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ADEQUACY OF PEER TUTORING IN RELATION TO ACADEMIC PERFORMANCE OF BACHELOR OF ELEMENTARY EDUCATION

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Abstract.

The study aimed to determine the adequacy of peer tutoring in relation to academic performance. It was conducted at Core Gateway College, Inc., during the 2nd Semester School Year 2024 – 2025. The study's respondents were 71 Bachelor of Elementary Education students. A descriptive correlational research design was used in the study. The data gathered were interpreted and analyzed using statistical tools such as frequency counts, percentages, means, and standard deviations. Pearson Product-Moment Correlation (r) was used to determine the relationship between two variables. The respondents' ages ranged from 18 – 33 years old, with a mean of 21.11 and a standard deviation of 2.74; majority (78.87%) were females while 21.13 percent were males, and majority (38.03%) of the respondents were second year college, followed by third year college (33.80%), followed by first year college (21.13%) and the rest of them were fourth year college (7.04%). The respondents rated the adequacy of peer tutoring for examinations, quizzes, and assignments as often, and for activities as always. Findings revealed that more than half of the respondents (52.12%) received an average grade above the mean (1.93).

In comparison, 47.88% had an average grade below the mean, indicating that the respondents' academic performance was mainly "excellent". Results showed that the adequacy of peer tutoring in examinations, quizzes, and assignments is not significantly related to academic performance. The adequacy of peer tutoring activities is significantly associated with respondents' academic performance.

Keywords: Peer Tutoring, Academic Performance, Examination, Quizzes, Assignments, Activities

Introduction

Peer tutoring has emerged as an essential focus in higher education as a collaborative learning approach that boosts academic achievement. In teacher education, especially in the Bachelor of Elementary Education (BEd) program, mastery of academic concepts is essential for cultivating practical teaching abilities. Peer tutoring, which involves students teaching and learning from one another, has been recognized for its ability to improve comprehension, reinforce subject mastery, and develop essential pedagogical competencies (Topping, 2019). Through peer-assisted learning, students actively engage in discussions, clarify misunderstandings, and deepen their understanding of course materials, thereby improving academic performance (Falchikov, 2020).

Even with its advantages, the adequacy of peer tutoring as a primary mechanism for academic achievement remains in question. While studies suggest that peer tutoring fosters higher-order thinking and better retention of knowledge (Roscoe & Chi, 2008), concerns about tutor competence, content accuracy, and the structure of tutoring sessions persist (Ten Cate & Durning, 2007). For BEd students, assessing the effectiveness of peer tutoring is necessary to determine whether it adequately contributes to their academic achievement and professional development.

While numerous studies have highlighted the benefits of peer tutoring in enhancing student learning outcomes, there remains a lack of research specifically examining its adequacy in relation to the academic performance of Bachelor of Elementary Education (BEd) students. Existing literature primarily focuses on peer tutoring in general education settings (Topping, 2019; Falchikov, 2020). However, few

studies have examined its effectiveness in teacher education programs, where academic performance is linked to future teaching competencies. This study seeks to address these gaps by investigating the adequacy of peer tutoring as a support mechanism for Bachelor of Elementary Education Students and finding its direct relationship with their academic performance.

The primary goal of this study is to examine the relationship between peer tutoring and academic performance among Bachelor of Elementary Education students at Core Gateway College, Inc. Specifically, the study will describe the socio-demographic characteristics of the respondents, including age, sex, and year level. It will determine the adequacy of peer tutoring in taking examinations, quizzes, assignments, and activities. The study will assess the respondents' academic performance. Lastly, it will explore the relationship between peer tutoring and academic performance, examining whether it significantly enhances students' academic success. By addressing these objectives, this research aims to provide insights into the effectiveness of peer tutoring and its potential to improve the educational performance of Bachelor of Elementary Education students.

Methods

The researcher used quantitative methods within a descriptive-correlational approach. This study used this design to examine the respondents' socio-demographic characteristics, the adequacy of peer tutoring, and their academic performance. In contrast, a correlational research design was employed to assess the relationship between peer tutoring adequacy and respondents' academic performance among Bachelor of Elementary Education students at Core Gateway College, Inc.

The respondents of this study were the 71 Bachelor of Elementary Education students at Core Gateway College, Inc., during the first semester of the School Year 2024-2025, chosen through stratified sampling. The respondents were selected based on criteria aligned with the research objectives. The data-gathering process involved obtaining the necessary permissions from CGCI. All data that was collected was used for research purposes only. Moreover, strict confidentiality of the research data and information collected is required.

Results and Discussion

Socio-Demographic Characteristics of the Respondents

Results show that among 71 Bachelor of Elementary Education (BEED) students, the majority (78.87%) were female, while 21.13% were male. The finding implies that more female students were enrolled than their male counterparts. The majority of respondents who completed the survey were female.

The respondents' mean age was 21 years, with a range of 18–20 years and a standard deviation of 2.74, indicating a narrow distribution. The table also shows that the six respondents were above the mean age.

Information gathered revealed that the majority (38.03%) of the respondents were second year college, followed by third year college (33.80%), followed by first year college (21.13%), and the rest of them were fourth year college (7.04%)

Table 1. Respondents' Socio-Demographic Characteristics

SOCIO- DEMOGRAPHIC CHARACTERISTICS	FREQUENCY n=71	PERCENTAGE
Sex		
Male	15	21.13
Female	56	78.87
Age		
30 – 33	2	2.82
27 – 29	2	2.82
24 – 26	2	2.82
21 – 23	35	49.29
18 – 20	30	42.25
Mean = 21.11 ~ 21		
SD = 2.74		

Year Level:		
First Year	15	21.13
Second Year	27	38.03
Third Year	24	33.80
Fourth Year	5	7.04

Adequacy of Peer Tutoring in Terms of Examination

The item "I can recall information I learned in peer tutoring when taking an exam" had the highest mean of 3.35, described as "always". The item "I cover the content that appears on exams through peer tutoring" had the lowest mean of 3.03, which was described as "Often".

The result yielded a composite mean score of 3.19, which was described as "Often". This implies that respondents generally find peer tutoring effective in helping them recall information during exams, but it does not guarantee complete alignment with exam content.

However, while peer tutoring can facilitate better retention of information, it does not guarantee complete alignment with exam content, as the effectiveness can vary based on the structure and implementation of the tutoring sessions (Bowman-Perrott et al., 2019)

Table 2. Adequacy of Peer Tutoring in Terms of Examination

STATEMENTS	MEAN	DESCRIPTIVE RATING
Examination		
1. I understand the key concepts that are included in exams through peer tutoring.	3.27	Always
2. I feel more confident answering exam questions after peer tutoring.	3.18	Often
3. I cover the content that appears on my exams through peer tutoring.	3.03	Often

4. I prepare for exams more effectively than studying on my own with the help of peer tutoring.	3.11	Often
5. I can recall information I learned in peer tutoring when taking an exam.	3.35	Always
Composite Score	3.19	Often

Legend:

3.25 – 4.00 Always

2.50 – 3.24 Often

1.75 – 2.49 Seldom

1.00 – 1.74 Never

Adequacy of peer tutoring in terms of quizzes.

The item "I improved my quiz scores since participating in peer tutoring" had the highest mean of 3.28, with "always" as the most frequent response. The item "I feel more confident when taking quizzes after peer tutoring" had the lowest mean of 3.14, indicating "Often".

The result yielded a composite mean score of 3.20, which was described as "Often". This implies that respondents find peer tutoring beneficial for improving their quiz performance, but need additional support to feel more confident taking quizzes.

Peer tutoring had a positive effect on students' performance on quizzes and tests, particularly in general education subjects. The study also noted that, while academic performance improved, some students still reported needing more confidence in test-taking situations, suggesting that peer tutoring helps with learning, but emotional assurance may require additional strategies (Garcia & Molina, 2019).

Table 3. Adequacy of peer tutoring in terms of quizzes.

STATEMENTS	MEAN	DESCRIPTIVE RATING
Quizzes		
1. I improve my performance on quizzes through the help of peer tutoring.	3.21	Often

2. I feel more confident when taking quizzes after peer tutoring.	3.14	Often
3. I cover quiz topics thoroughly through peer tutoring.	3.15	Often
4. I can remember and apply what I learned in peer tutoring when answering quiz questions.	3.21	Often
5. I improved my quiz scores since participating in peer tutoring.	3.28	Always
Composite Score	3.20	Often

Legend:

3.25 – 4.00 Always

2.50 – 3.24 Often

1.75 – 2.49 Seldom

1.00 – 1.74 Never

Adequacy of peer tutoring in terms of assignments.

The items, "I provide useful insights to complete assignments through peer tutoring", "I understand assignment instructions better after peer tutoring", "I apply what I learned to my assignments with the help of peer tutoring", "I improve the quality of my assignments through my peer tutors feedback" got the highest mean of 3.23 described as "often". The item "I complete my assignment more accurately after peer tutoring" had the lowest mean of 3.17, indicating "Often".

The result yielded a composite mean score of 3.21, which was described as "Often". This implies that respondents find peer tutoring effective and helpful in completing their assignments, though it may not always ensure accuracy.

However, while peer tutoring is generally effective, concerns persist about its consistency in ensuring assignment accuracy, suggesting that the quality of implementation may vary (Esteeve, 2022).

Table 4. Adequacy of peer tutoring in terms of assignments.

STATEMENTS	MEAN	DESCRIPTIVE RATING
Assignments		
1. I provide valuable insights to complete assignments through peer tutoring.	3.23	Often
2. I understand assignment instructions better after peer tutoring.	3.23	Often
3. I complete my assignment more accurately after peer tutoring.	3.17	Often
4. I apply what I learned to my assignments with the help of peer tutoring.	3.23	Often
5. I improve the quality of my assignments through my peer tutors' feedback.	3.23	Often
Composite Score	3.21	Often

Legend:

3.25 – 4.00 Always

2.50 – 3.24 Often

1.75 – 2.49 Seldom

1.00 – 1.74 Never

Adequacy of peer tutoring in terms of activities

The item "I perform better in group activities through the help of peer tutoring" had the highest mean of 3.39, described as "always". The item "I participate more actively in class activities after peer tutoring" had the lowest mean of 3.17, indicating "Often".

The result yielded a composite mean score of 3.27, which was described as "Always". This implies that peer tutoring is adequate in enhancing performance and knowledge related to activities.

Peer tutoring positively influences students' engagement and participation in classroom activities. The researchers found that students involved in peer tutoring showed increased confidence, collaborated more effectively in group tasks, and were more willing to participate during lessons (Zambrano et al., 2019).

Table 5. Adequacy of peer tutoring in terms of activities

STATEMENTS	MEAN	DESCRIPTIVE RATING
Activities		
1. I perform better in group activities with the help of peer tutoring.	3.39	Always
2. I participate more actively in class activities after peer tutoring.	3.17	Often
3. I feel more confident in class discussions and activities after peer tutoring	3.20	Often
4. I improve my ability to apply knowledge in activities through peer tutoring.	3.27	Always
5. I perform better in class activities because of what I learned in peer tutoring.	3.32	Always
Composite Score	3.27	Always

Legend:

3.25 – 4.00 Always

2.50 – 3.24 Often

1.75 – 2.49 Seldom

1.00 – 1.74 Never

Academic Performance of Bachelor of Elementary Education

The frequency distribution analysis was based on GPA during the first semester of School Year 2024 – 2025. Their academic performance was described as Excellent (1.00-1.24); Superior (1.25-

1.49); Very Good (1.50 – 1.75); Good (2.00 – 2.25); Fair (2.5-2.75); Passed (3.0), and Failed (5.0).

Table 6. Grading System

DESCRIPTIVE RATING	NUMERICAL RATING
Excellent	1.0 – 1.24
Superior	1.25 – 1.49
Very Good	1.50 – 1.75
Good	2.0 – 2.25
Fair	2.5 – 2.75
Passed	3.0
Failed	5.0

Performance of the respondents

Results show that most students (36.62%) got "excellent" rating with a grades ranging from 1.50 – 1.75 with standard deviation of 0.35, followed by 18 respondents (25.35%) having a good rating, eight respondents (11.27%) having a very good, six respondents (8.45%) having a good rating, six respondent (8.45%) having a Fair rating, four respondents (5.63%) having a fair rating and three respondents (4.23%) having a superior rating.

These findings indicate that more than half of the respondents (52.12%) got an average grade of higher than the mean (1.93). In comparison, 47.88% have an average grade below the mean, indicating that the respondents' academic performance was mainly "excellent".

Many students in tertiary education tend to have grade point averages (GPAs) near or above the mean, with a significant proportion achieving grades that reflect consistent or reasonable academic effort. This supports your finding that over half of the respondents (52.12%)

had an average grade higher than the mean (1.93), indicating that students are generally performing at a higher academic level (Belfield & Bailey, 2017).

Table 6.1. Performance of the Respondents

GRADES	FREQUENCY	PERCENTAGE	DESCRIPTIVE RATING
1.05 – 1.25	3	4.23	Superior
1.26 – 1.46	0	0	Superior
1.47 – 1.67	8	11.27	Very Good
1.68 – 1.88	26	36.62	Very Good
1.89 – 2.09	18	25.35	Good
2.10 – 2.30	6	8.45	Good
2.31 - 2.51	6	8.45	Fair
2.52 – 2.75	4	5.63	Fair
Mean = 193.5 Sd= 0.35	Mean = 193 Sd= 0.35	Mean = 1.93 Sd= 0.35	Mean = 1.93 Sd= 0.35

Relationship between Adequacy of Peer Tutoring and the Academic Performance of the Respondents

To determine whether the correlation between variables is significant, compare the p-value to the significance level. The p-value indicates whether the correlation coefficient differs significantly from 0 (Minitab, 2019).

The adequacy of peer tutoring in examinations ($r = 0.10$) and quizzes ($r = 0.13$) is not significantly related to respondents' academic performance, and the null hypothesis is accepted in both cases. Likewise, there was no significant relationship between the adequacy of

peer tutoring in assignments and the respondents' academic performance ($r = 0.22$). It implies that peer tutoring's effectiveness does not significantly affect students' performance in traditional assessment formats, such as examinations, quizzes, and assignments.

In addition, a significant relationship was found between the adequacy of peer tutoring in activities and students' academic performance ($r = 0.23$), thereby rejecting the null hypothesis. This suggests that peer tutoring is more effective in enhancing students' performance in collaborative or hands-on learning tasks. Overall, the findings imply that while adequacy of peer tutoring may not strongly impact traditional assessments such as examinations, quizzes, and assignments, it can play a more meaningful role in supporting active learning experiences.

Peer tutoring is particularly effective in enhancing students' engagement and learning outcomes in interactive, collaborative learning environments. This supports the present study's findings, which revealed no significant relationship between peer tutoring and students' performance in examinations, quizzes, and assignments, but found a significant positive relationship in learning activities. These results suggest that peer tutoring is more effective at promoting performance on active, experience-based learning tasks than on traditional assessment formats (Duran & Topping, 2017).

Table 7. Significant Relationship between Adequacy of Peer Tutoring and the Academic Performance of the Respondents

PEER TUTORING	ACADEMIC PERFORMANCE	r -value	p-value
Examination	Academic performance	.10	.415
Quizzes	Academic performance	.13	.284
Assignments	Academic performance	.22	.073
Activities	Academic performance	.23*	.05

*Correlational at the level of 0.05 (two-tailed)

Conclusions

Based on the study results, the following conclusions were drawn. The respondents' ages ranged from 18 – 33 years old, with a mean of 21.11 and a standard deviation of 2.74; majority (78.87%) were females while 21.13 percent were males, and majority (38.03%) of the respondents were second year college, followed by third year college (33.80%), followed by first year college (21.13%) and the rest of them were fourth year college (7.04%). The respondents rated the adequacy of peer tutoring for examinations, quizzes, and assignments as often, and for activities as always. Findings revealed that more than half of the respondents (52.12%) received an average grade above the mean (1.93). In comparison, 47.88% have an average grade below the mean, indicating that the respondents' academic performance was mainly "excellent". Results showed that the adequacy of peer tutoring in examinations, quizzes, and assignments is not significantly related to academic performance. At the same time, the adequacy of peer tutoring activities is significantly associated with respondents' academic performance.

Recommendations

In line with the study's results and conclusions, the following recommendations were made: schools should continue to support and enhance peer tutoring activities, especially in academic areas, where a significant correlation with academic performance was observed. Because peer tutoring was found to be more effective in activities, educators should consider designing more collaborative, learning-oriented assignments in the curriculum for peer tutors and tutees to contribute productively. In addition, since no relationship was found between the adequacy of peer tutoring and academic performance on examination, quizzes, and assignments, it remains beneficial to maintain peer tutoring to enhance overall student involvement, motivation, and confidence. Institutions could also train peer tutors to assist with more formal academic aspects more effectively.

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ADOPTION OF SUSTAINABILITY PRACTICES AMONG SMALL-SCALE FOOD VENDORS IN SAN JOSE CITY

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Abstract.

This research examined the adoption of sustainability practices among small-scale food vendors in San Jose City. These vendors played a vital role in the local economy by offering affordable food options to residents and visitors. The study aimed to assess vendors' socio-demographic profiles, evaluate their awareness and adoption of sustainable practices, and explore the challenges and opportunities they encountered in implementing sustainability. Data collection included information on age, sex, marital status, educational attainment, monthly income, and years of vending experience. Results revealed that the majority of the vendors were adults aged 31 and above, with a significant portion being female. Most had completed high school and earned less than Php10,000 per month, and the majority had been vending for 5 years or less. Vendors demonstrated strong awareness of sustainability, particularly in waste management and energy conservation, and commonly practiced activities such as sorting waste

and using energy-efficient cooking methods. However, adoption levels varied due to financial constraints and the limited availability of affordable, eco-friendly alternatives. The primary challenges cited included a lack of training and high costs of sustainable materials. The study highlighted the need for targeted support from local government units and community organizations to equip food vendors with the knowledge, tools, and incentives necessary to adopt sustainable practices.

Keywords: *Sustainability, Food Vendors, San Jose City, Waste Management, Energy Conservation*

Introduction

Street vendors are informal business actors who play a vital role in driving innovation and economic growth in the country. This term refers to the sale of products on streets, sidewalks, in public parks, or in other public spaces. Since street vending is affordable, readily available, and culturally relevant, it is among the most prominent food enterprises worldwide, particularly in developing nations. In addition to benefiting millions of people, especially those from low-income families, it also generates jobs and opportunities for businesses. According to The Business Research Company (2025), the street vendor market has grown rapidly in recent years. It will increase from \$2.68 billion in 2024 to \$3.02 billion in 2025 at a compound annual growth rate (CAGR) of 12.7%. Its market size is expected to reach \$4.79 billion in 2029, growing at a compound annual growth rate (CAGR) of 12.3%. Moreover, Gazali (2020) reported that some street vendors have improved their performance by demonstrating competence in innovation, distinguishing themselves from others through differences in service, processes, and product quality.

Street food is expected to become even more critical over the coming decades as populations in urban and peri-urban settlements expand, driven mainly by the influx of rural migrants. (Bini et al., 2017). Furthermore, small-scale street vendors still need to adopt sustainable methods despite their population. Adopting sustainable practices is crucial because they increase the availability of products and services and enhance business resilience. For instance, the social practice approach could help identify leverage points for innovations to support

the routinization of sustainable street food system practices (Herrero et al., 2020).

Despite the large number of food vendors, studies have shown that street food vendors have primarily focused on public health and nutrition security (Steyn et al., 2014). This suggests that small-scale food vendors must be knowledgeable about proper food handling and hygiene practices. Additionally, in the view of Vignola & Oosterveer (2022), street food constitutes an essential component of urban food systems, which are critical in achieving several of the Sustainable Development Goals (SDGs). To effectively contribute to food security and environmental sustainability, food sellers must be included as an integral part of the analysis and decision-making processes for adopting sustainable practices.

In the Philippines, street vending is an essential part of culinary culture, offering convenient and cost-effective options for residents and visitors (Armas et al., 2024). In 2019, street stalls and kiosks accounted for 43 percent of the total food service establishments in the Philippines, or approximately 41.2 thousand units (Statista, 2019). Revealing a substantial overall number of food vendors supports a constantly growing economy. Despite their popularity, these vendors often operate in informal, unregulated settings, raising questions about the quality and safety of the food they serve (Ali et al., 2019). A study by Santos et al. (2019) found that many street food vendors lacked access to clean water, handwashing facilities, and proper waste management systems. For instance, in San Isidro, Nueva Ecija, Philippines, Armas et al. (2024) found that although vendors washed their hands with clean water as part of basic hand hygiene, they frequently overlooked protective clothing such as gloves, aprons, and hairnets. They often struggle to comply with laws, permits, and sanitary regulations and improperly dispose of garbage. This emphasizes how crucial it is for food vendors to continue and maintain waste management and hygienic food-handling procedures to ensure food safety nets are in place.

