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## Market acceptance of new formulated Sundanese *Nasi Liwet*: How branding affecting selling of traditional culinary

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### Abstract

This research aimed to analyze the effectiveness of new formulated Sundanese *Nasi Liwet*. Six new formulated *Nasi Liwet* had been formulated with the innovation of color and condiments. Overall acceptability was conducted. The six new formulated was sold with a different brand, namely "Milwet" with banana tree nuance, "Liwet Kuy" with mega mendung pattern, "Ngeliwet Yuk" with reddish simplicity nuance, "Ngeliwet" with reddish typography emphasis, "Pawon Indung" with Sundanese traditional jug icon, and "Ini Nasi Liwet" with simple blue nuance. It was found that market acceptance differed with overall acceptability. Despite of lowest overall acceptability, "Milwet" performed the highest market acceptance, followed "Ini Nasi Liwet", "Ngeliwet", "Liwet Kuy", and "Pawon Indung". Applying good brands could be used as an alternative to popularize traditional culinary.

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### Keywords

*Nasi Liwet*, Branding, Traditional Culinary.

## 1. Introduction

*Nasi Liwet Sunda* is one of the culinary heritages of Indonesia. However, the acceptance and popularity of it decreased, especially in the youth market. Based on the interview with Rumah Kreatif Agribisnis, one of the surviving producers of Sundanese *Nasi Liwet*, youth hardly buy Sundanese *Nasi Liwet* in a month. Sundanese *Nasi Liwet* had deep historical value since it was the symbol of solidarity amongst workers and fighters during the colonial. It's also being affected by Islamic values in simplicity and health. It's ironic that this highly valuable culinary heritage started to be left behind, especially by youth (1).

Sundanese *Nasi Liwet* differs from Surakarta's *Nasi Liwet* by means of complexity. Sundanese *Nasi Liwet* represents simplicity, fighting spirit, and humble value, while Surakarta's *Nasi Liwet* has complicated dishes produced by a certain level of class and represents the honor of high caste. In a study of ethnocentrism in food consumption, Sundanese *Nasi Liwet* was found to be accepted more easily compared to Surakarta's *Nasi Liwet*. Sundanese *Nasi Liwet* is also more friendly especially, for Small and Medium Enterprises (SMEs). It can be produced easily and can be innovated into various variations. The production cost of Sundanese *Nasi Liwet* also not as high as Surakarta's *Nasi Liwet* (2).

A brand is an affecting factor in buying decisions. In post pandemic situation, brand used as insurance for food safety. The brand was the first buying decision factor used as consideration by consumers in Europe. It considered more important than religion (3). Brand also affects in promoting buying good products with value, such as environmental friendly

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product, organic, or healthy food (4). Good brands also affect in the promotion of new product beside of icons or influencers involved during promotion (5).

Gastro diplomacy was initiated by Thailand to spread its influence softly across the globe. Gastro diplomacy had a special connection in the formulation and innovation of traditional food. However, the focus of it should not be limited to the formulation. In 2018, Japan succeeded not just in spreading its influence but also in increasing income generated of respected country. Washoku was appointed as the icon of Japan Gastro diplomacy. Washoku has been successful in promoting Japan culinary since it is not just represented one particular food, but also the culture of Japan. This was the reason why Japan's Gastro diplomacy was leading compared to another country who only highlighted one food product. Thailand only uses Tom yum as their icon of Gastro diplomacy, while Malaysia uses *Nasi Lemak*. Branding has to be considered besides formulation and innovation of traditional culinary (6). Sundanese *Nasi Liwet* reformulation is important. Good branding also important as bridge between costumer and the traditional culinary. This research was conducted to analyze how branding affects the selling and buying decision of consumer toward new formulated *Nasi Liwet*.

## 2. Materials and Methods

The research was conducted in three phases. The first phase was the innovation of *Nasi Liwet*. The second phase was acceptance evaluation, and the last phase was market acceptance analysis.

### 2.1. Innovation of *Nasi Liwet*

#### 2.1.1. Red *Nasi Liwet*

The material used for Red *Nasi Liwet* was listed at Table 1.

Table 1. Material of Red *Nasi Liwet*.

