of both owners and employees, through a structured questionnaire.

The results show that while waste disposal is commonly practiced, waste segregation and the use of eco-friendly materials are only applied to a moderate extent. Food waste, plastic packaging, and disposable utensils are the most frequently generated types of waste. It was also observed that respondents have a fair level of awareness of basic waste management practices, but are less familiar with more sustainable methods such as composting.

Several challenges were identified, including limited knowledge, lack of space, high cost of eco-friendly materials, and minimal support from local authorities. Despite these concerns, the findings revealed a meaningful relationship between waste management practices and sustainability, suggesting that better practices can lead to improved environmental outcomes.

Overall, the study highlights the need for practical and affordable solutions, along with increased awareness and support, to help small food establishments adopt more sustainable waste management practices.

Keywords: Waste Management, Sustainability, Small Food Establishments, Waste Segregation, Eco- Friendly Materials, Environmental Practices, Quezon City

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INTRODUCTION

The increasing volume of waste generated by small food establishments has become a growing environmental concern in many communities. As urban areas expand and the demand for affordable and accessible food rises, eateries such as carinderias, food stalls, and small restaurants contribute significantly to daily solid waste, including food scraps, plastics, and packaging materials. Improper waste disposal practices not only harm the environment but also pose risks to public health, highlighting the urgent need for more sustainable and innovative waste management approaches.

This study, titled “Waste Management Revolution: Innovating Sustainability in Small Food Establishments,” focuses on exploring practical and creative solutions that can improve how waste is handled in these businesses. It aims to examine current waste management practices, identify existing challenges, and introduce strategies such as waste segregation, recycling, composting, and the use of eco-friendly packaging. By promoting sustainable practices, small food establishments can reduce their environmental impact while also improving efficiency and cost management.

Moreover, this research emphasizes the role of innovation and awareness in transforming traditional waste practices into more responsible systems. It seeks to encourage both business owners and customers to participate in environmental conservation efforts. Ultimately, the study hopes to contribute to building cleaner communities and fostering a culture of sustainability in the food service sector, proving that even small-scale businesses can make a big difference in protecting the environment.

BACKGROUND OF THE STUDY

The issue of waste management has become increasingly significant in recent years due to rapid urbanization, population growth, and the expansion of the food service industry. Small food establishments such as carinderias, food kiosks, and local eateries play an essential role in providing affordable meals, especially in busy urban areas. However, these businesses often generate large amounts of waste daily, including food leftovers, single-use plastics, and packaging materials. Despite their important contribution to the economy, many of these establishments lack proper waste management systems, leading to improper disposal practices that negatively affect the environment.

In many communities, waste from small food businesses is commonly mixed and disposed of without proper segregation. This practice contributes to overflowing landfills, pollution, and health risks such as the spread of diseases and pests. Additionally, limited access to resources, lack of awareness, and insufficient government monitoring often prevent small business owners from adopting sustainable waste practices. As a result, the problem of unmanaged waste continues to grow, affecting not only the environment but also the overall cleanliness and safety of local areas.

With the increasing awareness of environmental sustainability, there is a growing need to introduce innovative and practical waste management solutions tailored specifically for small food establishments. Approaches such as composting biodegradable waste, reducing the use of single-use plastics, recycling materials, and adopting eco-friendly packaging have shown potential in minimizing waste. However, the level of implementation among small businesses remains low due to various challenges, including cost, knowledge gaps, and lack of support systems.

This study aims to address these concerns by examining the current waste management practices of small food establishments and identifying opportunities for improvement. It seeks to highlight the importance of sustainable waste strategies and encourage the adoption of innovative methods that are both practical and cost-effective. By focusing on small-scale food businesses, the research contributes to the broader goal

of environmental protection and sustainable development, showing that even simple changes in daily operations can lead to significant positive impacts.

STATEMENT OF THE PROBLEM

This study aims to assess and improve waste management practices in small food establishments through innovative and sustainable approaches. Specifically, it seeks to answer the following questions:

1. What is the current waste management practice of small food establishments in terms of:
 - 1.1 waste segregation;
 - 1.2 waste disposal methods; and
 - 1.3 use of eco-friendly materials?

