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Championing Green Marketing: Environmental Responsibility in Sapang Palay's Micro-Food Businesses

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ABSTRACT

The study titled "Environmental Responsibility in Sapang Palay Market: A Look at Green Marketing in Local Micro-Food Businesses" delves into green practices and business operations. Through a quantitative analysis, the research reveals the utilization of environmentally conscious practices such as the use of energy-saving tools, waste segregation, and engagement in recycling through scrap reselling. Other eco-friendly practices such as the use of paper straws, while observed, turned out to be less prevalent. Notably, water and energy-conserving production practices and sustainable packaging emerged as significant drivers of sales, while effective waste management proves instrumental in fostering environmental growth. Although micro-food businesses demonstrate a notable utilization and integration of green practices, the findings suggest opportunities for improvement such as the prevalent use of plastic products, and Styrofoam which are scientifically proven to be detrimental to the environment as waste. Micro-Food Businesses continue to patronize these packaging options due to cost and profitability considerations. Collectively, the research underscores the critical need for heightened awareness and proactive measures to foster the widespread adoption of sustainable practices, advocating for the reduction of waste, energy conservation, and the use of non-toxic materials to promote a healthier and more environmentally conscious business landscape.

1. Introduction

The contemporary prominence of environmental concerns profoundly influences daily activities, prompting businesses to develop innovative concepts to address escalating ecological problems. This has led to the rapid rise of green marketing—a trend witnessed globally and in the Philippines—which promotes eco-friendly practices beyond merely using sustainable materials, extending to services and daily life. Some businesses have adopted green marketing systems and eco-friendly waste management, evident in the transition from plastic to sustainable alternatives.

In the Philippines, mismanaged waste exacerbates environmental challenges, necessitating

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heightened green marketing implementation to mitigate these issues. Despite the global emphasis on sustainable practices, there remains a significant research gap regarding the specific impact of green marketing on micro-food businesses, particularly in local contexts like Sapang Palay Market. While existing literature has explored green marketing broadly, there is limited understanding of how these practices affect the operational activities and consumer behavior in small and medium enterprises (SMEs).

This study aims to fill this research gap by examining how green practices influence the operations of micro-food establishments in Sapang Palay. It seeks to identify the specific green practices implemented, their effects on the environment, the likelihood of their implementation, and their influence on consumer behavior. The research focuses on practices such as sustainable packaging, water and energy conservation, utilization of recyclable materials, and proper waste management.

Through a comprehensive analysis, the study aims to provide insights into the relationship between green practices and business operations, as well as their environmental and consumer-related implications. The potential contributions of this study are significant: it aims to enhance understanding of the effectiveness of green marketing in local SMEs, provide actionable recommendations for businesses seeking to adopt sustainable practices, and contribute to policy development aimed at promoting environmental responsibility within the micro-business sector. By addressing these aspects, the research seeks to influence the economy positively, fostering job opportunities and promoting long-term social and environmental gains.

2. Literature Review

2.1. Characteristics of Micro-Food Businesses in the Philippines

Micro-food businesses in the Philippines are typically home-based enterprises with a small workforce that relies heavily on labor and very little equipment. These businesses generally have investments consisting of less than P3 million in assets, not including the property where the business's office, plant, and equipment are located.

2.2. Cultural Significance of Street Food

Eating street food in the Philippines is both a way of life and a source of cultural identity. Manila's street cuisine, known for its bowls and skewers, is born out of urban grit and survival instincts. Doreen Gamboa Fernandez, in her essay "Balut to Barbecue," emphasizes that street food in the Philippines is more than just an economic phenomenon thriving in difficult times; it is a way of life (Fernandez et al., 2020).

2.3. Growth of the Philippine Food Service Sector

The United States Department of Agriculture-Foreign Agricultural Service (USDA-FAS) anticipates robust growth in the Philippine local food service sector, expecting it to return to pre-pandemic levels by 2024 (Rivera, 2023). The report projects a 20% expansion in sales, reaching approximately $13 billion in 2023, driven by strong consumer confidence and the recovery of the tourism and hotel industry. Key drivers for sector growth include dine-in restaurants, catering, and events. The Philippines' dominance in global social media and internet usage suggests that Instagrammable food establishments will attract more customers. The report also notes the continued relevance of food deliveries and non-contact food ordering systems as convenient options for consumers.