The growing number of small-scale food vendors not only helps people meet their daily needs and support their families, but also fosters innovation and economic progress. Still, more research and comprehension are required to determine how small-scale food vendors are using sustainable practices. Thus, the purpose of this study is to identify the socio-demographic profile of food vendor owners in terms of age, sex, civil status, average monthly income, number of years as a vendor, and their highest educational attainment; assess their level of

awareness regarding sustainability practices; and identify the opportunities and challenges for adopting sustainable practices among small-scale food vendors in San Jose City.

Literature Review

Sustainability Practices of Small-Scale Food Vendors

Waste Management

The ethical handling of waste should be integral to a vendor's business model and aligned with environmental sustainability goals. However, despite its income-generating potential, street vending contributes significantly to environmental degradation due to poor urban planning, inadequate waste disposal systems, and informal systems (Ezeudu et al., 2021; Famous & Adekunle, 2020).

The consequences of improper waste disposal—such as pest attraction, foul odors, and blocked drainage—are evident in informal settlements (Srivastava, 2020). Vendors resort to methods such as dumping waste behind stalls or in public areas and even burning it, leading to soil and water contamination (Maphanga & Madonsela, 2023). While these practices are short-term fixes, they have long-term environmental and health implications. Community-driven solutions, such as recycling initiatives and reduced packaging, could help mitigate these problems. As local governments encourage recycling and the use of reusable resources, vendor-government cooperation becomes vital for sustainable waste systems.

Packaging Practices

Attractive packaging plays a crucial role in attracting customers and influencing purchase decisions, particularly in street vending, where visual appeal drives sales (Fianda et al., 2022). However, while vendors prioritize appearance, many neglect environmental impacts. Despite these benefits, Nurwulandari (2023) observes that plastic and Styrofoam are still widely used due to their affordability and availability.

The tension between sustainability and cost persists. Plastic packaging remains a preferred choice because it is inexpensive, durable, and widely accessible, especially for financially constrained vendors (Santoso et al., 2018).

Cities worldwide are increasingly transitioning toward eco-

packaging. In Bangkok and Mexico City, for example, banana leaves and avocado seed containers are replacing single-use plastics (UNEP, 2021). Over 50% of Southeast Asia's vendors now use biodegradable packaging, not only to comply with regulations but also to elevate their brand image. Faishal et al. (2021) and Mollah et al. (2024) add that safe, eco-conscious packaging can boost consumer trust, reinforce product quality, and enhance customer satisfaction.

Energy Conservation

Adopting energy-efficient cooking methods has become increasingly crucial as vendors seek to reduce their environmental footprint. Traditional fuels such as charcoal and gas emit harmful emissions. S. A. (2025) and the International Renewable Energy Agency (2020) show that solar cooking stations can reduce carbon emissions by up to 50%, demonstrating that profitability and sustainability are not mutually exclusive. Cities like Rio de Janeiro and Chiang Mai have adopted similar initiatives, demonstrating the practicality of sustainable alternatives (Alex, 2024).

Despite these advancements, urban vendors still face significant barriers, including inadequate infrastructure and limited access to water and electricity. Mguni et al. (2020) stress that sustainable practices must include changes in habits and social structures, not just the adoption of technology. Patel & Mishra (2023) also note the rising demand for ready-to-eat food as an opportunity to integrate solar energy into food-vending operations. While education and awareness remain key gaps, the adoption of LED lights, solar panels, and low-energy cookers marks a positive trend.

Water Conservation

Water quality and hygiene are critical for food safety. Mulyodarsono & Kristopo (2024) highlight the widespread issue of poor water hygiene among Southeast Asian street vendors, which impacts equipment cleaning and food preparation. Contaminated water can pose severe health risks, including food poisoning (Cholid et al., 2022). Street vendors must be supported by an infrastructure that allows access to clean water and sanitation.

Conserving water also aligns with the Sustainable Development Goals (SDGs), which aim to balance environmental, social, and

economic development (Kurunthachalam, 2014). Efficient water use not only reduces operational costs but also enhances business image (Schug, 2016). Though water-saving devices can help, many vendors still lack access to clean water altogether (Muhonja & Kimathi, 2014). Innovations such as low-flow faucets and better washing methods can bridge the gap between hygiene and limited resources (Santos et al., 2019).

Use of Sustainable Ingredients

Sourcing ingredients sustainably benefits both the environment and the local economy. According to Reinoso (2024), ethical sourcing supports biodiversity and long-term food security.

Vendors in Bogotá and Nairobi have embraced farm-to-table approaches that minimize transportation emissions and ensure freshness (S. A., 2025). Chakawodza (2024) further explains that locally sourced ingredients support local economies and strengthen relationships between vendors and producers. This not only reduces carbon footprints but also enhances food quality and vendor credibility.

Reduced Plastic Use

The sudden prohibition of single-use plastics has created significant challenges for small-scale vendors (Priyanka, 2024; Jay, 2024). Many rely on plastics for their affordability and convenience, and transitioning to eco-friendly alternatives comes with higher upfront costs. However, a report by Zero Waste Europe, Serious Business, and NHF indicates that switching to reusable systems could reduce plastic waste by over 86% and create thousands of jobs.

UNEP (2018) highlights that plastic packaging accounts for nearly half of global plastic waste, with Asia being a major contributor. While small vendors can help reduce waste, systemic reforms are necessary to address the broader issue. Still, the transition to biodegradable and compostable materials, as noted by Alex (2024), represents a step in the right direction.

Opportunities and Challenges in Adopting Sustainable Practices

Street food vendors face structural vulnerabilities due to low

and unstable incomes, making it difficult for them to adopt sustainability practices (Tigashi & Shalini, 2020). Limited access to training and business development services is a significant barrier (Apanga et al., 2014; Munishi, 2022). Vendors often lack proper food safety education, leading to unsafe handling practices (Samapundo et al., 2015; Noor, 2016).

Gumede (2024) emphasizes the need for awareness campaigns and resource support to improve sustainability literacy. Without targeted educational interventions, vendors remain unaware of environmentally friendly practices and regulations. Infrastructure gaps further complicate adoption, with many lacking refrigerators, clean water, and proper sanitation (Farahat et al., 2015; Jaffee et al., 2019).

Although much research has focused on food safety, few studies explore vendor attitudes and nutritional awareness (Hassan & Fweja, 2020; Pinto et al., 2021). Perception shapes behavior; vendors with positive attitudes toward sustainability are more likely to adopt health-focused practices (Aggarwal et al., 2014). However, Steiler & Nyirenda (2021) note that most vendors operate informally and lack access to supportive frameworks.

On a more optimistic note, technology-driven solutions offer hope. Chatterjee et al. (2023) found that digital tools such as e-VRM can enhance efficiency and compliance with sustainability standards. Bertossi et al. (2023) and Tacardon et al. (2023) advocate for government involvement in providing training and financial support. Ultimately, cleanliness and customer satisfaction can improve not only public health but also the vendor's competitiveness.

As Vignola & Oosterveer (2022) explain, street vending involves a series of interconnected daily routines—from sourcing to selling. Nicolas (2024) warns that small enterprises in the Philippines often lag in sustainability due to resource constraints. Bridging this gap requires multi-level interventions focused on education, regulation, and financial assistance.

Methods

The researchers used a quantitative research method, specifically a descriptive design, to collect and analyze data that addressed the research questions. This approach helped them identify patterns and characteristics related to the socio-demographic profiles, awareness levels, and the challenges and opportunities in adopting

sustainability practices among small-scale food vendors in San Jose City, Nueva Ecija. The study focused on how these vendors practiced sustainability, especially in areas such as waste management, packaging, energy and water conservation, the use of sustainable ingredients, and the reduction of plastic use. Understanding their environment highlighted the practical challenges they faced and informed the recommendations.

The study population consisted of 70 small-scale food vendor owners. Using Slovin's formula, the researchers determined a sample size of 60 respondents, which ensured a manageable yet statistically reliable sample. A probability sampling technique, specifically simple random sampling, was used. A list of vendors was prepared, and random numbers were generated to select participants, ensuring that every vendor had an equal chance of inclusion and that the results were unbiased.

The researchers used a survey questionnaire to gather data on the adoption of sustainability practices among small-scale food vendors in San Jose City. The first part of the questionnaire collected socio-demographic information, including age, sex, civil status, educational background, income, and years of vending experience. The second part measured sustainability practices, including waste sorting, energy-saving measures, water conservation, and the use of sustainable packaging. Responses were rated on a 4-point scale from "*consistently practiced*" to "*unaware*." The third part identified challenges and opportunities related to sustainability, using a 4-point Likert scale ranging from "*strongly agree*" to "*strongly disagree*." The questionnaire was pre-tested and validated by experts to ensure clarity. Its internal consistency was confirmed through a reliability test, yielding a Cronbach's alpha coefficient of 0.87, indicating high reliability.

Before conducting the survey, the researchers obtained informed consent from the participants to ensure voluntary and ethical participation. The survey was administered using a printed questionnaire, giving vendors enough time to respond thoughtfully. Once all responses were collected, the data were reviewed for accuracy and completeness. The responses were then analyzed using statistical software and summarized with descriptive statistics. The results provided a clear view of current sustainability practices among small food vendors and helped identify areas for improvement and further study.

The researchers applied a descriptive analysis using survey data

to examine how small-scale food vendors adopted sustainability practices. The data collected through structured questionnaires were analyzed using basic statistical tools, including frequency counts, percentages, mean, and standard deviation. This helped reveal common patterns, levels of awareness, and the challenges vendors experienced, effectively supporting the research goals.

The study followed ethical guidelines by obtaining informed consent from all participants. The purpose of the study was clearly explained, and respondents participated voluntarily with the option to withdraw at any time without consequences. Personal data were kept confidential and accessible only to authorized researchers. Electronic data were protected using encryption, and an ethical review ensured that the study respected participants' rights and privacy. All data were securely disposed of after the study concluded.

Results and Discussion

Socio-Demographic Profile of Respondents

Table 1 summarizes the frequency and percentage of the respondents' socio-demographic profile, including Age, Sex, Civil Status, Highest Educational Attainment, and Average Monthly Income. The number of years as a vendor is also shown in the table.

Age.

Table 1 showed that the majority of respondents (63%) were aged 31 and above, indicating that mature individuals primarily undertook small-scale food vending in San Jose City. The next largest age group was 26–31 years old, comprising 23% of respondents. The least represented age group was 20–25, with only 8 participants out of 60. Notably, there were no respondents under 20. Under Republic Act No. 7658, individuals aged 15 and above may work in non-hazardous environments under specific conditions. However, the absence of respondents under 20 years suggested that younger individuals may either not be engaged in vending or may have been excluded due to legal or educational considerations.

Sex.

A majority of respondents were female (56.73%), while male vendors accounted for 43.30%. This gender distribution supported findings by Perez et al. (2019) and the Women in Informal Employment:

Globalizing and Organizing (WIEGO, 2014) report, which noted that women dominate the street vending sector in Asia and Latin America. Street vending continues to be a key form of informal employment for women, particularly in developing countries where gendered labor dynamics influence occupational choices.

Civil Status.

Regarding civil status, the data showed a nearly even split: 51.70% of respondents were married, while 47.50% were single. This balance suggested that food vending served as a viable income source regardless of marital status and may reflect the accessibility of this livelihood option for individuals at different stages of personal life.

Highest Educational Attainment.

The respondents' educational backgrounds indicated that 63.30% had completed high school, making it the most common level of education. Few respondents had attained a bachelor's degree, and none held a master's or doctoral degree. According to the 2020 survey by the Philippine Statistics Authority, 38.7% of the unemployed population consisted of high school graduates and college undergraduates. This trend highlighted that individuals with limited academic qualifications often resorted to self-employment and small-scale business ventures, such as food vending, to sustain their livelihoods.

Average Monthly Income.

A substantial portion of the respondents (65%) reported earning less than PHP 10,000 per month. Only 12 respondents earned between PHP 10,001 and PHP 15,000, while just nine individuals reported monthly earnings exceeding PHP 15,001. These figures aligned with Solidum (2023), which found that vendors with lower daily income faced more pronounced challenges in governance, legal compliance, and workplace conditions. Among the vendors surveyed in Solidum's study, 36.66% earned PHP 500 or less per day. The similarity in income patterns highlighted the persistent economic struggles faced by many vendors in San Jose City.

Number of Years as a Vendor.

Lastly, 63.30% of respondents had been operating their vending businesses for 5 years or less, suggesting that many had relatively recent entry into the sector. Meanwhile, 21.70% had been in the industry for 6–10 years, and only 15% had been in the industry for over a decade. This distribution indicated a mix of both emerging and more established vendors, with newer participants potentially driven by limited employment opportunities or the flexibility offered by informal trade.

Table 1. Socio-Demographic Profile of the Respondents

SOCIO-DEMOGRAPHIC PROFILE	FREQUENCY (N=60)	PERCENTAGE
Age		
20-25	8	13%
26-31	14	23%
31 Above	38	63%
Sex		
Female	34	56.70%
Male	26	43.30%
Civil Status		
Married	31	51.70%
Single	29	47.50%
Highest Educational Attainment		
Bachelor's Degree	10	16.70%
High School Graduate	38	63.30%
Elementary Graduate	12	20.00%
Average Monthly Income		
Below PHP 10,000	39	65.00%
PHP 10,001-15,000	12	20.00%
PHP 15,001 above	9	15.00%
No. of years as a vendor		
0-5 year/s	38	63.30%
6-10 years	13	21.70%
11 years above	9	15.00%

Level of Awareness in Sustainability Practices

Table 2 assesses small-scale food vendors' awareness of sustainability practices in San Jose City. Six sustainability practices are presented in this table, along with their weighted mean, standard deviation, and interpretations.

Table 2. Level of Awareness in Sustainability Practices

SUSTAINABILITY PRACTICES	MEAN	SD	INTERPRETATION
1. Waste Management	3.60	0.669	Consistently Practiced
2. Packaging Practices	3.63	0.486	Consistently Practiced
3. Energy Conservation	3.65	0.515	Consistently Practiced
4. Water Conservation	3.67	0.510	Consistently Practiced
5. Use of Sustainable Ingredients	3.47	0.596	Consistently Practiced
6. Reduced Plastic Use	3.40	0.827	Consistently Practiced
Total	3.57	1.499	Consistently Practiced

Legend: 3.25-4.00-Consistently practiced 2.50-3.24-Occasionally practiced

1.75-2.49-Aware but not practiced 1.00-1.74-Unaware

Opportunities and Challenges for Adopting Sustainability Practices

The results of the third part of the questionnaire are shown in Table 3. The table addresses nine (9) statements on the challenges and opportunities small-scale food vendors face in adopting sustainable practices in their businesses.

The table reveals that Water Conservation holds the highest mean score of 3.67, indicating that this sustainable practice is the most

consistently adopted among small-scale vendors in San Jose City. This high mean suggests that vendors recognize the importance of conserving water in their daily operations, driven by both cost-saving measures and increased environmental awareness.

In contrast, statement 6, on Reduced Plastic Use, exhibits the highest standard deviation of 0.827, indicating a wide range of responses. This implies that vendors demonstrate differing levels of commitment or capacity to reduce plastic consumption. Factors contributing to this disparity may include access to alternatives, cost considerations, or differing perceptions of the practice's feasibility.

Notably, Reduced Plastic Use also recorded the lowest mean score of 3.40, highlighting it as the least frequently practiced among the sustainability measures evaluated. Despite growing global attention to plastic pollution, this result suggests that more targeted education, incentives, or policy support may be needed to encourage uniform adoption of plastic-reduction strategies among vendors.

On the other hand, statement 2, which relates to Packaging Practices, yielded the lowest standard deviation of 0.486, indicating a relatively consistent application of sustainable packaging methods across the respondent group. This consistency may reflect shared sourcing practices, community norms, or existing regulations influencing packaging behavior.

The overall mean score of 3.57 falls within the "*Consistently Practiced*" range based on the verbal interpretation scale. This suggests a generally high level of awareness and adoption of key sustainability practices—including Waste Management, Packaging Practices, Energy Conservation, Water Conservation, Use of Sustainable Ingredients, and, to a lesser extent, Reduced Plastic Use. The data underscores the vendors' proactive engagement in environmentally responsible practices, though it also points to specific areas, such as plastic reduction, that require greater support and attention.

This finding is consistent with the study by Santos et al. (2024) on the environmental responsibility of micro-food business owners in Sapang Palay, Bulacan. Their research demonstrated that business owners have effectively adopted practices such as water and energy conservation, waste management, and other sustainable initiatives. However, the continued prevalence of plastic products in the industry is due to their lower production costs, posing a challenge to the full implementation of sustainable practices.

The data from Statements 1 to 9 reveal that all recorded mean scores fall within the range of 3.25 to 4.00, indicating strong agreement among small-scale vendors in San Jose City regarding various sustainability-related perceptions. This overall trend underscores a shared understanding of the benefits and challenges of sustainable business practices.

Among the statements, Statement 9 had the highest mean score of 3.77 and the lowest standard deviation of 0.427. This statement emphasizes the belief that sustainable practices—such as energy conservation and effective waste management—can reduce operational costs. The high mean and low variability suggest a widespread consensus among vendors that sustainability is not only environmentally responsible but also economically advantageous. The data implies that many vendors view sustainability as a strategic investment, potentially enhancing profitability through long-term cost savings.

On the other hand, Statement 1, while still within the strong agreement range, recorded the lowest mean score of 3.63 and the highest standard deviation of 0.551. This item concerns the initial cost of eco-friendly packaging, which is perceived as a challenge for implementation. The greater spread in responses suggests that vendor perspectives vary depending on factors such as available capital, supplier access, and familiarity with sustainable materials. While some respondents acknowledge the value of investing in eco-friendly packaging, others remain hesitant due to financial constraints and perceived lack of immediate returns.

The overall mean of 3.69 further reinforces the observation that vendors generally support sustainability initiatives. It reflects a balanced understanding that, while sustainable practices can entail upfront costs or logistical challenges, they also offer opportunities to reduce costs, enhance brand, and improve long-term operational efficiency.

These sentiments are reflected in a study conducted in Kidapawan City on consumer purchase intentions towards eco-friendly packaging, which found that willingness to pay, product quality, and awareness of eco-friendly packaging were key factors influencing purchasing decisions (Garcia & Campos, 2022). This suggests that while sustainable practices are generally seen as financially beneficial in the long run, vendors may perceive the initial costs and efforts involved as obstacles. Therefore, further investment in education, support, and financial incentives may be needed to ease the adoption of sustainable practices, especially in small-scale businesses.

Table 4. Opportunities and Challenges for Adopting Sustainable Practices

STATEMENT	MEAN	SD	INTERPRETATION
1.It is easy to invest in eco-friendly packaging due to its lower initial costs.	3.63	0.551	Strongly Agree
2. Incorporating sustainable practices could help me attract more environmentally conscious customers.	3.65	0.515	Strongly Agree
3. Access to affordable, sustainable materials is a key factor in adopting greener practices in my business.	3.70	0.497	Strongly Agree
4. I have the opportunity to improve my business image by promoting sustainability in my operations.	3.68	0.469	Strongly Agree
5.It is easier to properly segregate waste due to the abundance of resources for waste management.	3.72	0.490	Strongly Agree
6. I am interested in learning more about sustainable sourcing and how it can benefit my	3.72	0.454	Strongly Agree

business in the long run.			
7. The local community's increasing awareness of environmental issues could support my efforts to adopt sustainable practices.	3.68	0.469	Strongly Agree
8. I see opportunities to collaborate with other local organizations to share knowledge on sustainability.	3.68	0.469	Strongly Agree
9. I see potential to reduce my operational costs by adopting sustainable practices such as energy conservation and waste reduction.	3.77	0.427	Strongly Agree
Grand Mean	3.69	1.45	Strongly Agree

Legend: 3.25-4.00-Strongly Agree 2.50-3.24-Agree

1.75-2.49-Disagree 1.00-1.74-Strongly Disagree

Conclusions

The following conclusions summarize the study's key findings on the adoption of sustainability practices among small-scale food vendors in San Jose City. Most vendors are middle-aged with only a high school education, which affects their adoption of sustainable practices, but their long experience in the business shows resilience. In addition, vendors generally understand key sustainability concepts and apply some practices daily, but inconsistencies—especially in plastic use—highlight areas needing improvement. Lastly, vendors see

benefits, such as reduced costs and improved public image, from adopting eco-friendly practices, but face barriers, including high packaging costs, limited resources, and poor infrastructure.