2. What types of waste are most commonly generated by small food establishments?
3. What challenges do small food establishment owners encounter in implementing proper waste management practices?
4. What is the level of awareness of food establishment owners and staff regarding sustainable waste management?
5. What innovative and sustainable waste management strategies can be proposed to improve current practices in small food establishments?
6. Is there a significant relationship between waste management practices and the level of sustainability in small food establishments?
7. Based on the findings, what waste management plan or recommendations can be developed to promote sustainability in small food establishments?

OBJECTIVES OF THE STUDY

The main objective of this study is to explore and promote innovative and sustainable waste management practices in small food establishments.

Specifically, this study aims to:

1. Describe the current waste management practices of small food establishments in terms of:
 - 1.1 waste segregation;
 - 1.2 waste disposal methods; and
 - 1.3 use of eco-friendly materials.
2. Identify the types of waste most commonly generated by small food establishments.
3. Determine the challenges encountered by small food establishment owners in implementing proper waste management practices.
4. Assess the level of awareness of owners and staff regarding sustainable waste management.
5. Propose innovative and practical waste management strategies that can be applied in small food establishments.
6. Examine the relationship between waste management practices and the level of sustainability in small food establishments.
7. Develop a waste management plan or set of recommendations to improve sustainability practices among small food establishments.

SIGNIFICANCE OF THE STUDY

This study on “Waste Management Revolution: Innovating Sustainability in Small Food Establishments” is important as it provides valuable insights and practical solutions to improve waste management practices in small-scale food businesses. The findings of this research will benefit several groups:

Small Food Establishment Owners

This study will help owners understand the importance of proper waste management and provide them with simple, cost-effective, and innovative strategies to reduce waste. It can also help improve their business operations, reduce expenses, and enhance their reputation among environmentally conscious customers.

Employees and Staff

The research will increase awareness among workers regarding proper waste segregation, disposal, and sustainable practices. It can guide them in developing responsible habits that contribute to a cleaner and safer workplace.

Customers

Customers will benefit from cleaner and more environmentally responsible food establishments. The study may also encourage them to support businesses that practice sustainability and adopt eco-friendly behaviors in their daily lives.

Local Government Units (LGUs)

The results of this study can serve as a basis for creating or improving policies, programs, and regulations related to waste management in small food establishments. It can also support community efforts in maintaining cleanliness and environmental protection.

Environment and Community

By promoting sustainable waste practices, this study contributes to reducing pollution, minimizing waste in landfills, and improving overall environmental quality. It supports the goal of building cleaner, healthier, and more sustainable communities.

Future Researchers

This study can serve as a reference for future research related to waste management, sustainability, and small business practices. It may also inspire further studies that explore new innovations and solutions in environmental management.

Overall, this research highlights the importance of collective responsibility in addressing waste problems and shows that even small food establishments can play a significant role in achieving sustainability.

SCOPE AND LIMITATIONS

This study focuses on examining the waste management practices of small food establishments, such as carinderias, food stalls, and small restaurants, within a selected local area. It covers key aspects including waste segregation, disposal methods, types of waste generated, and the use of eco-friendly materials. The research also assesses the level of awareness of owners and staff regarding sustainable waste practices and identifies the challenges they encounter. Furthermore, the study aims to propose innovative and practical strategies that can improve sustainability in these establishments based on the data gathered.

This study is limited to a specific number of small food establishments within the chosen location, which may not fully represent all similar businesses in other areas. The data collected rely mainly on the responses of owners and staff, which may be subject to personal bias or inaccurate reporting. Time constraints and limited resources may also affect the depth of data collection and analysis. Additionally, the study focuses only on selected aspects of waste management and does not cover broader environmental factors or large-scale commercial establishments, which may limit the generalization of the findings.

