



Development of tinupig enriched with cacao and its packaging

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Abstract

The study under the development of the packaging will determine the acceptability of the product to the market as well to the experimentation of adding cacao (*Theobroma*) to the *Tinupig*. Developing the packaging is the first step of the study where the researchers seek the advice of experts on how to make a presentable box that will represent Lasam's best tinupig. Based on the study conducted by Ahmad & Billoo (2012), it is said that by making good packaging, it has a great influence on the consumer's buying decision. The appearance of the product will decide whether the product will have more profit or not because it is a tool of self-promotion. The packaging has an important role in marketing. Tinupig plays a significant influence in encouraging or discouraging the purchase of other brands, particularly when the customer selects a similar type of product, because it is produced not only in Lasam but also in Pangasinan, Ilocos, and other regions of Luzon.

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Introduction

Food tourism is simple, and there are no substantial discrepancies between the definitions supplied by various authors. Food tourism is commonly defined as "a visit to primary and secondary food producers, food festivals, restaurants and specific locations for which food tasting and/or experiencing the attributes of specialist food production regions are the primary motivating factors for travel" (Buhalis & Costa, (2006). To make it simpler, it can be stated that food tourism is traveling to other destinations to consume their food. But the researchers define food tourism as simply a matter of traveling beyond your immediate neighborhood to find great food. Of course, the further you are willing to travel, the broader your range of culinary experiences will be.

Lasam is very well known to *tinupig* as the traditional delicacies where rice is the major produce agricultural product. The food known as tinupig, which consists of crushed glutinous rice and coconut strips wrapped in banana leaves, is cooked on a hot stone that has been burnt by charcoal. According to the locals, the *tinupig* has high demand as *pasalubong* for OFW's and to locals residing in *Lasam*. *Tinupig* is very important to *Lasamenos* (people in *Lasam*) because it is being celebrated as *Tinupig* Festival.

According to Bicarme (2012), in the year 2005, the *Lasamenos* set the record for having the longest run of *tinupig* for about 2.82km long. *Tinupig* was then loved and appreciated by many people and of their family outside *Lasam*. By then, *Lasamenos* celebrates the tinupig festival every year particularly in the month of May and made a great change to the town because visitors from outside the municipality come by and buy products of *Lasam* that greatly effects the economy of the municipality. According to vendors of *tinupig*, in typical months, they can make at least 150 boxes with the total of 3,000 pieces of tinupig and during festivals they can make four times the said quantity. Locals say they buy the iconic product not only for them but also for their family from abroad. The product is usually boxed in reused boxes of juice and has never changed since 2005. That's why the

researchers conducted the study on how to improve and promote the iconic delicacy of the municipality. Food tourism can affect a community through exporting products from town to town, to cities, and to other countries. And the result will dramatically change the way of living of the people in that community because of the products they make. Rice trading in Cagayan is known throughout the nation. According to Philippine Statistic Authority (2004), With 118.7 thousand farms covering 175.5 thousand hectares, Cagayan came in second. This means that Cagayan is rich in resources when it comes to rice, therefore, the more resources a province has, the more profit the locals possess. The same principle will be applied to tinupig production in *Lasam*. Thus, researchers are finding new ways to promote and introduce the tinupig.

By innovating the packaging of the traditional *tinupig*, it will increase the demand of the product and can be sold outside in the town and will also affect the shelf life of the product, because the researchers will make two ways in making the packaging, particularly in the boxing and vacuum sealing. By making a presentable packaging, it will greatly affect the demand of the local product turning it more profitable than before.

The study under the development of the packaging will determine the acceptability of the product to the market as well to the experimentation of adding cacao (*Theobroma*) to the *Tinupig*. Developing the packaging is the first step of the study where the researchers seek the advice of experts on how to make a presentable box that will represent *Lasam*'s best tinupig. Based on the study conducted by Ahmad & Billoo (2012), it is said that by making good packaging, it has a great influence on the consumer's buying decision. The appearance of the product will decide whether the product will have more profit or not because it is a tool of self-promotion. The packaging has an important role in marketing. *Tinupig*, which is produced not just in *Lasam* but also in Pangasinan, Ilocos, and other parts of Luzon, has a big impact on whether consumers pick one brand over another or, on occasion, are discouraged from doing so.

Under the experimentation of adding cacao, which is another product of the town, it will also act as an additional factor to health benefit. According to Marie, J., (2015) cacao beans have a rich natural antioxidant compound, and it contains a natural chemical such as a flavonoid, a type of antioxidant compound that promotes general health specifically it stabilizes and ultimately destroy free radicals in the cells and tissues. Thus, it might lower the risk of several diseases. Compared to the traditional *tinupig*, the researchers are hoping that the newly innovated *tinupig* will be the key to changing the way of preparing it.

Objectives of the Study

1. To design a packaging material for tinupig.
2. Innovating tinupig by enriching cocoa powder and tablea to make some flavor to our special delicacies.
3. Improve the developed packaging material for *tinupig* based on the suggestions/recommendation of the panelist.

