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Market Acceptability and Consumer Perception of Corn-Based Coffee: A Descriptive Study of Café de Maiz in Bay, Laguna

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ABSTRACT

This study evaluated consumer perceptions and market acceptability of Café de Maiz, an innovative, non-caffeinated corn-based coffee substitute produced by a social enterprise in Bay, Laguna. Utilizing a quantitative descriptive-evaluative design, data were gathered from 236 active coffee consumers selected through purposive and convenience sampling. The primary market demographic was identified as young adult females (18–25 years old) operating within a monthly allowance of ₱5,000–₱10,000. Descriptive analysis revealed strong overall market acceptability ($\bar{x}$ = 3.10, SD = 0.84), driven primarily by promotional outreach and affordable pricing. Consumer perception was highly positive ($\bar{x}$ = 3.11, SD = 0.82), with respondents valuing the beverage's non-acidic properties and its support for local agricultural sustainability. One-Way ANOVA confirmed that market acceptability did not vary significantly across demographic segments ($p > 0.05$), indicating broad market appeal. Crucially, Pearson correlation analysis revealed a statistically significant, weak negative relationship between consumer perception and market acceptability ($r = -0.1574$, $p = 0.0157$). This finding highlights a distinct attitude-behavior gap: while consumers highly approve of the health and ethical benefits of corn coffee, their actual transactional engagement is constrained by operational barriers, primarily localized product availability ($\bar{x}$ = 2.78) and deep-seated habitual preferences for commercial instant coffee ($\bar{x}$ = 2.74). These results inform a strategic action plan focused on decentralized distribution, sensory-driven marketing, and value-added social advocacy to ensure enterprise sustainability.

Keywords: Corn Coffee, Market Acceptability, Consumer Perception, 4Ps Marketing Mix, Social Enterprise, Bay, Laguna.

INTRODUCTION

The consumption of traditional bean-based coffee is a ubiquitous global and domestic routine, deeply embedded in daily consumer lifestyles as a primary stimulant. Despite its widespread popularity, high daily intake of caffeinated beverages is increasingly linked to adverse physiological conditions, including elevated blood pressure, acute anxiety, tachycardia, and gastrointestinal irritation. Consequently, contemporary consumer markets are experiencing a significant shift toward functional food alternatives. Driven by proactive health-seeking behaviors, consumers are actively searching for natural, non-caffeinated, and non-acidic beverage substitutes that replicate the familiar sensory experience of coffee without the associated health risks.

In the Philippine agricultural landscape, the processing of roasted white corn into a beverage substitute represents a sustainable alternative. Corn coffee is derived entirely from roasted corn kernels, making it naturally caffeine-free, chemical-free, and gentle on the gastric system. Beyond its personal health benefits, the production of corn coffee serves a critical macroeconomic function by integrating local smallholder farmers into value-added agricultural supply chains, thereby stimulating rural economies. This dual value proposition is exemplified by Café de Maiz, a micro-enterprise initiated by researchers at the CARD-MRI Development Institute in Bay, Laguna—a high-density municipality populated by students and commuters. The enterprise produces two distinct product lines: Original Corn Coffee and a 3-in-1 Corn Coffee blend.

While the enterprise was founded on the assumption of strong local demand, it initially lacked empirical, data-driven insights into consumer motivations. Introducing grain-based coffee substitutes frequently encounters

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consumer skepticism regarding sensory fidelity, as well as questions about consumers' willingness to pay premium prices for health-centric local alternatives. This study addresses these gaps by evaluating consumer demographics, marketing mix alignments, and user perceptions to optimize long-term enterprise scalability.

THEORETICAL FRAMEWORK

To elevate this study beyond a localized feasibility report, the empirical data are interpreted through three complementary theoretical lenses:

Consumer Acceptance Theory (CAT): This framework posits that consumer adoption of novel functional foods is mediated by risk-benefit calculations and sensory preconceptions. Adoption depends on whether the perceived health benefits outweigh any initial skepticism regarding flavor alterations.