CONCEPTUAL FRAMEWORK

This study is anchored on the idea that effective waste management practices can significantly improve sustainability in small food establishments. The conceptual framework illustrates the relationship between the independent variables, dependent variable, and intervening factors involved in the study.

The independent variables include the current waste management practices of small food establishments, specifically in terms of waste segregation, disposal methods, types of waste generated, and the use of eco-friendly materials. These variables represent the existing conditions and behaviors related to how waste is handled in the establishments.

The dependent variable is the level of sustainability of small food establishments. This refers to how well these businesses are able to minimize environmental impact, reduce waste production, and adopt environmentally responsible practices in their daily operations.

Meanwhile, intervening variables such as the level of awareness of owners and staff, availability of resources, and challenges encountered (e.g., cost, lack of knowledge, limited facilities) may influence the relationship between waste management practices and sustainability. These factors can either strengthen or weaken the effectiveness of waste management efforts.

The framework suggests that improved and innovative waste management practices, supported by increased awareness and fewer barriers, will lead to higher levels of sustainability in small food establishments. Based on this relationship, the study aims to develop a proposed waste management plan that can enhance sustainable practices.

HYPOTHESES

This study will test the following hypotheses:

Null Hypothesis (H₀):

There is no significant relationship between waste management practices (in terms of waste segregation, disposal methods, types of waste generated, and use of eco- friendly materials) and the level of sustainability in small food establishments.

Alternative Hypothesis (H₁):

There is a significant relationship between waste management practices (in terms of waste segregation, disposal methods, types of waste generated, and use of eco- friendly materials) and the level of sustainability in small food establishments.

DEFINITION OF TERMS

The following terms are defined operationally to guide understanding of the study:

Waste Management – Refers to the process of collecting, segregating, disposing, and managing waste materials generated by small food establishments.

Sustainability – The ability of small food establishments to operate in a way that minimizes environmental impact and supports long-term ecological balance.

Small Food Establishments – Refers to small-scale food businesses such as carinderias, food stalls, and local eateries that serve affordable meals.

Waste Segregation – The practice of separating waste into different categories such as biodegradable, non-biodegradable, and recyclable materials.

Waste Disposal – The method by which waste is discarded or removed, including collection, transport, and final disposal.

Biodegradable Waste – Organic waste materials, such as food scraps, that can naturally decompose over time.

Non-biodegradable Waste – Waste materials that do not easily decompose, such as plastics, metals, and glass.

Recycling – The process of converting waste materials into new, reusable products.

Composting – A method of turning organic waste into nutrient-rich material that can be used as fertilizer.

Eco-friendly Materials – Products or materials that do not harm the environment and are often reusable, recyclable, or biodegradable.

Waste Reduction – Strategies or actions aimed at minimizing the amount of waste produced.

Awareness Level – The degree of knowledge and understanding of owners and staff regarding proper waste management practices.

Challenges – The difficulties or barriers encountered by small food establishments in implementing proper waste management practices.

Sustainable Practices – Actions or methods adopted by businesses that promote environmental protection and responsible resource use.

REVIEW OF RELATED LITERATURE

Waste management has become a critical issue worldwide due to the increasing volume of solid waste generated by growing populations and expanding industries. According to the World Bank, global waste generation is expected to rise significantly in the coming years, with improper disposal contributing to environmental degradation and public health risks. Small food establishments, although often overlooked, play a considerable role in this problem due to their daily generation of food waste, plastics, and packaging materials.

Several studies emphasize that improper waste segregation is one of the main causes of inefficient waste management. Research shows that when biodegradable and non-biodegradable wastes are mixed, it becomes more difficult to recycle or compost materials effectively. The United Nations Environment Programme highlights that proper waste segregation at the source is essential in reducing landfill waste and promoting recycling. In small food businesses, however, limited space and lack of knowledge often hinder proper segregation practices.

In terms of waste disposal methods, many small food establishments rely on traditional collection systems without considering sustainable alternatives. Studies suggest that practices such as composting and recycling can significantly reduce the volume of waste sent to landfills. According to the Environmental Protection Agency, composting food waste not only reduces environmental impact but also produces useful organic fertilizer. Despite these benefits, adoption remains low among small businesses due to perceived costs and lack of training.

