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Sensory Acceptability and Economic Feasibility of Bangus-Based (Chanos chanos) Hotdog

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Abstract

This experimental study aims to examine the level of acceptability of "bangus" hotdog among respondents from different demographic groups (street food vendors, homemakers, and students). The acceptability of the products was assessed based on five sensory attributes: taste, texture, aroma, appearance, and overall acceptability. A total of 300 respondents (100 per group) participated in the sensory evaluation using a structured five-point Hedonic Scale. Data were analyzed using mean scores and the Kruskal–Wallis H Test ($p>0.05$) to determine whether significant differences in perception existed among the three groups. Findings revealed that Bangus Hotdog were categorized as "Very Acceptable" across all sensory attributes, with taste receiving the highest ratings. The analysis indicated no significant differences in perception among homemakers, children and ordinary citizen, suggesting that demographic profile did not influence the level of acceptability. In addition, the estimated production costs of ₱290.00 per batch of Bangus Hotdog demonstrate that the product are economically feasible for mass production. These results indicate that the developed bangus-based hotdog has high consumer acceptability, broad market appeal, and potential for income-generating opportunities in Dumangas, Iloilo.

Keywords: Bangus-based hotdog, sensory acceptability, Kruskal–Wallis test, Dumangas, product development

INTRODUCTION

The fisheries sector plays a crucial role in the Philippine economy by supporting livelihoods, contributing to food security, and generating income for coastal communities. Among the country's major aquaculture species, milkfish (Chanos chanos), or bangus, remains a highly valued commodity because of its nutritional quality, consumer preference, and adaptability to various culture systems (Bureau of Fisheries and Aquatic Resources [BFAR], 2022).

As consumer demand for nutritious and affordable food continues to increase, locally sourced fish-based processed foods have emerged as promising alternatives to traditional meat-based products.

The street food industry, a vital component of Filipino food culture, serves as an accessible livelihood opportunity for micro-entrepreneurs due to its low capital requirement and flexible operations (Gomez & Peralta, 2019). The growing interest in healthier and innovative food choices has prompted the need to develop fish-based street foods, such as fish hotdogs, siomai, nuggets, and other value-added products. These innovations not only cater to changing consumer preferences but also enhance the economic potential of locally abundant aquatic resources (Reginio et al., 2020).

Dumangas, a first-class municipality in Iloilo, is recognized as one of Western Visayas' most productive bangus-growing sites. The community's aquaculture livelihood is largely anchored in extensive fishpond operations that contribute significantly to the municipality's economy (Municipality of Dumangas, 2023). Despite Dumangas' strength in bangus production, value-adding initiatives remain limited, with most harvested fish marketed in their fresh form at relatively low and fluctuating prices. Fresh bangus is commonly sold at ₱160–₱200 per kilogram, whereas processed bangus-based products such as hotdogs, nuggets, or other street food items can potentially yield 40–70% higher economic value per unit. This situation represents a clear missed opportunity for micro-entrepreneurs in Dumangas, particularly small-scale vendors, homemakers, and fisherfolk households, who could increase income, reduce post-harvest losses, and diversify livelihoods by processing bangus into innovative, higher-value street food products.

The development of bangus-based street food variants, specifically Bangus Hotdog, presents a meaningful opportunity to enhance local livelihood activities. The hotdog form was selected as an innovative and high-potential street food product because it is widely accepted across age groups, affordable, easy to prepare, and well-suited for street vending, making it ideal for small-scale production and distribution. In addition, hotdogs allow for effective incorporation of fish meat while masking fishy flavors, thereby increasing consumer acceptability, particularly among children and young adults. These products address both economic and nutritional concerns by offering healthier, protein-rich alternatives to conventional meat-based street foods while supporting sustainable aquaculture practices. Moreover, higher education institutions (HEIs) play a vital role in research, innovation, and community extension. Through product development, food safety training, and entrepreneurship support, HEIs can assist micro-entrepreneurs in improving their livelihoods and strengthening the local food industry.