Sustainable Consumption Behavior & The Attitude-Behavior Gap: This literature addresses the frequent disconnect between consumers' ethical intentions and their actual purchasing behavior. While individuals regularly express strong psychological support for eco-friendly or community-backed goods, their actual purchasing decisions remain heavily constrained by situational factors like retail convenience, price limits, and product visibility.

Social Enterprise Marketing Literature: Unlike purely commercial operations, social enterprises manage a double bottom line that balances financial viability with social impact (e.g., supporting local corn farmers). This literature highlights that while social advocacy creates strong brand differentiation, it can leave a business vulnerable if traditional marketing mix elements (such as convenient distribution) are neglected.

METHODOLOGY

Research Design and Sampling Strategy

This study utilized a quantitative, descriptive-evaluative cross-sectional research design. This approach was selected to systematically measure, analyze, and map existing consumer characteristics, evaluations of the 4Ps marketing mix, and localized operational challenges. The target population consisted of active coffee consumers residing or working within the geographical parameters of Bay, Laguna.

A non-probability purposive and convenience sampling strategy was used to select a sample of N = 236 respondents. The inclusion criteria required that participants be active coffee consumers (whether utilizing instant, traditional bean, or alternative grain-based varieties) or individuals seeking non-acidic beverage alternatives. This approach ensured that the sample consisted of viable market participants capable of providing informed evaluations.

Data Collection Instrument and Validation

Data collection relied on a structured, closed-ended survey questionnaire designed with an even-point response format (4-point Likert scale) to eliminate neutral response bias and compel definitive assessments. The instrument was divided into four main sections: (1) Socio-Demographic and Psychographic Profile; (2) Market Acceptability (4Ps Mix) assessing Product Quality, Price Affordability, Place Accessibility, and Promotional Outreach via a 4-point scale (4 = Strongly Agree, 3 = Agree, 2 = Disagree, 1 = Strongly Disagree); (3) Consumer Perception quantifying alignments across Health Benefits, Sensory Attributes, and Local Agricultural Sustainability; and (4) Operational Challenges identifying market friction points using a problem-severity scale (4 = Serious Problem, 3 = Moderate Problem, 2 = Minor Problem, 1 = Not a Problem).

To ensure academic rigor, the tool underwent formal validation protocols. First, for content validity, the draft survey was evaluated by a panel of three independent experts specializing in agribusiness marketing and quantitative research. The final instrument achieved a Content Validity Index (CVI) of 0.92, exceeding the standard acceptability threshold of 0.80. Second, a reliability analysis pilot study was conducted with thirty (n = 30) respondents who met the target criteria but were excluded from the final analysis sample. Internal consistency

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was verified using Cronbach's alpha (α). The Market Acceptability subscale achieved α = 0.86, the Consumer Perception subscale reached α = 0.89, and the Operational Challenges subscale achieved α = 0.81. All values surpassed the standard statistical benchmark of α >= 0.70.

Statistical Treatment of Data

The dataset was processed using statistical software packages, adhering to the following mathematical treatments: Frequency and Percentage Distribution were applied to summarize socio-demographic and psychographic profiles; Weighted Mean and Standard Deviation (SD) were used as descriptive metrics to pinpoint central tendencies and data dispersion across the Likert items; One-Way Analysis of Variance (ANOVA) was executed as the inferential treatment to identify significant differences in market acceptability scores when respondents were grouped by demographic profile (with the significance threshold set at α = 0.05, and assumptions of normality and homoscedasticity satisfied); and the Pearson Product-Moment Correlation Coefficient (r) was deployed to evaluate the strength and direction of the relationship between composite consumer perception scores and actual market acceptability metrics.

RESULTS AND DISCUSSION

Socio-Demographic and Psychographic Profiling

The structural distribution of the sample (N = 236) across demographic and psychographic criteria is outlined in Table 1.