No	Ingredients	Quantity	Unit
1	Rice	1	kg
2	Cooking oil	6	spoon
3	Jambal Fish	50	g
4	Bay leaf	10	pieces
5	Lemon grass	6	pieces
6	Chili pepper	8	pieces
7	Sappan wood boiled water	1.2	L
Grounded spices			
1	Red onion	16	pieces
2	White onion	10	pieces
3	Hazelnut	6	grain
4	Sappan wood	200	g
5	Salt	4	tea spoon
6	Pepper	1	tea spoon
7	Instant chicken broth	1	tea spoon
8	Flavor enhancer	0.25	tea spoon
9	Cooking oil	60	mL

All grounded spices were ground until resulting smooth consistency. Sappan wood was boiled in 1.5 L water. All the smooth mashed grounded spices were cooked using cooking oil. The rice was cooked using rice cooker. 1.2 L Sappan wood boiled

water was added together with cooked grounded spices and other ingredients. The mixture was mixed carefully and left inside rice cooker until well cooked.

### 2.1.2. Yellow *Nasi Liwet*

The material used for Yellow *Nasi Liwet* was listed in Table 2.

Table 2. Material of Yellow *Nasi Liwet*.

No	Ingredients	Quantity	Unit
1	Rice	1	kg
2	Cooking oil	6	Spoon
3	Jambal Fish	50	g
4	Bay leaf	10	pieces
5	Lemon grass	6	pieces
6	Chili pepper	8	pieces
7	Water	1.2	L
Grounded spices			
1	Red onion	16	pieces
2	White onion	10	pieces
3	Hazelnut	6	grain
4	Turmeric	3	cm
5	Salt	4	tea spoon
6	Pepper	1	tea spoon
7	Instant chicken broth	1	tea spoon
8	Flavor enhancer	0.25	tea spoon
9	Cooking oil	60	mL

All grounded spices were grounded until resulting smooth consistency. All the smooth mashed grounded spices were cooked using cooking oil. The rice was cooked using rice cooker. 1.2 L water was added together with cooked grounded spices and other ingredients. The mixture was mixed carefully and left inside rice cooker until well cooked.

Formulation was conducted using random mixing between new formulated *Nasi Liwet* with condiments from across Indonesia and abroad. The result was bellow,

- Formula A (Red *Nasi Liwet* with condiment *Semur Jengkol* and Corn *Bakwan*), branded as “Milwet”;
- Formula B (Red *Nasi Liwet* with condiment Fried Crispy chicken skin and stir-fried white tofu and bean sprout), branded as “Ngeliwet Yuk”;
- Formula C (Red *Nasi Liwet* with condiment shredded Tuna and stir-fried French Bean), branded “Liwet Kuy”;
- Formula D (Yellow *Nasi Liwet* with condiment *Semur Jengkol* and Corn *Bakwan*), branded as “Ngeliwet”;
- Formula E (Yellow *Nasi Liwet* with condiment Fried Crispy chicken skin and stir-fried chayote) branded as “Ini Nasi Liwet”;
- Formula F (Yellow *Nasi Liwet* with condiment Fried Spicy Crispy Tofu and stir-fried French bean and carrot), branded as “Pawon Indung”

### 2.2. Acceptance Evaluation

Acceptance evaluation was conducted in five spots around De’Is Café across Bogor district. The spot was designed using the transect method with an interval of 100 m for each spot. 105 respondents were responding the survey, but only 95 data of respondents can be

analyzed. The data/sample size was considered representative for open sensory analysis according to Gonzales (7) The method was open sensory test using 5 scales Likert chart. Description of the Likert chart was shown in Table 3. Panellists were subjected to score the taste, appearance, texture, and aftertaste of newly formulated Sundanese *Nasi Liwet*.

Table 3. Likert chart description.

Score	Description
1	Very much dislike
2	Dislike
3	Neutral
4	Like
5	Like very much

### 2.3. Market Acceptance Analysis

Market acceptance was conducted during five days of market day. All formulas were sold at 15,000 IDR. Number of products sold for each formula was documented. Average pieces sold for each formula was analysed and used as parameter of market acceptance. Data was analyzed using PROC FREQ procedure. Chi-square was conducted at 95% confidence intervals to analyse correlations between branding and market acceptance.

## 3. Results and Discussion

### 3.1. Innovation of *Nasi Liwet*

The result of the Innovation was six formulas with six brands, shown in Figure 1.



Figure 1. Six brands of new formulated *Nasi Liwet*, “NgeLiwet Yuk”, “Liwet Kuy”, “Ini Nasi Liwet”, Pawon Indung”, “NgeLiwet”, and “Milwet”.