2.4. Environmental Initiatives and E-Waste Management

In October 2023, the Department of Environment and Natural Resources (DENR) and the United Nations Industrial Development Organization (UNIDO) engaged with the city government of San Jose Del Monte (SJDM), Bulacan, to support the E-Waste Component of the "Implementation of PCB Management Programs for Electric Cooperatives and Safe E-wastes Management" (PCB-WEEE) Project (Delgado, n.d.). This partnership focuses on e-waste collection events to sustain the operations of the Treatment, Storage, and Disposal (TSD) Facility for e-wastes in Bagong Silang, Caloocan City. This initiative represents a significant step towards proper e-waste management and environmental protection.

2.5. Green Marketing Practices: Global Perspectives

2.5.1. India

In 2014, Bhatia and Jain conducted a study on green marketing practices in India involving 106 respondents. The study assessed consumers' levels of awareness about environmental issues, green values, and their preferences for eco-friendly products. The findings revealed a high level of consumer awareness regarding green marketing practices and products, underscoring the importance of effective marketing communication campaigns to promote green products (Bhatia & Jain, 2014).

2.5.2. Vietnam

In 2019, Nguyen et al. examined green marketing practices in Vietnam, focusing on consumer attitudes and purchasing behaviors. The research revealed that environmental concerns, health considerations, food safety, and knowledge of organic food significantly shape consumers' attitudes towards purchasing organic meat. However, positive attitudes do not uniformly translate into actual purchasing behavior, with premium prices acting as a deterrent. The study highlights the pivotal role of green marketing practices in encouraging consumers to actualize their purchase intentions (Nguyen et al., 2019).

3. Methodology

This research adopted a quantitative analysis approach to investigate green practices in micro-food businesses in Sapang Palay, San Jose Del Monte City, Bulacan. The study employs a descriptive research design to understand the impact of these practices on consumer behavior and business operations.

Sample Size and Sampling Technique: The sample size consisted of 45 business stalls within the Sapang Palay Public Market. The sampling technique used was purposive sampling, as the study specifically targeted street food vendors to gain insights into their adoption of green practices.

Data Collection: Primary data was obtained through structured interviews conducted with the food stall operators. The interviews assessed their knowledge and utilization of green business practices. To ensure consistency and reliability of responses, a Likert scale was utilized to measure the frequency of use, perceived effectiveness, and intent to implement various green practices.

Theoretical Framework: The research is guided by the Theory of Planned Behavior (TPB), which suggests that an individual's behavior is directly influenced by their intention to perform the behavior, which in turn is shaped by their attitudes towards the behavior, subjective norms, and perceived behavioral control. In the context of this study, the TPB framework helps to

understand how the attitudes of food stall operators towards green practices, the influence of societal norms, and their perceived control over adopting these practices affect their actual implementation of green business strategies.

Data Analysis: The gathered data were processed using percentage frequency distribution and weighted mean calculations. The percentage frequency distribution provided insights into the proportion of respondents engaging in different green practices, while weighted mean calculations helped to determine the average level of engagement and effectiveness perceived by the respondents.

3.1. Research Instrument

This research instrument was utilized to gather the necessary data. The instrument was validated by three business management professors and one statistician.

3.1.1. Section 1: Demographic Information

1. **What type of business do you operate?**
    - Food Only
    - Beverages Only
    - Food + Beverage

3.1.2. Section 2: Utilization of Green Materials

2. **How often do you use the following materials in your business?** *(Rate on a scale: 1 - Never, 2 - Seldom, 3 - Sometimes, 4 - Often, 5 - Always)*
    - Paper Bags
    - Eco-Bags
    - Reusable Straws (metal/glass straws)
    - Reusable Cutlery (metal spoon, fork)
    - Plastic Straw
    - Plastic Bags
    - Corrugated Box/Packaging
    - Plastic Cup/Plates
    - Paper Cup/Plates
    - Paper Straws
    - Segregation Trash bags
    - Electric Stove
    - Electronic Advertising
    - Tissue, Table Napkins
    - Gas Stove