Profile Criteria	Categorical Grouping	Frequency (f)	Percentage (%)
Age	Below 18 years old	13	5.53%
	18 – 25 years old	121	51.49%
	26 – 35 years old	55	23.40%
	36 – 45 years old	30	12.77%
	46 years old and above	16	6.81%
Sex / Gender	Female	127	54.04%
	Male	93	39.57%
	Prefer not to say	15	6.38%
Monthly Budget / Allowance	Below ₱5,000	79	33.62%
	₱5,000 – ₱10,000	96	40.85%
	₱10,001 – ₱20,000	29	12.34%
	₱20,001 – ₱30,000	18	7.66%
	Above ₱30,000	13	5.53%
Consumption Frequency	Daily (1 or more cups/day)	147	62.55%
	Weekly (a few times a week)	53	22.55%
	Monthly	29	12.34%
	Rarely / Never	6	2.55%

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Historical Baseline Preference	Instant Coffee	98	41.70%
	Brewed Coffee (Traditional)	81	34.47%
	Alternative / Substitute Coffee	56	23.83%

Table 1: Socio-Economic Profile of Respondents (N = 236)

The empirical data indicate that the primary consumer segment for Café de Maiz consists of young adults aged 18–25 (51.49%), predominantly female (54.04%), operating within a constrained localized allowance range of ₱5,000–₱10,000 monthly (40.85%). Psychographically, the sample exhibits high coffee dependence, with 62.55% maintaining a daily consumption habit, and a strong historical reliance on commercial instant coffee products (41.70%). This highlights a target market segment that requires regular coffee intake but is highly sensitive to price considerations.

Evaluation of Market Acceptability (4Ps Marketing Mix)

The level of market readiness and operational acceptability was tracked using descriptive mean distributions across the 4Ps variables, as detailed in Table 2.

4Ps Marketing Mix Indicators	**Mean ($\bar{x}$)**	**SD**	**Verbal Interpretation**
Product Quality			
1. The taste of Café de Maiz is appealing and satisfying.	3.10	0.86	Agree (Acceptable)
2. The aroma of the corn coffee is pleasant and inviting.	3.08	0.84	Agree (Acceptable)
3. The texture/mouthfeel of the drink is smooth and well-blended.	3.08	0.86	Agree (Acceptable)
Composite Mean (Product Quality)	**3.09**	**0.85**	**Agree (Acceptable)**
Price Affordability			
1. The price of Café de Maiz is affordable for my budget.	3.12	0.81	Agree (Acceptable)
2. The product offers good value for money considering its quality.	3.10	0.82	Agree (Acceptable)
Composite Mean (Price)	**3.11**	**0.82**	**Agree (Acceptable)**
Place Accessibility			
1. The Café de Maiz stall in Bay, Laguna is easily accessible to me.	3.05	0.86	Agree (Acceptable)
2. The atmosphere and cleanliness of the stall are comfortable.	3.11	0.88	Agree (Acceptable)
Composite Mean (Place)	**3.08**	**0.87**	**Agree (Acceptable)**
Promotional Outreach			

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1. The brand has an active and informative social media presence.	3.10	0.83	Agree (Acceptable)
2. The marketing materials (logos, posters) made me highly aware.	3.14	0.79	Agree (Acceptable)
Composite Mean (Promotion)	**3.12**	**0.81**	**Agree (Acceptable)**
OVERALL MARKET ACCEPTABILITY	**3.10**	**0.84**	**Agree (Highly Acceptable)**

Table 2: Level of Market Acceptability of Café de Maiz

Café de Maiz achieved a strong overall market acceptability score ($\bar{x}$ = 3.10, SD = 0.84). Promotional Outreach ($\bar{x}$ = 3.12) and Price Affordability ($\bar{x}$ = 3.11) emerged as the top-performing dimensions, validating the enterprise's initial digital visibility strategies and budget-conscious pricing models. The Product Quality score ($\bar{x}$ = 3.09) indicates that despite its lack of caffeine, the flavor profile successfully met consumer expectations and reduced initial sensory skepticism.

Consumer Perception Dynamics

Respondent alignments regarding the physiological, sensory, and socio-economic attributes of corn coffee are displayed in Table 3.