The use of eco-friendly materials has also been identified as an important factor in sustainable waste management. Researchers have found that replacing single-use plastics with biodegradable or reusable materials can greatly reduce environmental harm. However, many small food establishments continue to use plastic packaging because it is cheaper and more accessible. This indicates a need for increased awareness and support from both government and private sectors to encourage the use of sustainable alternatives.

Furthermore, the level of awareness among business owners and employees plays a vital role in the success of waste management practices. Studies show that individuals who are well-informed about environmental issues are more likely to adopt sustainable behaviors. Training programs and educational campaigns have been proven effective in improving waste management practices in small businesses.

Overall, the reviewed literature suggests that while there are existing strategies to improve waste management, challenges such as lack of awareness, limited resources, and insufficient support systems continue to hinder their implementation in small food establishments. These findings support the need for innovative, practical, and cost-effective solutions, which this study aims to explore in order to enhance sustainability in the food service sector.

SYNTHESES

The reviewed literature highlights that waste management is a growing environmental concern, particularly in the food service sector where daily waste generation is high. Studies consistently show that small food establishments contribute significantly to waste production, especially in the form of food scraps and single-use plastics. However, despite their impact, these businesses often lack proper systems for managing waste effectively.

A common finding across the literature is the importance of waste segregation as a foundation for efficient waste management. Proper separation of biodegradable and non-biodegradable waste allows for easier recycling and composting, yet many small establishments fail to practice this due to limited knowledge and space constraints. In addition, traditional waste disposal methods remain widely used, while sustainable alternatives such as recycling and composting are underutilized.

The literature also emphasizes the role of eco-friendly materials in reducing environmental harm. Although replacing plastic with biodegradable or reusable materials is highly recommended, adoption remains low due to cost and accessibility issues. Furthermore, awareness and education are identified as key factors influencing the implementation of sustainable practices. Business owners and employees who are more informed about environmental issues are more likely to adopt proper waste management strategies.

Overall, the reviewed studies reveal that while effective waste management solutions already exist, their application in small food establishments is still limited by various challenges such as lack of awareness, insufficient resources, and minimal institutional support. These gaps highlight the need for innovative, practical, and affordable approaches, which this study aims to address in order to improve sustainability in small food establishments.

METHODOLOGY

RESEARCH DESIGN

This study will utilize a descriptive-correlational research design to examine the waste management practices and their relationship to sustainability in small food establishments. The descriptive method will be used to gather detailed information about the current practices of these establishments, including waste segregation, disposal methods, types of waste generated, and the use of eco-friendly materials. This approach allows the researchers to clearly present the existing conditions without manipulating any variables.

On the other hand, the correlational aspect of the study will be used to determine whether there is a significant relationship between waste management practices and the level of sustainability among small food establishments. Through this design, the researchers can analyze how changes or differences in waste management practices may be associated with variations in sustainability outcomes.

Data will be collected using structured survey questionnaires administered to selected small food establishment owners and staff. The responses will be analyzed using appropriate statistical tools to describe patterns and test relationships between variables. This research design is appropriate for the study as it provides both a clear description of current practices and an understanding of how these practices influence sustainability.

RESEARCH LOCALE

This study will be conducted in selected areas of Quezon City, particularly within communities where small food establishments such as carinderias, food stalls, and local eateries are commonly found. Quezon City is one of the largest and most populated cities in Metro Manila, making it an ideal location for this research due to the high concentration of small-scale food businesses that cater to a diverse population.

The chosen locale provides a relevant setting for examining waste management practices, as these establishments operate daily and generate various types of waste, including food scraps, plastics, and packaging materials. Additionally, the city has ongoing environmental programs and waste management policies, which makes it suitable for assessing both the current practices and the potential for implementing sustainable innovations.