3.1.3. Section 3: Perception of Effectiveness of Green Practices

3. **Please rate the effectiveness of the following green practices in your business operations in terms of marketing, sales, environmental growth, and pollution reduction.** *(Rate on a scale: 1 - Not Effective, 2 - Slightly Effective, 3 - Neutral, 4 - Effective, 5 - Very Effective)*
    - Sustainable Packaging
    - Water & Energy Conservation
    - Utilization of Recyclable Materials
    - Proper Waste Management

3.1.4. Section 4: Likelihood of Implementing Green Practices

4. **How likely are you to implement the following green practices in your business?** *(Rate on a scale: 1 - Not Likely, 2 - Somewhat Unlikely, 3 - Neutral, 4 - Likely, 5 - Very Likely)*
    - Sustainable Packaging (styrofoam, plastic materials, recyclable materials, paper materials)
    - Water & Energy Conserving Materials (use of low flow spray valves, recycled water, LED lighting, energy-saving, inverter appliances)
    - Recyclable Materials (paper/cardboard, aluminum paper plate, reusable plates, cups, utensils)
    - Waste Management (waste segregation, scrap reselling, minimization through reusable utensils)

3.1.5. Section 5: Additional Comments

5. **Do you have any additional comments or suggestions regarding the implementation of green and sustainable practices in your business?**

4. Results & Discussion

The present study offers an insightful examination of the environmental responsibility through green practices among micro-food businesses in Sapang Palay, San Jose Del Monte City, Bulacan. The findings align with and expand upon previous research in green marketing and sustainability practices, providing valuable contributions to the existing body of knowledge.

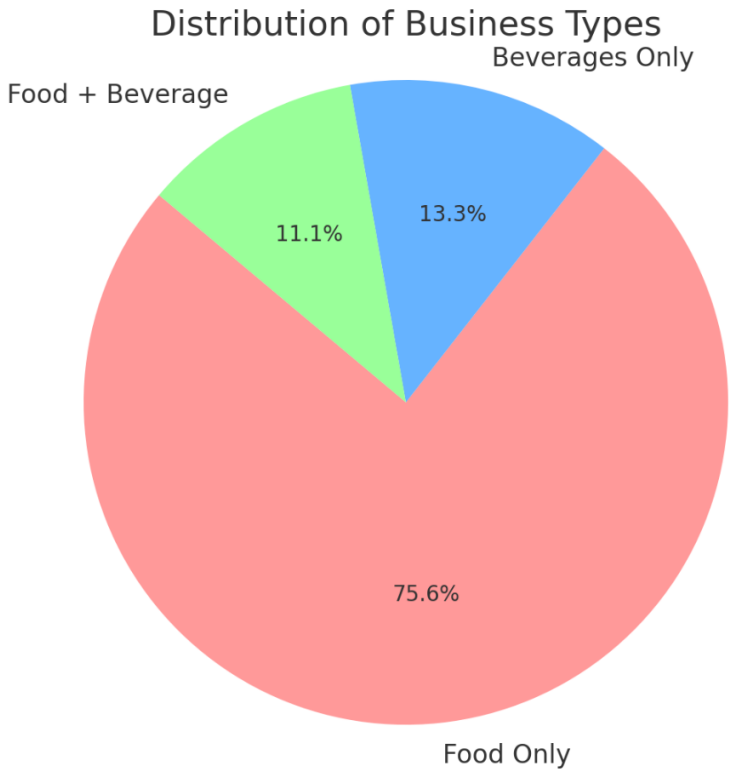
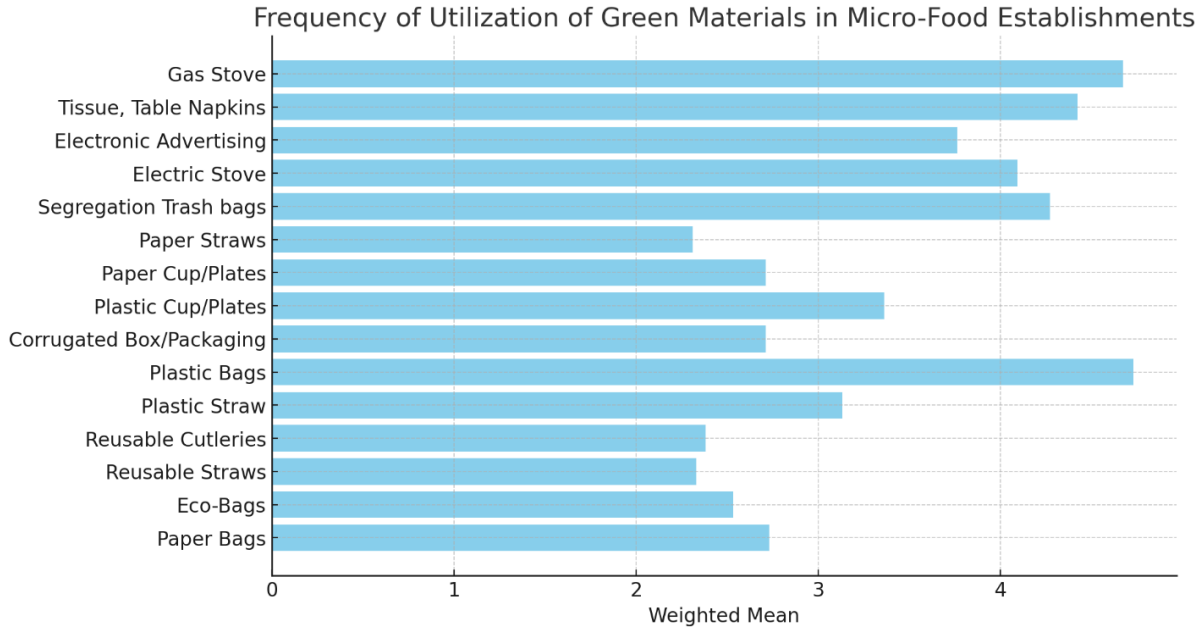