Measured Perception Dimensions	**Mean ($\bar{x}$)**	**SD**	**Verbal Interpretation**
Health Benefits			
1. I prefer corn coffee because it is caffeine-free and won't disrupt sleep.	3.06	0.84	Agree (Positive)
2. I value corn coffee because it is non-acidic and gentle on the stomach.	3.16	0.83	Agree (Positive)
Sensory Attributes			
1. The unique flavor profile distinguishes it from regular coffee.	3.09	0.83	Agree (Positive)
2. The roasted corn flavor is a desirable alternative to traditional beans.	3.16	0.80	Agree (Positive)
Sustainability Factors			
1. Purchasing corn coffee makes me feel good about supporting farmers.	3.09	0.83	Agree (Positive)
2. I choose this product because it promotes local agriculture.	3.08	0.80	Agree (Positive)
OVERALL CONSUMER PERCEPTION	**3.11**	**0.82**	**Agree (Positive Perception)**

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Table 3: Matrix of Consumer Perception Towards Corn Coffee

The composite perception index registered at $\bar{x} = 3.11$ (SD = 0.82), showing a highly receptive audience. The primary drivers of this positive perception were the product's non-acidic properties ($\bar{x} = 3.16$) and its distinctiveness as an alternative beverage ($\bar{x} = 3.16$). This indicates that consumers appreciate the functional and health benefits of corn coffee, rather than viewing it merely as an imitation of traditional options.

Inferential Analysis of Demographic Influences

To evaluate whether differences in demographic groupings caused variations in product acceptability, a One-Way ANOVA was calculated, as summarized in Table 4.

Demographic Grouping Source	**F-Statistic**	**p-value**	**Decision (α = 0.05)**	**Structural Interpretation**
1.1 Age Group	1.2948	0.2729	Accept H0	Not Significant (No Difference)
1.2 Sex / Gender	0.5407	0.5831	Accept H0	Not Significant (No Difference)
1.3 Monthly Income / Allowance	0.2994	0.8781	Accept H0	Not Significant (No Difference)
1.4 Coffee Consumption Frequency	1.3168	0.2696	Accept H0	Not Significant (No Difference)
1.5 Preferred Type of Coffee	0.4431	0.6426	Accept H0	Not Significant (No Difference)

Table 4: One-Way ANOVA Matrix (Demographic Profile vs. Market Acceptability)

The inferential testing demonstrated that all calculated p-values exceeded the significance threshold of $\alpha = 0.05$. Consequently, the null hypothesis (H0) was retained for all categories, confirming that there is no statistically significant difference in market acceptability across demographic groups. Café de Maiz maintains broad, consistent appeal across age brackets, income tiers, and levels of coffee consumption within the municipality.

Operational Challenges and Market Friction Points

The structural barriers preventing wider market adoption are detailed in Table 5.

Problem Variables	**Mean ($\bar{x}$)**	**SD**	**Verbal Interpretation**	**Rank**
Product Availability: Hard to find or purchase outside the main stall.	2.78	0.95	Moderate Problem	1
Taste Preference: Hard to switch due to ingrained habits for traditional coffee.	2.74	0.89	Moderate Problem	2
Market Competition: Strong presence of large commercial brands.	2.70	0.88	Moderate Problem	3

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Consumer Awareness: General lack of public awareness regarding benefits.	2.68	0.91	Moderate Problem	4

Table 5: Perceived Barriers and Operational Challenges

All evaluated operational friction points were classified as 'Moderate Problems'. The primary constraint identified by respondents was limited product availability ($\bar{x}$ = 2.78, Rank 1), highlighting that the single-stall operational model creates a logistical hurdle for regular access. The second most critical barrier was entrenched taste preference ($\bar{x}$ = 2.74, Rank 2), reflecting the competitive pressure of long-standing commercial instant coffee habits.

Correlation Analysis: The Consumer Perception-Acceptability Paradox

To evaluate the relationship between consumer perception and market acceptability, a Pearson correlation analysis was performed, as outlined in Table 6.