By focusing on this locale, the study aims to gather realistic and applicable data that reflect the actual conditions of small food establishments in an urban environment. The findings may also serve as a basis for improving waste management strategies not only in Quezon City but also in other similar urban areas.

RESPONDENTS OF THE STUDY

The respondents of this study will consist of selected owners and employees of small food establishments located in Quezon City. These establishments include carinderias, food stalls, and small restaurants that operate within the identified research locale. The respondents are chosen because they are directly involved in the daily operations of the business, including the handling, segregation, and disposal of waste.

A sample of respondents will be selected using an appropriate sampling technique, such as purposive or convenience sampling, based on availability and willingness to participate. The study aims to gather reliable and relevant information from individuals who have sufficient knowledge and experience regarding the waste management practices of their establishments.

The owners will provide insights into business policies, decision-making, and challenges related to implementing sustainable waste practices, while the employees will share their actual experiences and behaviors in managing waste on a daily basis. Their combined responses will help the researchers better understand current practices, identify existing problems, and develop suitable recommendations for improving sustainability in small food establishments.

SAMPLING TECHNIQUE

This study will utilize a purposive sampling technique in selecting the respondents. Purposive sampling is a non-probability sampling method where participants are chosen based on specific characteristics relevant to the study. In this case, the researchers will intentionally select owners and employees of small food establishments who are directly involved in waste handling and management practices.

The use of purposive sampling is appropriate because it allows the researchers to gather information from individuals who have firsthand knowledge and experience regarding waste management in their establishments. Criteria for selection will include:

(1) currently operating small food businesses such as carinderias, food stalls, or small restaurants; (2) located within the selected areas of Quezon City; and (3) willing to participate in the study.

Additionally, convenience sampling may also be applied to select respondents who are readily accessible to the researchers. This approach helps save time and resources while still obtaining relevant data. Through these sampling techniques, the study aims to collect reliable and meaningful information that will support the objectives of the research.

RESEARCH INSTRUMENT

This study will utilize a structured survey questionnaire as the primary research instrument to gather data from the respondents. The questionnaire will be designed to collect information about the waste management practices of small food establishments, including waste segregation, disposal methods, types of waste generated, and the use of eco-friendly materials. It will also include items that assess the level of awareness of owners and staff, as well as the challenges they encounter in implementing sustainable waste practices.

The questionnaire will be divided into several parts. The first part will focus on the demographic profile of the respondents, such as their role (owner or employee), type of establishment, and years of operation. The second part will assess current waste management practices using close-ended questions. The third part will measure the level of awareness and attitudes toward sustainability, while the fourth part will identify the

challenges faced by the respondents. A Likert scale format (e.g., strongly agree to strongly disagree) will be used to measure perceptions and practices for easier analysis.

To ensure the validity and reliability of the instrument, the questionnaire will be reviewed by experts or research advisers before distribution. Necessary revisions will be made based on their feedback. A pilot test may also be conducted among a small group of respondents to check the clarity and consistency of the questions. This will help ensure that the instrument effectively gathers accurate and relevant data for the study.

DATA GATHERING PROCEDURE

The data gathering process for this study will begin with the preparation of a structured survey questionnaire based on the objectives of the research. The questionnaire will be carefully designed and reviewed by the research adviser or experts to ensure its validity and clarity. After revisions, a pilot test may be conducted with a small group of respondents to identify any issues in the questions and to ensure reliability.

Once the instrument is finalized, the researchers will seek permission from the owners of selected small food establishments in Quezon City to conduct the study. After approval is granted, the researchers will personally distribute the questionnaires to the identified respondents, including both owners and employees. The purpose of the study will be clearly explained to the participants, and they will be assured that their responses will remain confidential and used only for academic purposes.

The respondents will be given enough time to answer the questionnaire honestly and completely. After completion, the researchers will collect the questionnaires and check them for completeness. The gathered data will then be organized, tabulated, and prepared for analysis using appropriate statistical tools. This systematic procedure ensures that the data collected are accurate, reliable, and relevant to the objectives of the study.

