

# Design of Glegeg-in Modern Drink Positioning Improvement Based on Perceptual Mapping Using Multidimensional Scaling Method

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## Abstract

*Glegeg-in is a Bandung-based brand that sells modern drink such as milk tea, thai tea, coffee, and boba drinks. Glegeg-in revenue have been unstable over the past years. One of the root causes is a low brand awareness compared to its competitors. A low brand awareness compared to other brands caused by the customers not aware of the value proposition that Glegeg-in offers, which is affordable, has a variety of menu options, and attractive packaging. The purpose of this research is to design a positioning improvement system to minimize the instability of Glegeg-in revenues by mapping the position of Glegeg-in and its competitors through perceptual mapping using the multidimensional scaling method. 122 modern drink customers were employed as samples in this research input data. Furthermore, the input data is used for data processing using MDS which produces a perceptual mapping. Based on the results of perceptual mapping, three areas of competition were obtained, Glegeg-in is in the same area with Happy Fat, which makes it the closest competitor of modern drink brands. The results of this study are an integrated positioning system improvement design for Glegeg-in on the attributes of modern drinks which are the value proposition of Glegeg-in. This is the basic consideration for Glegeg-in in achieving the goals that have been set.*

## Keywords

glegeg-in, modern drink, positioning, multidimensional scaling, attributes, perceptual mapping



## I. Introduction

Indonesia is listed as a country with a dense population. Along with the development of the population, the need for food and drink continues to increase. Small and Medium Enterprises (SMEs) are one of the foundations and strengths that make a significant contribution to the Indonesian economy [1]. CNN Indonesia noted that in 2016 SMEs contributed 60.34 percent to the growth of Gross Domestic Product (GDP) per capita [2]. One of the industries that have an important role in contributing to Gross Domestic Product (GDP) is the food and beverage industry. The food and beverage industry are one of the business sectors that continue to grow from year to year [3]. Along with the development of business in the food and beverage sector from year to year, the modern drink business has become a distinct trend for Indonesian. Many Indonesians are taking advantage of this situation to run their business, one of which is Glegeg-in and its other competitors such as, Happy Fat, Papa Aus, Teguk, Street Boba, HAUS!, Xiboba, and Chatime.

Glegeg-in is a company that focuses on selling modern drinks. Based on the data provided by the company, Glegeg-in revenue over the past year is unstable. There is a significant difference between the realization and revenue target in each month. The value

of the difference between the realization and the revenue target is the main problem that must be solved.

Therefore, it is necessary to carry out an analysis of the repurchase rate which aims to ensure the quality of the products offered. Using 95 sample purchases obtained from Glegeg-in internal data, 74% of customers made a repurchase. In confirming the repurchase data, in-depth interviews were then conducted with five consumers who had made repeat purchases of Glegeg-in products. The driving elements were discovered through these five customers are the affordable price of beverage products, has many different flavor variants, product packaging that looks simply, the milk is very pronounced, soft boba compared to other brands, fresher to drink (Yakult and lemon milk), and tastes good fit (not too sweet). In this case, the product has good quality and can be accepted by the public, especially Glegeg-in customers so it has the potential to be liked by other modern drink connoisseurs or accepted by the market.

According to a preliminary survey on 70 respondents of modern drink connoisseurs that are in Bandung City, the most widely known by consumers is Chatime. There are only 11 respondents who know Glegeg-in as a modern drink brand. Researchers need to strengthen the analysis related to the problem of the research object after knowing the number of respondents who know the Glegeg-in modern drink compared to other modern drink. This was carried out by conducting a preliminary survey with 11 respondents who knew Glegeg-in. This survey aims to determine consumer perceptions related to the value proposition of Glegeg-in modern drink compared to other modern drinks. Most of the respondents are not aware of Glegeg-in's value proposition compared to other brands. This condition is certainly not what the problem owner expected. From this situation, the company owner hopes that Glegeg-in can have a strong brand because Glegeg-in sets its value proposition as a modern drink that is affordable, has a variety of menu options, and attractive packaging.