”Ini Nasi Liwet”, “NgeLiwet Yuk”, “NgeLiwet”, “Liwet Kuy and “Milwet” was using typography as main identity of the brands. Typography is simplest way to attract consumers in packaging design. Typography can be found quite effectively attracting consumer when used as logo (8). “Ini Nasi Liwet” using dark blue colour to represent the coolness and simplicity value that brought with the history of Sundanese *Nasi Liwet*. Dark blue colour in food commonly associated with clean and healthy (9). “Liwet Kuy” using green colour represent young banana leaf that traditionally used as packaging of Sundanese *Nasi Liwet*. It also having “mega mendung” pattern as one of traditional pattern form West Java. Mega

mending proven to be having positive result especially when applied to new innovated product like raincoat (10). “Ngeliwet” using yellow and dark red colour represent mountains and dark red soil where Sundanese *Nasi Liwet* came from. “Ngeliwet Yuk” in other hand also combining font with vegetables and dishes commonly used as side dish for *Nasi Liwet*. “Milwet” combining typography and banana leaves icon on top of the brand. “Pawon Indung” was the only brand that using Sundanese traditional jug named “Castrol” as it icon. Castrol historically used as main tools to cook *Nasi Liwet*. Together with it, “Pawon Indung” exposing yellow and dark red as colour identity of West Java. All of it using historical value as branding decision factor.

Using historical value was important especially for traditional product. It distinguishes the origin of traditional product compared to the competitors. It also help the product in building reputation and established traditional product positioning after it gain popularity (11). Apply history value was important for consumer with good knowledge with respected history. It helps distinguishes the product origin and may help the selling point of traditional product. However, it may not effective in promoting traditional product to consumers with lack of knowledge about respected history (12).

Simplicity in packaging design was having strong impact in buying decision. Simplicity was more popular in youth. It being associated with modernity, reliability, authenticity, success, and sobriety. That’s why for youth market simplicity design is best option to popularize traditional food in youth (13). Applying positive colour scheme is also important in food innovation. Such is in “Ngeliwet”, we avoid browning colour since brown colour resulted from Maillard Reaction associated with negative impacts such as carcinogenic or mutagenic (14). *Au naturel* colour spectrum such as yellow and red also being applied since it associated with healthy, interesting, and evoke active emotions (15).

### 3.2. Acceptance Evaluation

The acceptance evaluation result was shown in Figure 2.

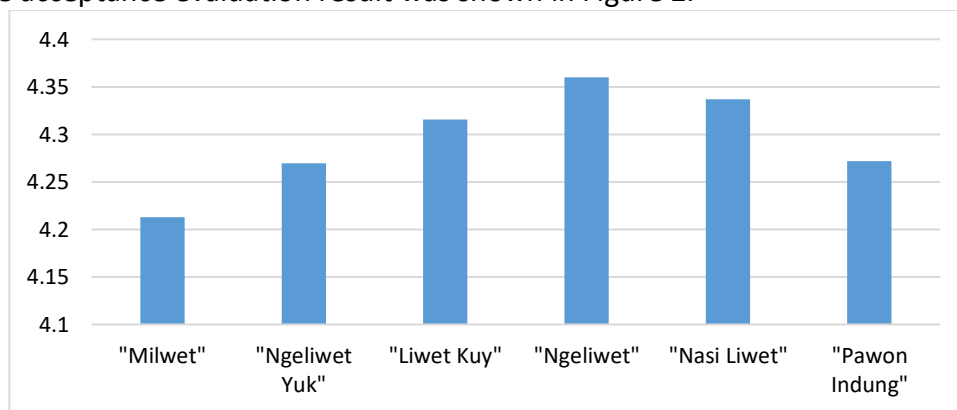


Figure 2. Overall acceptability of six new formulated *Nasi Liwet*”.

Highest overall acceptability found in brand “Ngeliwet” (4.37/5), followed by “*Nasi Liwet*” (4.34/5), “*Liwet Kuy*” (4.32/5), “*Pawon Indung*” (4.27/5), “*Ngeliwet Yuk*” (4.27/5), and “*Milwet*” (4.21/5). Yellow *Nasi Liwet* performed higher overall acceptability compared to Red *Nasi Liwet*. All the new formulas had good acceptance since the score was more than 4.00/5.

“Ngeliwet” found to give highest acceptance. “Ngeliwet” was consisting of Yellow *Nasi Liwet*, with Semur Jengkol and Corn Bakwan as condiment. The only foreign element in this formula was Bakwan. “Ngeliwet” dominated with traditional dishes. Yellow *Nasi Liwet* overall found have higher acceptance compared to Red *Nasi Liwet*. Red was image associated with

tasty, but yellow was associated with healthy and fun. In China, yellow colour found to have higher acceptance when incorporated with food (16).

