

Consumer Usage, Attitudes, and Product Image of Potato-Based Food Products in Iligan City, Philippines

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ABSTRACT

Backgrounds: Potato foods such as French fries, chips, loaded fries, baked potatoes, and mashed potatoes are familiar products; their local market value depends on usage, attitudes, and positioning rather than novelty alone.

Objectives: This study described product awareness, image, usage occasions, purchase channels, and evaluations and examined associations between consumption frequency and key attitudinal dimensions among surveyed consumers in Iligan City.

Methodology: A cross-sectional survey obtained 313 usable responses through printed and online questionnaires. The non-probability sample was predominantly students (91.7%) aged 18-21 years (84.0%). Frequencies, means, and Pearson correlations were used; demographic characteristics were retained as descriptive classification data because subgroup sizes were highly unequal.

Findings: Most respondents described the category as modern or innovative (78.6%), and 64.8% rated its healthiness as good or excellent. Products were used mainly as snacks (52.4%), usually one to two times weekly (65.5%), and purchased most often from food stalls (65.8%) and supermarkets or groceries (63.3%). Consumption frequency was associated only weakly with daily-diet and cultural fit ($r = -.139$).

Conclusions: The surveyed youth-oriented segment showed favorable product images but moderate routine use. For this segment, local enterprises should prioritize affordable trial prices, convenient stall and retail channels, consistent quality, and positioning around familiar merienda or meal occasions. Findings are exploratory segment evidence and are not citywide population estimates.

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1. INTRODUCTION

Potato products occupy a familiar place in convenience-food markets. French fries, potato chips, loaded fries, baked potatoes, and mashed potatoes are established formats rather than innovations in themselves. Their commercial relevance lies in how they are differentiated through preparation, flavor, portioning, nutritional profile, packaging, price, and selling channel. Processing can create multiple potato products and usage occasions, but consumer acceptance still depends on sensory value, convenience, affordability, trust, and fit with everyday routines (Devaux et al., 2021; Haverkort et al., 2022a, 2022b, 2022c; Xu et al., 2023).

This distinction is important in the Philippines. Household food expenditure remains strongly anchored in rice, meat, and fish, although urbanization and income growth have gradually diversified



food baskets beyond cereals (Bairagi et al., 2022). Potato foods therefore compete less as direct replacements for rice than as merienda, side dishes, shared snacks, or convenient meal components. Domestic potato production reached about 102,791 metric tons in 2024, but 74% originated in Benguet (PSA, 2025). This geographic concentration suggests that downstream food enterprises in Mindanao must consider transport, wholesaling, storage, and price continuity alongside product demand.

The local enterprise setting also warrants attention. Iligan City's economy grew by 5.7% in 2023, while accommodation and food service activities expanded by 23.8% (PSA, 2024). Universities, neighborhood food stalls, supermarkets, groceries, and informal vendors create a dense set of contact points for low-cost food purchases. These conditions make Iligan useful for exploratory market diagnosis, especially among young consumers, but they do not eliminate the need to distinguish a student segment from the city's full population.

Consumer evidence should therefore separate favorable product image from established demand. Familiarity can reduce uncertainty, yet positive attitudes do not automatically produce repeated purchase. Reviews of novel-food acceptance consistently identify familiarity, perceived benefits, sensory expectations, trust, and sociocultural cues as interacting determinants (Laureati et al., 2024; Monaco et al., 2024; Mosikyan et al., 2024). In university settings, food availability, price, time, convenience, and the surrounding retail environment further shape purchasing and dietary behavior (Barrett et al., 2023; Li et al., 2022; Saha et al., 2021).

Prior research commonly examines sensory acceptability, nutritional claims, willingness to pay, or purchase attitudes separately. Less evidence integrates actual usage occasions, product image, evaluative attitudes, demographic classification, and preferred channels for familiar potato foods in a secondary Philippine city. This gap is managerial: entrepreneurs need to know not only whether respondents like a product, but also when they use it, where they buy it, which attributes matter, and which population segment the evidence can credibly represent.

