Brand Equity Analysis of Formula Milk for Age 1-3 Years Old at Integrated Healthcare Center Mawar IX Bandung

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ABSTRACT. *This study aims to describe the characteristics of consumers in purchasing formula milk products aged 1-3 years and to analyze the brand equity of formula milk aged 1-3 years at Integrated Healthcare Center Mawar IX, RW 9, Cipamokolan Village, Rancasari District, Bandung City. The method used mixed research methods and sample taking used a purposive sampling technique. Based on observations, there were 51 people who suit the criteria. Data were analyzed using descriptive analysis, Cochran test, brand switching pattern matrix, and estimation of market share. Based on research, the characteristics of its consumers are dominated by housewives aged 19-34 years with undergraduate/postgraduate graduates who have children aged 12-23 months with an income of IDR 500,000-5,000,000 and expenditures of IDR 100,000-3,000,000 per month regarding knowledge of child nutrition and obtaining information regarding formula milk from advertisements so that they buy formula milk with a frequency of 1-2 times/month and a small product volume. The results show that Dancow Batita and SGM have a fairly strong brand equity value where these two brands have a brand image with 11 brand associations and a good quality perception. SGM outperformed brand awareness and estimated market share, while Dancow Batita led in brand loyalty. While both brands are equally superior for brand association and perceived quality.*

Keywords: purchase decisions, brand equity, formula milk.

INTRODUCTION

Nutritional problems in children can have a risk of experiencing growth, development, and other health problems. Exclusive breastfeeding is often hampered due to various factors, including the mother's occupation, low education and understanding, socio-cultural environment, advertising, and lack of husband's support. Milk is one of the food sources when they are toddlers. Formula milk is milk produced specifically to fulfil nutrition so that it can be used as growth milk for children.

In Indonesia there are many choices of brands and types of formula milk offered. Top Brand Award (2022) mentions five top formula milk brands, namely Dancow Batita, SGM, Bebelac, Lactogen, and Frisian Flag 123. Dancow Batita managed to top the formula milk category in Top Brand Awards 2022 with

an index value of 28.4%, meanwhile SGM managed to lead in 2nd place with a score of 27.6%. This research is different from previous studies which emphasized UHT milk products, but this research is specifically for milk products for babies under the age of five. However, the most important thing from this research is how consumers choose quality products and have the right nutritional value for their babies

Brand equity measurement is used to determine the position of toddler milk brands so that it can be used as evaluation material and improve company performance. Companies need to analyze the elements of brand equity in order to influence consumer believe in purchasing decisions. Purchasing decisions are consumers' tendencies to buy a product and usually based on preferences and purchasing motives.

Brand equity affects purchasing decisions because brand equity can build customer perceptions regarding products that will be considered by customers in purchasing decisions (Rangkuti, 2002). Brand equity consists of several elements, namely brand awareness, brand loyalty, perceived quality, brand associations, and other assets (Aaker, 2018). The stronger brand equity will have the greater the influence on purchasing decisions (Alfionita et al., 2016). Therefore, the aim of this research is to analyze the stronger brand equity seen from several assessment elements.

MATERIALS AND METHODS

The method used is the census method, which is to take a population that is used as a sample as a whole by using a questionnaire as a data collection tool (Sugiyono, 2013). The subjects studied were housewives who were formula milk consumers aged 1-3 years old while the objects are consumer characteristics and brand equity.

The sample was selected by purposive sampling technique with the criteria of the respondents being housewives, active in Integrated Healthcare Center (IHC) Mawar IX, having children under five, and have bought formula milk aged 1-3 years old. IHC Mawar IX was chosen as the research location because the posyandu was quite productive and had a large population of toddlers. Based on observations, there were 51 people who suit the criteria.

In this study, descriptive analysis was applied to analyze the general characteristics of consumers, elements of brand awareness, brand loyalty and perceived quality. Meanwhile, brand association will be tested using the Cochran Q test to determine brand attributes that are associated with each other and form an image of a brand.