From the results of the preliminary survey, consumer knowledge about the Glegeg-in modern drink product is still low compared to other brands and there are still many Glegeg-in consumers who do not know the superiority of the Glegeg-in compared to other brands. This shows that Glegeg-in's modern drink products are not different enough or unique enough compared to other brand's modern drink products. In this case, positioning mapping can be carried out to strengthen the Glegeg-in brand among its competitors. the solution to the positioning problem is to create a perceptual mapping through the multidimensional scaling (MDS) method because it will help companies understand how to position products accurately according to competitive competition through visual displays [4] and [5].

## **II. Review of Literature**

### **2.1 Positioning**

Positioning is the act of designing a company's offering and image to occupy a certain place in the minds of the target market. To maximize the profit potential for the company, the goal is to place the brand in the consumers' minds. A good brand positioning explains the core of the company, identifies the goals that help consumers achieve them, and shows how to do it in a unique way to lead the marketing strategy. The position of a product is a perception, impression, and feeling of consumers with reference to competing products [6].

## 2.2 Perceptual Mapping

When positioning a product, service, brand, or company, it is necessary to have a clear understanding of the positioning of the brand or product in the competitive chain. Perceptual mapping helps companies understand and gain a lasting competitive advantage over their competitors. This helps businesses in retaining current customers and ensures their loyalty. Perceptual mapping is a graphic technique to describe the perception of consumers or potential customers. Perceptual mapping provides a unique ability to understand market structure by analyzing complex relationships between market competitors and the criteria used by buyers in making purchasing decisions and recommendations [7].

## 2.3 Multidimensional Scaling

Multidimensional scaling (MDS) is one of the methods of the multivariate technique which is a class procedure for presenting respondents' perceptions and preferences geometrically or spatially through a visual display [8]. In proposing an approach related to positioning problems, the multidimensional scaling method can be used to map consumer perceptions of the advantages and disadvantages of brand positioning. MDS also offers the value of proximity between brands to be able to understand how close or far the brand is positioned on the perceptual map with the specified dimensions [9].

## 2.4 Modern Drink Attributes

In identifying and anticipating market needs for selecting modern drink, the researcher identified modern drink attributes that were carried based on previous research and Voice of Customer (VOC). The previous research used as a reference are studies that discuss similar problems, methods, and objects to this research, which are positioning problem using multidimensional scaling (MDS) method in selecting a modern drink. To obtain the Voice of Customer, the researcher interviewed 30 respondents who are modern drink connoisseurs.

**Table 1.** Identification of Modern Drink Attributes from Previous Research & VOC

No.	Attributes	Previous Research						Voice of Customer (VOC)	This Final Project (2022)
		[10]	[11]	[12]	[13]	[14]	[15]		
1	Price	✓	✓	✓	✓	✓	✓	✓	✓
2	Product Taste	✓			✓			✓	✓
3	Variety of Size					✓		✓	✓
4	Brand Reputation		✓		✓	✓		✓	✓
5	Variety of Flavor	✓			✓		✓	✓	✓
6	Outlet Location	✓			✓			✓	✓
7	Service	✓		✓	✓		✓	✓	✓
8	Promotion	✓				✓		✓	✓
9	Product Freshness				✓				
10	Product Availability		✓						
11	Product		✓						

	Quality								
12	Facilities			✓					
13	Packaging					✓		✓	✓
14	Testimonial					✓		✓	✓

### III. Research Methods

The MDS approach was used in this research to perform research in many stages. The study began by identifying the attributes of modern drink product selection, which included a theoretical examination and customer perception. Theoretical review discussed placement, perceptual mapping as a tool for locating objects, and the multidimensional scaling (MDS) approach for creating the perceptual map in this study. After extracting attributes that refer to previous research and voice of customer (VOC) using a preliminary study or interview, the next stage is the preparation of a questionnaire. From the results of extracting the attributes that have been obtained, they are then used as material for compiling a questionnaire to determine consumer perceptions and preferences of modern drink connoisseurs to brands obtained in preliminary studies and observations. The questionnaire will be prepared using a Likert scale. Questionnaire data processing was carried out using the multidimensional scaling (MDS) method.