Using the Usage-Attitude-Image (UAI) framework, this study aimed to: (1) describe awareness, product image, usage occasions, purchase locations, and evaluations of potato-based foods; (2) examine associations between consumption frequency and key attitudinal dimensions; and (3) translate the findings into cautious product, channel, pricing, and enterprise implications. Because the achieved sample was predominantly students aged 18-21 years, the study is explicitly framed as exploratory evidence about a young, student-oriented Iligan market segment rather than a representative estimate for all city residents. Demographic characteristics are used to describe the achieved segment rather than to support broad subgroup claims.

2. LITERATURE REVIEW

2.1. Usage-Attitude-Image as a Market-Intelligence Framework

UAI research organizes consumer evidence into core market data and classification data. Core data describe how a product category is used, evaluated, and mentally positioned; classification data locate those patterns within consumer groups (Roberto, 2006). The approach is diagnostic rather than causal. It supports segmentation, positioning, channel planning, and early product decisions. A Philippine application likewise demonstrated that UAI evidence can guide market-development and policy choices where a product category has livelihood implications (Pabuayan, 2009).

The three domains are related but not interchangeable. Usage captures behavioral contact, including frequency, occasion, and purchase channel. Attitude captures assessments of benefits, costs, risks, quality, and compatibility. Image refers to broader associations such as healthy, modern, trustworthy, ordinary, or culturally appropriate. A familiar product may have a favorable image but only occasional use. Separating the domains prevents favorable opinions from being misread as proven demand.

2.2. Philippine Food Context and the Student Market

Philippine food demand combines a rice-centered meal structure with increasing diversification in urban food expenditure (Bairagi et al., 2022). In this setting, potato products are more plausibly positioned around snack, merienda, side-dish, and convenience occasions than as wholesale substitutes for the staple. The concentration of national potato output in northern

production areas also connects retail opportunity to supply-chain execution, including procurement consistency and storage (PSA, 2025). For Iligan enterprises, these market and supply considerations coexist with a growing accommodation and food-service sector (PSA, 2024).

The achieved sample makes the university food environment especially relevant. Research shows that campus availability, affordability, convenience, time, peer context, and food insecurity can shape student dietary and purchasing patterns (Aguirre Sánchez et al., 2021; Deliens et al., 2014; Li et al., 2022; Saha et al., 2021; Sattar & Khalid, 2023; Shi et al., 2021). Retail-environment interventions can alter student choices, although effects depend on price, placement, availability, and implementation (Barrett et al., 2023). Evidence from adolescent food environments also emphasizes the combined influence of outlet exposure, purchasing context, and individual constraints (Shaw et al., 2023). These findings support treating the present respondents as a meaningful youth segment while avoiding citywide generalization.

2.3. Usage and Purchase Contexts for Potato-Based Foods

Food usage is shaped by time, retail access, routines, budget, and habit as well as by intrinsic product attributes. Convenience can be understood as reducing the time, physical effort, mental effort, or skills required across food planning, acquisition, preparation, consumption, and clean-up (Bogard et al., 2024). Potato consumers may associate supermarkets with variety, certification, and standardization, while neighborhood outlets may signal proximity, familiarity, and immediate access (Samoggia et al., 2023). Channel selection also reflects trade-offs among ease, quality, price, and consumer resources (Choi et al., 2022).

2.4. Attitudes Toward Healthiness, Affordability, Quality, and Cultural Fit

Food attitudes combine experiential attributes, such as taste and texture, with credence attributes, such as healthiness, safety, and nutrition. Consumers infer quality and healthiness from composition, processing, naturalness, familiarity, price, and sensory expectations (Grunert, 2005; Pinto et al., 2021). Familiarity can reduce uncertainty, but it can also anchor a food to established occasions; acceptance still depends on expected liking, sensory reactions, perceived benefits, trust, and social context (Coulthard et al., 2022; Laureati et al., 2024; Monaco et al., 2024). Nutrition information may support choice when it is understandable and credible (Ballco & Gracia, 2022; Priya & Alur, 2023).

Affordability is particularly salient for students and budget-constrained consumers. Willingness to pay for healthier products varies by context and may decline when price premiums imply trade-offs in expected flavor or texture (Alsubhi et al., 2022). For familiar potato formats, the more useful market question is therefore not whether the product is novel, but whether taste, portion, convenience, health cues, and price create enough value for repeat use. Concept ratings remain preliminary and should ultimately be complemented by sensory or observed-choice testing (Ballco et al., 2023; Hurst et al., 2022).