Figure 1. Frequency and Percentage of Distribution of Respondent's Demographics in Terms of Type of Business

Figure 1 shows how Food products from street food vendors were the most dominant and available during the time of the survey comprising 75.56% of the respondents. Pure beverage

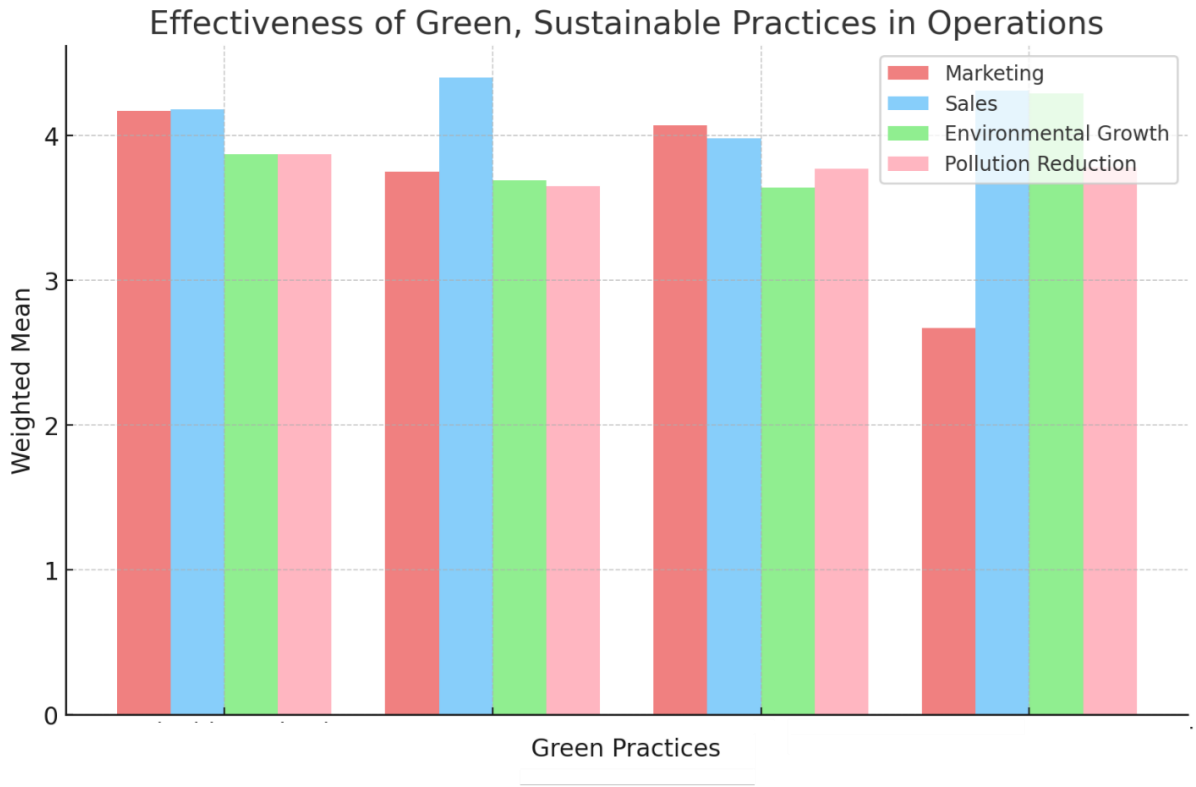
stalls were at 13.33% and the combination of food and beverages was 11.11%.