Recommendations

The following recommendations are proposed to enhance the adoption of sustainable practices among small-scale food vendors in San Jose City based on the study's findings. Local governments should provide training and tools to help vendors implement proper waste management and maintain cleanliness in public vending areas. To encourage sustainable packaging, authorities should offer financial incentives and run awareness campaigns that help vendors shift from plastic to eco-friendly alternatives. Moreover, training and modest financial support should be provided to vendors to encourage them to adopt energy-efficient cooking practices and water-saving measures. The vendors are encouraged to use locally sourced, seasonal, and sustainably grown ingredients to promote food security and reduce environmental impact. Further, vendors should transition from disposable plastics to reusable or biodegradable alternatives to reduce pollution and attract eco-conscious consumers. Lastly, future researchers should examine how sustainable practices affect vendor profitability and explore additional barriers to their adoption.

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ANALYZING INTER-GENERATIONAL CULTURAL DIFFERENCES IN ASKI GROUP: BASIS FOR INCLUSIVE HUMAN RESOURCE STRATEGIES

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Abstract

This study examined inter-generational and cultural differences among employees of Alalay sa Kaunlaran, Inc. (ASKI Group) in Cabanatuan City as the basis for inclusive human resource (HR) strategies. Using the Generational Cohort Theory, the research explored how diversity among Generations X, Millennials, and Z influences workplace dynamics, including communication, work values, technological engagement, and leadership expectations. Data were collected from 309 employees through survey questionnaires. Millennials comprised the majority (84.47%), followed by Generation X (11.65%) and Generation Z (3.88%). The organization manages inter-generational differences effectively (weighted mean = 3.35), though challenges remain (weighted mean = 3.45), particularly in work ethics (40.1%), communication styles (38.8%), and work-life balance (35.6%). Understanding generational distinctions is essential for minimizing workplace tension and improving cooperation, satisfaction, and productivity. The study recommends targeted HR programs such as leadership training, inter-generational communication workshops, and career development initiatives. The findings support the idea that effective management of generational differences leads to a more harmonious workplace.

Keywords: Communication Styles, Cultural Differences, Employee Satisfaction, Generational Cohorts, Generation X, Generation Y, Generation Z, Human Resource Strategies, Inclusive HR Strategies, Inter-Generational Differences, Leadership, Millennial, Multigenerational Workforce, Organizational Harmony, Work Ethics, Work-Life Balance, Workplace Dynamics, Workplace Inclusion, Workplace Values.

Introduction

In the modern era of globalization and interconnected economies, organizations increasingly encounter a diverse workforce composed of employees from multiple generations and cultural backgrounds. Managing this diversity effectively has become a vital component of organizational success. Understanding inter-generational and cultural differences enables companies to foster productive, harmonious, and innovative workplaces where collaboration, communication, and mutual respect thrive.

Generational differences in the workplace are seen in employees' values, communication styles, and work expectations. Baby Boomers value job security and loyalty; Generation X prioritizes independence and work-life balance; Millennials seek meaningful work and growth; and Generation Z prefers flexibility and technology (Gursoy et al., 2008). Hofstede's (1984) cultural dimension theory also shows that cultural diversity impacts behavior through differences in individualism, power distance, and uncertainty avoidance. These factors shape how employees communicate, make decisions, and view leadership.

Recognizing and managing generational and cultural diversity improves communication, collaboration, and organizational performance (Mor Barak, 2015). When diversity is managed well, workplace tension decreases, and organizations are better positioned for long-term success. Failure to address these differences can lead to misunderstandings and lower morale. A strong understanding of generational and cultural diversity is essential for fostering inclusion and innovation.

This study draws on Generational Cohort Theory, which posits that people born in the same period share experiences that shape their values and attitudes (Schaller, 2022). The research examines how Generation X, Millennials, and Generation Z differ in work values,

communication, leadership expectations, and technology use. These differences affect teamwork, satisfaction, and organizational harmony.

The study focuses on employees of Alalay sa Kaunlaran, Inc. (ASKI Group) in Cabanatuan City, aiming to identify inter-generational cultural differences and develop strategies for an inclusive human resource (HR) framework. Specifically, it seeks to: (1) identify differences among generations in the workplace, (2) develop strategies to bridge Generational gaps, and (3) promote communication and collaboration within a multigenerational workforce.

The scope of this research is limited to ASKI employees in Cabanatuan City, focusing on three generations: Generation X, Millennials, and Generation Z. The findings are context-specific and may not fully represent other industries or organizations. Nevertheless, the study provides valuable insights for enhancing inclusive HR practices.

This research is significant for several stakeholders. Human Resource practitioners may use the findings to design inclusive training and engagement programs; organizational leaders can apply the results to improve team cohesion and employee retention; employees can benefit from a more understanding and cooperative workplace; ASKI Group may gain data-driven strategies to enhance HR effectiveness; and academics and researchers can build on this study to further explore generational diversity in the Philippine organizational context.

Recognizing and valuing intergenerational and cultural diversity improves employee relations and strengthens organizational performance. Inclusive HR strategies help create a more unified and adaptable workforce.

Methods

This study used a descriptive quantitative research design to analyze intergenerational cultural differences among employees of ASKI Group in Cabanatuan City. ASKI was selected for its diverse, multigenerational workforce and its structured organization, which offers a good setting for examining workplace dynamics.

All 309 employees of ASKI Group participated, representing Generation X, Millennials, and Generation Z. The study used purposive sampling based on employment status, generational cohort, and

willingness to participate. Data were gathered via a structured survey and analyzed using appropriate statistical methods. Ethical principles, including informed consent and confidentiality, were followed.

Results and discussions

Age

The result shows that the majority of respondents, 160 or 51.78%, belonged to the 26–35 age bracket, followed by 98 (31.72%) aged 36–45, 36 (11.65%) aged 18–25, 14 (4.53%) aged 46–55, and only 1 (0.32%) aged 56 and above. This indicates that most employees of ASKI Group are in their early to mid-adulthood, a stage typically associated with career growth and professional stability.

Table 1. Age of the Respondents

GENERATION	FREQUENCY	PERCENTAGE
Generation Z	12	3.88%
Millennials	261	84.47%
Generation X	36	11.65%

Generation Classifications of the Respondents

Results show that the majority of respondents belong to the Millennial generation, comprising 261 (84.47%) of the total, followed by Generation X with 36 (11.65%) and Generation Z with 12 (3.88%), while no respondents represented the Baby Boomer or Traditionalist generations. According to Howe and Strauss (2000), Millennials are characterized by their collaborative nature, technological fluency, and preference for purpose-driven work environments. Twenge (2017) further asserts that this generation values flexibility, feedback, and career progression, shaping workplace culture and management practices. The dominance of Millennials in the ASKI Group suggests that organizational strategies should align with their digital adaptability and engagement preferences to sustain productivity and motivation

within a predominantly young workforce.

Table 2. Generation Classifications of the Respondents

GENERATION	FREQUENCY	PERCENTAGE
Generation Z	12	3.88%
Millennials	261	84.47%
Generation X	36	11.65%

Job Role of the Respondents

Results show that 184 respondents (59.55%) hold field roles, while 125 (40.45%) hold support roles. This suggests that most ASKI Group employees are directly engaged in field operations. According to Robbins and Judge (2019), field roles typically require greater interpersonal interaction and adaptability, as employees represent the organization in client-facing and community-based functions. In contrast, support roles are essential for ensuring administrative efficiency and operational coordination (Dessler, 2020). The predominance of field employees at ASKI aligns with its service-oriented nature as a microfinance institution, where direct client engagement is crucial for achieving organizational objectives and maintaining community trust.

Table 3. Job Role of the Respondents

JOB ROLE	FREQUENCY	PERCENTAGE
Field	184	59.55%
Support	125	40.45%

Employment level of the respondents

Results show that out of 309 respondents, 167 (54.05%) are

Rank-and-File employees, 79 (25.57%) hold Managerial positions, 39 (12.62%) are Supervisors, 15 (4.85%) There are Area Managers (4, 1.29%), Business Unit Heads (3, 0.97%), Department Heads (2, 0.65%), and 2 (0.65%) serve as Director Executives. This indicates that the majority of ASKI Group employees occupy Rank-and-File positions, with a smaller proportion holding managerial or executive roles. According to Robbins and Judge (2019), organizations typically consist of a broader base of operational employees who perform essential day-to-day functions, supported by fewer individuals in supervisory and leadership roles. Likewise, Mintzberg (1979) notes that this hierarchical structure enhances coordination and control within organizations. The prevalence of Rank-and-File employees at ASKI reflects the institution's operational focus on community-level engagement and client service, which are central to its mission as a microfinance organization.

Table 4. Employment Level of the respondents

EMPLOYMENT LEVEL	FREQUENCY	PERCENTAGE
Rank and File	167	54.05%
Supervisory	39	12.62%
Manager	79	25.57%
Area Manager	15	4.85%
Director Executives	2	0.65%
Business Unit Head	4	1.29%
Department Head	3	0.97%

Number of Years as an ASKI Employee

Results show that 42.72% of respondents have been with the organization for more than ten years, indicating a strong core of long-tenured employees possessing substantial institutional knowledge. Meanwhile, 20.71% have served for 4 to 7 years, reflecting a stable segment well-integrated into the organization. In comparison, smaller groups include those with 8 to 10 years (11.65%), 1 to 3 years (13.59%),

and less than a year (11.33%) of tenure, representing employees at various stages of adaptation and professional growth. According to Meyer and Allen (1997), long-term tenure is often associated with higher organizational commitment and a stronger sense of loyalty, which contribute to stability and continuity. Likewise, Dessler (2020) emphasizes that employees with extended service bring valuable experience that enhances productivity and mentorship within the workplace. The presence of a substantial proportion of long-serving employees in ASKI Group suggests a healthy organizational culture that fosters retention, engagement, and sustained institutional performance.

Table 5. Number of Years as an ASKI Employee

NO. OF YEARS AS ASKI EMPLOYEE	FREQUENCY	PERCENTAGE
Less than a year	35	11.33 %
1- 3years	42	13.59%
4-7years	64	20.71%
8-10years	36	11.65%
More than10years	132	42.72%

Perception of Inter-Generational Differences

Results show that the overall weighted mean of 3.35 suggests that respondents perceive the organization's ability to manage intergenerational differences as "very well." This high rating across indicators such as managing a multigenerational workforce, understanding generational traits, promoting mutual respect, addressing intergenerational conflicts, and recognizing diverse communication styles reflects a positive and cohesive organizational climate. According to Kopperschmidt (2000), effective management of generational diversity enhances teamwork, communication, and mutual understanding, thereby improving organizational performance. Also,

Gursoy, Maier, and Chi (2008) emphasize that fostering respect and collaboration across age groups leads to greater employee engagement and productivity. These findings suggest that ASKI Group successfully cultivates an inclusive environment that supports intergenerational harmony and practical cooperation in the workplace.

Table 6. Perception of Inter-Generational Differences.

PERCEPTION OF INTER-GENERATIONAL DIFFERENCES	WM	VERBAL DESCRIPTION	VERBAL INTERPRETATION
1. How well do you think the organization can manage an intergenerational workforce?	3.31	Very Well	There is a strong, respectful understanding between generations; communication and collaboration are seamless.
2. How important it is to understand inter-generational differences in our workplace	3.38	Very Well	There is a strong, respectful understanding between generations; communication and collaboration are seamless.
3. How well does your organization promote mutual respect among employees of different age groups	3.40	Very Well	There is a strong, respectful understanding between generations; communication and collaboration are seamless.
4. How well are intergenerational conflicts addressed in your workplace?	3.34	Very Well	There is a strong, respectful understanding between generations; communication and collaboration are seamless.
5. How well are communication styles across different generations understood and respected in your workplace?	3.31	Very Well	There is a strong, respectful understanding between generations; communication and collaboration are seamless.
TOTAL	3.35	Very Well	There is a strong, respectful understanding between generations; communication and Collaboration is seamless.

Challenges with different generations

Results show that the overall weighted mean is 3.45, signifying that respondents perceive the organization as managing generational challenges very well. This reflects practical efforts to overcome communication barriers, resolve value-based misunderstandings, adapt tools to generational preferences, and bridge differences in work styles. According to Zemke, Raines, and Filipczak (2013), organizations that actively address generational diversity foster stronger collaboration and productivity through enhanced communication and mutual respect. Also, Gursoy, Maier, and Chi (2008) assert that understanding and accommodating generational differences contribute to higher employee satisfaction and organizational cohesion. The findings suggest that ASKI Group promotes an inclusive, adaptive work culture that effectively supports cooperation and harmony across generations.

Table 7. Challenges with Different Generations

CHALLENGES WITH DIFFERENT GENERATIONS	WM	VERBAL DESCRIPTION	VERBAL INTERPRETATION
1. How well does your organization handle communication challenges between different age groups	3.55	Very Well	There is a strong, respectful understanding between generations; communication and Collaboration is seamless.
2. How well does the organization address generational conflicts in the workplace?	3.32	Very Well	There is a strong, respectful understanding between generations; communication and Collaboration is seamless.
3. How well are misunderstandings related to differing values or attitudes between generations resolved?	3.40	Very Well	There is a strong, respectful understanding between generations; communication and Collaboration is seamless.
4. How well does the organization adapt its communication platform to different Generational preferences?	3.51	Very Well	There is a strong, respectful understanding between generations; communication and Collaboration is seamless.
5. How well does your organization bridge differences in preferred	3.47	Very Well	There is a strong, respectful understanding between generations; communication

work styles(e.g., remote vs. in-person, independent vs. Collaborative)?			and collaboration are seamless.
TOTAL	3.45	Very Well	There is a strong, respectful understanding between generations; communication and collaboration is seamless.

Importance of Understanding Intergenerational Differences

Results show that a majority of respondents, 167 (54.05%), strongly agree and 95 (30.74%) agree, recognizing the importance of understanding intergenerational differences, indicating a widespread acknowledgment of generational diversity as a key organizational factor. A smaller portion, 10.68%, remains neutral, while only 4.53% express disagreement (1.94% disagree and 2.59% strongly disagree), reflecting minimal opposition. According to Costanza, Badger, Fraser, Severt, and Gade (2012), recognizing and valuing intergenerational differences enhances communication, collaboration, and employee engagement within organizations. Also, Kupperschmidt (2000) emphasizes that awareness of generational differences fosters mutual respect and reduces workplace conflict. These findings suggest that ASKI Group employees primarily value generational understanding, contributing to a cohesive and inclusive organizational culture.

Table 8. Importance of Understanding Intergenerational Differences

IMPORTANCE OF UNDERSTANDING INTERGENERATIONAL DIFFERENCES	FREQUENCY	PERCENTAGE
5 – Strongly Agree	167	54.05
4- Agree	95	30.74
3- Neutral	33	10.68

2-StronglyDisagree	8	2.59
1- Disagree	6	1.94

The challenge they faced when working with different generations.

Results show that the main challenges in managing a multigenerational workforce are differences in work ethics (40.1%), communication styles (36.8%), and work-life balance expectations (35.6%). Other concerns include technology usage, learning preferences, and feedback styles. Cennamo and Gardner (2008) note that such generational differences often lead to misunderstandings regarding motivation and performance, while Gursoy, Maier, and Chi (2008) highlight that varied communication and feedback preferences can affect collaboration. Overall, ASKI Group's experience reflects these challenges but also shows its growing awareness of generational diversity as key to fostering inclusivity and adaptability in the workplace.

Table 9. The Challenge they faced when working with Different Generations.

CHALLENGES	FREQUENCY	PERCENTAGE
Communication Styles	120	38.8%
Work Ethics	124	40.1%
Technology Usage	100	32.4%
Feedback Preferences	46	14.9%
Work-life balance expectation	110	35.6%
Learningandtraining preferences	70	22.7%

Communication Styles

Results show that most respondents prefer a direct communication style (45.31%), followed closely by those favoring formal communication (41.75%). A smaller proportion prefer informal communication (7.12%), while a few respondents identified other styles (5.50%) or promotion and compensation-related communication (0.32%). This suggests that employees value clarity, structure, and straightforwardness in workplace communication. According to Gursoy, Maier, and Chi (2008), communication preferences often differ across generations, but a tendency toward direct, formal communication reflects a desire for efficiency and transparency. Also, Smola and Sutton (2002) assert that clear and structured communication promotes understanding and minimizes workplace conflict across age groups. So, the findings imply that ASKI Group employees favor communication approaches that enhance clarity and professionalism, thereby supporting effective collaboration in a multigenerational work environment.

Table 10. Communication Styles of the Respondents

COMMUNICATION STYLES	FREQUENCY	PERCENTAGE
Direct	140	45.31%
Formal	129	41.75%
Informal	22	7.12%
Other Styles	17	5.50%
Promotion and Compensation	1	0.32%

What they value most in their Work.

Results show that most respondents (61.49%) prioritize career development and promotion, indicating that opportunities for advancement and professional growth are highly valued within the organization. Self-fulfilment (13.27%) and purpose (11.97%) are also

important, reflecting employees' desire for meaningful, personally rewarding work. Meanwhile, money or salary (9.71%) remains a relevant motivator, while clarity of roles (3.56%) is the least prioritized. According to Herzberg (1966), intrinsic factors such as achievement, recognition, and growth are key motivators that enhance job satisfaction and performance. Also, Twenge and Campbell (2012) emphasize that younger generations increasingly value personal development and meaningful work over purely financial rewards. These findings suggest that ASKI Group employees are driven primarily by opportunities for advancement and fulfilment, underscoring the need for career development programs and value-driven organizational practices to sustain motivation and engagement.

Table 11. What they value most in their Work.

VALUE	FREQUENCY	PERCENTAGE
Career Development/ Promotion	190	61.49%
Self-Fulfilment	41	13.27%
Money/ Salary	30	9.71%
Clarity of Roles	11	3.56%
Purpose	37	11.97%

Preferred Communication Style of the Respondents for the New Generation of Workers.

Results show that the preferred communication style among the new generation of ASKI Group employees varies but centers on direct, formal communication, valued for its clarity, efficiency, and professionalism. Some respondents favor a context-dependent or mixed approach to adapt to varying situations and personalities, while others emphasize informal communication to build rapport and foster ease of interaction. The integration of digital communication tools also emerged as a significant preference, reflecting younger employees' familiarity

and comfort with technology. Furthermore, maintaining respectful, empathetic communication is essential to sustaining a positive workplace atmosphere. According to Meyer and Davis (2019), effective communication in multigenerational settings requires balancing directness, adaptability, and engagement with technology while preserving professionalism and mutual respect. These findings suggest that ASKI Group should adopt flexible, technology-driven communication strategies to enhance collaboration and strengthen intergenerational understanding within the organization.

Table 12. Preferred Communication Style of the Respondents for the New Generation of Workers.

THEME	FREQUENCY
Direct Communication	22 mentions
Formal Communication	16 mentions
Mixed/Context-Dependent Communication	10 mentions
Informal Communication	8 mentions
Technology-Based Communication	6 mentions
Respectful and Empathetic Communication	8 mentions

Respondents Perceive Differences Between the New Generation and Other Generations of Workers in Terms of Priorities.

Results show that the new generation of workers, particularly Generation Z, prioritizes salary and financial rewards, as well as career development and self-fulfillment, while exhibiting greater emotional sensitivity and lower tolerance for unfavorable work conditions. They prefer technology-driven communication, value quick success, flexibility, and work-life balance, whereas older generations emphasize job stability and long-term career goals. According to Twenge (2017),

Generation Z employees seek rapid career advancement, meaningful work, and personal well-being, often displaying less attachment to traditional employment structures. Also, Schroth (2019) notes that this generation's digital proficiency and desire for instant feedback necessitate adaptive management approaches. These findings suggest that ASKI Group must implement flexible, technology-integrated, and development-focused management strategies to effectively engage and retain its younger workforce while maintaining balance with the values of older employees.

Table 13. Respondents Perceive Differences Between the New Generation and Other Generations of Workers in Terms of Priorities.

THEME	FREQUENCY
Focus on Salary and Financial Rewards	18 mentions
Sensitivity and Emotional Response	10 mentions
Career Development and Self-Fulfillment	15 mentions
Work Ethics and Attitude	12 mentions
Use of Technology	5 mentions
Differences in Values and Priorities	10 mentions

Respondents Perceived Differences Between the New Generation and Other Generations in Workplace Dynamics

Results show that generational differences significantly affect workplace dynamics, particularly in terms of sensitivity, financial priorities, work ethics, and communication styles. Younger generations, especially Generation Z, tend to show greater emotional sensitivity and a stronger focus on immediate financial rewards, often leading to higher job dissatisfaction and turnover. Now compare: older generations place greater value on job stability, purpose, and long-term growth.

Furthermore, younger workers are often perceived as having different work ethics and lower resilience, and are more likely to leave when faced with challenges. According to Twenge and Campbell (2018), variations in financial motivation, emotional responsiveness, and work values across generations directly influence job satisfaction and organizational commitment. They emphasize that management strategies must be adapted to address these differences by promoting engagement, flexibility, and tailored motivation. In line with this, the findings suggest that ASKI Group can enhance teamwork and retention by implementing a diverse range of management approaches that recognize and accommodate generational differences in values and behavior.

Table 14. Respondents Perceived Differences Between the New Generation and Other Generations in Workplace Dynamics.