DATA ANALYSIS

The data collected in this study will be carefully organized, coded, and analyzed using appropriate statistical tools to ensure accurate interpretation of results. Descriptive statistics will be used to summarize and present the data. Specifically, frequency and percentage will be applied to describe the profile of respondents and identify the common types of waste generated by small food establishments. Mean and weighted mean will be used to determine the level of waste management practices, awareness, and challenges encountered by the respondents.

To examine the relationship between waste management practices and the level of sustainability, inferential statistics such as the Pearson Product-Moment Correlation Coefficient will be utilized. This statistical test will help determine whether there is a significant relationship between the independent variables (waste management practices) and the dependent variable (sustainability level).

All data will be presented using tables for clarity and easy interpretation. The results will be analyzed based on the objectives of the study, and conclusions will be drawn accordingly. This process will ensure that the findings are reliable, objective, and useful in developing recommendations to improve waste management practices in small food establishments.

ETHICAL CONSIDERATION

This study will strictly follow ethical standards to ensure the protection and respect of all respondents. Before conducting the research, permission will be obtained from the owners of the selected small food establishments in Quezon City. The purpose of the study will be clearly explained to all participants, and their voluntary participation will be sought through informed consent. Respondents will be given the freedom to decline or withdraw from the study at any time without any consequences.

Confidentiality and anonymity will also be maintained throughout the research process. The names and personal information of the respondents will not be disclosed, and all data collected will be used strictly for academic purposes only. The researchers

will ensure that the information gathered is handled securely and will not be shared with unauthorized individuals.

Furthermore, the study will avoid any form of harm, bias, or misrepresentation. The researchers will present the data honestly and accurately without altering the results. Respect, transparency, and integrity will be upheld at all times to ensure that the research is conducted in a responsible and ethical manner.

SUMMARY

This chapter presents the research methodology used in the study titled “Waste Management Revolution: Innovating Sustainability in Small Food Establishments.” It describes the research design, which utilizes a descriptive-correlational approach to examine current waste management practices and their relationship to sustainability. The study is conducted in selected areas of Quezon City, focusing on small food establishments such as carinderias, food stalls, and small restaurants.

The respondents of the study include selected owners and employees who are directly involved in waste handling and management. A purposive sampling technique, along with convenience sampling, is used to identify participants who can provide relevant and reliable information. The primary research instrument is a structured questionnaire designed to gather data on waste management practices, awareness, and challenges encountered by respondents.

The chapter also outlines the data gathering procedure, which involves securing permission, distributing questionnaires, and collecting responses while ensuring confidentiality and voluntary participation. Data analysis is conducted using descriptive and inferential statistics, including frequency, percentage, mean, and Pearson correlation, to interpret the results and determine relationships between variables. Lastly, ethical considerations are emphasized to ensure the protection, privacy, and rights of all participants. Overall, this chapter provides a clear and systematic approach to how the study is conducted.

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

This chapter presents, analyzes, and interprets the data gathered from the respondents regarding waste management practices and sustainability in small food establishments located in Quezon City. The results are organized based on the objectives of the study and are presented using tables followed by corresponding interpretations.

I PROFILE OF THE RESPONDENTS

Role	Frequency (f)	Percentage (%)
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Owner	15	30%
Employee	35	70%
Total	50	100%

The majority of the respondents are employees, indicating that most data came from individuals directly involved in daily waste handling.

II WASTE MANAGEMENT PRACTICES (WEIGHTED MEAN)

INDICATORS	WEIGHTED MEAN	VERBAL INTERPRETATION
Waste Segregation	2.80	Moderately Practiced
Waste Disposal Methods	3.40	Practiced
Use of Eco-friendly Materials	2.50	Less Practiced
Overall Mean	2.90	Moderately Practiced

Waste disposal is commonly practiced, while the use of eco-friendly materials is still limited among small food establishments.

III TYPES OF WASTE GENERATED

TYPES OF WASTE	FREQUENCY (F)	PERCENTAGE (%)
Food waste	40	80%
Plastic packaging	35	70%
Disposable utensils	30	60%
Others	10	20%

Food waste is the most commonly generated, followed by plastic packaging and disposable utensils.