Materials	Weighted Mean	Interpretation
Paper Bags	2.73	Sometimes
Eco-Bags	2.53	Sometimes
Reusable Straws (metal/glass straws)	2.33	Seldom
Reusable Cutleries (metal spoon, fork	2.38	Seldom
Plastic Straw	3.13	Sometimes
Plastic Bags	4.73	Always
Corrugated Box/Packaging	2.71	Sometimes
Plastic Cup/Plates	3.36	Sometimes
Paper Cup/Plates	2.71	Sometimes
Paper Straws	2.31	Seldom
Segregation Trash bags	4.27	Often
Electric Stove	4.09	Often
Electronic Advertising	3.76	Often
Tissue, Table Napkins	4.42	Often
Gas Stove	4.67	Always
Total	3.34	Often

Figure 2. Frequency of Utilization of Green Materials in Micro-Food Establishments

Among the surveyed materials in Figure 2, plastic bags emerge as a predominant choice, garnering a high weighted mean of 4.73, indicating their ubiquitous use – a consistent "Always" presence in these establishments. Contrarily, certain materials such as eco-bags, reusable straws, and cutlery exhibit lower weighted means, signifying less frequent adoption, categorized as "Sometimes" or "Seldom." Notably, waste segregation through trash bags receives a commendable weighted mean of 4.27, indicating that micro-food businesses often adhere to this eco-conscious practice. Additionally, the survey reflects a notable penchant for green appliances, with both electric stoves and gas stoves attaining high weighted means of 4.09 and 4.67, respectively, denoting their regular and even constant use. Paper-based materials i.e. straws, cups, plates, bags & boxes yielded low usage results, according to business owners, the challenge of adopting such lies in the additional cost it incurs in their operations, as well as issues in the durability of materials to hold food & drinks. The overall weighted mean of 3.34 suggests a general tendency among micro-food businesses to frequently incorporate green materials into their daily operations, albeit with variations across specific items.



Green Practices	Marketing		Sales		Environmental Growth		Pollution Reduction	
	Weighted Mean	***Interpretation***	***Weighted Mean***	***Interpretation***	***Weighted Mean***	***Interpretation***	***Weighted Mean***	***Interpretation***
Sustainable Packaging	4.17	Effective	4.18	Effective	3.87	Effective	3.87	Effective
Water & Energy Conservation	3.75	Effective	4.4	Effective	3.69	Effective	3.65	Effective
Utilization of Recyclable Materials	4.07	Effective	3.98	Effective	3.64	Effective	3.77	Effective
Proper Waste Management	2.67	Neutral	4.31	Effective	4.29	Effective	3.78	Effective

Figure 3. Business Perception on Effectiveness of Green, Sustainable practices in their operations