Thus, this study becomes essential as it develops scientifically formulated bangus-based street food products, evaluates their acceptability, and explores their economic potential. The findings are expected to serve as the foundation for a community-based Research and Extension Program aimed at empowering micro-entrepreneurs in Dumangas and nearby communities.

Statement of the Problem: This study aims to determine the following:

1. What is the profile of the respondents in terms of: Street food vendor, home makers and students?

2. What is the level of sensory acceptability of Bangus Hotdog based on the formulation:
   2.1 Formulation A 3C Bangus Meat 1C Flour;
   2.2 Formulation B 2C Bangus Meat 1C Flour and,
   2.3 Formulation C 1C Bangus Meat 1C Flour?

3. Is there a significant difference in the level of sensory acceptability ratings of the products when grouped according to the respondents' profile?

4. What is the estimated production cost and projected selling price for each bangus-based street food variant?

Conceptual Framework

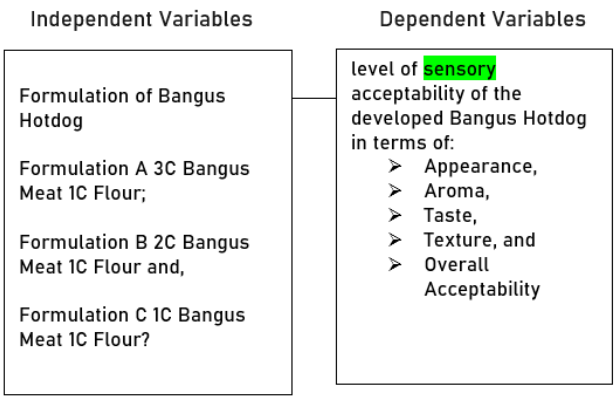

Figure 1
The Conceptual Design Depicting the Relationship Between Variables.

This study examined the relationship between the level of sensory acceptability of bangus-based street food products and the differences in perception among respondents grouped as street food vendors, homemakers, and students. The level of acceptability was assessed based on five sensory attributes: taste, texture, aroma, appearance, and overall acceptability. These sensory attributes served as the dependent variables, while the classification of respondents into different groups functioned as the independent variable.

To gather data, a sensory evaluation questionnaire using a five-point Hedonic Scale was administered to the respondents. The collected data were analyzed using the Kruskal–Wallis H Test, a non-parametric statistical method suitable for comparing the acceptability ratings among three independent groups. This analysis allowed the researchers to determine trends, similarities, and differences in how respondents from various demographic backgrounds perceived the developed bangus products.

The findings of the study revealed the overall acceptability of Bangus Hotdog and Bangus Pastel based on the specified sensory attributes. Furthermore, the results indicated whether the respondents' demographic profiles influenced their perception of taste, texture, aroma, appearance, and overall acceptability. These insights provided valuable information on the potential market acceptance of the developed bangus-based street food products and offered guidance for product optimization, marketing strategies, and the formulation of a research-based extension program aimed at empowering micro-entrepreneurs in Dumangas, Iloilo.

LITERATURE REVIEW

Recent studies on fisheries-based livelihoods emphasize that the economic value of aquaculture products is increasingly determined not by production volume alone but by the degree of processing and product differentiation applied along the value chain. In many milkfish-producing communities, including Dumangas, Iloilo, post-harvest practices remain limited to primary handling, resulting in low price realization, income instability, and vulnerability to market fluctuations. The absence of locally developed, ready-to-eat bangus products constrains opportunities for small-scale processors and street food vendors to participate in higher-value market segments. Developing processed bangus-based products such as Bangus Hotdog and Bangus Pastel addresses this gap by shifting bangus from a raw commodity to a value-added food product, thereby extending shelf life, improving convenience, and enhancing income-generating potential for micro-entrepreneurs.