THEME	FREQUENCY
Sensitivity and Emotional Response	10 mentions
Salary and Financial Focus	9 mentions
Work Ethics and Commitment	8 mentions
Need for Different Management Approaches	7 mentions
Impact on Workplace Environment and Teamwork	6 mentions
Influence of Technology and Communication Styles	5 mentions

Managing and Resolving Conflicts Stemming from Intergenerational Differences.

Results show that conflicts arising from intergenerational differences can be effectively managed through open communication, mutual understanding, and adaptive leadership. Encouraging one-on-one conversations and maintaining respectful dialogue are essential to resolving misunderstandings and promoting collaboration. Flexibility in management practices, respect, and empathy also play vital roles in

recognizing each generation's distinct contributions, thereby fostering a positive, inclusive work environment. Furthermore, managing emotional sensitivity, particularly among younger employees, and providing targeted training on generational awareness contribute to smoother interactions and more productive teamwork. According to Smola and Sutton (2002), effective communication, empathy, and adaptability are key factors in minimizing generational conflict and enhancing organizational harmony. Consistent with this view, the findings suggest that ASKI Group can strengthen workplace cohesion by cultivating a culture grounded in respect, understanding, and proactive conflict management across generational lines.

Table 15. Managing and Resolving Conflicts Stemming from Intergenerational Differences.

THEME	FREQUENCY
Communication and understanding	18 mentions
Adaptation and Flexibility	10 mentions
Respect and Empathy	9 mentions
Addressing Sensitivity and Emotional Responses	7 mentions
Training and Development	5 mentions
Conflict Resolution and Mediation	4 mentions

Accommodation of Generational Needs and Preferences in Workplace Culture.

Results show that the workplace culture at ASKI Group is generally effective in accommodating generational needs, with respondents highlighting strengths such as effective communication, regular training, and organizational adaptability. These elements help bridge generational gaps, promote understanding, and support the company's transition to new technologies and practices. Employees also value equal treatment and career growth opportunities, with no reports

of age discrimination. Consistent with these results, Smith and McLaughlin (2011) emphasize that open communication, flexibility, and equitable opportunities are essential in managing generational diversity and fostering an inclusive work environment. Furthermore, the company's respect for individual and spiritual growth contributes to a supportive and harmonious culture. However, challenges persist in fully meeting the distinct needs of all generations, underscoring the importance of continuous innovation and cultural adaptation to strengthen inclusivity and employee engagement.

Table 16. Accomodation of Generational Needs and Preferences in Workplace Culture.

THEME	FREQUENCY
Effective Communication and Training	25 mentions
Adaptability and Flexibility	20 mentions
Equal Treatment and Opportunities	18 mentions
Respect and Understanding of Individual Differences	15 mentions
Positive Work Environment and Culture	12 mentions
Challenges and Areas for Improvement	10 mentions

Perceive the Effectiveness of ASKI Group's Structure in Managing Generational Differences.

Results show that ASKI Group's organizational structure is generally perceived as effective in managing generational differences. Major strengths include its intensive training and development programs, which equip employees to address intergenerational challenges, and its flexibility and adaptability, which enable the organization to meet the varying needs of different age groups. The emphasis on equal opportunity and respect for individual differences further promotes fairness in promotions and professional growth. A

supportive, positive work environment also contributes to effective management of generational diversity. However, respondents identified areas for improvement, including a deeper understanding of younger generations' expectations and more effective strategies for employee retention. These findings align with Jones and Robinson (2008), who emphasize that continuous training, development, and adaptable organizational practices are vital for managing generational diversity. Their study highlights that sustained learning opportunities and organizational flexibility are essential to bridging generational gaps and fostering an inclusive, cohesive workplace culture.

Table 17. Perceive the Effectiveness of ASKI Group's Structure in Managing Generational Differences.

THEME	FREQUENCY
Positive Impact of Training and Development	35 mentions
Flexibility and Adaptability	28 mentions
Equal Opportunity and Respect	24 mentions
Positive Work Environment and Support System	20 mentions
Areas for Improvement	18 mentions
Mixed or Uncertain Opinions	10 mentions

Recommendations for Improving Intergenerational Understanding and Collaboration.

Results suggest that enhancing intergenerational understanding and collaboration within ASKI Group requires strategic initiatives focused on training, communication, and mutual respect. Respondents emphasized the importance of expanding training and development programs to strengthen professional growth and intergenerational management, and of promoting open communication through regular meetings and dialogues to bridge generational gaps. Encouraging

reverse mentoring, in which younger employees mentor older colleagues, was identified as a practical approach to fostering mutual learning and adaptability. Furthermore, cultivating empathy and respect and implementing structured programs such as team-building activities and workshops can promote understanding and cooperation. Addressing specific employee needs, including workload management and work-life balance, alongside adopting new technologies, can enhance inclusivity and innovation. These findings align with Bowers and Hurd (2018), who emphasized that training, open communication, and mutual respect are essential for managing generational differences, while structured initiatives and reverse mentoring significantly improve intergenerational collaboration and overall organizational effectiveness.

Table 18. Recommendations for Improving Intergenerational Understanding and Collaboration.

THEME	FREQUENCY
Increased Training and Development Programs	50 mentions
Enhanced Communication and Regular Meetings	35 mentions
Openness to New Ideas and Reverse Mentoring	20 mentions
Cultivating Mutual Respect and Empathy	18 mentions
Structured Programs and Activities	15 mentions
Addressing Specific Needs and Concerns	12 mentions

Additional Insights on Intergenerational Dynamics in ASKI Group.

Results show that employees at ASKI Group are generally satisfied with the organization's intergenerational dynamics and express minimal need for immediate changes. Nonetheless, several areas for improvement were identified, including expanding training and development programs tailored to generational differences, improving communication through regular meetings, and increasing adaptability to

new ideas and technologies. Respondents also suggested updating company compensation policies and reducing administrative workload. Furthermore, the workforce's diversity, blending the experience of older employees with the technological proficiency of younger ones, is recognized as a key organizational strength. These results are consistent with McGuire et al. (2022) and Williams and Williams (2021), who emphasize that targeted training, open communication, and adaptive organizational policies are essential for effectively managing generational diversity and enhancing overall workplace harmony and productivity.

Table 19. Additional Insights on Intergenerational Dynamics in ASKI Group.

THEME	FREQUENCY
Positive Acknowledgment and No Further Recommendations	55 mentions
Need for Training and Development	12 mentions
Communication and Understanding	10 mentions
Adaptation and Flexibility	9 mentions
System and Policy Revisions	8 mentions
Recognition of Generational Contributions	7 mentions

Conclusion

The study concludes that intergenerational differences significantly influence workplace dynamics within ASKI Group, particularly regarding work ethics, communication styles, and expectations for work-life balance. While employees share common organizational goals, variations in values and communication approaches can lead to occasional misunderstandings, supporting the hypothesis that generational diversity affects workplace relationships and effectiveness. ASKI Group demonstrates strengths in communication, equal opportunity, and adaptability. However, areas for

improvement include addressing the needs of younger workers and enhancing retention—to promote collaboration, respondents suggest increasing training, fostering open dialogue, implementing reverse mentoring, and implementing team-building strategies.

Generally, the findings confirm that generational diversity impacts organizational culture and employee relations: the study underscores the need for adaptive management, continuous learning, and inclusive communication to maintain productivity, harmony, and resilience in a multi-generational workforce.

Recommendations

Implement the strategic and action plans based on the study's findings.

Suggested Strategic Plan

STRATEGIC GOAL	ISSUE ADDRESSED	STRATEGY	ACTIONS
Enhance Communication Across Generations	Differences in communication styles	Blended communication training and policies	Conduct workshops and offer blended communication channels
Promote Inclusive Work Values	Conflicting work priorities	Personalized development plans	Design individual career paths and recognize diverse values
Adapt Leadership Styles	Varied leadership expectations	Multi-style leadership and reverse mentoring	Train leaders on adaptive methods and launch mentoring programs
Bridge Technology Gaps	Digital adaptability issues	Digital literacy support programs	Assign techmentors and conduct training sessions
Foster Inter-Generational Collaboration	Workplace tensions	Inter-generational team building	Organize team activities and dialogue sessions

Action Plan

OBJECTIVES	IMPROVEMENT ITEM	ACTIVITIES AND ACTION STEPS	COLLABORATIVE STRATEGIES	TIME COVERAGE		FINANCIAL APPROPRIATION	MONITORING SCHEME
Improve digital communication	Communication gap	Conduct training on digital and face-to-face communication	HR with the IT Department	Q3 2025		₱30,000	Pre- and post-training evaluations
Support multi-generational careers paths	Work value differences	Create a flexible career roadmaps	HR with Department Heads	Q4 2025	HR Office	₱50,000	Career progression tracking
Modernize leadership practices	Generational leadership expectations	Train leaders in adaptive styles and reverse mentoring	HR with Executive Team	Q3–Q4 2025		₱45,000	Leader feedback and 360-evaluations
Increase tech readiness	Digital divide	Rollout a digital literacy program and tech mentorship	IT with HR	Q2 2025		₱25,000	Digital proficiency surveys
Reduce generational tension	Teamwork issues	Launch team-building and coaching for diverse teams	HR with Unit Heads	Q3 2025	Employee Engagement Office	₱35,000	Participation rates and feedback forms

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ECO-FRIENDLY BREW: CIRCULAR ECONOMY INITIATIVES AND OPERATIONAL EFFICIENCY OF COFFEE SHOPS IN SAN JOSE CITY, NUEVA ECIJA

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Abstract.

The growing trend of sustainable business models has made circular economy (CE) practices an essential strategy in the food and beverage service sector, particularly coffee shops. This study explored the relationship between CE initiatives and operational efficiency (OE) among 59 selected coffee shops in San Jose City, Nueva Ecija. It is guided by the framework on the key elements of OE, which aims to minimize waste and maximize output in people, processes, and technology, alongside the 2Ps of marketing—product and packaging—where CE is commonly practiced. The research focused on sustainable practices, using a descriptive-correlational design with a structured survey instrument distributed to coffee shop owners via simple random sampling, ensuring informed consent, confidentiality, and ethical considerations throughout the process. Results revealed that CE initiatives in Products ($\bar{x}=2.74$) and Packaging ($\bar{x}=2.71$) were moderately implemented, whereas OE was strongly evident in People ($\bar{x}=3.38$), Processes ($\bar{x}=3.34$), and Technology ($\bar{x}=3.48$). Pearson Correlation analysis showed a strong positive relationship between product-related CE practices and all aspects of operational efficiency—People ($r=0.612$, $p=0.000$), Process ($r=0.608$, $p=0.000$), and Technology ($r=0.628$, $p=0.000$).

In contrast, Packaging-related CE practices showed weaker but still positive correlations—People ($r=0.358$, $p=0.005$), Process ($r=0.335$, $p=0.010$), and Technology ($r=0.420$, $p=0.001$). The findings suggest that while sustainable packaging efforts contribute to environmental goals, product-related CE practices have a more direct and impactful impact on business efficiency, offering valuable insights to enhance sustainability and performance in small food service

businesses. The study concludes that there is a significant positive relationship between CE practices and OE.

Keywords: *Sustainable Practices, Coffee Shops, Products, Packaging, People, Process, Technology*

Introduction

Nowadays, sustainability is the focus across industries, with eco-friendly products and initiatives being introduced. Economically, from a business perspective, entrepreneurs/businesses are implementing new strategies (from planning to operations) to minimize waste produced or goods and services delivered to the market. Thinking in circular economy principles in product design, packaging, and beyond not only drives environmental goals but also improves internal operations, how people work, how processes flow, and how technology is leveraged to support sustainable practices.

Meanwhile, the coffee shop industry in the Philippines has also started incorporating eco-friendly efforts. This growth, however, necessitates a critical examination of how these establishments integrate sustainable practices to mitigate environmental impact and ensure long-term viability within the broader coffee value chain (Sachs et al., 2019). Specifically, an analysis of sustainability among coffee shops in the Philippines is crucial for understanding how local businesses address issues from bean sourcing to waste management, thereby contributing to an enhanced circular economy in the regional context (Frajenal, 2022). Moreover, these local coffee shops are a portion of coffee shop chains that have taken measures to become more sustainable, such as reducing plastic packaging, composting, and sourcing locally (Poddar, 2023). The growing consumer consciousness and interest in eco-friendly alternatives bring about this movement towards sustainability (Tamboli et al., 2023). According to Ko and Jeon (2024), many leading eco-conscious coffee chains promote environmentally friendly practices by utilizing recycled takeaway cups, offering organic food options, and encouraging the use of reusable mugs to cut waste. These measures demonstrate an increasing dedication to environmental conservation in Filipino coffee shop activities and how practices rooted in the circular economy help ensure the sustainability of both the environment and the business.

The Philippine coffee market, characterized by a diverse café culture and a growing appreciation for specialty coffee, has seen an increasing number of coffee shops serving as key intermediaries between producers and consumers (Tumanan & Lansangan, 2011). This expansion, while catering to evolving consumer preferences for coffee as both a product, also intensifies the need for these establishments to adopt sustainable practices (Tumanan & Lansangan, 2011). Distinct coffee shops aim to reduce consumption, promote recycling, and reuse materials (Mendoza et al., 2022). Natural products and marketing strategies, as well as eco-products like edible straws and recyclable cups, and how they are disposed of in coffee shops around the world, are already known and managed. This is particularly relevant given that the global coffee supply chain faces significant sustainability challenges that necessitate a holistic approach to sustainable development (Proença et al., 2022). Therefore, understanding the current state of sustainability adoption in Philippine coffee shops is essential for identifying effective strategies and policy interventions to foster a more resilient and responsible coffee industry (Malinao, 2022).

Escalating global challenges are pushing a shift from linear to sustainable economic models. The Circular Economy (CE) provides an alternative to the "take, make, dispose" system by focusing on resource reuse, waste reduction, and regeneration of natural systems. CE requires businesses to integrate environmental and social goals into their strategies rather than just focusing on profit. In the coffee industry, despite rising demand for sustainable products, challenges like emissions and inequality persist. Adopting circular practices in coffee shops can help address these issues by rethinking sourcing, operations, and waste management to minimize environmental impact.

The service industry, characterized by its intangible offerings and direct customer interactions, presents unique challenges and opportunities for operational efficiency compared to manufacturing or product-centric sectors (Kindström & Kowalkowski, 2014). Operational Efficiency (OE) refers to an organization's ability to deliver high-quality products or services with minimal resources or inputs; it involves people, processes, and technology (Dilshani et al., 2019). OE in this context refers to the optimization of resources—both human and technological—and the streamlining of processes to maximize output while minimizing waste and cost within a coffee shop business (Parthanadee & Buddhakulsomsiri, 2012). This efficiency is critical for maintaining competitiveness and profitability, particularly given the nature of the food and beverage industry (Geminarqi & Purnomo, 2023).

Consequently, evaluating operational efficiency extends beyond financial metrics to encompass a holistic assessment of customer satisfaction, internal process optimization, and an organization's growth capacity (Feng & Goli, 2023). It also involves leveraging technology, such as point-of-sale systems, to enhance service delivery and manage inventory effectively, thereby contributing to sustained operational excellence (Olayinka, 2021). For coffee shops, this requires running an effective, efficient operation, from sourcing and preparing to serving and managing waste, to save costs, save time, and improve output across the board without negatively impacting the quality of their products or the satisfaction of their customers. Effective integration ensures that technological tools support human capabilities and streamline processes rather than create additional complexity, which is pivotal for maintaining a competitive edge in a saturated market (Van Hoang et al., 2025).

Furthermore, a continuous improvement culture, supported by robust leadership and employee training, is essential for identifying and implementing innovative solutions to operational challenges (Zhang et al., 2023). This integrated perspective also emphasizes the critical role of human capital development, including job design, performance appraisal, and continuous training, in maximizing overall organizational performance (Liu et al., 2007). The unique demands of the coffee shop sector, including rapid service, product consistency, and a personalized customer experience, necessitate highly refined processes that minimize bottlenecks and enhance throughput (Villanueva et al., 2025). This involves meticulously designed workflows for everything from bean grinding and espresso pulling to order fulfillment and payment processing, all aimed at reducing wait times and improving service speed (Reyes et al., 2024).

Furthermore, this study may have important implications for the coffee industry and for entrepreneurs and coffee shop owners. Knowing where CE strategies stand on OE can direct the innovation of products and processes to improve both sustainability and business performance. These findings can inform future work on developing lower-footprint, higher-efficiency coffee shop operations consistent with global sustainability goals.

Despite extensive literature on the circular economy across many sectors, there is a knowledge gap about how this principle affects operational effectiveness in coffee shops. The current literature provides general insights into sustainable practices but does not explicitly address

their influence on key operational dimensions.

Hence, this study aims to fill this gap by examining coffee shop CE initiatives through product- and packaging-related strategies. Also, it seeks to evaluate the key elements of OE (people, process, and technology) evident in the coffee shop businesses. Lastly, it intends to examine the correlation between CE and OE. The results will confirm whether higher levels of CE practices are associated with better operational performance, thereby confirming or rejecting the research hypothesis.

Literature Review

The Evolution of Circular Economy (CE) Practices in the Coffee Industry

According to Keulen & Kirchherr (2020), the CE promises to provide an alternative to the current take-make-dispose economic model, which causes immense waste, high energy consumption, and the limited or non-use of disposables. There are some examples of CE implementation in the literature, but few focus on complex product value chains. Changes were aimed at both the production and consumption sides to minimize waste and connect across and beyond value chains, balancing ecological, social, and financial sustainability.

According to Agnieszka et al. (2023), optimizing waste resource efficiency through the CE framework emphasizes waste reduction, resource reuse, and the extraction of value from waste materials. It discusses the core principles of CE, including eliminating waste and pollution, circulating products and materials at their highest value, and regenerating nature. Additionally, Arora et al. (2021) discuss the CE as a conceptual model used in a closed-loop approach to enhance resource use and minimize waste. It highlights CE-related policies for solid waste management and how they can optimize local resources.

Sutherland & Kouloumpi (2022) discuss how the CE can contribute to multiple SDGs, including Goals 6 (clean water and sanitation), 7 (affordable and clean energy), and 12 (responsible production and consumption). It emphasizes the holistic benefits of implementing circular economy strategies. Moreover, Ortiz-De-

Montellano et al. (2023) provide an overview of how circular economy principles align with the SDGs, detailing how they can facilitate progress toward achieving clean water, affordable energy, and responsible production. It discusses the intrinsic relationship between these frameworks.

This stands in contrast to the linear economy, which is also known as the take-make-dispose approach, where resources are acquired, products are manufactured for sale, and any unnecessary materials are either incinerated or landfilled, limiting the ability to reduce waste from production and consumption or to derive value from that waste (Sariatli, 2017). To adopt the principles of the CE, there needs to be a shift away from the prevailing mindset that pushes linear business practices, towards one that focuses on sustainability and integrates closed-loop mindsets into the core of business models and industrial processes (Muranko et al., 2019).

Circular Economy Integration in Marketing Aspects of Coffee Shop Businesses

Products

The analysis of current practices in product management within coffee shop businesses revealed a significant emphasis on sourcing sustainably produced coffee beans and on implementing waste-reduction initiatives in brewing processes (Proença et al., 2022). Furthermore, many establishments are exploring the integration of upcycled coffee byproducts into new product lines, alongside adopting closed-loop systems to conserve water and energy (Maciejewski & Mokrysz, 2019). These efforts collectively demonstrate a burgeoning commitment to operationalizing circular economy principles, moving beyond mere resource efficiency towards a more holistic redefinition of product lifecycles within the coffee retail sector (Mesa et al., 2018). However, significant variations were observed in the extent of these practices, indicating that while awareness of circularity is growing, the systematic measurement and assessment of circular performance are not yet commonplace across the industry (Sassanelli et al., 2019). This highlights a critical need for standardized metrics and robust frameworks to evaluate the actual environmental and economic impacts of circular product management strategies, facilitating broader adoption and demonstrating tangible benefits to both businesses and consumers (Paiva, 2025).

Packaging

The assessment of current packaging practices in the coffee shop industry reveals a growing adoption of materials engineered for enhanced recyclability, compostability, and reusability, primarily driven by heightened consumer environmental consciousness and stringent regulatory pressures (Bigdeloo et al., 2021). Despite this progress, significant challenges persist in establishing robust collection and reprocessing infrastructures, which often limit the actual circularity achieved by these packaging innovations (Ada et al., 2023). Moreover, while many companies announce commitments to packaging that is fully recyclable or compostable, practical implementation often faces hurdles, including material compatibility and consumer education on proper disposal (Bocken et al., 2022). This gap between intent and actual circularity necessitates further research into the efficacy of current recycling and composting schemes for coffee-specific packaging materials, particularly those derived from coffee by-products (Hernández-Varela & Medina, 2023). For instance, while certain bioplastics derived from spent coffee grounds show promise for packaging applications, their industrial composting infrastructure remains underdeveloped in many regions, hindering their full circular potential (Karmee, 2017). Consequently, while the intent to transition to more sustainable packaging is clear, the current environment underscores the critical need for comprehensive life-cycle assessments to quantify environmental benefits and identify areas for further improvement accurately (Sazdovski et al., 2021).