Materials and methods

Research Design

In this study, experimental research will be used. The design will be used to determine the overall acceptability of innovated tinupig enriched with cocoa powder and tablea and its packaging. The design is a detailed overview of the processes to be followed to test the hypothesis by verifying the links between the independent and dependent variables. It alludes to the experiment's theoretical basis. In this design, the researcher departs from the typical tinupig to study the look, scent, taste, texture, and overall acceptability of a new tinupig fortified with cocoa powder and tablea.

General Considerations

Product

1. Wrapped with banana leaves
2. Cooked over a hot stone (grilled)
3. The main ingredients are coconut strip, brown sugar, and glutinous rice.
4. Has a crunchy and chewy textures
5. Has a nutty flavor
6. It has the distinct aroma of freshly roasted coconut meat.

Packaging

1. A packaging must be practical, appealing, narrative and informative.
2. It keeps the product safe from harmful microbes
3. Improve the appearance of the tinupig box

Research Instruments

Criteria of evaluation and assessment of the product

• After the development of the product, a score sheet was developed by the researcher to evaluate and assess the quality of the output. Mean was used to assess the product based on the following criteria:

1. Appearance
2. Aroma
3. Taste
4. Texture
5. Overall acceptability

- *Appearance*

Refers to the look or to the presentation of the product, which is the product must be dark brown in color, it is shiny through the coconut oil.

- *Aroma*

Refers to the distinctive smell of the product with freshly roasted coconut meat.

- *Taste*

Refers to the flavor that you can taste to the product that it must be a nutty flavor.

- *Texture*

Refers to the way that a food feels in your mouth, and it must be crunchy and chewy.

- *Overall acceptability*

The product's appearance, smell, taste, and texture are all acceptable.

Evaluators of the product

The evaluators of the product were the faculty and staff of Cagayan State University at Lasam.

Data Gathering Procedure

Aspects of food quality, legal compliance, and consumer preferences will all be examined. The product is described using sensory evaluations. recognizing two or more products: do their tastes, odors, and appearances differ? Are you a consumer or

an expert when it comes to performance? Therefore, enjoyment is the culmination of organoleptic qualities.

Table 2. Mean acceptability of the quality attributes of Tinupig Enriched with cocoa yielded from the two processing methods.

	Tinupig	Enriched with	Cocoa	
Quality attributes	Treatment 1	Cocoa powder	Treatment 2	Cocoa tablea
	Mean	Description	Mean	Description
Aroma	4.39	Liked very much	4.72	Liked very much
Texture	4.11	Liked much	4.23	Liked very much
Taste	4.44	Liked very much	4.67	Liked very much
Color	4.56	Liked very much	4.72	Liked very much
Overall acceptability	4.44	Liked very much	4.83	Liked very much
Overall Mean	4.39	Liked very much	4.63	Liked very much

Legend: Mean range Descriptive interpretation

4.20-5.00	Liked very much
3.40-4.19	Liked much
2.60-3.39	Liked
1.80-2.59	Moderately liked
1.00-1.79	Not Liked

Along the Tinupig enriched with cocoa, the respondents assessed the product like much in treatment1 texture with a mean score 4.11 and like very much in treatment 2 texture with a mean score 4.23 while they assessed the product like very much in treatment1 and treatment 2 Aroma, taste, color, and overall acceptability. Furthermore, the respondents assessed the product like very much in Tinupig Enriched with cocoa with a grand mean of 4.39 in treatment 1 and 4.63 in treatment 2.

Findings of the Study

Acceptance of Innovative Tinupig Enriched with Cocoa

The respondents in the study have shown a higher level of acceptance towards the innovative tinupig

enriched with cocoa, as compared to the tinupig enriched with cocoa tablea product. The computed score for the grand mean of the former is 4.63, which is higher than the latter.

Reactions of the Respondents

The faculty and staff of CSU Lasam who participated in the study have appreciated the innovative product and expressed their desire for the institution to develop its own recipe for tinupig enriched with cocoa.

Assessment of Texture

The respondents evaluated the product in two different treatments based on texture. They found the product in treatment one to have a mean score of 4.11, while the assessment for treatment two resulted in a mean score of 4.23.

Overall Acceptability

The respondent group consisting of faculty and staff of Lasam showed an overall grand mean of 4.39, indicating their high level of acceptability towards the tinupig product enriched with cocoa powder.

Analysis of the Data/ Statistical treatment

The process of evaluating foods using our senses (tasting, smell, touch, and sight) is known as sensory evaluation. It simply entails inspecting the meal to ensure that it is appetizing in terms of appearance, smell, and flavor.

The five-point Hedonic scale was employed to gauge the acceptability of the evaluations. The panelists gave the samples a rating from 1 to 5, where 1 is "Not like," which denotes least acceptance, and 5 is "Like very lot," which denotes the product is accepted.

Results and discussion

The study examined the impact of a new packaging design and the addition of cacao on the traditional Tinupig's marketability. The results showed that both factors significantly influenced the product's acceptability to consumers. The presentable box design increased the product's shelf appeal, leading to an increase in sales and profitability.