IV CHALLENGES IN WASTE MANAGEMENT

CHALLENGES	WEIGHTED MEAN	VERBAL INTERPRETATION
Lack Of Knowledge	3.50	Highly Observed
Limited Space	3.40	Highly Observed
Cost Of Eco-Friendly Materials	3.60	Highly Observed
Lack Of Government Support	3.20	Observed
Overall Mean	3.43	Highly Observed

Cost and lack of knowledge are the main challenges affecting proper waste management practices.

V LEVEL OF AWARENESS ON WASTE MANAGEMENT

INDICATORS	WEIGHTED MEAN	VERBAL INTERPRETATION
Knowledge Of Waste Segregation	3.20	Aware
Knowledge Of Recycling	2.90	Moderately Aware
Knowledge Of Composting	2.60	Less Aware
Overall Mean	2.90	Moderately Aware

Respondents are generally aware of basic waste practices but lack knowledge of advanced methods like composting.

VI CORRELATION BETWEEN WASTE MANAGEMENT PRACTICES AND SUSTAINABILITY

VARIABLES	COMPUTED R	INTERPRETATION
Waste Practices Vs Sustainability	0.65	Moderate Positive Correlation

There is a significant relationship between waste management practices and sustainability. Better practices lead to higher sustainability levels.

SUMMARY

Chapter 4 presented, analyzed, and interpreted the data gathered from the respondents regarding waste management practices and sustainability in small food establishments in Quezon City. The findings revealed that most respondents were employees who are directly involved in daily waste handling activities. In terms of current practices, waste disposal is commonly observed, while waste segregation and the use of eco-friendly materials are only moderately practiced.

The study also showed that food waste is the most commonly generated type of waste, followed by plastic packaging and disposable utensils. Several challenges were identified, including lack of knowledge, limited space, high cost of eco-friendly materials, and insufficient government support, which hinder the proper implementation of sustainable waste management practices. Additionally, the level of awareness among respondents was found to be moderate, with greater familiarity in basic practices than in advanced methods such as composting.

Furthermore, the results indicated a significant relationship between waste management practices and the level of sustainability in small food establishments. This means that improving waste practices can lead to better sustainability outcomes. Overall, the findings highlight the need for increased awareness, improved resources, and stronger support systems to enhance waste management practices and promote sustainability.

SUMMARY, COCLUSION, AND RECOMMENDATIONS

SUMMARY OF FINDINGS

The study revealed that the majority of respondents were employees of small food establishments in Quezon City, indicating that most of the data came from individuals directly involved in daily waste management activities. In terms of current practices, waste disposal methods are commonly practiced, while waste segregation and the use of eco-friendly materials are only moderately implemented.

The findings also showed that the most common types of waste generated are food waste, plastic packaging, and disposable utensils, with food waste being the most dominant. This suggests a strong potential for composting and recycling initiatives. However, several challenges hinder proper waste management, including lack of knowledge, limited space, high cost of eco-friendly materials, and insufficient support from local authorities.

Moreover, the level of awareness among respondents was found to be moderate. While they are familiar with basic waste practices such as disposal and segregation, they have limited knowledge of more advanced and sustainable methods like

composting and recycling. Lastly, the study found a significant relationship between waste management practices and sustainability, indicating that improved practices can lead to better environmental outcomes in small food establishments.

CONCLUSIONS

Based on the findings of the study, it can be concluded that waste management practices in small food establishments in Quezon City are still at a moderate level and require significant improvement to achieve sustainability. While basic waste disposal is commonly practiced, important aspects such as proper waste segregation and the use of eco-friendly materials are not consistently implemented. This indicates that many establishments are still relying on traditional and less sustainable methods of handling waste.