Operational Efficiency Framework and Circular Economy

People

The adoption of circular economy models can significantly reshape the decision-making processes within coffee shop operations, leading to transformational changes in capabilities, work procedures, relationships, and technology (Jabbour et al., 2019). This holistic approach necessitates re-evaluating existing organizational structures and skill sets, demanding innovative training programs and incentive schemes to align employee behavior with circular objectives (Iacovidou et al., 2020). Such alignment can foster a workforce that is not only proficient in their daily tasks but also deeply committed to sustainable practices, ultimately enhancing the coffee shop's competitive advantage and environmental stewardship (Jones & Comfort, 2021). Moreover,

integrating circular economy principles into human resource management can lead to novel talent acquisition approaches that prioritize candidates with a strong commitment to sustainability and innovative problem-solving.

Process

The adoption of innovative waste processing techniques and sustainable management standards that extend beyond simple food waste to encompass a broader spectrum of operational outputs (Martin-Rios et al., 2022). This includes exploring closed-loop systems for materials, energy, and water, as well as implementing remanufacturing and recycling programs for packaging and used equipment (Da-wei et al., 2021). These process optimizations aim to significantly reduce the environmental footprint of coffee shop operations while simultaneously improving resource utilization and cost-effectiveness. This transition towards a restorative and regenerative economic cycle necessitates systemic redesign, organizational, and institutional changes, leading to sustainability profits (Manca et al., 2020). This shift moves beyond mere compliance, enabling businesses to decouple value creation from resource depletion and waste generation, thereby enhancing long-term resilience and market competitiveness (Zanoletti et al., 2021). Furthermore, the continuous improvement of these processes through data analytics and feedback loops will be essential for sustained efficiency gains and for identifying new circular opportunities. This includes a focus on maximizing resource value and extending product lifecycles, thereby reducing reliance on virgin materials and minimizing waste generation (Upadhayay et al., 2024).

Technology

Advanced technologies help coffee shops become more circular by improving resource tracking, waste management, and customer engagement. Tools like digital inventory systems, AI-driven sorting, and supply chain technologies optimize operations and support sustainability goals by reducing waste and increasing efficiency.

Sustainability Practices in Coffee Shops and Their Environmental and Economic Impacts through CE Strategies

In today's era of sustainability and eco-awareness, coffee plays a role in creating a more sustainable world. A transition towards sustainability must shape growth to meet the needs of the present

without compromising future development (Steffen et al., 2015).

A critical effort in this direction is the Sustainable Development Goals (SDGs), through which the UN aims to address the complex issues faced by the CE concept and its impact.

Companies, researchers, and interested customers are paving the way for the next phase of environmental sustainability worldwide. The circular economy paradigm is emerging, enabled by legislative reforms and cutting-edge technologies. It holds the potential to reshape the global economy and alter our relationship with the natural world, including coffee (Joshi, 2023). By turning waste back into raw materials for the subsequent production stage, the circular economy seeks to close the loop in our industrial system, reducing resource consumption and environmental degradation (Pike, 2018). According to Goodrich (2016), *"sustainability has progressed dramatically from the late 1990s to now. Even though the circular economy offers a better framework to assist businesses in integrating sustainability into their business plan, it is also the most challenging component"*.

Waste Management and Resource Efficiency in Coffee Shops

According to Marwah and Marwah (2022), coffee production generates more than 23 million tons of garbage annually, from the pulp of fresh coffee cherries to the packaging that transports the roasted beans to baristas. Used coffee grounds, which we discard in the trash after each fresh drink, are the most obvious example of this waste at the consumer end of the supply chain. Furthermore, Cabauatan et al. (2022) discuss how resource efficiency, such as conserving water and using energy-efficient equipment, has been incorporated by some coffee shops in the country.

Waste management is a significant challenge worldwide. Industrial waste treatment and management are essential to prevent environmental pollution and health hazards to humans and animals. Many government and non-government organizations are taking initiatives in this regard. Agro-based industries, such as the coffee industry, also generate both water and solid waste. Proper treatment and management of this waste are required to protect human beings and animals from health problems. Coffee certification programs also include the criteria for environmental protection and waste management (Muthamma & Shankarappa, 2020).

Methods

This study used a quantitative research design, specifically employing a descriptive-correlational approach to determine the relationship between CE practices—specifically, products and packaging—and OE in terms of people, processes, and technology among the selected coffee shops in San Jose City.

The study utilized a structured survey questionnaire developed through an extensive review of available literature to identify variables, which were subsequently reviewed for relevance and appropriateness. The questionnaire was then divided into three sections, each related to a research aim: Part I collects respondents' socio-demographic information. Part II focused on CE practices specifically in terms of product and packaging, rated on a 4-point Likert Scale from 4: Not Implemented to 1: Fully Implemented, while Part III focused on OE (particularly on people, process, and technology) through agreement levels (4: Strongly Agree to 1: Strongly Disagree). A pre-test involving 20 coffee shop owners in Science City of Muñoz and Lupao, Nueva Ecija, validated the instrument using Cronbach's Alpha, with all constructs scoring $\alpha=0.918$; hence, they were considered reliable. Moreover, applying Slovin's formula, a sample of 59 out of 69 identified coffee shop businesses in San Jose City was selected using simple random sampling. In this regard, data were collected from coffee shops that have been in operation for more than 2 years to ensure the reliability and relevance of the findings.

During data collection, coffee shop owners were given informed consent to ensure confidentiality and encourage honest, detailed responses. The survey questionnaire was distributed in printed form and included clear instructions to guide respondents in providing accurate information about CE practices and their internal business operations. Throughout this phase, participants are closely monitored to ensure timely responses are submitted, and any concerns or questions are addressed promptly. The respondents may skip any items they find uncomfortable. Ethical considerations strictly ensured their rights, including the right to withdraw at any time.

For data analysis, the study employed descriptive statistics to summarize and interpret data collected from coffee shop owners. Frequency, Mean, Standard Deviation, and Percentages will be used to determine the circular economy initiatives and operational efficiency of coffee shops in San Jose City. Lastly, inferential statistics, specifically Pearson's r , were used to investigate the correlation between circular

economy initiatives and the operational efficiency of coffee shops.

Results and Discussion

Circular Economy Initiatives

1. Products

Table 1 presents the Circular Economy Initiatives of Coffee Shops by the Products they offer. Based on the results in Table 1, the highest-rated circular economy initiatives by coffee shops, in terms of products, were partnering with local suppliers to reduce transport-related emissions, with a mean of 3.07 (SD=0.58), indicating moderate implementation. This implies that coffee shops prioritize building relationships with local suppliers, enabling them to assess their carbon footprints and strengthen community-based production. The relatively low standard deviation indicates similar perceptions, which were commonly practiced across coffee shops.

Meanwhile, the lowest mean rating was for incorporating upcycled or repurposed coffee grounds, at 2.49 (SD=0.80), indicating partial implementation. This result suggests that some of these coffee shops may not fully engage in or implement this practice due to limited technical knowledge, limited resources, and low consumer demand. The standard deviation primarily reflects variability in implementation, suggesting that only a few coffee shops are actively adopting upcycling, while others remain hesitant.

Implementing circular economy (CE) initiatives in coffee shops, particularly in product design and use, represents a pragmatic approach to sustainable consumption and production. As industries increasingly pivot toward regenerative systems, coffee shops—integral components of urban food economies—are beginning to embed CE principles into their operational models. The data gathered, with an aggregate weighted mean of 2.74, reflects a moderate level of implementation, suggesting that while the transition to circularity is underway, there remains considerable room for development and optimization. This moderate engagement signifies a conscious yet non-transformative commitment to sustainability within the product dimension of circular practices.

While coffee shops have adopted CE initiatives to a moderate

extent in product terms, the findings suggest a transitional phase marked by both commitment and constraint. As Maciejewski & Mokrysz (2019) note, many establishments are exploring the integration of upcycled coffee by-products into new product lines, while adopting closed-loop systems to conserve water and energy. However, significant variations were observed in the extent of these practices, indicating that while awareness of circularity is growing, the systematic measurement and assessment of circular performance are not yet commonplace across the industry (Sassanelli et al., 2019). These results echo the view that circularity is not merely a set of practices but a transformative cultural shift requiring coordinated efforts across the value chain.

In line with this, coffee shops can advance sustainability through their strength, such as supplier partnerships. This also reinforces the notion that adoption of the circular economy in the food and beverage industry is gradually increasing, requiring policy support, consumer awareness, and technological solutions. Hence, for these businesses to move from moderate to high implementation, there should be an intervention in the form of training and collaboration with sustainability networks.

Table 1. *Circular Economy Initiatives of Coffee Shops in terms of Products*

STATEMENT	WEIGHTED MEAN	SD	VERBAL INTERPRETATION
1. I ensure that my coffee shop uses ethically sourced coffee beans.	2.76	0.80	Moderately Implemented
2. I use reusable or refillable containers to store ingredients in the shop.	2.53	0.84	Moderately Implemented
3. I incorporate upcycled or repurposed coffee grounds into other valuable products.	2.49	0.80	Partially Implemented

4. I include food or drinks in the menu that are made from surplus or leftover ingredients.	2.88	0.70	Moderately Implemented
5. I offer plant-based or environmentally sustainable alternatives in our product lineup.	2.81	0.71	Moderately Implemented
6. I find ways to reuse leftover brewed coffee for other purposes, such as cooking or composting.	2.68	0.78	Moderately Implemented
7. I regularly measure and monitor food and beverage waste in the shop.	2.69	0.75	Moderately Implemented
8. I design and select products that help reduce our environmental impact.	2.68	0.78	Moderately Implemented
9. I partner with local suppliers to lessen transport-related emissions.	3.07	0.58	Moderately Implemented
10. I repurpose waste by-products from our offerings for other operational uses, such as fertilizers.	2.85	0.85	Moderately Implemented
Weighted Mean	2.74		Moderately Implemented

Legends: 3.26-4.00: Fully Implemented, 2.51-3.25: Moderately Implemented

1.76-2.50: Partially Implemented 1.00-1.75: Not Implemented

2. Packaging

Table 2 highlights the Circular Economy Initiatives of Coffee Shops in San Jose City, focusing on Packaging. In line with the results shown in Table 2, the highest-rated circular economy initiative in packaging is the use of recycled-material packaging, with a mean of 2.90 (SD=0.78), and was interpreted as moderately implemented. This suggests that coffee shops are focused on sourcing packaging that reduces environmental impact through recycling methods. The standard deviation also implies that recycled packaging is a common and feasible practice within the industry.

However, with a mean of 2.61 (SD=0.87), a compostable or biodegradable packaging material and the avoidance of single-use plastic packaging were interpreted as moderately implemented. This indicates that coffee shops recognize the importance of these practices, while full adoption may be hindered by cost, availability, or customer acceptance of new packaging alternatives. The high deviation indicates variability in implementation, with some shops adopting these practices while others still rely on conventional materials.

The integration of circular economy (CE) principles into coffee shops' packaging practices reveals a moderate yet intentional alignment with sustainability goals. The overall weighted mean of 2.71 suggests that these establishments are moderately implementing circular strategies in packaging, an essential dimension of environmental performance in the foodservice industry. Packaging, often responsible for a significant share of environmental waste, serves as a critical touchpoint where circularity can be applied in a visible, practical way. The data reflects an encouraging trend: coffee shop operators are not only aware of the environmental impacts of packaging but are also taking tangible steps to minimize those impacts through material innovation, supplier alignment, and customer engagement.

Coffee shops are progressively engaging with the circular economy through packaging-related strategies, demonstrating awareness and moderate practice of sustainability principles. Consequently, while the intent to transition to more sustainable packaging is clear, the current environment underscores the critical need for comprehensive life-cycle assessments to quantify environmental benefits and identify areas for further improvement accurately (Sazdovski et al., 2021). To accelerate this transition, additional investments in eco-design, circular procurement, and consumer

education are imperative. Moreover, while many companies announce commitments to packaging that is fully recyclable or compostable, practical implementation often faces hurdles, including material compatibility and consumer education on proper disposal (Bocken et al., 2022). Such actions will not only reduce environmental impacts but also position coffee shops as active contributors to the regenerative economy.

Overall, the results imply that while these coffee shops are gradually adopting sustainable packaging practices, they may be affected by increasing innovation and a lack of policy support. The findings highlight the need for supply chain collaboration and affordable and accessible compostable packaging. Hence, to achieve higher levels of implementation of the circular economy, these businesses must invest in both structural and behavioral support for alternative packaging practices.

Table 2. *Circular Economy Initiatives of Coffee Shops in terms of Packaging*

STATEMENT	WEIGHTED MEAN	SD	VERBAL INTERPRETATION
1. I use compostable or biodegradable materials for our packaging.	2.61	0.87	Moderately Implemented
2. I encourage customers to bring their reusable cups or containers.	2.64	0.85	Moderately Implemented
3. I avoid using single-use plastics in all our packaging.	2.61	0.87	Moderately Implemented
4. I ensure that our packaging materials are made from recycled content.	2.90	0.78	Moderately Implemented

5. I choose packaging that is reusable or refillable whenever possible.	2.69	0.95	Moderately Implemented
6. I collect and sort packaging waste for proper recycling.	2.66	0.80	Moderately Implemented
7. I purchase bulk items with minimal or zero-waste packaging.	2.71	0.85	Moderately Implemented
8. I include labels that guide customers on how to dispose of packaging appropriately.	2.68	0.82	Moderately Implemented
9. I choose suppliers who follow sustainable packaging practices.	2.88	0.74	Moderately Implemented
10. I regularly monitor and evaluate the amount and type of packaging waste we generate.	2.73	0.91	Moderately Implemented
Weighted Mean	2.71		Moderately Implemented

Legends: 3.26-4.00: Fully Implemented, 2.51-3.25: Moderately Implemented

1.76-2.50: Partially Implemented 1.00-1.75: Not Implemented

Operational Efficiency of Coffee Shops

1. People

Table 3 presents the Operational Efficiency of Coffee Shops in

terms of People. The results in Table 3 suggest that, under operational efficiency, maintaining the correct number of staff to handle daily operations received the highest mean score of 3.49 (SD=0.80), which is interpreted as strongly agree. This implies that the owners prioritize maintaining an adequate workforce to meet daily demands, thereby ensuring a smooth workflow and sustained quality. The low deviation suggests that most of these businesses consider staffing levels as a key factor for operational success.

Meanwhile, providing cross-training that allows staff to take on multiple roles when needed and conducting regular staff meetings that help improve overall performance ranked lowest among the set, with mean scores of 3.32 (SD=0.92) and 3.90 (SD=0.90), respectively; both are interpreted as strongly agree. This indicates that the actual implementation of these practices may not be as consistent as sustaining sufficient staff. The slightly higher deviations imply variation of these practices among coffee shops, which may be due to differences in resources and management styles.

The assessment of operational efficiency in terms of people, as evaluated by coffee shop owners themselves, reveals a high degree of managerial confidence and effectiveness in human resource practices, with an overall weighted mean of 3.38, interpreted as "Strongly Agree." This outcome highlights the pivotal role of personnel management in the seamless functioning of coffee shops, where service quality depends heavily on staff skills, coordination, and responsiveness.

The strong, uniform agreement across all indicators suggests that coffee shop owners perceive their leadership and people-management practices as well aligned with efficiency goals. However, this self-reported confidence should be interpreted with some analytical caution. At the same time, it reflects intent and managerial practices; it may not fully capture employee experiences or customer perspectives, both of which are equally critical to evaluating actual operational efficiency. It necessitates a re-evaluation of existing organizational structures and skill sets, demanding innovative training programs and incentive schemes to align employee behavior with circular objectives (Iacovidou et al., 2020). Nonetheless, the data affirm that coffee shop owners recognize the centrality of their workforce and actively pursue strategies to foster performance, morale, and organizational coherence—core components of sustainable service delivery. Such alignment can foster a workforce that is not only proficient in their daily tasks but also deeply committed to sustainable practices, ultimately

enhancing the coffee shop's competitive advantage and environmental stewardship (Jones & Comfort, 2021).

The finding implies that the coffee shops in the area are people-oriented, as they recognize that achieving high efficiency depends on the competence and motivation they provide to employees. This means having a human capital perspective allows them to view employees not merely as labor but as a critical asset for organizational performance. Hence, regular training, communication, and teamwork lead to higher productivity and customer satisfaction.

Table 3. *Operational Efficiency of Coffee Shops in terms of People*

STATEMENT	WEIGHTED MEAN	SD	VERBAL INTERPRETATION
1. I ensure that employees are well-trained to perform their duties efficiently.	3.42	0.86	Strongly Agree
1. I observe strong teamwork and collaboration among my staff.	3.34	0.90	Strongly Agree
1. I make sure that employees follow standard operating procedures consistently.	3.36	0.91	Strongly Agree
1. I provide clear guidance and supervision to my team.	3.47	0.80	Strongly Agree
1. I ensure that staff respond quickly and effectively to customer needs.	3.34	0.92	Strongly Agree

1. I maintain a sufficient number of staff to handle daily operations.	3.49	0.80	Strongly Agree
1. I motivate my employees to maintain high productivity and quality.	3.36	0.91	Strongly Agree
1. I provide cross-training so staff can take on multiple roles when needed.	3.32	0.92	Strongly Agree
1. I encourage clear and timely communication among employees.	3.42	0.81	Strongly Agree
1. I conduct regular staff meetings to improve overall work performance.	3.32	0.90	Strongly Agree
Weighted Mean	3.38		Strongly Agree

Legends: 3.26-4.00: Fully Implemented 2.51-3.25: Moderately Implemented

1.76-2.50: Partially Implemented 1.00-1.75: Not Implemented

2. Process

Table 4 highlights the Operational Efficiency of Coffee Shops in terms of Process. The highest-rated indicators in Table 4 include timely restocking of supplies, with a mean of 3.42 (SD=0.91) and a verbal interpretation of strongly agree. This practice is crucial in supporting lean operations and reducing operational disruptions, thus aligning with the principles of process optimization and continuous flow. The relatively moderate standard deviation suggests that most coffee shops place a high value on effective inventory restocking as part

of their operational flow.

In contrast, ensuring that daily operations follow a clear and organized workflow has the lowest mean score of 3.27 (SD=0.94), although it is still interpreted as strongly agree. This suggests that while coffee shops emphasize the importance of an organized workflow, their actual implementation is inconsistent with other practices. The standard deviation also implies that some establishments are more systematic than others, possibly influenced by factors such as management experience and employee skills.

The evaluation of operational efficiency in terms of processes demonstrates a robust commitment to systematic, well-structured, and adaptive operational practices, as reflected by an overall weighted mean of 3.34, interpreted as "Strongly Agree." This signifies a high degree of confidence among owners in their ability to manage workflows, standardize procedures, and continuously optimize daily operations to meet service demands. The smooth orchestration of processes is critical in the food and beverage industry, where customer satisfaction is tightly linked to speed, consistency, hygiene, and reliability.

The findings emphasized that standard workflow practices, inventory management, and continuous process are essential in minimizing waste and maintaining consistency. It will also examine the adoption of innovative waste-processing techniques and sustainable management standards that extend beyond simple food waste to encompass a broader range of operational outputs (Martin-Rios et al., 2022). Similarly, the emphasis on prompt restocking and waste integration highlighted the importance of resource availability and sustainability-oriented operations in enhancing service reliability. This includes exploring closed-loop systems for materials, energy, and water, as well as implementing remanufacturing and recycling programs for packaging and used equipment (Da-wei et al., 2021). The lower emphasis on workflow organization found that small businesses often lack formal systems but rely on adaptive, experience-based practices.

The results imply that while these coffee shops are strong at ensuring consistent operations, they must strengthen their structured processes to achieve higher efficiency. It is also noted that a more formalized process is needed to streamline daily operations. Hence, coffee shops can further enhance operational efficiency and competitiveness by focusing on workflow clarity alongside their existing strengths.