Street food vending has been recognized as a crucial component of Filipino urban and rural economies, providing accessible business opportunities and employment for micro-entrepreneurs, including students, women, and small-scale vendors (Gomez & Peralta, 2019). Studies show that introducing innovative street food products can attract consumers, generate sustainable income, and support local supply chains (Reginio, Santos, & Villanueva, 2020). Fish-based snacks, in particular, have gained attention due to the health benefits of fish protein and the growing demand for convenient, nutritious alternatives to traditional meat-based street foods (Fernandez, Santos, & Reyes, 2021). Functional fish products, including fish balls, patties, and nuggets, have demonstrated both market potential and high consumer acceptability in local contexts.

Existing literature on processed fish products emphasizes that emulsified products such as fish sausages and hotdogs differ significantly from formed products like nuggets and patties in terms of formulation, texture development, and processing requirements. Studies on fish hotdogs and sausages indicate that emulsion stability, protein functionality, and the use of

extenders and binders are critical factors influencing texture, cooking yield, and consumer acceptability (Park, 2015; Venugopal, 2016). Proper comminution, controlled fat–water ratios, and adequate thermal processing are necessary to achieve the characteristic firmness and juiciness expected of hotdog-type products. These technical considerations distinguish fish hotdogs from nuggets and patties, which rely primarily on battering, breading, and shaping rather than protein emulsification.

Local studies in the Philippines have explored the development and acceptability of value-added bangus products, although most have focused on formed products. Laxamana, Dela Rosa, and Tan (2017) developed bangus nuggets and found that appropriate seasoning, texture modification, and cooking methods significantly enhanced consumer acceptability. Similarly, De Guzman (2018) reported that incorporating complementary local ingredients improved the sensory quality and marketability of bangus-based products. Reyes and Santos (2019) examined processed bangus patties and concluded that flavor, presentation, and overall product quality were key determinants of acceptability among students. While these studies provide valuable insights into consumer preference, they highlight a gap in local research on emulsified bangus products such as hotdogs. Addressing this gap, the present study focuses on Bangus Hotdog as an emulsified fish product, thereby contributing new technical and applied knowledge on formulation feasibility, acceptability, and livelihood potential for micro-entrepreneurs.

International studies further support the development of fish-based value-added products. Alam, Khan, and Rahman (2015) explored the functional properties of fish protein in processed foods, indicating that nutritional quality is retained after processing. Liu, Chen, and Zhang (2019) assessed sensory characteristics of fish patties and demonstrated that proper formulation techniques enhance consumer acceptability. Singh, Kumar, and Verma (2020) emphasized that balancing flavors is crucial in functional fish foods to improve palatability. Kim, Lee, and Park (2021) reported that fortifying frozen fish products increased nutritional content without compromising texture or overall acceptability, while Das, Sharma, and Mehta (2022) found that integrating fish protein into processed snacks enhanced both health benefits and marketability. These studies underscore the potential of value-added fish products as innovative street foods with strong nutritional and commercial appeal.

From the reviewed literature, it is evident that bangus is abundant, nutritious, and economically significant, particularly in Dumangas, Iloilo. However, livelihood outcomes in aquaculture-dependent communities are increasingly influenced by access to value-adding activities, entrepreneurial capability, and institutional support rather than production alone. Philippine-based livelihood and entrepreneurship models emphasize the importance of combining skills training, product innovation, market feasibility, and community extension to generate sustainable micro-enterprises (Department of Trade and Industry [DTI], 2019; International Labour Organization [ILO], 2020). The Sustainable Livelihood Framework, which has been widely applied in Philippine community development programs, further highlights that livelihood viability depends on the effective use of local assets, value-chain participation, and enabling support mechanisms (Chambers & Conway, 1992; ILO, 2020).

While existing local studies demonstrate high consumer acceptability of bangus nuggets and patties, these products differ technically and commercially from emulsified street food items such as hotdogs, leaving a gap in research on innovative bangus-based street foods. Moreover, limited studies integrate product development with entrepreneurial feasibility analysis and research-based extension programs facilitated by higher education institutions. Addressing these gaps, the present study develops Bangus Hotdog, evaluates their sensory acceptability, estimates production

costs and profitability, and proposes a research-based extension program aligned with Philippine livelihood development models to support micro-entrepreneurship in Dumangas. This study therefore contributes to food innovation, value-adding in aquaculture, and community-based livelihood development within the Philippine context.