2.5. Local Food-Enterprise Evidence from Northern Mindanao

Regional evidence shows why consumer acceptance must be linked with enterprise execution. Among Northern Mindanao bakery MSMEs, channel access, strategic location, entrepreneurial human capital, and product and process differentiation have been associated with market reach and growth (Abellana et al., 2026; Abellana & Alonzo, 2025a, 2025b). Food-operations research further shows that process interruptions and weak coordination can undermine responsiveness and efficiency (Abellana & Alonzo, 2024). Favorable UAI results become commercially useful only when enterprises convert them into consistent products, safe processes, accessible channels, and reliable value.

2.6. Hypothesis Development

Based on these considerations, the following hypotheses focus on the two relationships that can be evaluated credibly with the achieved sample. Repeated use can reinforce familiarity, so consumption frequency may be associated with healthiness, affordability, quality, and cultural compatibility. The relationship may nevertheless be selective because habits, sensory expectations,

economic constraints, and lifestyle conditions influence different parts of evaluation rather than one uniform attitude (Sharma et al., 2020; Wongprawmas et al., 2021).

H1: Consumption frequency is significantly associated with perceived healthiness, affordability and accessibility, quality and safety, and daily-diet or cultural fit.

Product-specific evaluations offer a more granular category view. Taste, convenience, price, nutrition, packaging, and related attributes may align with broader UAI dimensions, but strong relationships are not assumed because respondents are evaluating familiar formats and each product is represented by several attributes. Effect magnitude, rather than statistical significance alone, is emphasized because the item-level analysis is exploratory and involves many comparisons.

H2: Product-specific attribute evaluations are significantly associated with consumers' broader UAI dimensions.

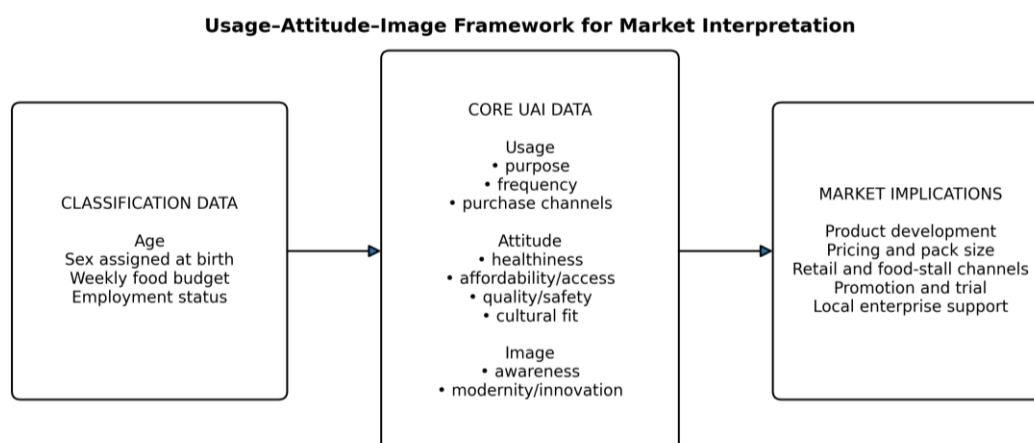


Figure 1. Usage-Attitude-Image framework used to interpret market evidence

Source: Authors (2026)

3. METHOD

3.1. Research Design and Study Context

The study used a cross-sectional, descriptive quantitative design to examine usage, attitudes, and product image for potato-based foods in Iligan City, Philippines. The setting contains universities, neighborhood food enterprises, supermarkets, convenience outlets, and informal food-stall channels. The design supports exploratory market diagnosis but does not establish temporal or causal relationships.

3.2. Population, Sampling, and Scope of Inference

The initial field plan sought residents of Iligan City who could evaluate or report experience with potato-based foods. Printed questionnaires and an online form were distributed through accessible networks and community contacts. Recruitment was non-probabilistic, and the achieved sample was strongly concentrated among students. A total of 313 usable responses were analyzed; 84.0% were aged 18-21 years, 91.7% were students, and 64.2% were female. Accordingly, the analytic population is the surveyed, predominantly young student segment. The results are not estimates for the entire Iligan City population.