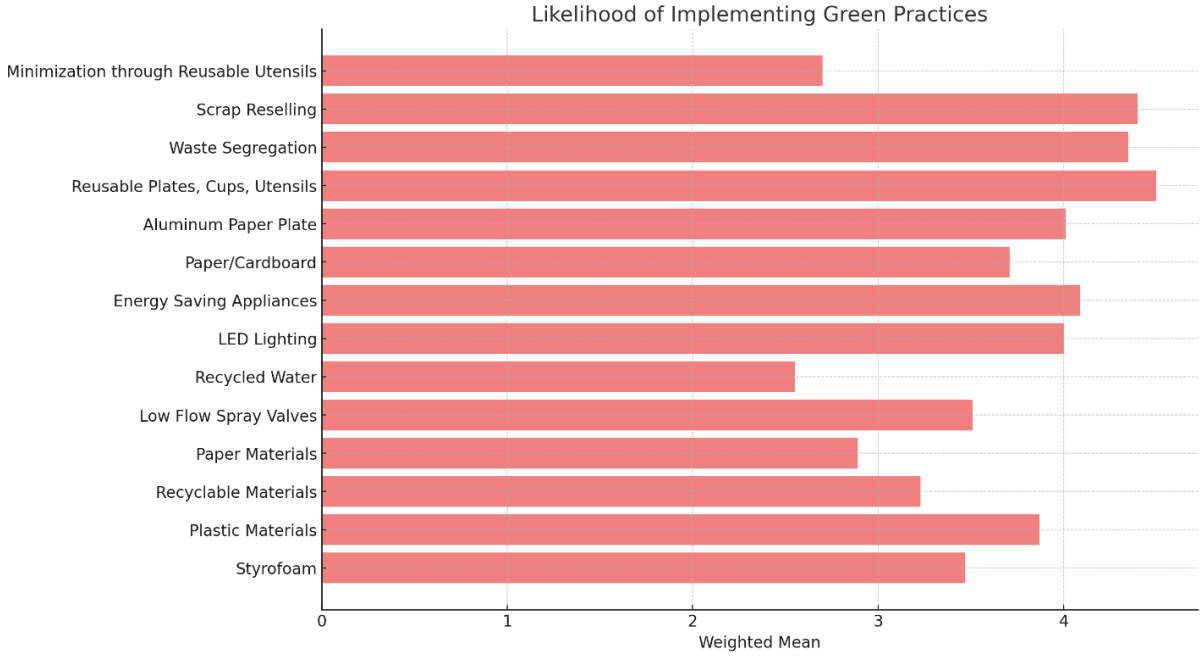
Figure 3 shows that Micro food establishments in Sapang Palay are notably effective in adopting sustainable practices such as sustainable packaging, water and energy conservation, and the utilization of recyclable materials. While there is room for improvement in waste management, the overall commitment to environmentally conscious practices bodes well for the businesses, reflecting positively across various facets of their operations.

Table 1.
ANOVA comparison of means of different practices within each domain

	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	3	0.6914	0.2305	1.5346	0.2562
Error (within groups)	12	1.8021	0.1502		
Total	15	2.4935	0.1662		

The One-Way ANOVA results shown in Table 1 suggest that there is no statistically significant

difference between the group averages, and the observed effect size indicates a notable magnitude of difference. The decision to retain the null hypothesis is further supported by the p-value and the test statistic falling within the acceptance region. Post hoc tests did not reveal significant differences between specific pairs of group means.



Practices	Weighted Mean	Interpretation
Sustainable Packaging		
styrofoam	3.47	moderately utilized
plastic materials	3.87	highly utilized
recyclable materials	3.23	moderately utilized
paper materials	2.89	moderately utilized
Water & Energy Conserving Materials		
use of low flow spray valves	3.51	highly utilized
recycled water	2.55	moderately utilized
LED lighting	4	highly utilized
energy saving, inverter appliances	4.09	highly utilized
Recyclable Materials		
paper/cardboard	3.71	highly utilized
aluminum paper plate	4.01	highly utilized
reusable plates, cups, utensils	4.5	highly utilized
Waste Management		
waste segregation	4.35	highly utilized
scrap reselling	4.4	highly utilized
minimization through reusable utensils	2.7	moderately utilized
Overall Weighted Mean	3.8	Highly Utilized

Figure 4. Measurement of the Likelihood of Micro-Food Businesses in Implementing Green Practices

Figure 4 shows the utilization of green and sustainable practices among micro-food businesses in Sapang Palay. Among the facets of utilization, all have exhibited a commendable commitment to green practices, with an overall weighted mean of 3.8. This underscores their dedication to sustainability across various operational aspects, working towards a more environmentally conscious business model.