Table 4. *Operational Efficiency of Coffee Shops in Terms of Process*

STATEMENT	WEIGHTED MEAN	SD	VERBAL INTERPRETATION
1. I ensure that our daily operations follow a clear and organized workflow.	3.27	0.94	Strongly Agree
2. I manage inventory efficiently to minimize waste and overstocking.	3.41	0.89	Strongly Agree
3. I implement standard procedures for handling customer orders.	3.29	0.95	Strongly Agree
4. I regularly evaluate and improve our operational processes.	3.34	0.94	Strongly Agree
5. I make sure preparation times are consistent and predictable.	3.32	0.92	Strongly Agree
6. I restock supplies and ingredients promptly to avoid interruptions.	3.42	0.91	Strongly Agree
7. I oversee that cleaning and sanitation routines are performed efficiently.	3.37	0.83	Strongly Agree
8. I integrate waste management into our daily operational	3.34	0.92	Strongly Agree

workflow.			
9. I clearly define roles and responsibilities for all operational tasks.	3.31	0.97	Strongly Agree
10. I ensure that peak-hour operations are handled smoothly and systematically.	3.34	0.98	Strongly Agree
Weighted Mean	3.34		Strongly Agree

Legends: 3.26-4.00: Strongly Agree 2.51-3.25: Agree
1.76-2.50: Disagree 1.00-1.75: Strongly Disagree

3. Technology

Table 5 presents the Operational Efficiency of Coffee Shops by the technology utilized. The results shown in Table 5 suggest that the highest-rated factor for operational efficiency related to technology was the use of online platforms to engage with customers and gather feedback ($M = 3.66$, $SD = 0.71$). This indicates strong agreement. This finding reveals that coffee shops value their digital presence and customer interaction. They see social media and online platforms as essential for improving service and marketing. The low standard deviation reflects a strong consensus among respondents, suggesting that most shops consistently use digital engagement in their operations.

In contrast, the lowest-rated factor was the use of technology to reduce manual work and improve overall productivity ($M = 3.32$, $SD = 0.92$). This factor was still viewed as strongly in agreement. This suggests that while shops generally appreciate adopting technology, some may still rely on traditional methods in certain areas. The higher standard deviation indicates differences in how technology is used. Some businesses fully embrace digital automation, while others remain partly manual, possibly due to limited resources or outdated technology.

The assessment of operational efficiency in terms of

technology, as reported by coffee shop owners, indicates strong support for integrating digital solutions and equipment into daily operations. With an impressive overall weighted mean of 3.48, indicating "Strongly Agree," the findings reflect robust alignment between technological adoption and operational goals. In modern service industries, where speed, precision, and customer engagement are paramount, technology is a critical enabler of both productivity and service quality. Coffee shop owners appear to embrace technology not only as a tool for operational enhancement but also as a strategic asset that contributes to competitiveness and innovation.

Coffee shop owners demonstrate a high level of technological maturity and strategic integration across multiple operational domains. Such technological integration, encompassing everything from innovative inventory systems to AI-driven waste sorting, facilitates a more precise and adaptive operational framework, directly contributing to circularity goals (Cioffi et al., 2020). From transaction management to customer engagement, and from staff coordination to energy efficiency, technology is both pervasive and deliberate. This indicates not just adoption but also adaptive capacity, in which technology serves as both an efficiency tool and a dynamic resource for resilience and growth in a competitive service landscape. The strategic deployment of these technologies can transform conventional linear processes into closed-loop systems, enabling comprehensive data collection that informs sustainable practices and innovative business models (Fogarassy & Finger, 2020).

The findings imply that coffee shops are already moving toward digital transformation. However, they need to focus more on improving automation and tools that boost productivity. This means businesses could invest more in technologies that reduce manual work, integrate operational data, and improve efficiency. By closing automation gaps and building on their strengths in digital engagement, coffee shops can fully leverage technology to achieve long-term operational success.

Table 5. *Operational Efficiency of Coffee Shops in terms of Technology*

STATEMENT	WEIGHTED MEAN	SD	VERBAL INTERPRETATION
1. I use POS (Point of Sale) systems effectively to manage transactions.	3.47	0.86	Strongly Agree
1. I utilize digital tools to monitor inventory levels and sales performance.	3.42	0.81	Strongly Agree
1. I rely on technology to improve the speed and accuracy of our service.	3.51	0.75	Strongly Agree
1. I use online platforms to engage with customers and gather feedback.	3.66	0.71	Strongly Agree
1. I offer digital and contactless payment options for customer convenience.	3.39	0.91	Strongly Agree
1. I use technology to manage staff scheduling and monitor attendance.	3.51	0.77	Strongly Agree
1. I invest in energy-efficient appliances for daily shop operations.	3.39	0.85	Strongly Agree

1. I ensure that all equipment is maintained regularly and without delay.	3.54	0.73	Strongly Agree
1. I make sure our digital tools are user-friendly and accessible to staff.	3.61	0.77	Strongly Agree
1. I apply technology to reduce manual work and boost overall productivity.	3.32	0.92	Strongly Agree
Weighted Mean	3.48		Strongly Agree

Legends: 3.26-4.00: Strongly Agree 2.51-3.25: Agree

1.76-2.50: Disagree 1.00-1.75: Strongly Disagree

Correlation between the Circular Economy Initiative and the Operational Efficiency of Coffee Shops in San Jose City

Table 6 shows the Correlation between the circular economy practices and the operational efficiency of coffee shops in San Jose City. Table 6 presents the correlation analysis between circular economy practices (Product and Packaging) and the operational efficiency dimensions (People, Process, and Technology) of coffee shops. The results reveal that, for the Product dimension of circular economy practices, all operational efficiency indicators show strong positive correlations: People ($r=0.612$, $p=0.000$), Process ($r=0.608$, $p=0.000$), and Technology ($r=0.628$, $p=0.000$). These p-values are less than 0.01, indicating that the relationships are highly significant. This suggests that improvements in sustainable product-related practices—such as sourcing eco-friendly materials and reducing waste—are strongly associated with greater efficiency in human resource utilization, process optimization, and technology adoption.

For the Packaging dimension, the correlations are weaker but

remain statistically significant: People ($r=0.358$, $p=0.005$) and Process ($r=0.335$, $p=0.010$) show weak positive correlations, while Technology ($r=0.420$, $p=0.001$) shows a moderate positive correlation. Although weaker than the Product dimension, these p -values still fall below 0.05, indicating that sustainable packaging efforts—such as using recyclable or biodegradable materials—are meaningfully related to operational efficiency, particularly in technology adoption.

Overall, the findings suggest that circular economy practices in Product have a stronger and more consistent impact on operational efficiency than those in Packaging. Nevertheless, both dimensions show statistically significant relationships ($p < 0.05$), confirming that adopting circular economy initiatives positively contributes to operational performance in coffee shops.

Table 6. Correlation between CE and OE of Coffee Shops

OPERATIONAL EFFICIENCY	CIRCULAR ECONOMY PRACTICES – PRODUCT (R)	SIG. (2-TAILED)	INTERPRETATION	CIRCULAR ECONOMY PRACTICES – PACKAGING (R)	SIG. (2-TAILED)	INTERPRETATION
People	0.612	.000	Strong Positive	0.358	.005	Weak Positive
Process	0.608	.000	Strong Positive	0.335	.010	Weak Positive
Technology	0.628	.000	Strong Positive	0.420	.001	Moderate Positive

Note: Correlation is significant at the 0.01 level (2-tailed).

Interpretation scale: 0.00–0.19 = Very Weak Positive; 0.20–0.39 = Weak Positive; 0.40–0.59 = Moderate Positive; 0.60–0.79 = Strong Positive; 0.80–1.00 = Very Strong Positive.

Conclusions

The study revealed that circular economy (CE) initiatives, particularly in product-related practices, are moderately implemented

yet strongly correlated with enhanced operational efficiency in coffee shops in San Jose City. Sustainable product strategies—such as sourcing locally, minimizing waste, and repurposing materials—were associated with significant improvements in the efficiency of people, processes, and technology. These results emphasize that CE initiatives, when strategically applied to product design and sourcing, can meaningfully enhance internal business operations, contributing to better performance, reduced costs, and environmental responsibility.

On the other hand, while packaging-related initiatives were also implemented to a moderate extent, their correlation with operational efficiency was notably weaker. This suggests that while sustainable packaging supports environmental goals, it is not yet deeply embedded in coffee shops' operational core. The findings underscore the need for a more holistic and integrated approach to CE practices—one that goes beyond compliance and surface-level changes, and instead embeds sustainability into every aspect of business decision-making. The study confirms the potential of circular economy strategies to serve as both a sustainability framework and a driver of operational excellence. Thus, accepting the hypothesis that having CE practices for the product also increases the overall OE of the coffee shops.

Recommendations

To enhance the impact of circular economy (CE) initiatives on operational efficiency, coffee shop owners should move beyond limited implementation by strategically integrating sustainability into their core business models. This includes adopting product life-cycle thinking—designing menus and services that minimize waste, sourcing ethically and locally to reduce carbon footprints, and turning by-products (such as used coffee grounds) into value-added offerings, such as compost or beauty products. Investing in data-driven tools that monitor waste, energy use, and product flows can also enhance decision-making and identify specific areas where sustainability efforts can generate cost savings and productivity gains.

Furthermore, collaboration among coffee shops can foster a community-based circular economy ecosystem. Shared supplier networks for eco-friendly packaging, joint marketing of green practices, and collective participation in sustainability training can reduce costs while expanding reach. Government units, academic institutions, and

sustainability advocates should also partner to develop scalable models and provide technical support. Integrating CE strategies into local ordinances, business development programs, and educational curricula can ensure that sustainability is not only a competitive advantage but a standard practice across the coffee industry.

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ENHANCED TRAINING AND DEVELOPMENT PROGRAM OF MICROFINANCE INSTITUTIONS IN CABANATUAN CITY, NUEVA ECIJA: BASIS FOR STRATEGIC PLAN

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Abstract

This study examines the effectiveness of training and development programs among employees of Microfinance Institutions (MFIs) in Cabanatuan City, Nueva Ecija. This study employed a quantitative-descriptive research design. Data collection was conducted through a survey interview. The respondents in the study were the employees of registered MFIs in Cabanatuan City.

The findings indicate that the MFI workforce is predominantly young and female, with most employees in the early stages of their careers. The evaluation further reveals that the training programs are well-structured, job-relevant, and strategically aligned with organizational goals. Employees strongly agreed that training improved their efficiency, task performance, and branch effectiveness, demonstrating a positive relationship between training and institutional productivity. Moreover, the training programs contributed to higher self-efficacy, independence, and skill application among employees, supporting both individual and organizational growth.

Nonetheless, the study identified scheduling conflicts as a key challenge that hinders full participation and optimal learning outcomes. While the content and delivery of training are effective, misalignment between training schedules and work responsibilities creates time constraints.

Overall, the results affirm that the MFIs' training programs

significantly contribute to employee empowerment and sustainable organizational development. Continued improvements, such as tailoring content to task complexity, integrating continuous learning mechanisms, and aligning training with performance metrics, will further strengthen the impact of these initiatives.

Keywords: Employee Performance, Human Resource Development, Organizational Effectiveness, Strategic HR Planning, Training and Development, Training Evaluation

Introduction

Staff training and development have long been recognized as vital components of organizational growth and employee performance. Their direct influence on productivity, job satisfaction, and institutional success makes them a critical area for strategic planning in any organization. In the evolving global business environment, characterized by rapid technological change and globalization, continuous learning has become essential for both employees and organizations to survive. Companies worldwide are investing heavily in upskilling and reskilling their workforce to maintain competitiveness. However, many training programs fail to achieve their intended impact due to inadequate needs assessment, limited financial support, poor trainee selection, and brief training duration. These challenges highlight the importance of evaluating training effectiveness to ensure that resources yield measurable results and sustain performance improvements.

In alignment with the United Nations Sustainable Development Goal (SDG) 8 on Decent Work and Economic Growth, this study supports the advancement of Goal 8.6, which promotes equipping individuals with relevant skills for employment and entrepreneurship. In the Philippine context, Microfinance Institutions (MFIs) play a crucial role in extending financial access to underserved communities, fostering entrepreneurship, and promoting inclusive economic growth. However, many MFIs face limitations in implementing effective training programs due to scarce resources and the absence of formal evaluation systems. Such constraints often hinder employee development and weaken institutional performance. Addressing these gaps through systematic research can guide human resource development (HRD) planning in the

microfinance sector, particularly in provincial settings such as Cabanatuan City.

Several international and local studies affirm that well-structured training and development programs significantly improve employee competence, motivation, and organizational performance. De Jesus and Fajardo (2022) emphasized that practical training, when aligned with job responsibilities, enhances communication and customer service within lending institutions. Similarly, Khan et al. (2022) found that hybrid training models incorporating e-learning improve employee engagement and digital skills, making organizations more adaptable to technological trends. Research from South Asia and Africa further revealed that continuous, individualized training reduces error rates, improves job satisfaction, and enhances institutional efficiency (Subedi et al., 2024; Afriyie et al., 2024). Collectively, these findings underscore that MFIs benefit most when training programs are ongoing, task-specific, and technology-responsive, an insight this study seeks to localize and apply to Philippine MFIs.

To guide the analysis, the study employs Kirkpatrick's Four-Level Training Evaluation Model, a comprehensive framework that assesses training outcomes across four dimensions: Reaction, Learning, Behavior, and Results. This model facilitates a structured evaluation of how training affects employee attitudes, knowledge, behavior, and organizational outcomes such as productivity and client service quality. Complementing this approach is the Input-Process-Output (IPO) model, which outlines the study's methodological structure. The input phase considers respondents' demographic profiles and training backgrounds; the process phase involves data gathering and analysis using statistical tools such as frequency distributions, percentages, and weighted means; and the output phase produces a strategic, data-driven plan to enhance MFI training programs.

The central aim of this research is to evaluate the current training and development programs of microfinance institutions in Cabanatuan City. Specifically, it seeks to identify the strengths and weaknesses of existing initiatives, examine their impact on employee performance and organizational outcomes, and propose a context-specific, evidence-based training framework. Through this, the study aims to fill a gap in the literature on MFIs in provincial areas and to provide practical insights for strengthening human capital within the sector.

The results of this study are expected to benefit multiple

stakeholders. For MFI administrators and HR practitioners, it will provide a clear understanding of how to optimize training for better performance outcomes. Employees will gain awareness of the importance of continuous professional development for career advancement. Policymakers and researchers will find this evidence valuable for designing effective HRD policies and for future studies. Ultimately, improved employee competence will translate into enhanced client service and institutional productivity, contributing to sustainable growth and inclusive economic development in Cabanatuan City.

Methods

This study employed a quantitative-descriptive research design to examine the training and development programs for employees of Microfinance Institutions (MFIs) in Cabanatuan City and to examine how these programs influence business operations. Data collection was conducted through a survey administered at the premises of participating MFI offices at a time convenient for both employees and management, enabling the researcher to obtain accurate and comprehensive information. This study utilized purposive sampling. The respondents in the study were the employees of registered MFIs in Cabanatuan City. Data analysis tools, including frequency counts, percentages, weighted means, and correlation, were used to summarize responses.

In contrast, thematic analysis was used to interpret open-ended responses and identify common themes related to training challenges and best practices. Throughout the research process, the principles of ethical conduct were strictly observed. Confidentiality of data, voluntary participation, and informed consent were prioritized. All collected information was securely stored and used exclusively for academic purposes.

Results and Discussion

Demographic Characteristics of the Respondent

The results show the frequency and percentage distribution of respondents' ages, revealing that the majority are between 21 and 25 years and 26 and 30 years, each comprising 38% of the total. This is followed by those aged 31–35 years at 22%, while only 2% fall within

the 36–40 age group. This distribution indicates that most Microfinance Institution (MFI) employees in the area are young adults aged 21–30, suggesting a dynamic, adaptable workforce.

The results indicate that the majority of respondents were female, totaling 43 individuals (91% of the population), while only 4 respondents (9%) were male. This reflects a common trend in the microfinance industry, in which women constitute a larger share of the workforce, particularly in front-line roles such as loan officers and relationship managers. According to Armendáriz and Morduch (2010), the sector has historically empowered women as both clients and employees due to their stronger credit discipline and community engagement. Similarly, Ledgerwood (2013) emphasizes that women's participation enhances social performance and institutional outreach, underscoring the importance of gender inclusivity in microfinance development.

The results show that the majority of respondents have 1–3 years of service, accounting for 43% of the total. This indicates that most employees are in the early to mid-career stage, reflecting strong potential for professional growth. The results indicate that 32% of respondents —always| attended over 10 sessions, and 21%—often|attended 6–10 sessions. Meanwhile, 30% attended—sometimes| (less than three sessions), and 9% each reported—rarely or never attending any training. This suggests that while a majority (53%) are actively engaged in training programs, a significant portion (47%) participates inconsistently or not at all.

Table 1. Demographic Characteristics of the Respondents

DEMOGRAPHIC CHARACTERISTICS	FREQUENCY	PERCENTAGE
Age		
21 – 25 years old	18	38
26 – 30 years old	18	38
31 – 35 years old	10	22
36 – 40 years old	1	2
Total	47	100

DEMOGRAPHIC CHARACTERISTICS	FREQUENCY	PERCENTAGE
Gender		
Female	43	91
Male	4	
Total	47	100
Years in Service		
1 – 3 years	20	43
3 - 6 years	13	28
6 years and above	13	28
Less than one year	1	2
Total	47	100
Participation in Training		
Always (more than 10)	15	32
Often (6-10)	10	21
Rarely (3-5)	4	9
Sometimes (less than 3)	14	30
Never (none)	4	9
Total	47	100

Training Evaluation

The table presents the evaluation of training based on employee reactions, showing that all respondents strongly agreed with the statements. The item —The training in my company was well planned, and organizedl obtained the highest weighted mean of 3.55, interpreted as Strongly Agree. According to Noe et al. (2020), reaction-level assessments reflecting participants' satisfaction and perceived relevance are vital for determining motivation and learning outcomes. Similarly, Dessler (2019) emphasized that well-structured training enhances engagement and knowledge retention. Iftikhar and Mahmood (2017) further noted that effective, well-planned training programs improve job performance.

Performance is achieved by developing employees' skills and

competencies. There is a strong consensus among respondents that the company's training initiatives align with employee needs and organizational goals, fostering a capable and motivated workforce (Camilleri, 2018).

Table 2. Training Evaluation

REACTION STATEMENT	WM	VERBAL DESCRIPTION	VERBAL INTERPRETATION
1. The training in my company was well planned and organized.	3.55	Strongly Agree	The training had a significant positive impact on my performance, skills, And confidence
2. The training was of sufficient duration.	3.32	Strongly Agree	The training had a significant positive impact on my performance, skills, And confidence
3. The training methods had a positive impact on my skills.	3.40	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence
4. The training helped me understand my job better.	3.51	Strongly Agree	The training had a significant positive impact on my performance, skills, And confidence
5. The training was based on identified development needs.	3.47	Strongly Agree	The training had a significant positive impact on my performance, skills, And confidence
TOTAL	3.45	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence

Perceive Effects of Training on the Respondents

Results indicate that the majority of respondents strongly agreed that the training improved our branch's performance, with a weighted mean of 3.45. This suggests that training enhances employee competence, thereby reducing the need for close supervision as employees gain a clearer understanding of their roles and expected outputs. According to Armstrong and Taylor (2020), practical training fosters employee confidence and independence. In the case of microfinance institutions (MFIs), Jehanzeb and Bashir (2013) highlight that training enhances operational efficiency and service quality. Moreover, as Aguinis (2019) notes, applying acquired knowledge to work-related tasks reinforces learning and boosts performance. Thus, strategically aligned and well-executed training programs cultivate a culture of continuous improvement and accountability within organizations.

Table 3. Perceived Learnings of the Respondents from the Training

LEARNING STATEMENT	WM	VERBAL DESCRIPTION	VERBAL INTERPRETATION
1. The training helped me know how to apply my skills in the organization.	3.32	Strongly Agree	The training had a significant positive impact on my performance, skills, And confidence
2. The training improved my understanding of my work responsibilities.	3.40	Strongly Agree	The training had a significant positive impact on my performance, skills, And confidence
3. The training increased the effectiveness of the four-branch performance.	3.45	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence
4. The training reduced the need for constant supervision.	3.26	Strongly Agree	The training had a significant positive impact on my performance, skills, And confidence

5. The training helped me clearly understand my work output expectations.	3.36	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence
TOTAL	3.36	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence

Perceived Effects of the Training on the Behavior of the Respondents

The table indicates that the training provided to employees extends beyond performance improvement, with the statement 'I am better prepared to perform my job responsibilities' obtaining the highest weighted mean of 3.40. This suggests that training significantly influences employee behavior by enhancing confidence, self-perception, and readiness to fulfill job duties, thereby improving productivity. Bandura (1997) emphasizes that training enhances self-efficacy, enabling employees to perform tasks effectively and handle challenges with greater initiative. Similarly, Saks and Burke (2012) found that successful training fosters behavioral change through increased confidence and motivation. Kraiger, Ford, and Salas (1993) further note that a sense of preparedness strengthens psychological empowerment, directly contributing to higher performance. In the context of MFIs, a confident and well-prepared workforce ensures consistent service delivery and strengthens overall organizational effectiveness.