The vacuum-sealed packaging also helped maintain the product's quality and freshness, resulting in an increase in the product's shelf life. The addition of cacao to the Tinupig recipe also positively impacted the product's nutritional value without sacrificing its taste and acceptability to consumers. Cacao's high levels of antioxidants contributed to the product's nutritional value, making it a healthier option. The study suggests that the development of a presentable packaging design and the addition of cacao to the traditional Tinupig recipe is a promising strategy in promoting and introducing the product to a wider market, increasing its profitability, and positively

impacting the local economy. Furthermore, the study highlights the potential of food tourism in promoting local products like Tinupig. With the development of a presentable packaging and the addition of cacao, Tinupig can be marketed to tourists and exported to other regions, cities, and countries, resulting in a significant economic impact. Overall, the study emphasizes the importance of packaging design and innovation in the marketing of traditional products and recommends further research to explore other ways to innovate and improve the traditional Tinupig recipe and expand its market reach.



Fig. 1. Original packaging of Tinupig.

Fig. 1 shows the original packaging of Tinupig, which is only wrapped in banana leaves and placed inside a used juice drink (Funchum, Zest-O,

Golden Coolers etc.) box. This results in more exposure of the product to contaminants, which reduces its shelf life.

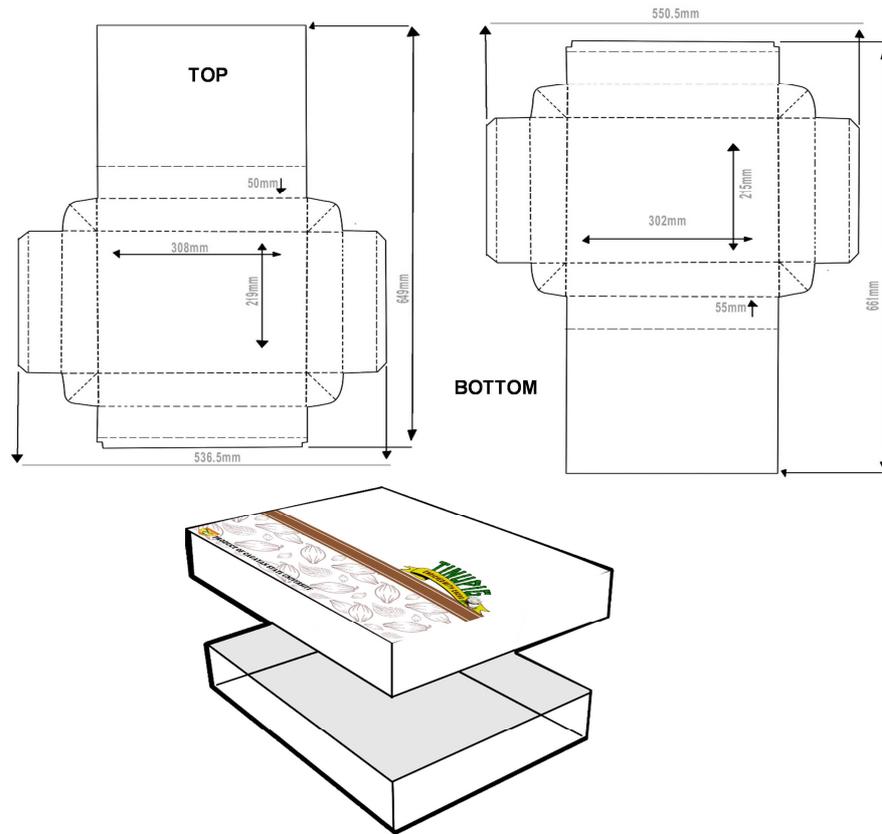


Fig. 2. Design of the New Packaging of Tinupig.

Fig. 2 shows the new design of the Packaging of Tinupig. This design is more presentable and also includes vacuum-sealing of the cooked product to help maintain the product's quality and freshness.

Conclusions

This study conducted an innovative tinupig and its packaging. The innovative tinupig is treated into two, the first treatment is enriched with cocoa powder and the second treatment is enriched with cocoa tablea. For the packaging of the product, vacuum sealer was used and the researcher made a box with the background which is the actual picture of the tinupig and the picture of all tourist attraction of Lasam, for the overall of the packaging. The basis of the foregoing findings of the study, the tinupig enriched with tablea are more acceptable than the tinupig enriched with powder which is determined through the checklist given to all respondents. And the packaging is highly accepted due to the attractive and colorful background and also the safety of the product that sealed with vacuum pouch.

Recommendations

For innovated flavor and packaging of our special tinupig delicacies, it is very important to consider the taste, texture, appearance and its nutritional benefits. It is recommended that the innovative tinupig, flavored with cocoa powder and tablea must be based on the original mixture of food technology student for the cocoa powder and tablea.

And for the packaging, it is highly recommended to consider also the treatment for the shelf-life based on the innovative packaging that sealed with vacuum pouch using a vacuum sealer with the designed box.

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