After processing the data using MDS and obtaining the results of perceptual mapping, then an analysis of the results of data processing is carried out. The researchers develop the positioning improvement system design from the perceptual mapping results. The positioning improvement system design has several limitations. The researchers also describe the project planning for the design for improving the positioning and validates the design results to the problem owner to obtain the problem owner's feedback.

### IV. Results and Discussion

#### 4.1 Data Processing using MDS

The questionnaire data were collected and recapitulated using Microsoft Office Excel Software, then the questionnaire data was processed using the multidimensional scaling method on the IBM SPSS software to provide an overview of the modern drink brand position Gleg-in when compared to its competitors. The data used in the IBM SPSS software is the result of recapitulation of the perceptions of 122 modern drink consumers on each of its attributes. From the results of the recapitulation of the questionnaires that have been distributed, it is obtained that the average data on the assessment of consumer perceptions of each attribute of the modern drink product is studied. The data can be seen in Table 2.

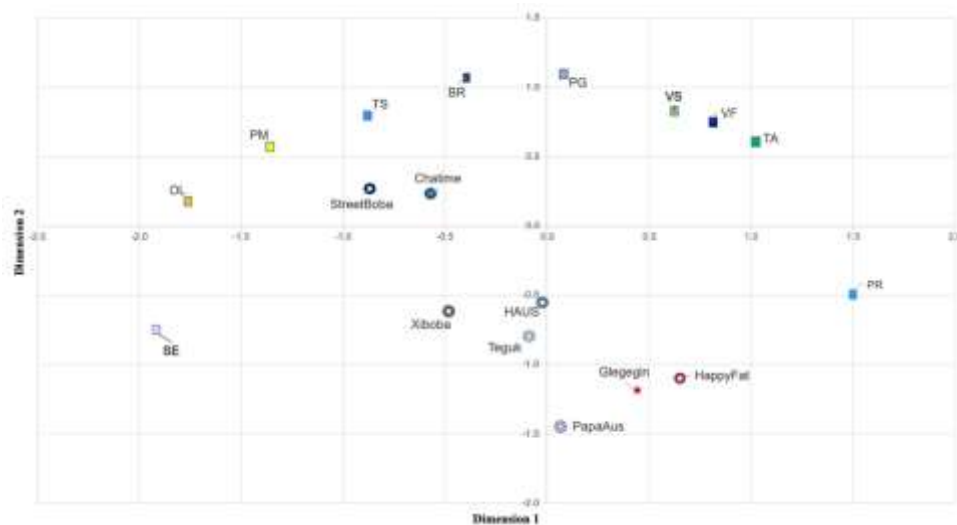
**Table 1.** Average Value of Modern Drink Attributes

Attribute	Modern Drink Brands							
	CT	XI	HS	SB	TG	PA	GG	HF
PR	2.99	1.54	1.78	3.93	1.32	1.14	1.07	1.09
TA	1.08	1.64	1.94	2.07	2.83	3.32	2.32	2.61
VF	1.05	3.25	1.15	1.18	1.26	4.00	3.30	1.30
VS	1.06	3.47	1.03	1.69	2.40	3.86	2.06	2.09
PG	1.00	2.07	1.12	2.06	2.67	3.15	3.92	3.82

<b>BR</b>	1.06	1.39	2.39	1.00	2.95	3.44	3.65	3.80
<b>TS</b>	1.00	1.37	2.55	1.42	2.07	3.60	3.02	3.89
<b>PM</b>	1.03	1.11	3.18	1.02	1.06	4.00	3.89	3.95
<b>OL</b>	1.01	1.48	2.11	1.04	3.32	3.87	3.77	4.00
<b>SE</b>	1.14	1.44	1.55	1.25	1.97	2.24	3.65	3.91

#### 4.2 Perceptual Mapping Result

After processing the data with multidimensional scaling (MDS) using IBM SPSS software, then the perceptual mapping results are obtained which show the position of each modern drink brand with respect to each attribute. The results of the perceptual mapping can be seen in Figure 1 as follows:



*Figure 1. Perceptual Mapping*

Based on the results of the perceptual mapping, it is obtained that the position of each brand and the attributes of modern drink products are clearly depicted visually. In addition, it can also be seen the coordinates of each modern drink brand and the coordinates of each modern drink attribute, which are shown in Table 3 and Table 4.