METHODOLOGY

Research Design. This study employed experimental research method to assess the sensory acceptability of the developed bangus-based street food products. According to Fraenkel and Wallen (2009), experimental research is a systematic approach used to investigate causal relationships by manipulating one or more factors while controlling other variables. It is effective for evaluating product quality, consumer preferences, and the effect of specific formulations on sensory outcomes.

In this study, the experimental method was used to evaluate the sensory attributes of Bangus Hotdog and Bangus Pastel through structured observation and analysis using a modified Hedonic Scale.

Ingredients. The following ingredients were used in the preparation of the developed bangus-based street food variants:

Primary Base: Deboned fresh bangus meat
Extenders: Bread crumbs, flour
Seasoning: Salt, pepper, garlic powder, soy sauce
Binders: Egg, cornstarch
Casing: Natural or synthetic edible casing
Additional Ingredients: Oil for cooking

Materials and Equipment. The materials and equipment used for preparation and processing included:

Mixing Tools: Measuring cups, bowls, whisks, spatulas
Cooking Equipment: Saucepan, frying pan, steamer
Processing Tools: Food processor or blender, molds (for shaping)
Measuring Instruments: Digital weighing scale, thermometer
Storage and Serving: Freezer, containers, disposable plates for sensory evaluation

The experiment was conducted in the Food Laboratory of Iloilo State University of Fisheries Science and Technology, providing a controlled environment to ensure product quality and safety.

Preparation and Cooking Procedures. Below are the steps in preparing/cooking the product:

1. ***Ingredient Preparation:***
   - 1.1 Weigh and measure all ingredients based on standardized formulations.
   - 1.2 Debone fresh bangus and mince/blend the meat.
   - 1.3 Prepare extenders, binders, and seasoning for proper mixing.

2. ***Product Formulation and Cooking:***
   - 2.1 Mix bangus meat with binders, seasoning, and extenders.
   - 2.2 Stuff the mixture into casings and shape into uniform hotdogs.
   - 2.3 Partially boil the hotdogs to cook evenly and firm the texture.
   - 2.4 Store in refrigerator prior to sensory evaluation.

Population, Setting, and Sampling Technique. The study was conducted in Dumangas, Iloilo, focusing on respondents representing micro-entrepreneurs and local consumers. A total of 300 respondents participated in the study and were equally divided into three groups: street food vendors (100), homemakers (100), and students (100). These groups were selected because of their relevance to the evaluation of bangus-based street food products, either as potential producers or consumers.

A purposive sampling technique was employed to select respondents based on their ability to provide meaningful sensory evaluations and feedback on the developed products. Purposive

sampling is appropriate when participants possess specific characteristics relevant to the objectives of the study (Etikan, Musa, & Alkassim, 2016).

Ethical Considerations. Ethical research was strictly observed throughout the conduct of the study. Prior to participation, respondents were informed of the purpose of the research, the procedures involved, and the voluntary nature of their participation. Informed consent was obtained from all respondents, and they were assured that they could withdraw from the study at any time without penalty. Confidentiality and anonymity were maintained by ensuring that no personal identifiers were collected or disclosed in the reporting of results. The sensory evaluation posed minimal risk to participants, and all food samples were prepared following proper food safety and sanitation practices. These measures ensured that the rights, welfare, and dignity of all respondents were adequately protected during the study.

Survey Instrument. To assess sensory acceptability, a modified five-point Hedonic Scale was employed, evaluating attributes such as appearance, aroma, taste, texture, and overall acceptability. The scale was defined as follows:

Table 1
Interpretation of Mean

Scale	Range	Interpretation
5	4.21–5.00	Extremely Acceptable (EA)
4	3.41–4.20	Very Acceptable (VA)
3	2.61–3.40	Moderately Acceptable (MA)
2	1.81–2.60	Slightly Acceptable (SA)
1	1.00–1.80	Not Acceptable (NA)

The instrument was validated by a panel of experts, including food science and hospitality professionals, to ensure reliability and accuracy in capturing sensory evaluations.