Correlated Variable Pairs	**Pearson Coefficient (r)**	**p-value**	**Descriptive Meaning**	**Decision on H0**
Consumer Perception vs. Market Acceptability	-0.1574	0.0157	Significant / Weak Negative	Reject H0

Table 6: Correlation Analysis (Perception vs. Market Acceptability)

The correlation analysis produced a p-value of 0.0157, which falls below the significance threshold of 0.05, resulting in the rejection of the null hypothesis (H0). This statistical result confirms a significant relationship between consumer perception and market acceptability. However, the correlation direction is weakly negative (r = -0.1574). This counterintuitive finding reveals a clear attitude-behavior gap: while consumers hold highly positive views of the health benefits and sustainability practices of corn coffee, these perceptions do not directly drive daily purchasing actions. Instead, operational variables like convenience, store visibility, and immediate price trade-offs play a larger role in driving actual market transaction rates.

This paradox can be analyzed through two distinct cognitive modalities via Dual-Process Theory. System 1 (Automatic/Habitual Processing) governs low-involvement decisions like daily coffee purchases; it is fast, subconscious, and relies heavily on ease of access and established habits. Conversely, System 2 (Reflective/Analytical Processing) is engaged when filling out evaluation surveys; it is deliberate and values long-term health benefits and community support. The weak negative correlation (r = -0.1574) captures this psychological tension. When completing the survey, respondents' System 2 processing generated high scores for health preservation ($\bar{x}$ = 3.16) and local agricultural support ($\bar{x}$ = 3.09). However, in daily practice, their choices revert to System 1 habits, which are driven by commercial instant coffee routines and convenience. As a result, as a consumer's intellectual appreciation for the product's health and social benefits increases, their practical evaluation of its market acceptability slightly declines because of the physical effort required to visit a single, localized retail stall ($\bar{x}$ = 2.78). Structural friction directly overrides positive health and social perceptions.

CONCLUSION

The empirical findings demonstrate that Café de Maiz has established a viable market footprint in Bay, Laguna, characterized by broad acceptance across all demographic segments. The enterprise's strategy balances creative digital promotion with accessible pricing, proving that a local agricultural alternative can compete within a market space typically dominated by mainstream commercial instant coffee brands.

However, this study identifies a clear disconnect between consumer perception and transactional behavior. While the health benefits and community-focused mission of supporting local corn farmers generate a highly positive brand image, they do not serve as the primary drivers for daily purchases. Real-world consumer choices remain

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heavily dependent on practical convenience, price points, and local accessibility. The challenges surrounding limited product availability show that the current single-stall operational model acts as a growth bottleneck, preventing the venture from maximizing its high market acceptability.

RECOMMENDATIONS AND STRATEGIC ACTION PLAN

1. Expand Physical Distribution Architecture: To directly address the primary bottleneck of limited product availability, management should transition from a single-stall model to a decentralized micro-distribution strategy. This includes introducing low-overhead mobile kiosks, pop-up carts, and distribution partnerships within school cafeterias and local convenience stores across neighboring barangays.

2. Optimize Price-Driven Loyalty Frameworks: Because market acceptability is driven more by economic convenience than abstract health benefits, the business should maintain its affordable pricing while introducing high-frequency customer cards, bundled promotions, and volume discounts to encourage repeat purchases among cost-sensitive students and workers.

3. Refine Promotional Message Alignment: Future marketing strategies should closely couple health narratives with direct sensory value. Advertising campaigns should emphasize a 'smooth, non-acidic energy boost without the traditional coffee crash' to help consumers overcome taste barriers and ease the transition from bean-based instant products.

4. Leverage the Social Advocacy Angle: The brand should emphasize its relationship with local corn farmers directly on its packaging and digital materials. This converts a standard beverage purchase into a tangible contribution to local agricultural sustainability, reinforcing brand differentiation.

5. Avenues for Future Academic Research: Future entrepreneurship researchers should expand on this study by implementing longitudinal tracking of actual purchasing behavior across wider areas of Laguna. This would allow for a deeper evaluation of long-term brand loyalty, customer retention dynamics, and the broader scalability of value-added agricultural social enterprises.

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