3.3. Research Instrument and Measures

A structured questionnaire was developed around the UAI framework (Roberto, 2006). It included screening and classification questions and items on awareness, image, usage purpose, consumption frequency, purchase locations, and evaluations of French fries, potato chips, loaded fries, baked potatoes, and mashed potatoes. The principal attitude and image dimensions were perceived healthiness, affordability and accessibility, quality and safety, and daily-diet or cultural fit. Higher Likert-type scores represented more favorable evaluations.

The questionnaire underwent professional content review before field administration. The archived study file documented expert validation and a planned internal-consistency assessment but did not retain final reliability coefficients for the reported composite measures. This absence limits measurement claims; the composite results are therefore treated as exploratory. Replication should report construct definitions, complete item wording, pilot results, reliability, and construct validity.

3.4. Data Collection Procedures

Data were gathered through printed forms and Google Forms. Printed questionnaires allowed direct recruitment and clarification, while the online form extended reach through messaging and social-media channels. Responses were screened for completeness, coded, and consolidated. Purchase channel was a multiple-response question; its percentages therefore do not sum to 100%.

3.5. Data Analysis

Frequencies and percentages described the sample, awareness, image, occasions, frequency, and channels. Means and standard deviations summarized evaluations. Pearson correlations assessed associations between consumption frequency and four principal attitude dimensions. The archived analysis also contained 250 product-item correlations with five UAI dimensions. Because no multiplicity correction was part of the original analysis, item-level findings are interpreted primarily by effect magnitude and pattern rather than by counts of p values. Statistical significance was evaluated at $p < .05$ as a secondary indicator. Demographic variables were retained as descriptive classification data. Inferential subgroup comparisons are not presented in the revised manuscript because the achieved groups were highly unequal, including very small age, employment, and high-budget cells, which can make ordinary one-way ANOVA unstable when variance assumptions are not demonstrated.

3.6. Ethical Considerations

All respondents were adults. Participation was voluntary, the survey explained its purpose, and respondents could decline or discontinue participation. Responses were treated confidentially, and no directly identifying information is reported. Informed consent was obtained before participation. The source manuscript did not report a formal ethics committee reference number; the authors should provide any applicable institutional approval or exemption documentation directly to the editor.

4. RESULTS AND DISCUSSION

4.1. Research Results

4.1.1. Respondent Profile and Scope of Inference

The profile confirms that the evidence primarily reflects a young, student-oriented market. Of the 313 respondents, 201 were female and 108 were male. Most were aged 18-21 years, 91.7% were students, and nearly nine in ten reported a weekly food budget of PHP 1,000 or below. All identified Iligan City as their location. This is a commercially relevant segment but not a representative cross-section of city residents.

Table 1. Socio-demographic profile of respondents (n = 313)

Variable	Category	n	%
Sex assigned at birth	Female	201	64.2
	Male	108	34.5
	Did not specify	4	1.3
Age	18–21	263	84.0
	22–25	38	12.1
	26–35	6	1.9
	36–61	6	1.9
	Iligan City	313	100.0
Weekly food budget	Below ₱500	121	38.7
	₱500–₱1,000	143	45.7
	₱1,001–₱2,000	41	13.1

Variable	Category	n	%
Employment status	Above ₱2,000	8	2.6
	Student	287	91.7
	Employed	13	4.2
	Self-employed	6	1.9
	Unemployed	7	2.2

Note. Percentages may not total exactly 100 because of rounding.

4.1.2. Awareness, Product Image, and Usage Patterns

Perceptions were favorable. Nearly two thirds rated the healthiness of potato-based foods as good or excellent, while 78.6% selected ‘yes’ when asked whether the products had a modern or innovative image. The latter result describes respondents’ image rating; it does not establish that the five product formats are objectively innovative. Only 2.2% rejected the modern-or-innovative image.

The foods were used primarily as snacks: 52.4% selected snack use and 30.0% reported both snack and meal use. Most consumed the products one to two times per week. Street vendors or food stalls and supermarkets or groceries were the dominant sources, showing that respondents encountered the category in informal ready-to-eat and formal retail settings.