Data Analysis. The data were analyzed using descriptive and inferential statistics:

1. ***Mean and Standard Deviation.*** This was used to determine the level of sensory acceptability of Bangus Hotdog across respondent groups.
2. ***Kruskal–Wallis H Test.*** Utilized to determine if there were significant differences in sensory evaluation scores among the three respondent groups (Street Food Vendors, Homemakers, and Students). The Kruskal–Wallis test was chosen because it is a non-parametric alternative to ANOVA, suitable when data do not meet normality assumptions (Field, 2018).

3. ***Costing Analysis.*** Calculated production cost, selling price, and profitability for the product to assess livelihood feasibility.

All statistical analyses were conducted using SPSS software, ensuring systematic processing and accurate interpretation of the results.

RESULTS AND DISCUSSION

Profile of the Respondents. Table 2 presents the profile of the respondents in terms of their classification as street food vendors, homemakers, and students. Out of 300 participants, 100 of them (33.33%) were street food vendors, another 100 (33.33%) were homemakers, and another 100 (33.33%) were students. This equal distribution ensured a balanced representation of the target groups, allowing for meaningful comparisons of perceptions and sensory acceptability of the developed Bangus Hotdog across different segments of potential consumers and micro-entrepreneurs.

The inclusion of these three respondent groups is significant because each represents a distinct perspective in the food value chain and market: street food vendors provide insights from a production and selling standpoint, homemakers reflect household consumption preferences, and students represent younger consumers and potential adopters of novel food products. This approach aligns with the literature emphasizing the importance of evaluating value-added fish products among

diverse groups to ensure broad market appeal (Dela Cruz & Rivera, 2023; Laxamana, Dela Rosa, & Tan, 2017). By capturing the perceptions of these distinct groups, the study gains comprehensive insight into both consumer acceptability and market feasibility, which are critical for developing effective research and extension programs aimed at promoting bangus-based street food products in Dumangas, Iloilo.

Table 2
Profile of the Respondents

Type of Respondent	Frequency (f)	Percentage (%)
Street Food Vendors	100	33.33%
Homemakers	100	33.33%
Students	100	33.33%
Total	**300**	**100%**

Level of sensory acceptability of the developed Bangus Hotdog in terms of: Appearance, Aroma, Taste, Texture, and Overall Acceptability. Table 3 presents the sensory acceptability of the developed Bangus Hotdog across three formulations in terms of Appearance, Aroma, Taste, Texture, and Overall Acceptability. The results indicate that all formulations were generally highly acceptable, although variations in ingredient proportion influenced specific sensory attributes.

Formulation A (3C Bangus meat:1C flour) received the highest ratings in most attributes, with Extremely Acceptable (EA) evaluations for Appearance (4.42), Taste (4.45), Texture (4.36), and Overall Acceptability (4.40). This suggests that the higher meat content contributed positively to the product's visual appeal, flavor, and mouthfeel, making it the most preferred formulation overall.

Formulation B (2C Bangus meat:1C flour) was rated Extremely Acceptable (EA) for Aroma (4.35), while the other attributes received Very Acceptable (VA) scores, indicating that reducing the meat slightly allowed other sensory qualities, such as seasoning and smell, to stand out.

Formulation C (1C Bangus meat:1C flour), although containing the lowest meat proportion, still achieved Very Acceptable (VA) ratings across all attributes, demonstrating that even at lower meat content, the product remained appealing to consumers.

Overall, the average means—Formulation A: 4.36 (EA), Formulation B: 4.29 (VA), Formulation C: 4.18 (VA)—show that all formulations were well-received, with Formulation A emerging as the most favorable in terms of sensory quality.