The study also concludes that food waste and plastic materials are the primary contributors to the overall waste generated by these establishments. Despite the availability of sustainable solutions such as composting and recycling, their adoption remains limited due to challenges such as lack of knowledge, limited space, financial constraints, and insufficient institutional support. These barriers prevent small food business owners and employees from fully practicing effective waste management.

Furthermore, the moderate level of awareness among respondents suggests that there is a need for continuous education and training on sustainable practices. Most respondents are only familiar with basic waste handling and lack deeper understanding of innovative waste management strategies. Importantly, the study confirmed that there is a significant relationship between waste management practices and sustainability, emphasizing that improving these practices can lead to better environmental outcomes.

Overall, the study highlights the importance of promoting awareness, providing support, and introducing practical and cost-effective solutions to improve waste management in small food establishments. By addressing existing challenges and encouraging sustainable practices, these businesses can contribute to environmental protection and long-term sustainability.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are proposed to improve waste management practices and promote sustainability among small food establishments in Quezon City:

1. Implement Proper Waste Segregation Systems

Small food establishment owners should strictly practice waste segregation by providing separate bins for biodegradable, non-biodegradable, and recyclable waste. Clear labels and consistent monitoring can help ensure proper implementation.

2. Adopt Composting and Recycling Practices

Establishments are encouraged to compost food waste and participate in recycling programs. This will help reduce the volume of waste sent to landfills and promote environmental sustainability.

3. Use Eco-friendly Materials

Business owners should gradually replace single-use plastics with biodegradable, reusable, or recyclable packaging materials. Although initial costs may be higher, long-term benefits include reduced environmental impact and improved business image.

4. Conduct Training and Awareness Programs

Local government units and environmental organizations should organize seminars and training sessions to educate owners and employees about proper waste management and sustainable practices.

5. Strengthen Government Support and Policies

Local authorities should provide stronger support through stricter implementation of waste management policies, incentives for eco-friendly practices, and accessible waste disposal and recycling facilities.

6. Develop a Waste Management Plan

Each establishment should create a simple and practical waste management plan that outlines proper handling, segregation, and disposal procedures. This will ensure consistency in daily operations.

7. Encourage Customer Participation

Customers should also be encouraged to support sustainable practices by properly disposing of their waste and patronizing environmentally responsible businesses.

8. Future Research

Future researchers are encouraged to explore other factors affecting sustainability, include a larger sample size, or focus on different locations to further validate and expand the findings of this study.

These recommendations aim to provide practical and achievable solutions that can help small food establishments improve their waste management practices and contribute to a cleaner and more sustainable environment.

SUMMARY OF THE OVERALL STUDY

This study, titled “Waste Management Revolution: Innovating Sustainability in Small Food Establishments,” aimed to examine the current waste management practices of small food establishments and determine their relationship with sustainability. The research focused on selected establishments in Quezon City, particularly carinderias, food stalls, and small restaurants. It explored key aspects such as waste segregation, disposal methods, types of waste generated, use of eco-friendly materials, level of awareness, and challenges encountered by owners and employees.

The study utilized a descriptive-correlational research design, with data collected through structured questionnaires distributed to selected respondents. The findings revealed that while waste disposal practices are commonly observed, waste segregation and the use of eco-friendly materials are only moderately practiced. Food waste and plastic materials were identified as the most common types of waste generated. Additionally, respondents demonstrated a moderate level of awareness regarding sustainable waste management practices.

Several challenges were identified, including lack of knowledge, limited space, high costs of eco-friendly materials, and insufficient support from local authorities. Despite these challenges, the study found a significant relationship between waste management practices and sustainability, indicating that improvements in waste handling can lead to better environmental outcomes.

Based on the results, the study concluded that small food establishments still need to enhance their waste management practices to achieve sustainability. It emphasized the importance of proper waste segregation, adoption of eco-friendly materials, and increased awareness through training and support. Recommendations were provided to guide business owners, employees, and local government units in implementing practical and innovative solutions.

Overall, the study highlights that even small food establishments can contribute significantly to environmental protection by adopting sustainable waste management practices, ultimately leading to cleaner communities and a healthier environment.

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