Table 2. Awareness, image, usage, and purchase channels

Indicator	Category/channel	n	%
Perceived healthiness	Excellent	83	26.5
	Good	120	38.3
	Fair	95	30.4
	Poor	13	4.2
	No knowledge	2	0.6
Modern or innovative image	Yes	246	78.6
	Maybe	60	19.2
	No	7	2.2
Purpose of consumption	Snack	164	52.4
	Both snack and meal	94	30.0
	Depends on the situation	45	14.4
	Part of a full meal	10	3.2
Consumption frequency	Daily	24	7.7
	3–6 times per week	84	26.8
	1–2 times per week	205	65.5
Purchase channel	Street vendors/food stalls	206	65.8
	Supermarkets/grocery stores	198	63.3
	Convenience stores	145	46.3
	Local wet markets	75	24.0
	Online platforms	41	13.1
	Fast-food chains	5	1.6
	Home-grown	1	0.3

Note. Purchase channel was a multiple-response item; channel percentages therefore exceed 100% when summed. ‘Modern or innovative image’ reproduces the questionnaire wording and is not a researcher classification.

4.1.3. Product-Concept Evaluations

Average item means were uniformly high for the five familiar formats. French fries and loaded fries received the highest synthesized averages, but differences across products were narrow. Product-item correlations with the five broader UAI dimensions were small; the largest absolute coefficient was .259. Thus, the practical magnitude of the relationships was limited. Although many unadjusted tests reached $p < .05$, 250 comparisons without multiplicity correction create substantial false-positive risk. The defensible conclusion is that no single product attribute demonstrated a strong relationship with the UAI outcomes.

Table 3. Descriptive synthesis of product-concept evaluations

Product concept	Average of item means	Range of item means	Maximum r	Unadjusted p < .05 tests
French fries	4.53	4.15–4.78	.224	26/50
Loaded fries	4.52	4.13–4.72	.259	36/50
Baked potato	4.50	4.28–4.70	.255	30/50
Mashed potato	4.47	4.33–4.66	.255	28/50
Potato chips	4.45	4.04–4.67	.251	21/50

Note. Product averages are unweighted averages of ten reported item means. Significant-test counts use unadjusted $p < .05$ and are descriptive only; no correction for multiple testing was applied.

4.1.4. Item-Level Product Attribute Relationships

Table 4 reports 250 exploratory correlations. All relationships were small (maximum $|r| = .259$). Affordability, quality and safety, and cultural fit showed more consistent positive associations with product evaluations than consumption frequency. Given the number of tests and rounded source coefficients, the table is best used to generate priorities for later product testing, not to make confirmatory or predictive claims.

Table 4. Item-level correlations between product evaluations and UAI dimensions (n = 313)

Item	M	SD	1	2	3	4	5
FF1	4.60	0.718	-.108	.124*	.195**	.132*	.127*
PC1	4.63	0.682	-.104	.098	.110	.069	.116*
LF1	4.48	0.848	-.026	.117*	.060	.054	.096
BP1	4.49	0.801	-.047	.082	.040	.032	.046
MP1	4.49	0.829	-.048	.084	.001	.078	.057
FF2	4.78	0.520	-.005	.066	.205**	.165**	.134*
PC2	4.64	0.635	-.082	.039	.128*	.093	.053
LF2	4.72	0.629	-.001	.111*	.118*	.121*	.140*
BP2	4.65	0.657	.042	.051	.064	.115*	.086
MP2	4.63	0.744	.031	.123*	.058	.139*	.010
FF3	4.24	1.024	-.086	.098	.217**	.152**	.195**
PC3	4.12	1.102	-.057	.084	.236**	.146**	.139*
LF3	4.60	0.744	-.125*	.169**	.217**	.241**	.204**
BP3	4.52	0.785	-.056	.072	.202**	.229**	.160**
MP3	4.43	0.853	-.069	.134*	.162**	.206**	.156**
FF4	4.15	1.030	-.023	.201**	.223**	.224**	.202**
PC4	4.04	1.120	-.091	.197**	.200**	.251**	.124*
LF4	4.13	1.048	-.064	.180**	.187**	.180**	.132*
BP4	4.31	0.992	-.016	.217**	.188**	.195**	.202**
MP4	4.33	0.940	-.066	.241**	.209**	.180**	.208**
FF5	4.71	0.569	-.034	.107	.200**	.099	.080
PC5	4.61	0.709	-.049	.115*	.122*	.036	-.020
LF5	4.50	0.768	-.009	.133*	.221**	.183**	.156**
BP5	4.46	0.784	-.049	.115*	.122*	.036	-.020
MP5	4.51	0.848	.005	.145*	.141*	.141*	.149**
FF6	4.57	0.736	-.051	.086	.198**	.157**	.082
PC6	4.49	0.773	-.023	.085	.143*	.102	.117*
LF6	4.43	0.864	-.074	.116*	.217**	.159**	.193**
BP6	4.28	0.992	-.030	.171**	.211**	.232**	.126*
MP6	4.36	0.917	-.046	.162**	.224**	.177**	.240**
FF7	4.45	0.915	-.009	.134*	.185**	.092	.129*
PC7	4.44	0.850	-.044	.099	.191**	.132*	.147**
LF7	4.56	0.783	-.114*	.194**	.259**	.253**	.204**
BP7	4.48	0.855	-.022	.121*	.208**	.203**	.079
MP7	4.34	1.032	-.019	.098	.145*	.150**	.123*