These findings are consistent with previous studies on value-added Bangus products. Laxamana, Dela Rosa, and Tan (2017) reported that proper seasoning and texture adjustment significantly enhance consumer acceptability of Bangus-based products. Similarly, De Guzman (2018) emphasized that combining complementary ingredients in fish-based products improves taste, texture, and overall satisfaction. The positive sensory evaluation of the Bangus Hotdog demonstrates that careful formulation and proportion adjustment can result in high acceptability for novel fish-based food items.

Table 3
Level of acceptability of the developed Bangus Hotdog in terms of Appearance, Aroma, Taste, Texture, and Overall Acceptability

Criteria	Formulation A		Formulation B		Formulation C	
	Mean	Desc	Mean	Desc	Mean	Desc
Appearance	4.42	EA	4.28	VA	4.20	VA
Aroma	4.18	VA	4.35	EA	4.12	VA
Taste	4.45	EA	4.30	VA	4.22	VA
Texture	4.36	EA	4.25	VA	4.18	VA
Overall Acceptability	4.40	EA	4.29	VA	4.20	VA
Average Mean	4.36	EA	4.29	VA	4.18	VA

Significant Difference in the Sensory Acceptability Ratings of the Products when Grouped According to the Respondents' Profile. Tables 4 present the results of the Kruskal–Wallis H Test to determine whether the sensory acceptability ratings varied significantly according to respondents' profiles. Products are calculated H-values were low, and the p-values exceeded the 0.05 significance level. This

led to the conclusion that there were no significant differences in perception of appearance, aroma, taste, texture, or overall acceptability across street food vendors, homemakers, and students.

This result suggests a uniform positive response to bangus-based hotdog regardless of demographic differences, indicating that the products have broad market appeal. This aligns with the findings of Dela Cruz and Rivera (2023), who noted that properly formulated value-added bangus products were generally accepted by diverse consumer groups, supporting the feasibility of introducing these products in community-based entrepreneurship initiatives.

Table 4
Difference in the sensory acceptability ratings of Bangus Hotdog when grouped according to the respondents' profile

Criteria	H-value	p-value	Decision
Appearance	1.82	0.402	Not Significant
Aroma	2.11	0.348	Not Significant
Taste	1.57	0.456	Not Significant
Texture	0.98	0.613	Not Significant
Overall Acceptability	1.34	0.512	Not Significant

Estimated Production Cost and Projected Selling Price for Bangus-based Hotdog. The production cost of Bangus Hotdog was analyzed to determine its economic feasibility as a value-added fish product. Table 5 presents the breakdown of the total production cost per batch, which amounted to ₱290.00.

Table 5
Production cost of Bangus Hotdog

Cost Component	Amount (₱)
Bangus meat (500g)	120.00
Extenders & seasoning	40.00
Casing	35.00
Oil & utilities	20.00
Labor	50.00
Packaging	25.00
Total Production Cost	**290.00**

The largest component was bangus meat (₱120.00 or 41.4% of the total cost), followed by labor (₱50.00, 17.2%), extenders and seasoning (₱40.00, 13.8%), casing (₱35.00, 12.1%), packaging (₱25.00, 8.6%), and oil and utilities (₱20.00, 6.9%). This cost structure indicates that the product can be produced at a relatively low cost while maintaining quality, making it suitable for small-scale micro-entrepreneurs.

Table 6 further details the batch yield, per-piece cost, projected selling price, and income potential. A single batch yields 20 pieces of Bangus Hotdog, resulting in a production cost of ₱14.50 per piece. With a projected selling price of ₱21.00 per piece, the total revenue per batch is ₱420.00, yielding a gross profit of ₱130.00 per batch and a profit margin of 30.95%. These calculations provide clear evidence of the economic viability of Bangus Hotdog production for micro-entrepreneurs.

Assuming a vendor produces and sells two batches per day, the projected daily income is ₱260.00, which can generate a weekly income of approximately ₱1,300.00 when sold five days per week. This demonstrates that Bangus Hotdog can serve as a reliable source of livelihood, offering a practical and sustainable income-generating opportunity for small-scale vendors in Dumangas, Iloilo.