Table 4. Perceived Effects of the Training on the Behavior of the Respondents

BEHAVIOR STATEMENT	WM	VERBAL DESCRIPTION	VERBAL INTERPRETATION
1. I feel more confident in my job performance due to	3.31	Strongly Agree	The training had a significant positive Impact on my performance,

training.			skills, and confidence
2. I am motivated to apply the skills I learned.	3.38	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence
3. I am better prepared to perform my job responsibilities.	3.40	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence
4. I realized the need for more training to improve my knowledge and skills.	3.34	Strongly Agree	The training had a significant positive Impact on my performance, skills, and confidence
5. I am confident in recommending this training to my colleagues.	3.31	Strongly Agree	The training had a significant positive Impact on my performance, skills, and confidence
TOTAL	3.35	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence

Perceived Results of the Training on the Work Performance of the Respondents

The table shows that the training programs had a significant positive impact on employees' performance, knowledge, and service delivery. The statement "I became more efficient and effective in my assigned tasks" received the highest weighted mean of 3.55, indicating strong agreement among participants that training improved their productivity and work efficiency—this reflects not only skill enhancement but also increased confidence and self-efficacy. According to Bandura (1997), self-efficacy enables employees to pursue challenging goals and persist despite difficulties, whereas Noe (2020) emphasizes that practical training strengthens the application of knowledge and adaptability. These results align with Kirkpatrick's Four-Level Training Evaluation Model, particularly the Results level, which measures tangible outcomes such as improved service quality and productivity (Kirkpatrick & Kirkpatrick, 2006). Hence, training that

develops both technical and soft skills significantly enhances overall organizational effectiveness.

Table 5. Perceived Results of the Training on the Work Performance of the Respondents

RESULTS STATEMENT	WM	VERBAL DESCRIPTION	VERBAL INTERPRETATION
1. The training contributed to the overall productivity of our branch.	3.37	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence.
2. The training helped improve my individual work performance.	3.36	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence.
3. I became more efficient and effective in my assigned tasks.	3.55	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence.
4. The training helps me improve my product knowledge of the company's products and services.	3.32	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence.
5. The training has led to better customer service and satisfaction.	3.31	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence.
TOTAL	3.38	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence

Summary of Training Evaluation

The table summarizes the training program's evaluation using Kirkpatrick's Four-Level Training Evaluation Model: Reaction, Learning, Behavior, and Results. The Reaction level obtained the highest weighted mean of 3.45, interpreted as "Strongly Agree",

indicating that participants had a highly favorable impression of the training, finding it engaging, relevant, and well-organized. According to Kirkpatrick (1994), a favorable reaction is essential because it fosters learning and overall training success. The Behavior level registered the lowest weighted mean of 3.35, still within the "Strongly Agree" category. This suggests that participants effectively applied the knowledge and skills acquired during training to their work environment, confirming the program's practical relevance. Saks and Burke (2012) assert that behavioral change is a key indicator of successful training, particularly when reinforced through follow-up or coaching.

With an overall mean of approximately 3.39, the training program is deemed highly effective from the employees' perspective. The consistent "Strongly Agree" ratings across all levels demonstrate that the training significantly enhanced employee performance, confidence, and productivity, achieving both learning and organizational objectives.

Table 6. Summary of Training Evaluation

SUMMARY OF TRAINING EVALUATION	WM	VERBAL DESCRIPTION	VERBAL INTERPRETATION
1. Reaction	3.45	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence
2. Learning	3.36	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence.
3. Behavior	3.35	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence
5. Results	3.38	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence.
TOTAL	3.39	Strongly Agree	The training had a significant positive impact on my performance, skills, and confidence

Training Challenges

The table shows that although the training programs were generally perceived as beneficial, employees identified several challenges, most of which were rated as slightly challenging. The highest weighted mean of 2.62 corresponded to the statement. The training schedule is demanding to align with my work responsibilities, leading to time constraints and suggesting that scheduling conflicts were the primary barrier to effective participation. According to Noe (2020), training programs should be integrated into the existing work environment, as poor alignment between training schedules and job duties can hinder engagement and learning retention. Salas et al. (2012) note that time-related stress can impair participants' ability to absorb and retain information. Overall, while training was only slightly challenging (total WM of 2.45), its effectiveness could be enhanced by addressing scheduling issues, aligning content with job relevance, incorporating practical learning activities, and ensuring up-to-date training materials.

Table 7. Training Challenges Encountered

CHALLENGES	WM	VERBAL DESCRIPTION	VERBAL INTERPRETATION
1. The training schedule is demanding to align with my work responsibilities, leading to time constraints.	2.62	Challenging	The respondent finds the task moderately difficult, recognizing that it requires considerable effort but is manageable with some adjustments or support.
2. The training content is too generic and does not address the specific challenges of my job role.	2.38	Slightly Challenging	The respondent perceives the task as somewhat complicated, though it is not overwhelming and may be handled with minimal effort or minor changes.
3. I have limited access to training materials due to issues like language barriers or format limitations.	2.44	Slightly Challenging	The respondent perceives the task as somewhat complicated, though it is not overwhelming and may be handled with minimal effort or minor changes.

4. There is insufficient support or guidance from supervisors or trainers during or after the training.	2.47	Slightly Challenging	The respondent perceives the task as somewhat complicated, though it is not overwhelming and may be handled with minimal effort or minor changes.
5. I experience difficulty in retaining and applying the knowledge gained from the training sessions.	2.4	Slightly Challenging	The respondent perceives the task as somewhat complicated, though it is not overwhelming and may be handled with minimal effort or minor changes.
6. The training programs are not regularly updated to reflect the latest trends, technologies, or regulatory changes in the microfinance industry.	2.42	Slightly Challenging	The respondent perceives the task as somewhat complicated, though it is not overwhelming and may be handled with minimal effort or minor changes.
7. There is a lack of practical, hands-on experience during the training, making it difficult to Apply what I have learned in my job.	2.45	Slightly Challenging	The respondent perceives the task as somewhat complicated, though it is not overwhelming and may be handled with minimal effort or minor changes.
TOTAL	2.45	Slightly Challenging	The respondent perceives the task as somewhat complicated, though it is not overwhelming and may be handled with minimal effort or minor changes.

Training Best Practices

The table shows that the training practices implemented by microfinance institutions (MFIs) are highly effective and well-received by participants. The statement "The training materials provided are relevant and aligned with the daily responsibilities of my job" recorded the highest frequency of 47, reflecting unanimous agreement among respondents. This demonstrates that the training is job-oriented and contextually relevant, making it more applicable and impactful, according to Salas, Tannenbaum, Kraiger, and Smith-Jentsch (2012).

Practical training programs are those closely integrated with the work environment, as this enhances learning transfer, retention, and motivation.

Likewise, high agreement was also recorded for the statements. Experienced and well-informed trainers lead the training sessions. Training courses are updated periodically. Training sessions comprise practical exercises, each with a frequency of 46. These elements are recognized as best practices that strengthen training effectiveness. Noe (2020) emphasizes the importance of credible trainers and regularly updated materials, while Kirkpatrick and Kirkpatrick (2016) highlight the value of practical exercises in reinforcing learning and bridging theory with practice.

The statement —Training materials are accessible to all employees, wherever they are, or whatever their job in the MFI (frequency 45) reflects the institution's strong commitment to inclusivity and equal access to learning opportunities, an essential component of a learning-oriented culture (Armstrong & Taylor, 2014). Additionally, the item "The training programs are aligned with the organizational goals and mission of the MFI" (frequency 46) underscores the strategic integration of training within institutional objectives, consistent with Goldstein and Ford's (2002) assertion that alignment enhances long-term organizational performance and competitiveness.

Overall, the consistently high frequencies across these indicators suggest that MFI maintains an advanced, strategically aligned training system that effectively supports both individual and organizational development. Continuous reinforcement through monitoring, feedback, and the integration of modern learning approaches, such as digital tools or mentorship programs, can further sustain high performance and adaptability in a changing business environment.

Table 8. Training Best Practices

BEST PRACTICES	FREQUENCY
The training materials provided are relevant and aligned with the daily responsibilities of my job	47
Knowledgeable and Experienced trainers conduct the training sessions.	46

Training programs are regularly updated to reflect changes in industry trends and regulations.	46
The training materials are accessible to all employees, regardless of their location or role within the MFI.	45
The training sessions include practical, hands-on exercises. help apply what has been learned.	46
The training programs are aligned with the organizational goals and the mission of the MFI.	46

Conclusion

The study concludes that the training programs implemented by microfinance institutions (MFIs) in Cabanatuan City are generally effective in enhancing employee performance, confidence, and overall organizational productivity. The findings indicate that the MFI workforce is predominantly young and female, with most employees in the early stages of their careers. This demographic composition offers substantial potential for professional development and for adapting to structured training initiatives. However, varying levels of participation suggest the need for more flexible and inclusive training opportunities to ensure equitable access and engagement.

The evaluation further reveals that the training programs are well-structured, job-relevant, and strategically aligned with organizational goals. Employees strongly agreed that training improved their efficiency, task performance, and branch effectiveness, demonstrating a positive relationship between training and institutional productivity. Moreover, the training programs contributed to higher self-efficacy, independence, and skill application among employees, supporting both individual and organizational growth.

Nonetheless, the study identified scheduling conflicts as a key challenge that hinders full participation and optimal learning outcomes. While the content and delivery of training are effective, misalignment between training schedules and work responsibilities creates time constraints. Addressing these logistical barriers through flexible, blended, or modular learning formats can enhance participation and

knowledge retention.

Overall, the results affirm that the MFIs' training programs significantly contribute to employee empowerment and sustainable organizational development. Continued improvements, such as tailoring content to task complexity, integrating continuous learning mechanisms, and aligning training with performance metrics, will further strengthen the impact of these initiatives. By adopting a dynamic and inclusive training framework, MFIs can sustain long-term performance gains, promote professional growth, and foster a culture of lifelong learning within the organization.

Recommendations

The researchers recommended implementing the suggested strategic and action plan to improve MFIs' staff training further.

Suggested Strategic Plan

STRATEGIC GOAL	ISSUE ADDRESSED	STRATEGY	ACTIONS
1. Enhance Training Duration and Content Effectiveness	—The training was of sufficient duration.	Conduct a training needs assessment to match training length with content depth.	- Evaluate feedback on training duration across departments.- Adjust session lengths based on complexity (e.g., split complex topics over multiple shorter sessions).- Include pre- and post-training assessments to monitor effectiveness.- Pilot revised training sessions and collect real-time feedback.
2. Promote Independence and Minimize Need for Supervision	—The training reduced the need for constant supervision.	Strengthen the practical components and self-directed learning within the training.	- Integrate real-life scenarios, simulations, and role-playing.- Develop post-training guides/manuals for independent reference.- Assign mentors to new employees to reinforce learning and reduce supervisory demand.-

			Conduct follow-up evaluations to assess reduced supervisory intervention.
3. Build Employee Confidence and Advocacy for Training	I feel more confident in my job performance due to training. I am confident to recommend this training to my colleagues	Create an inclusive and empowering learning environment.	- Feature employee testimonials in training materials.- Encourage peer-to-peer training recommendations.- Introduce self-assessment tools to track progress and boost self-efficacy.- Recognize and reward participation and progress. employee
4. Improve Customer Service Outcomes Through Training	The training has led to better customer service and satisfaction.	Align training with customer service standards and performance metrics.	- Use customer feedback data to shape training modules.- Train employees on handling various customer scenarios and soft skills.- Incorporate KPIs (e.g., Net Promoter Score) pre- and post-training to measure impact.- Conduct refresher training every 6 months based on updated customer insights.
5. Improve Training Accessibility and Scheduling Flexibility	The training schedule is difficult to align with my work responsibilities, leading to time constraints.	Adopt flexible, blended training formats.	- Offer training sessions in both synchronous and asynchronous formats.- Create a rotating schedule or shift-based training to accommodate operational demands.- Launch an online training portal for self-paced learning.- Encourage team leads to include training in shift planning.

Action Plan

OBJECTIVES	IMPROVEMENT ITEM	ACTIVITIES AND ACTION STEPS	COLLABORATIVE STRATEGIES	TIME COVERAGE	RESPONSIBILITY CENTER	FINANCIAL APPROPRIATION	MONITORING SCHEME	ACHIEVEMENT INDICATORS
To optimize the duration and depth of training modules.	Training was of sufficient duration.	Conduct training needs analysis. Redesign training modules based on complexity. Pilot modular sessions with feedback loop.	HR Department with Department Heads	Q3–Q4 2025	Training and Development Unit	₱50,000 (module redesign + trainer hours)	Pre- and post-training surveys. Participant feedback forms	90% of participants agree that the training duration is appropriate
To reduce employees' dependence on supervision post-training.	Training reduced the need for constant supervision.	Incorporate scenario-based exercises. Provide job aids and digital manuals. Assign peer Mentors.	Supervisors and Senior Staff	Q3 2025	Operations and HR Units	₱30,000 (materials and mentorship incentives)	Supervisor reports. Reduction in supervisory interventions	80% report reduced need for supervision post-training
To boost employee confidence and willingness to recommend the training.	Employees feel more confident and are willing to recommend the training.	Conduct confidence-building workshops. Use testimonials and peer learning. Implement a recognition system for training completion.	HR with the Marketing and Communications Team	Q3–Q4 2025	Training and HR Units	₱20,000 (workshops, certificates, tokens)	Training evaluations, Peer recommendation rate	85% of employees report increased confidence, 75% recommendation rate
To improve customer service outcomes through training.	Training has led to better customer service and satisfaction.	Add customer handling modules. Use role-playing and feedback sessions. Track service	HR and Client Service Departments	Q3–Q4 2025	Customer Relations and Training Units	₱25,000 (training tools and feedback system)	Customer satisfaction surveys, Client feedback	90% customer satisfaction rating maintained or improved

		performance metrics.						
To address time constraints caused by training schedules.	The training schedule is demanding to align with work responsibilities.	Develop flexible, shift-based schedules. Launch asynchronous online modules. Coordinate with team leads for integration.	IT, HR, and Team Leaders	Q4 2025	Training, HR, and IT Units	₱40,000 (LMS setup and support)	Attendance tracking, Feedback on accessibility	95% Participation rate: Reduced complaints on scheduling

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RESTROOM CLEANLINESS AND GENERATION Z'S OVERALL SATISFACTION IN FAST FOOD CHAINS IN SAN JOSE CITY

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Abstract.

Widely recognized modern-day establishments, such as fast-food chains, are patronized for the efficient, convenient services they offer. It is known for its palatable menu items, quick service, affordability, mass appeal, and convenience, all of which enhance customer retention. Nonetheless, beyond core offerings, factors such as restroom cleanliness significantly contribute to a business's ability to retain and satisfy customers. Fast-food establishments, despite their strong market presence and ability to satisfy customers through their core offerings, often struggle to meet customers' expectations and satisfaction across all aspects of their business operations. This challenge remains difficult, even for large, well-established leading brands. Furthermore, delivering exceptional service across all business operations not only contributes to the business's success but also fosters deeper customer connections and earns their loyalty. Consequently, every aspect of the business operation, no matter how minor, is carefully

considered, as each contributes to the business's efficiency and effectiveness. Accordingly, this research investigated the substantial influence of restroom cleanliness on customers' overall satisfaction at fast-food chains, particularly regarding Generation Z's perceptions.

Keywords: Dining Experience, Generation Z, Hygiene Standards, Restroom Cleanliness, Service Quality

Introduction

Food businesses are successful, mainly when they operate efficiently and deliver outstanding customer service. Restaurant hygiene is incredibly significant for successful business operation. According to Kim & Bachman (2019), the key indicator of overall restaurant cleanliness, which reflects the sanitation of the food service operation, is restroom cleanliness. Sensitive consumers may judge a restaurant's overall cleanliness by its restroom facilities. Fast-food chains are known for their fast service and high-quality food products. Consumers tend to be more sensitive and expect high standards in restaurant restroom facilities, and they tend to lose their appetite at the sight of a single dirt or grease spot in food dining areas. People aged 12-27, or Generation Z, are known for shaping the food industry through their food preferences and dining habits, as they are actively engaged in food and beverage conversations. These digital natives also have significant social influence online, and their feedback and preferences are considered the trend and the online standard in the food and non-food industries. Furthermore, they are sensitive to businesses' health and sanitation, and are known for their aesthetic and cleanliness preferences.

Fast-food restaurants have standard restroom facilities, just like other restaurants; however, an often-overlooked aspect is the importance of maintaining clean restrooms, which can shape a positive dining experience for consumers and lead to satisfaction. According to Barlan-Espino (2017), restroom cleanliness is included in policies that support the efficiency and effectiveness of restaurant operations and customer satisfaction. Restaurants that fail to maintain the cleanliness and sanitation of their facilities, especially during operating hours, may operate less effectively, reducing consumer attraction. Restroom cleanliness has been identified as a primary factor that shapes consumers' overall perception of cleanliness, and society values it

highly, which directly impacts a positive attitude towards places like restaurants (Kim & Bachman, 2019). Generation Z is known as a digital native, whose opinions and experiences have a significant impact on a broader range of consumers. Maintaining consistent operations, such as keeping restroom facilities clean, indicates high-quality service, especially in the food industry, where food requires strict health and safety management. The restroom is an essential key area where customers meet and experience service in a business (Kim & Bachman, 2019). For a company to deliver quality service, it must ensure that, in every inch of its operations, customers find no single point of dissatisfaction, not just to save its image but also to maintain a positive dining environment for its customers. As stated by Parsa et al. (2017), various factors lead to consumers' decisions to eat out, including atmosphere, hygiene, and ambience. Hence, the sanitation and cleanliness of the restroom may influence customers' decisions about whether to stay at a fast-food chain restaurant or move to another restaurant.

In both the food and non-food industries, customer satisfaction is crucial and a key goal for businesses. Restrooms in fast-food restaurants reflect the overall cleanliness of the restaurant operation, and factors such as perceived hygiene, odor control, and maintenance schedule are primary drivers of the visible cleanliness of restroom facilities, which may influence Generation Z's overall satisfaction with their dining experience. Businesses must also meet and exceed their customers' standards and expectations, such as delivering a positive dining experience, meeting consumers' perceived quality, and making them feel satisfied, which would lead to their willingness to return. Several studies report that restroom cleanliness significantly influences customer satisfaction in restaurants. However, there are also limitations, as there are only a few studies that have explored some restroom factors that have a significant relation to the overall satisfaction of Generation Z. Furthermore, the researchers have included several variables to identify the possible relationship between restroom cleanliness of fast-food chains and the overall satisfaction of Generation Z in their dining experience in San Jose City.

Literature Review

Understanding Generation Z as Consumers

Generation Z, ages 12 to 27, represents a significant share of today's consumer market due to their strong purchasing power and

distinct behavioral patterns. They are known to be highly educated, tech-savvy, and value-driven, which makes them influential in shaping modern business practices. Bencsik et al. (2016) emphasized that Generation Z behaves differently from prior generations, presenting unique challenges and opportunities for businesses. Their preferences, including their expectations for cleanliness and convenience, must be thoroughly understood—especially in service-based industries such as fast food.

Demographic Influences on Consumer Perception

Age is a critical determinant in shaping consumer attitudes toward service quality, particularly in food establishments. Eze & Mena (2024) concluded that age significantly influences consumer decisions, behaviors, and expectations, suggesting that fast food chains must align their services with the perceptual tendencies of different age groups. Similarly, sex-based differences affect how cleanliness and privacy are perceived in restrooms. Burt et al. (2016) found that individuals, especially those with certain health conditions, place a premium on restroom cleanliness and privacy, emphasizing the importance of gender-sensitive sanitation facilities in public venues.

Civil status, while not a dominant influence, can shape an individual's perception of hygiene and comfort, influenced by maturity and life experiences. Zhong & Moon (2020) found differences in how married and single customers evaluated service quality in fast-food restaurants, suggesting that consumer diversity should be considered when evaluating satisfaction levels.

Economic Factors and Visit Frequency

Spending habits and visit frequency also provide insight into Generation Z's dining choices. Ja et al. (2022) reported that although Gen Z spends less annually than Millennials, they frequent fast-food chains more often due to their preference for convenience. Their repeated visits require businesses to maintain consistent service quality, especially in hygiene-sensitive areas like restrooms.

Educational attainment, particularly among college students and young professionals, is linked to a preference for efficient, fast, and reliable food options. Garza et al. (2016) noted a correlation between higher education and increased fast-food consumption among women,

suggesting that busy schedules may lead to greater reliance on fast-food restaurants.

Significance of Restroom Cleanliness in Consumer Satisfaction

Cleanliness in restroom facilities is a critical yet often underestimated factor in customer satisfaction within the food service industry. A hygienic restroom contributes not only to the establishment's perceived cleanliness but also to consumers' overall impression and trust. Kim & Bachman (2019) highlighted that restaurant staff's hygiene practices directly reflect overall cleanliness, including in restrooms, influencing customer confidence. Poor sanitation can spread pathogens, as outlined by Liu et al. (2025), compromising customer safety and negatively affecting brand perception.