Item	M	SD	1	2	3	4	5
FF8	4.49	0.832	.003	.078	.201**	.123*	.158**
PC8	4.42	0.856	-.017	.131*	.158**	.123*	.227**
LF8	4.60	0.732	-.005	.138*	.250**	.241**	.232**
BP8	4.59	0.746	-.004	.127*	.212**	.248**	.187**
MP8	4.47	0.877	.061	.149**	.143*	.157**	.164**
FF9	4.76	0.511	.039	.060	.114*	.094	.067
PC9	4.67	0.623	-.036	.102	.123*	.060	.077
LF9	4.71	0.671	-.033	.160**	.053	.077	.128*
BP9	4.70	0.578	.035	.165**	.100	.187**	.115*
MP9	4.66	0.689	.091	.147**	.071	.130*	.081
FF10	4.50	0.866	-.016	.073	.131*	.101	.190**
PC10	4.44	0.890	.022	.059	.099	.085	.095
LF10	4.49	0.832	.040	.105	.120*	.169**	.162**
BP10	4.52	0.797	.005	.143*	.114*	.230**	.255**
MP10	4.50	0.885	.048	.159**	.156**	.200**	.255**

Note. Columns: (1) consumption frequency; (2) healthiness; (3) affordability and accessibility; (4) quality and safety; and (5) daily-diet and cultural fit. FF = French fries; PC = potato chips; LF = loaded fries; BP = baked potato; MP = mashed potato. Lower frequency scores represent more frequent use. * $p < .05$. ** $p < .01$. No multiplicity adjustment was applied.

4.1.5. Demographic Profile as Classification Data

The demographic profile is used descriptively to define the achieved market segment. The sample is heavily concentrated among students (91.7%) and respondents aged 18-21 years (84.0%), while several comparison cells are very small (for example, only 8 respondents reported a weekly food budget above PHP 2,000). Because such imbalance can compromise ordinary ANOVA when homogeneity of variance is not established, the revised analysis does not make inferential claims about demographic group differences. Future subgroup analysis should use balanced recruitment, report Levene's test, apply Welch's ANOVA when homogeneity is violated, and report both numerator and denominator degrees of freedom.

4.1.6. Consumption Frequency and Attitudinal Dimensions

Consumption frequency was not significantly associated with perceived healthiness, affordability and accessibility, or quality and safety. It was associated only with daily-diet and cultural fit ($r = -.139$, $p < .05$). Because lower frequency scores indicated more frequent use, frequent consumers reported slightly stronger dietary and cultural fit. The effect accounted for less than 2% of shared variance and should not be described as practically strong.

Table 5. Means, standard deviations, and Pearson correlations (n = 313)

Variable	M	SD	1	2	3	4	5
1. Consumption frequency	2.58	0.631	—				
2. Healthiness	4.15	0.884	-.020	—			
3. Affordability and accessibility	4.04	0.905	-.082	.393**	—		
4. Quality and safety	4.19	0.837	-.015	.487**	.526**	—	
5. Daily diet and cultural fit	4.08	0.946	-.139*	.555**	.453**	.535**	—

Note. * $p < .05$. ** $p < .01$. Lower consumption-frequency scores indicate more frequent use.

4.1.7. Hypothesis Assessment

The hypothesis decisions emphasize effect magnitude as well as statistical support. Partial support indicates that only some proposed relationships were observed; it does not imply causal confirmation. For H2 in particular, the maximum absolute correlation (.259) indicates small effects despite numerous unadjusted p values below .05.