### 3.3. Market Acceptance

Market acceptance of product was described in Figure 3.

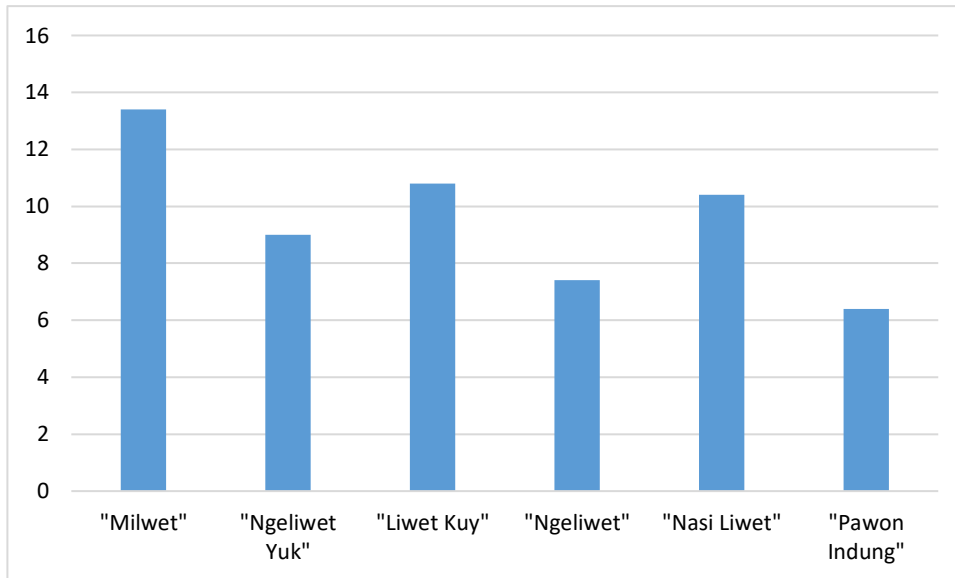


Figure 3. Market acceptance of six new formulated *Nasi Liwet*".

The market acceptance shown that "Milwet" performed highest market acceptance. The maximum likelihood of how brand affecting the selling shown in table 4.

Table 4. The influence of branding to selling.

Factor	Degree of Freedom	X square	P-Value
Branding	5	0.587	1.7538
Selling	5	0.587	1.6666*

Significance at  $P < 0.05$ .

It was found that product branding correlate with the average selling of product. Packaging design found very affecting buying decision of consumers. In order to popularize traditional food, we must produce innovative bundling design. Packaging design play important role in catching existing and new consumer for Traditional Food (17). Safety and quality found to be important for traditional food marketing. It created positive impact for consumers. However, it was not influencing market penetration of new product. Brand and gimmick of food packaging was second must consider to market new innovated product after price (18). This is the reason although "Milwet" had lowest overall acceptability, it maintained highest market acceptance during this research.

## Milwet



5 × 5 cm  
(Front)



10.48 × 5.25 cm  
(Back)

Figure 4. Label and new brand of “Milwet”.

“Milwet” applying green colour and leaf-like symbol. The background of using green colour is a remembrance how traditional Sundanese *Nasi Liwet* usually packed in banana leaves. However application of this colour also associated with “natural”, “environmental friendly”, and “healthy” image in consumers (19). “Milwet” also applied contrast colour when adding egg and “*Nasi Liwet*” image on its packaging. Colourfulness and contrast in packaging was very important in visual attractiveness of food product (20).

### 4. Conclusions

Acceptability of newly developed Sundanese *Nasi Liwet* was not directly affecting the market acceptance of this traditional culinary. Color and composition of *Nasi Liwet* were factors affecting acceptability of new formulated Sundanese *Nasi Liwet*. Despite of lowest overall acceptability, “Milwet” performed highest market acceptance, followed “Ini Nasi Liwet”, “Ngeliwet”, “Liwet Kuy”, and “Pawon Indung”. Selection of color and symbol on packaging may improve market acceptance of a product. Applying good brand could be used as an alternative to popularize traditional culinary.

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### Author Contributions

D. P. performed the formulation and acceptance analysis; M.U.C. A. and M. R. design market acceptance and analyzed the data; S. K. and D. P. writing original draft.

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## Institutional Review Board Statement

This research was conducted in accordance with the Declaration of Helsinki, and was approved by the Institutional Review Board or the Ethics Committee Poli Media.

## Data Availability Statement

Not Applicable.

## Conflicts of Interest

Authors may declare no conflict of interest.

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