4.1. Comparison with Previous Studies

The high utilization of plastic bags (weighted mean of 4.73) underscores a significant challenge in transitioning towards more sustainable packaging solutions. This finding parallels previous studies, such as those by Bhatia and Jain (2014), which highlighted the difficulty in shifting consumer and business behaviors despite high environmental awareness. The lower usage of eco-friendly alternatives like reusable straws and cutlery, which were categorized as "Sometimes" or "Seldom," resonates with Nguyen et al. (2019), who found that despite positive attitudes towards green products, actual purchasing behavior was hindered by cost and convenience factors.

In contrast, the frequent adoption of waste segregation practices (weighted mean of 4.27) and the use of energy-saving appliances (electric stoves and gas stoves with weighted means of 4.09 and 4.67, respectively) demonstrates a proactive approach among micro-food businesses in adopting sustainable practices. These findings suggest a growing recognition of the economic and operational benefits of green practices, consistent with the USDA-FAS (2023) report on the Philippine food service sector's recovery and growth.

4.2. Unique Contributions

This study uniquely contributes to the literature by providing empirical data specific to micro-food businesses in a local Filipino context, an area previously underexplored. It highlights the practical challenges and motivations of small-scale vendors in adopting green practices. The overall weighted mean of 3.34 for the utilization of green materials indicates a general inclination towards sustainability, but with significant room for improvement in specific areas like sustainable packaging and proper waste management.

Moreover, the findings from the ANOVA analysis (Table 1) suggest no statistically significant difference between the group averages of different green practices, indicating a consistent approach across various types of businesses. This consistency contrasts with studies in other regions, where significant variations in green practice adoption were observed depending on business size and type.

5. Conclusion

The study achieves its objective of evaluating the adoption and effectiveness of green practices among micro-food businesses in Sapang Palay. The findings underscore the importance of integrating green practices into daily operations, not only for environmental benefits but also for enhancing business efficiency and consumer appeal.

The significant impact of sustainable practices on marketing, sales, and environmental growth (Figure 3) highlights the dual benefits of these practices. However, the mixed results on waste management effectiveness suggest a need for targeted interventions to improve this area.

5.1. Significance for Academia and Practice

For academia, this study provides a localized understanding of green practices in micro-food businesses, contributing to the broader discourse on sustainable business practices in developing countries. It suggests areas for further research, such as exploring the economic impacts of green practices on small businesses and consumer behavior in different contexts.

For practitioners, the study offers practical insights into the benefits and challenges of adopting green practices. It recommends increasing awareness of the benefits of green practices, implementing energy-saving measures, and adopting eco-friendly alternatives such as

disposable paper bags and straws. Furthermore, the importance of using less toxic materials in production to ensure a healthier environment is emphasized.

5.2. Recommendations

1. Increased Awareness: Micro-food establishments should enhance awareness among owners and consumers about the benefits of green practices. This could be achieved through the execution of an Extension program spreading informative campaigns, workshops, and collaboration with local environmental initiatives. It will be a challenge to get the buy-in of the business owners as participation in such activities could mean a temporary halt in their operations. The extension program must be designed in a way that would provide the owners equal benefits or possibly remuneration for attendance.

2. Energy-Saving Measures: Considering how often appliances are used, Micro-Food businesses ought to look at other energy-saving options. Purchasing energy-efficient appliances and lighting is one way to do this, as it helps save money and preserve the environment. Businesses can consider purchasing e-bikes and solar powered lighting options.

3. Eco-Friendly Alternatives: To address challenges associated with paper-based materials, businesses can explore cost-effective and durable eco-friendly alternatives such as disposable paper bags and straws. Given that these options incur additional costs, the local government can come up with laws and ordinances that will incentivize adoption and use of such recyclable materials. For example, the LGU can offer tax breaks or tax reductions on adherent micro-food businesses.

4. Less Toxic Materials: Emphasizing the use of less toxic materials in production is crucial for ensuring a healthier environment. This involves careful consideration of materials and processes to minimize environmental impact and consumer health concerns. Use of reusable materials offers a non-toxic alternative for business. Micro-Food Businesses may explore the use of Bamboo, Glass, and Stainless utensils instead of single-use plastics and plastics with BPA.

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