Table 6. Summary of hypothesis assessment

Hypothesis	Evidence	Decision	Interpretation
H1	Only daily-diet and cultural fit was associated with consumption frequency ($r = -.139$, $p < .05$).	Partially supported	Use was related to cultural integration, but not to healthiness, affordability, or quality perceptions.
H2	All product-item relationships were small (maximum $ r = .259$); unadjusted significance counts are treated as secondary exploratory evidence.	Partially supported	Product attributes showed diffuse, small associations with UAI dimensions; no single attribute demonstrated a strong practical relationship.

Note. Hypotheses were assessed using reported Pearson correlations. Item-level results are exploratory and are interpreted primarily by effect size as no multiplicity adjustment was applied.

4.2. Discussion

4.2.1. Favorable Image Has Not Become Habitual Use

The respondents expressed high symbolic acceptance but only moderate behavioral penetration. Most selected a modern-or-innovative image and nearly two thirds rated healthiness as good or excellent, yet 65.5% consumed the products only one to two times weekly. Favorable image is therefore not equivalent to habitual demand, a distinction also emphasized in broader work on food perceptions and purchase attitudes (Roy et al., 2022). Food acceptance integrates familiarity, perceived benefit, sensory expectations, and context (Laureati et al., 2024; Monaco et al., 2024; Pinto et al., 2021).

For this youth-oriented sample, the commercial task is to convert favorable perceptions into repeat occasions. The 52.4% snack response points most clearly to school breaks and merienda rather than staple substitution. Local sellers can test low-ticket trial portions, simple bundles, and visible price points while differentiating familiar products through portion, seasoning, preparation, nutritional profile, or packaging. This keeps the offer recognizable while giving consumers a concrete reason to repurchase.

4.2.2. Channels Identify Points of Market Conversion

Food stalls and supermarkets served complementary roles. Stalls support immediate consumption, sensory visibility, and low-friction trial; supermarkets and groceries support packaged formats, take-home purchase, and repeat availability. Similar potato research shows that outlet types carry different expectations (Samoggia et al., 2023), while channel choice more broadly reflects convenience, quality, price, and consumer resources (Choi et al., 2022).

Channel strategy should follow the usage context. Ready-to-eat variants sold through food stalls can emphasize serving speed, food safety, portion control, and clearly displayed prices; packaged or semi-prepared variants in supermarkets and groceries can emphasize shelf stability, preparation instructions, labeling, and consistent quality. Campus and postsecondary food-environment evidence further suggests that availability, placement, and price can shape choices (Barrett et al., 2023; Li et al., 2022). These implications are most defensible for the student-oriented segment represented in the sample.

4.2.3. Attributes Are Favorable but Weakly Differentiated

All five formats received favorable and closely clustered ratings. This ceiling pattern may reflect genuine liking, respondent familiarity, acquiescence, or insufficiently discriminating concept descriptions. The small correlations indicate that no one attribute controls market response. Sensory studies of potato products show why concept ratings should be followed by tasting and formulation tests (Ballco et al., 2023; Hurst et al., 2022).

A portfolio approach is therefore more defensible than selecting a winner from small mean differences. A low-cost snack may lead with taste and convenience, while a meal-oriented option may lead with satiety, nutritional credibility, and cultural fit. Health claims should be specific, verifiable, and supported by transparent ingredients and preparation information (Ballco & Gracia,

2022; Priya & Alur, 2023). Price premiums should also be tested rather than assumed, especially in a budget-constrained sample (Alsubhi et al., 2023).

4.2.4. Cultural Fit Is the Only Attitudinal Correlate of Use

Frequency was linked only weakly with daily-diet and cultural fit. This suggests that recurring use may depend more on compatibility with familiar routines and occasions than on abstract health or quality beliefs. Northern Mindanao evidence similarly shows that culturally meaningful food experiences can strengthen consumer satisfaction (Palangan et al., 2025). The result supports communication built around recognizable occasions such as merienda, school breaks, sharing, or side dishes rather than claims of novelty.