Table 6
Production Cost, Yield, and Projected Income per Batch of Bangus Hotdog

Item	Amount (₱)
Total Production Cost per Batch	290.00
Batch Yield (pieces)	20
Production Cost per Piece	14.50
Projected Selling Price per Piece	21.00
Total Sales per Batch	420.00
Gross Profit per Batch	130.00
Profit Margin (%)	30.95%
Projected Daily Income (2 batches/day)	260.00
Projected Weekly Income (5 days/week)	1,300.00

The results from Tables 5 and 6 support the conclusion that Bangus Hotdog is economically feasible as a micro-enterprise venture. The combination of controlled production costs,

acceptable per-piece pricing, and high-profit potential makes it an attractive option for micro-entrepreneurs. These findings align with previous studies indicating that value-added fish products can enhance livelihoods, promote local entrepreneurship, and stimulate income generation in coastal communities (Martinez, Santos, & Villanueva, 2021; Fernandez, Santos, & Reyes, 2021).

Conclusions. The study revealed that the developed Bangus Hotdog formulations are highly acceptable, broadly appealing, and economically feasible, demonstrating their potential as a value-added fish product for micro-entrepreneurs in Dumangas, Iloilo. Respondents were evenly distributed among street food vendors, homemakers, and students, ensuring balanced representation and providing comprehensive insights into both consumer acceptability and market feasibility. Sensory evaluation results indicated that all three formulations were well-received, with mean ratings ranging from Very Acceptable (VA) to Extremely Acceptable (EA) across appearance, aroma, taste, texture, and overall acceptability. Formulation A (3C Bangus meat:1C flour) received the highest ratings, attaining EA scores in appearance, taste, texture, and overall acceptability, suggesting that a higher proportion of bangus meat enhanced flavor, visual appeal, and mouthfeel. Formulations B (2C:1C) and C (1C:1C) were also positively evaluated, demonstrating that even lower meat proportions yielded acceptable products. The Kruskal–Wallis H Test indicated no significant differences in sensory perception across the respondent groups, showing that the Bangus Hotdog has broad market appeal regardless of demographic differences.

Economic analysis confirmed the product's feasibility. A batch of Bangus Hotdog costs ₱290.00 to produce and yields 20 pieces, resulting in a production cost of ₱14.50 per piece. With a projected selling price of ₱21.00 per piece, each batch can generate ₱420.00 in sales, producing a gross profit of ₱130.00 per batch and a profit margin of 30.95%. Assuming a vendor produces and sells two batches per day, the projected daily income is ₱260.00, or approximately ₱1,300.00 weekly if sold five days per week. These calculations demonstrate clear evidence of income-generating potential, supporting the conclusion that Bangus Hotdog production is economically viable for micro-entrepreneurs.

Overall, the study concludes that the Bangus Hotdog formulations combine high sensory acceptability, broad consumer appeal, and strong economic feasibility. The product provides a practical livelihood opportunity while utilizing local resources and promoting value-added innovation. Its development underscores the potential impact of product innovation and community-based entrepreneurship in enhancing both consumer satisfaction and local economic development in Dumangas, Iloilo.

Author contributions. Arjay Basal: Conceptualization, Resources, Writing-original draft; Janice Ching: Methodology; Brian Focbit: Validation, Data curation; Rachiele Bagaan: Writing-review and editing; Resources.

Conflict of interest. The authors declare that the research was conducted without commercial or financial relationships that could be construed as a potential conflict of interest.

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Artificial intelligence use. AI-assisted language editing was performed using ChatGPT; authors reviewed and approved all content.

Ethics approval statement. All basic ethical protocols were observed in the conduct of this study, including voluntary participation and respect for confidentiality. Formal ethics approval was not sought, as the sensory evaluation procedures involved posed minimal risk to participants. Informed consent was obtained, and participants were free to withdraw at any stage without consequence.

Data availability statement. All data supporting the findings of this study are included within the manuscript and its supplementary materials.

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