**Table 2.** Coordinate of Modern Drink Brand

No.	Modern Drink Brands	X	Y
1	Chatime	-0.6	0.2
2	Xiboba	-0.5	-0.6
3	Haus	0.0	-0.6
4	Street Boba	-0.9	0.3
5	Teguk	-0.1	-0.8
6	Papa Aus	0.1	-1.4
7	Gleggin	0.4	-1.2
8	Happy Fat	0.7	-1.1

Based on Table 3, it can be seen the coordinates of the modern drink brand which describes the position of each modern drink brand and the conditions of competition between each modern drink brand. The following are the coordinates of each attribute of the modern drink that was used in this study, which can be seen in Table 4.

**Table 3.** Coordinate of Modern Drink Attributes

No.	Attribute Codes	Attribute Name	X	Y
1	PR	Price	1.5	-0.5
2	TA	Product Taste	1.0	0.6
3	VF	Variety of Flavor	0.8	0.7
4	VS	Variety of Size	0.6	0.8
5	PG	Packaging	0.1	1.1
6	BR	Brand Reputation	-0.4	1.1
7	TS	Testimonial	-0.9	0.8
8	PM	Promotion	-1.4	0.6
9	OL	Outlet Location	-1.8	0.2
10	SE	Service	-1.9	-0.8

The results from attribute coordinates of the modern drink obtained describe the position of the attribute in the perceptual mapping. After the results of the coordinates of the brand and the attributes of the modern drink are known and a visual perceptual mapping is obtained, the next step is to label the dimensions. Dimension labeling aims to determine the dimensions of the measurement being carried out.

### 4.3 Design Specification and Design Standard

The design for Glegeg-in modern drink attribute improvement system will be arranged based on [8]. The MDS results can be accepted if the R-square value  $\geq 0.6$  is obtained. While the stress value is close to zero, this indicates that the resulting MDS model will be better. The following is the stress value and R-square from the results of data processing on IBM SPSS software, which can be seen in Table 5.