4.2.5. Segmentation Claims Require Balanced Follow-up Samples

The present demographic profile should not be used to justify age-, employment-, or budget-based targeting because the subgroup sizes are too unequal for stable inferential comparison in the available analysis. Instead, the profile identifies priorities for a follow-up design: recruit balanced quotas across age, occupation, income or food-budget levels, and barangay clusters, then use variance-robust tests and planned contrasts. Until such evidence is available, enterprise decisions should focus on the observed segment-wide patterns in price sensitivity, convenience, channel access, and cultural fit.

4.2.6. Practical Implications for Local Enterprises

The results support a practical four-part market approach for local enterprises. First, pricing should favor affordable trial portions and transparent price points suited to a student-dominated segment. Second, channel strategy should distinguish immediate-consumption outlets such as food stalls from take-home retail in supermarkets and groceries. Third, quality execution should emphasize consistent preparation, food safety, portion control, packaging, and labeling rather than relying on novelty claims. Fourth, communication should connect products with familiar merienda, school-break, sharing, or side-dish occasions to strengthen cultural fit. Promotion can use sampling, menu photographs, and short-form content to demonstrate these occasions. Universities, enterprise offices, and incubators can support ventures through food-safety training, costing, packaging, and small-scale market tests. Because national potato production is geographically concentrated, firms should also assess supplier continuity, transport, storage, and seasonal price exposure before scaling (PSA, 2025). Regional MSME evidence underscores that product ideas require resource development, channel access, partnerships, and operational discipline (Alonzo et al., 2025; Rosenbusch et al., 2011).

4.2.7. Limitations and Future Research

The study has six major limitations. First, non-probability recruitment and the dominance of students aged 18-21 restrict inference to the surveyed youth-oriented segment. Second, cross-sectional self-reports do not establish causality or observed purchasing. Third, final reliability coefficients and complete validated scale documentation were unavailable. Fourth, demographic subgroup sizes were highly unequal, so the revised manuscript does not make inferential subgroup claims. Fifth, 250 item-level tests were conducted without multiplicity correction. Sixth, the design did not include prototype exposure, blind sensory testing, price experiments, or willingness-to-pay measures.

Future studies should use representative probability sampling where feasible, or at minimum stratified or quota sampling across age, occupation, income or food-budget levels, and barangay clusters. Subgroup analyses should test homogeneity of variance, use Welch's ANOVA when required, and report complete degrees of freedom and effect sizes. Concise UAI scales should be validated and reliability reported. Concept research should then be followed by blind sensory evaluation, packaging tests, price-sensitivity or willingness-to-pay experiments, and observed choice tasks. Longitudinal or experimental work can test whether favorable image and cultural fit translate into trial, repeat purchase, and sustained demand.

5. CONCLUSION

Among 313 predominantly young student respondents in Iligan City, familiar potato-based food products had favorable images but moderate routine use. Respondents most often used them as snacks and purchased them through food stalls and supermarkets, while consumption frequency was related only weakly to daily-diet and cultural fit. For the achieved segment, the practical opportunity is conversion rather than invention: local enterprises can combine affordable trial pricing, convenient stall and retail channels, consistent quality and safety, and communication tied to familiar merienda or meal occasions. These conclusions apply only to the surveyed youth-oriented segment and must not be generalized to all Iligan residents. Future research should use balanced or representative sampling and follow concept ratings with sensory testing, price-response experiments, and observed purchase measures before broader market claims are made.

Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this paper.

Author Contributions

J.J.G.A.: Conceptualization, Methodology, Formal analysis, Validation, Supervision, Project administration, Writing – original draft, Writing – review & editing.

L.R.B.: Investigation, Data curation, Resources, Writing – original draft, Writing – review & editing.

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H.A.: Investigation, Data curation, Resources, Writing – original draft.

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All authors reviewed and approved the final version of the manuscript and agreed to be accountable for the work.

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Informed consent was obtained from all participants before survey completion.

Ethical Approval

The study involved adult participants in minimal-risk, non-interventional market research. The source manuscript did not report a formal ethics committee reference number. Any applicable institutional approval or exemption documentation should be supplied to the editor with the submission records.

Data Availability

De-identified data supporting the findings are available from the corresponding author upon reasonable request, subject to institutional and participant-confidentiality requirements.

Declaration of Generative AI and AI-assisted Technologies

During manuscript revision, OpenAI ChatGPT was used in a limited capacity for language editing, organization, and formatting support. The authors reviewed and verified all content, citations, analyses, and interpretations and retain full responsibility for the manuscript.

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