Restroom conditions—such as odor, trash overflow, and ventilation—play a key role in consumer comfort. Guyot et al. (2018) emphasized that odor control through proper ventilation systems can significantly improve customer experience while contributing to energy efficiency. Errajaa et al. (2021) further showed that scent marketing positively impacts consumer satisfaction and sales, reinforcing the importance of sensory factors in hygiene.

Additionally, clean restrooms reflect a brand's attention to detail and respect for customer well-being. Ibrahim et al. (2024) warned about microbial contamination risks in public restrooms, reinforcing the need for regular maintenance and handwashing protocols. As hygiene technologies evolve, Wilson (2018) stressed that businesses remain responsible for ensuring cleanliness, especially in high-traffic areas such as fast-food restrooms.

Visual cleanliness also significantly affects perceptions. Kim & Bachman (2019) found that customers use visual cues such as restroom appearance to judge overall restaurant hygiene. Kim & Bachman (2019) also confirmed that restaurant cleanliness is directly related to customer satisfaction, suggesting that even secondary areas, such as restrooms, can influence the dining experience.

Generation Z's Perception of Service and Dining Experience

Generation Z places a high value on experience, ambience, and service efficiency. According to Singgalen (2024), unclean or greasy

restrooms can lower the perceived service quality of a business. As this generation often sets trends and influences broader consumer behavior, understanding their drivers of satisfaction is essential for business success.

Vos et al. (2019) defined satisfaction as an assessment of the overall service environment, including physical cleanliness. Nurhasanah et al. (2025) noted that Generation Z's expectations are reshaping norms of restaurant service. Their feedback helps restaurants adapt and refine services in ways that go beyond just food quality—such as restroom hygiene.

Tuncer et al. (2021) emphasized that service quality and atmosphere significantly shape perceived value and meal experiences. Hence, exceeding rather than merely meeting expectations—through spotless facilities and seamless service—can elevate consumer satisfaction. Kim & Bachman (2019) also affirmed that hygiene impacts consumers' willingness to purchase, making restroom cleanliness a strategic element in fostering loyalty.

Finally, customer retention is more valuable than mere attraction. Okoro et al. (2021) stated that restroom hygiene directly affects the likelihood of customers revisiting. Maintaining restrooms in fast-food chains is therefore not only a matter of public health but also a crucial determinant of customer trust and business sustainability.

Methods

This study used a quantitative-correlational design and a survey to explore the relationship between restroom cleanliness and overall satisfaction among Generation Z consumers in San Jose City fast-food chains. It aimed to examine how restroom hygiene influences satisfaction, providing data-supported insights into fast-food service quality.

The research was conducted in San Jose City, Nueva Ecija, known for its active fast-food industry and high population of Generation Z consumers. Researchers targeted popular chains such as Jollibee and McDonald's, with second-year marketing students from Core Gateway College, Inc. serving as respondents, given their relevance and frequent visits to these establishments. The study used Slovin's formula with a 0.061 margin of error to determine a sample size of 92 from 140 second-year marketing students. These students were selected through purposive sampling as they best fit the profile of

Generation Z consumers. First-year students were excluded due to undeclared majors, and upper-year students were less available due to academic commitments.

A structured survey using a 4-point Likert scale gathered data on three areas: demographic profile, restroom cleanliness, and overall satisfaction. The scale ranged from "*strongly agree*" to "*strongly disagree*." The instrument was pre-tested, validated, and used to collect responses confidentially. A reliability test was conducted, and the instrument yielded a Cronbach's alpha coefficient of 0.89, indicating high internal consistency.

Researchers coordinated with the BSBA Department for access to respondents, presenting formal letters and consent forms. Surveys were distributed in person, with respondents briefed on the study's purpose. Each survey took about 10–15 minutes. Participation was voluntary, and data were handled with confidentiality. Respondents were thanked and informed that findings would be shared with them.

Descriptive statistics, including frequency and percentage, were used to analyze demographic data, perceptions of cleanliness, and satisfaction. Inferential statistics, specifically Pearson's *r* correlation, were used to measure the relationship between restroom cleanliness and customer satisfaction. This mixed approach provided both general patterns and relational insights.

Ethical guidelines were strictly followed. Informed consent was obtained, and all data were kept confidential and used solely for research. Participants were treated with respect to ensure comfort and safety. Results were presented without disclosing identities, and findings were shared with both respondents and the academic community to acknowledge their valuable contributions.

Results and Discussion

1. Socio–Demographic Profile of the Respondents

Table 1 shows the socio-demographic profile of the respondents.

Age. Descriptive statistics for this table indicate that the majority of Generation Z consumers at Core Gateway College, Inc., comprising second-year Marketing Management students, were 20 years old or younger, accounting for 82.61% of the total respondents. This indicates that respondents are at the peak of their age, with well-

formed, structured preferences regarding food and dining establishments, such as fast-food chains. A relatively high percentage also outlines their age group's credibility as the most influential segment affecting the brand and dining choices of other valued customers.

Alternatively, with only one respondent, who accounts for 1.09% of the total respondents and is the sole individual whose age exceeds 25 years, this respondent may have shown a different preference compared to younger respondents. It is still included in the specific age segment needed for the study, and a slight difference among the majority of respondents may significantly affect preferences and perceived standards in fast-food chains.

In support of these data, a study by Peng et al. (2016) demonstrated that age influences consumers' decisions and choices across different enterprises. Given that most respondents are already at the age when they have well-formed and firm preferences and perceptions about food businesses, often influenced by convenience and quality of service, this targeted age group may lead to better outcomes and conclusions needed to attain the objectives of this study.

Sex. The table illustrates that females constitute a relatively higher percentage, accounting for 64.13% of the study's total sample. This could imply that female preferences and valued choices are dominant among males, since many of the respondents are female. Their differences in choices and expectations across dining establishments, such as fast-food chains, would allow the study to include some variation in respondents' gender.

By comparison, the 33 male respondents, accounting for 35.87% of the sample, indicate a diminished representation of the said gender. The result of the analysis would make use of the opportunity to carefully examine the differences between males and females, with fewer male respondents representing a minority in the group.

In support of these findings, Garcia-Garzon et al. (2020) found that cleanliness and privacy are valued more by people who rely on the bathroom than by those who do not. The said statement may support the idea that women and men are hygiene-sensitive, especially in dining establishments like fast-food chains, where food is served, which must reflect the overall hygiene practices of the entire business operation. Furthermore, the study's results may depend on gender proportions, with females having the larger proportion, which may inform the evaluation of hygiene perceptions and expectations across both genders.

Civil Status. Most respondents are single, accounting for 98.91% of the sample and dominating it. A larger portion of respondents taking most of the segment allows researchers to significantly differentiate the preferences and standards of Generation Z consumers who are single and have a higher tendency to dine out with peers and fellow college students or spend most of their time alone, benefiting from quick delivery, food processing, and efficient service of food establishments such as fast-food chains.

On the contrary, only one married respondent accounts for 1.09% of the total sample. With only a small segment, as the only married respondent, this may limit the findings when analyzing the potential disparity between marriage and singlehood in terms of hygiene preferences and service quality standards; the response from this segment may still significantly contribute to the evidence needed to attain the objectives of the study.

The impact of civil status on consumer preferences regarding service quality in fast-food chains has been sparsely studied. One of the few studies to explore this association is that of Slack et al. (2014), which indicates that single and married consumers view and assess service quality differently in fast-food restaurants. The study's findings, which indicate that most single respondents have only one married Generation Z consumer, can help examine how these individuals may differ in their perceptions and assessments of the service quality offered by a fast-food chain.

Average Monthly Spent on Fast Food. The majority of respondents spent less than Php 500, accounting for 45.65% of the respondent pool. This reveals that the majority of the second-year Marketing Management students at Core Gateway College, Inc. were more practical and spent just the right amount of money on a particular college student dining out at a fast-food restaurant for lunch, and for other possible reasons. It may also be influenced by their quick-dining or delivered orders, for the convenience and easier access to food offered by fast-food chains.

Conversely, 21 respondents spent Php 1000 or more at a fast-food chain, accounting for 22.83% of the sample. This portion of the respondents reflects on Generation Z consumers, who tend to spend much more than usual. Moreover, this may imply to consumers who rarely dine out with their family and friends, or the general amount of money they spend every 30 days.

In support of these findings, according to a study conducted by Dimitrieska et al. (2023), Generation Z consumers spend significantly less on average annually compared to Millennials; however, the study suggests they engage in eating out more frequently than Millennials, signifying their preference for more convenient and efficient food options such as fast-food chains. Generation Z consumers may spend less than other age groups; however, they are more frequent diners, reflecting their influence and substantial experience with fast-food chains.

Average Monthly Visits to Fast. The table above shows that 37 respondents visited fast-food chains only once each month, accounting for 40.22% of the total sample. It indicates that most Generation Z consumers in Marketing Management at Core Gateway College, Inc. tend to visit fast-food chains less than other college students; however, their experiences and preferences at these dining establishments remain crucial in determining the association between their hygiene practices and consumers' satisfaction.

Conversely, only 7 respondents visit fast-food chains more than once a month, comprising 7.61% of the respondent pool. These few respondents visit a fast-food chain eight or more times, highlighting the significance of their frequent experiences for service quality, particularly in maintaining restroom facilities.

Educational Attainment. The data, as shown in the table, indicate that the survey has reached 100% of second-year Marketing Management students, all of whom are evidently high school graduates. This portion of respondents reflects a strong representation of Generation Z consumers who are more likely to have refined preferences and service standards in dining at fast-food chains. Higher educational attainment may imply the individual's higher perceptions and expectations of a particular business's hygiene practices.

A small number of studies have included educational attainment as a factor that may influence one's view and assessment of service quality in business operations. According to Hidaka et al. (2018), the association between education and fast-food consumption may not be entirely clear, as among women, a higher educational level was associated with greater fast-food intake. In contrast, among men, the opposite pattern was observed. These findings could support this statement, as the majority of the total sample is composed of females who dine out most of the time and experience the service quality of fast-food chains in San Jose City, Nueva Ecija.

Table 1. Socio-Demographic Profile of the Respondents.

PROFILE VARIABLES	FREQUENCY (N=92)	PERCENTAGE (%)
Age		
20 years and below	76	82.61%
21-25 years old	15	16.30%
More than 25 years old	1	1.09%
Sex		
Male	33	35.87%
Female	59	64.13%
Civil Status		
Single	91	98.91%
Married	1	1.09%
Average Monthly Spent on Fast-Food		
Less than PHP 500	42	45.65%
PHP 501-1000	29	31.52%
PHP 1001 or more	21	22.83%
Average Monthly Visit to Fast-Food		
Once	37	40.22%
Twice	34	36.96%
Three to seven times	14	15.22%
Eight times or more	7	7.61%
Educational Attainment		
Second year college	92	100.00%

1. Perceived Restroom Cleanliness of Generation Z Customers in Fast-food Chains

The observed statement *"I feel comfortable in fast-food chains if the restrooms are clean"* yields a mean rating of 3.57 with a standard deviation of 0.67, which falls within the verbal description of *Strongly Agree*. This interpretation suggests that Generation Z customers highly value the cleanliness and sanitation across the entire fast-food chain, which positively influences their dining experience. Moreover, the relatively low standard deviation also indicates that respondents' responses are clustered, with a narrow spread, demonstrating unified agreement within the sample.

In contrast, the observed statement *"During my visits, I never see visible dirt, stains, or trash in the restrooms"* has received the lowest mean rating of 2.76 with a standard deviation of 0.83. Nonetheless, when verbally described as *Agree*, a higher deviation indicates greater disparities among consumers' responses. It may signify inconsistencies in maintaining sanitation and cleanliness across the entire fast-food chain, leading respondents to hold such perceptions and assessments of their experiences at these dining establishments.

The aggregated computed mean of the respondents' Perceptions of the Restroom Cleanliness of Fast-food Chains within San Jose City has a score of 3.29 with a standard deviation of 0.73, which corresponds to the *Strongly Agree* as verbal description, indicating that Generation Z customers in Core Gateway College, Inc. have a positive perspective on the overall sanitation of fast-food chain facilities. However, a relatively high standard deviation may have indicated some inconsistencies in the maintenance of fast-food chain facilities, which require further improvement and monitoring during business operations.

Various research studies have shown that maintaining the cleanliness of all food establishments, such as fast-food chains, is crucial for business. According to Barlan-Espino (2017), restroom cleanliness is always included in policies to improve the efficiency and effectiveness of business operations and to enhance customer satisfaction in restaurants. Therefore, businesses such as fast-food chains must not overlook the need to consistently maintain their facilities to meet the perceived expectations and anticipated service standards of their prospective customers.

Table 2. Cleanliness of Restrooms in San Jose City Fast-food Chains as Perceived by Generation Z Customers.

STATEMENTS	MEAN	SD	VERBAL DESCRIPTION
1. I always find the restrooms clean and well-maintained.	2.77	0.90	Agree
2. During my visits, I never see visible dirt, stains, or trash in the restrooms.	2.76	0.83	Agree
3. I find the restrooms hygienic enough to prevent the spread of germs and bacteria.	3.08	0.70	Agree
4. The availability of soap, hand sanitizer, and tissue/hand dryers enhances my perception of restroom hygiene.	3.36	0.70	Strongly Agree
5. The cleanliness of the restroom influences my overall judgment of a fast-food chain.	3.43	0.68	Strongly Agree
6. I feel comfortable in fast-food chains if the restrooms are clean.	3.57	0.67	Strongly Agree
7. I find restrooms clean when they have reasonable odor control, which enhances my overall experience.	3.45	0.75	Strongly Agree
8. A welcoming, fresh-smelling restroom improves my dining experience.	3.53	0.70	Strongly Agree
9. I expect the cleanliness of a restroom to meet my standards in fast-food chains.	3.52	0.69	Strongly Agree
10. I expect the restroom to be clean whenever I visit a fast-food chain.	3.47	0.67	Strongly Agree
OVERALL MEAN	3.29	0.73	Strongly Agree

Legend: 3.25-4.00-Strongly Agree 2.50-3.24-Agree

1.75-2.49-Disagree 1.00-1.74-Strongly Disagree

Overall Satisfaction of Generation Z Customers in Fast-Food Chains

Table three indicates that the observed statement *"I stay loyal to fast-food chains that provide a better experience than their rivals"* yields a mean score of 3.61 with a standard deviation of 0.35, corresponding to the Strongly Agree category. This suggests that respondents' satisfaction and retention depend heavily on the service a fast-food chain can offer, such as providing a better experience than its competitors. Additionally, a relatively low standard deviation rating indicates that responses from the sample were closely aligned, illustrating favorable consistency in respondents' satisfaction.

Nevertheless, the evaluated factor *"I feel more comfortable eating in a fast-food chain"* has the lowest mean rating of 3.17, with a standard deviation of 0.74, which falls under the Agree category in the verbal description. On the contrary, although still regarded as *Agree*, given that it has the lowest mean rating and a higher standard deviation, this suggests respondents' unsettling experience of greater inconsistency among responses in the sample.

The overall mean rating for Overall Satisfaction of Generation Z Customers in Fast-food Chains is 3.40, with a standard deviation of 0.35, which aligns with the interpretation of Strongly Agree. This indicates that respondents are predominantly satisfied and most likely to remain customers if the fast-food chain successfully meets their expectations and maintains a particular standard of service quality; only then can it fulfill the demands of its intended customers.

As indicated by Kim & Bachman (2019), they have interpreted that a restaurant's hygiene quality, such as restroom cleanliness, plays a paramount role in determining the customers' intention to revisit the restaurant. On top of that, the strong representation of specific age groups who consistently patronize big businesses, such as fast-food, must also be acknowledged, as their critiques and assessments can substantially influence brand choices and satisfaction levels for a large portion of customers.

Hence, taking into account the factors that strongly influence consumers' intentions and decisions, Generation Z is very significant in ensuring that the demands of these prospective customers are met and that business operations are aligned with the business's objective to soar.

Table 3. Overall Satisfaction of Generation Z customers with fast-food chains in San Jose City.

STATEMENTS	MEAN	SD	VERBAL DESCRIPTION
1. I feel more comfortable eating in a fast-food chain.	3.17	0.74	Agree
2. I find my dining experiences in fast-food chains enjoyable.	3.30	0.55	Strongly Agree
3. My expectations of food quality are met when dining in fast-food chains.	3.25	0.60	Agree
4. I am willing to revisit a fast-food chain that provides a pleasant dining experience.	3.39	0.55	Strongly Agree
5. I share my positive experiences in fast-food chains with friends and family.	3.45	0.65	Strongly Agree
6. My impression of a fast-food chain influences my decision to dine there.	3.39	0.61	Strongly Agree
7. I choose fast-food chains that provide a better overall experience than others.	3.47	0.60	Strongly Agree
8. Fast-food chains maintain a certain level of quality to attract customers.	3.45	0.54	Strongly Agree
9. My perception of a fast-food chain affects my willingness to visit again.	3.54	0.64	Strongly Agree
10. I stay loyal to fast-food chains that provide a better experience than their rivals.	3.61	0.55	Strongly Agree
OVERALL MEAN	3.40	0.35	Strongly Agree

Legend: 3.25-4.00-Strongly Agree 2.50-3.24-Agree

1.75-2.49-Disagree 1.00-1.74-Strongly Disagree

Relationship Between Restroom Cleanliness and the Overall Satisfaction of Generation Z Customers in Fast-food Chains

Table 4 shows the relationship between restroom cleanliness and overall satisfaction among Generation Z customers at fast-food chains in San Jose City. The evidence gathered from Pearson's r correlation analysis is shown in the table above. As revealed by the data, there is a significant positive correlation between Restroom Cleanliness and Overall Satisfaction among Generation Z Customers in San Jose City Fast-food Chains ($r=0.2494$; $p=0.017$). This underscores a strong associative pattern: restroom cleanliness indeed influences customer satisfaction, specifically among Generation Z, when dining at fast-food chains. Furthermore, it is demonstrated that the satisfaction a customer may experience at a fast-food chain is primarily driven by how well the business meets prospective customers' perceptions and preferences.

A moderate number of research studies indicating the influence of restroom cleanliness on customer satisfaction have already been conducted internationally; however, studies focusing on which customer groups and specific settings, such as fast-food chains, are limited, and there has been minimal exploration of such studies in the Philippine setting. Hence, the correlation analysis provides strong evidence of an association between the study variables, with a substantial contribution to the positive development and continued progress of food businesses, particularly fast-food chains. According to Park et al. (2016), cleanliness and sanitation are highly esteemed by the public, which has a direct shaping effect on positive attitudes and perceptions toward public places such as restaurants. Significant places, such as restroom facilities, can significantly shape customers' perceptions of hygiene and sanitary conditions in food-serving businesses.

Table 4. Relationship between restroom cleanliness and overall satisfaction of Generation Z customers at fast-food chains in San Jose City.

PARTICULAR	CORRELATION COEFFICIENT	P-VALUE
	r	p
Overall Satisfaction	0.2494	0.017

Note: r represents the Pearson R correlation value, and p represents

the significance value in all analyses.

Conclusions

The following conclusions summarize the key findings of the study on how restroom cleanliness influences the overall satisfaction of Generation Z consumers in fast-food chains in San Jose City:

The majority of the respondents were young, unmarried females who frequently visited fast-food chains, making them a key consumer segment. Understanding their demographic traits is essential for crafting services and cleanliness standards that meet their expectations. In addition, respondents perceived the restrooms as clean, hygienic, and adequately supplied with soap, tissue, and sanitizers. This high level of cleanliness significantly shaped their positive views of the fast-food establishments. Moreover, Generation Z consumers reported high satisfaction levels, primarily influenced by the cleanliness and overall ambiance of the fast-food chains. Clean restrooms enhance brand trust and contribute to a more enjoyable dining experience. Finally, there is a significant positive relationship between restroom cleanliness and overall customer satisfaction among Generation Z consumers. This implies that cleaner facilities can drive greater loyalty and positive brand perception in fast-food environments.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are proposed to enhance Generation Z's overall satisfaction in fast-food chains through improved restroom cleanliness:

Fast-food chain managers should prioritize regular restroom maintenance and cleanliness checks to ensure hygiene standards are consistently met, as this greatly influences Generation Z's overall satisfaction. Additionally, marketing teams should highlight restroom cleanliness as part of their customer experience branding to build trust and appeal to hygiene-conscious consumers. Meanwhile, staff training programs must include sanitation protocols and customer service practices to improve not just the dining area but also restroom upkeep. In addition, customer feedback systems should be implemented to monitor and assess perceptions of cleanliness, enabling a quick response to hygiene-related concerns. Lastly, future researchers are encouraged to explore other factors influencing Generation Z's satisfaction in food

establishments, such as service speed, ambiance, and digital ordering systems, to provide a more holistic view. Comparative studies may be conducted in other cities or age groups to determine if the influence of restroom cleanliness on satisfaction holds across different demographics or locations.

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