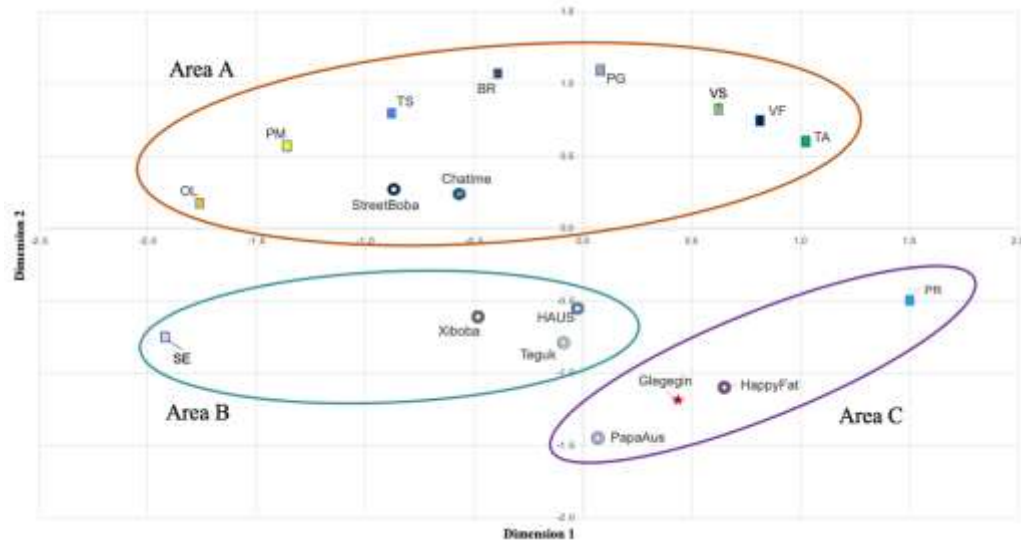
**Table 4.** MDS Specification Result

Value	Value Result
R-Square	0,95454
Stress	0,22800

The stress value obtained has a value of more than 0.2, this can be influenced by several factors. According to [16], a researcher does not have to base the fit assessment obtained only on the specified stress standard rules (for example, the stress value must be lower than 0.2). The high stress value is also influenced by the number of objects or attributes studied, the more objects or attributes studied, the higher the stress value obtained. Therefore, from the R-square value and the stress value obtained in this research, the results of the MDS used can be said to be feasible and acceptable.

#### 4.4 Analysis of Competitive Condition

After analyzing which modern drink brands have a value proposition and excel in each modern drink attribute based on the calculation of the Euclidean distance, then an analysis is carried out regarding the competitive conditions of modern drink brands according to consumer perceptions. The analysis is described through perceptual mapping which maps the position of each modern drink brand which is grouped into 3 areas which can be seen in Figure 2.



*Figure 2. Competitive Condition of Modern Drink Brands*

Based on Figure 2, the competitive conditions are grouped into three regions based on the calculation of the Euclidean distance between modern drink brands and modern drink attributes. If the modern drink brands are in the same area, it can be defined that these modern drink brands have similar characteristics and there is competition between one brand and another in the same area. Through the perceptual mapping, in Area A there are two modern drink brands, namely Street Boba and Chatime. The two modern drink brands have similar characteristics so that they are in the same competitive area. These brands can outperform each other in taste attributes (TA), flavor variations (VF), size variations (VS), packaging (PG), brand reputation (BR), testimonial (TS), promotion (PM), and outlet location (OL). Then in Area B, there are three modern drink brands, namely Xiboba, Teguk, and HAUS. These brands can outperform each other in terms of service (SE). And in Area C, there are three modern drink brands, namely Papa Aus, Glegeg-in, and Happy Fat. These brands can outperform each other in terms of price (PR).

#### 4.5 Integrated System Improvement Design

A positioning improvement proposal is designed based on the positioning design objectives at the beginning of the research, positioning results analysis, and verification to the Glegeg-in modern drink. In providing the right improvement design to the Glegeg-in modern drink, the researcher discussed with the problem owner what Glegeg-in wanted to be recognized by the market. From the discussion, the problem owner stated that Glegeg-in wants to be known as a modern drink that is affordable, has a variety of menu options, and attractive packaging. These show that Glegeg-in's value proposition focuses on attributes of price, packaging, and variety of flavor. Table 6 discusses the order of Glegeg-in attributes from closest to furthest.

**Table 5.** Euclidean Distance Attribute to Glegeg-in

<b>Modern Drink Attributes</b>	<b>Euclidean Distance</b>	<b>Rank</b>
Price	1.273	1
Product Taste	1.894	2
Variety of Flavor	1.982	3
Variety of Size	2.034	4
<i>Packaging</i>	2.321	5
Brand Reputation	2.392	6
Testimonial	2.397	7
Promotion	2.419	8
Outlet Location	2.525	9
Service	2.596	10

Based on Table 6 which shows the results of calculating the Euclidean distance of each attribute to Glegeg-in, it is known that Glegeg-in has not succeeded in being superior to positioning itself in attributes of variety of flavor and packaging. However, Glegeg-in has succeeded as a contemporary drink that is superior in price attributes. According to customer perception, Glegeg-in is still unable to compete in terms of promotion and outlet location when compared to other competing brands. The proposed design improvements that can be made by Glegeg-in in improving the three attributes so that they are in accordance with the value proposition set by Glegeg-in are as follows:

**Table 6.** Glegeg-in Positioning Improvement Design

<b>Attributes</b>	<b>Improvement Design</b>	<b>Aspect</b>	<b>Integrated System Design</b>	<b>Improvement Base</b>
<b>Variety of Flavor</b>	<ul style="list-style-type: none"> <li>- Releasing a product with a new variety of flavors</li> <li>- Making promotions of new flavor variations</li> </ul>	Man	<ul style="list-style-type: none"> <li>- Utilize 1 employee as a person who understands research on product taste.</li> </ul>	Implementing Chatime standardization as a minimum qualification
		Method	<ul style="list-style-type: none"> <li>- Conduct market research on the flavors that the market likes</li> <li>- Promoting on Glegeg-in social media regarding new flavor variations.</li> </ul>	



**Table 7.** Glegeg-in Positioning Improvement Design (continued)

Attributes	Improvement Design	Aspect	Integrated System Design	Improvement Base
<p><b>Packaging</b></p>	<ul style="list-style-type: none"> <li>- Release new packaging forms on products</li> <li>- Release the size of the bottle packaging with a size of 1 liter</li> </ul>	Man	<ul style="list-style-type: none"> <li>- Hire a professional service as a product designer.</li> </ul>	<p>Implementing Chatime standardization as a minimum qualification</p>
		Partner	<ul style="list-style-type: none"> <li>- Cooperating with vendors to produce packaging (cups, bottles, straw seals, etc.).</li> </ul>	
		Method	<ul style="list-style-type: none"> <li>- Conduct market research on attractive packaging in the market</li> <li>- Conduct market research on market demand related to 1 Liter bottle packaging</li> </ul>	
		Money	<ul style="list-style-type: none"> <li>- Company needs to spend funds in accordance with the draft budget to hire product designer and vendor services.</li> </ul>	
<p><b>Price</b></p>	<ul style="list-style-type: none"> <li>- Establishing an External Partnership Division to cooperate with outside parties</li> <li>- Maintaining the value proposition on the price attribute to survive the threat of competitors</li> <li>- Make a choice of various price packages.</li> <li>- Cooperating with e-commerce companies in providing discounts</li> <li>- Cooperating with banking companies in providing discounts on payments via credit cards and e-wallet</li> </ul>	Man	<ul style="list-style-type: none"> <li>- Utilizing 2 employees from the Marketing Division as marketing research and 2 people as external partnerships.</li> </ul>	<p>Implementing Happy Fat standardization as a minimum qualification</p>
		Partner	<ul style="list-style-type: none"> <li>- Cooperating with Go-Food, Grab-Food, Travelokaeats, ShopeeFood to make price discounts.</li> </ul>	
		Method	<ul style="list-style-type: none"> <li>- 2 employees are responsible for conducting price marketing research and 2 employees working with external parties.</li> <li>- Take advantage of certain events to provide attractive promos, such as at Food Festivals, Exhibitions, Performing Arts, etc.</li> <li>- Evaluating the price attribute to be able to maintain the business value proposition and improve the lack of these attributes.</li> <li>- Conduct market research related to consumer buying behavior when buying modern drink products.</li> <li>- Provide points that can be exchanged for drinks, specifically for purchases through the marketplace with a minimum of 5 purchases.</li> <li>- Conduct market research on banking companies that will be used as business partners and communicate about cooperation offers to business partners.</li> </ul>	

## V. Conclusion

This research aims to identify the attributes in selecting modern drinks used in perceptual mapping. Furthermore, this research also carried out mapping of the position of the current drink brand Glegeg-in against its competitors according to consumer perceptions of modern drinks, as well as designing recommendations for improving the Glegeg-in positioning in accordance with the value proposition set by Glegeg-in to be in the right position. according to modern drink consumers and based on the goals prepared by the Glegeg-in. From this research there are ten attributes used in perceptual mapping, price, product taste, variety of flavor, variety of size, packaging, brand reputation, testimonial, promotion, outlet location, and service. Glegeg-in competes along with Papa Aus and Happy Fat on the price attribute. The design of positioning improvement system for Glegeg-in is carried out on the attributes that the problem owner wants to highlight so that they are known by the market and can compete well with other modern drink competitors.

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