Cochran Q-Test formula:

$$Q = \frac{(k-1)\left[k\sum_{j=1}^{k} C_j^2 - \left(\sum_{j=1}^{k} C_j\right)^2\right]}{k\sum_{i=1}^{k} R_i - \sum_{i=1}^{k} R_i^2}$$

Cj = Total score in column j
Ri = Total score in row i
k = Number of variables (associations)
Degrees of freedom: df = k-1
Significance level: α = 5%
Basis for decision making:
Ho is rejected, if Cochran count > x^2 (Chi Square) table
Ho is accepted, if Cochran count < x^2 (Chi Square) table

Brand switching pattern matrix analysis is used in order to be able to analyze estimates of brand switching to formula milk products derived from brand loyalty data.

$$PRoT = \frac{1}{t} Ln \frac{ALx}{Atx} + 100\% \times t$$

ALx = customers who remain loyal to a brand
Atx = number of researched customers of a brand
T = the number of studies

Market share analysis to find out the approach to the results of all respondents' answers to Dancow Batita and SGM formula milk products.

Market share formula:
Market share = Awareness × Product Attractiveness × Willingness to pay × Availability

RESULT AND DISCUSSION

Consumer Characteristics

Consumer characteristics were grouped based on respondent's age, child's age, work, education level, monthly income, monthly expenses, monthly purchase frequency, purchase volume, knowledge related to nutrition, and sources of information. Consumer characteristics can be seen in Table 1.

Table 1. Consumer characteristics

Characteristics	Amount (person)	Percentage (%)
Respondent's age		
19-34 years old	33	64.71
35-49 years old	18	35.29
Total	51	100.00
Child's age		
12 - 23 months	17	33.33
24 - 35 months	11	21.57
36 - 47 months	9	17.65
4 -5 years old	14	27.45
Total	51	100.00
Work		
House wife	35	68.63
Civil servant	1	1.96
Private employee	9	17.65
BUMN	4	7.84
Honorary	1	1.96
Entrepeneur	1	1.96
Total	51	100.00
Education		
High School/Trade School Diploma	18	35.29
Associate Degree	9	17.65
Bachelor Degree/Graduate	24	47.06
Total	51	100.00
Monthly income		
< Rp 500.000	2	3.92
Rp 500.001-1.500.000	4	7.84
Rp 1.500,001-3.000.000	17	33.33
Rp 3.000.001-5.000.000	13	25.49
>Rp 5.000.000	15	29.41
Total	51	100.00
Monthly expenses		
< IDR 100.000-1.000.000	3	5.88
IDR 1.000.001-2.000.000	16	31.37
IDR 2.000,001-3.000.000	10	19.61
> IDR 3.000.000	22	43.14
Total	51	100.00
Purchase frequency/month		
1 -2 times	30	58.82
3-4 times	17	33.33
≥ 5 times	4	7.84
Total	51	100.00
Volume of milk		
Small	20	39.22
Medium	19	37.25
Large	12	23.53
Total	51	100.00
Knowledge about Nutrition		
Yes	51	100.00
No	0	0
Total	51	100.00
Reference		
Family	14	27.45
Friend	4	7.84

Characteristics	Amount (person)	Percentage (%)
Doctor	9	17.65
Advertisement	24	47.06
Total	51	100.00

Consumer characteristics in making purchasing decisions are generally based on various factors, such as personal, psychological, social and cultural (Kotler and Armstrong, 2008). (Leko et al., 2012) stated that factors such as income, milk price, number of children, mother's education level and mother's nutritional knowledge can influence the level of demand for formula milk. Anggraeni et al. (2021) stated that the frequency of purchasing milk can be influenced by the level of education and income, as well as the child's nutritional needs. The existence of differences in consumer characteristics will result in various consumer behaviors and willingness to pay for a product.

Brand Equity Analysis

Brand equity is the power that a brand has in consumers' minds (Keller and Brexendorf, 2019). It is important for companies to have strong brand equity. Strong brand equity means that consumers' attraction to consume the product is greater (Alfionita et al., 2016). Brand equity builds customer perceptions regarding products which will be taken into consideration by customers in purchasing decisions.

The more brands of formula milk products available, the more competition in this category will increase. Previous research regarding brand equity analysis with UHT milk products was analyzed by Permatasari et al. (2022), Santoso and Najib (2015) while sweetened condensed milk by Aisyah et al. (2023). It is hoped that the research results can provide input or recommendations for companies to increase market share in formula milk products.

Brand awareness

Brand awareness plays a role in measuring how aware consumers are of the existence of a product brand. Consumers tend to decide to buy a brand that is already known because they feel safe and more reliable Brand awareness is divided into four levels, namely top of mind, brand recall, brand recognition, and unaware of the brand.

1. Top of mind

When respondents were asked about baby milk brands, the brand mentioned first in the interview was the brand that had been imprinted in consumers' minds. Top of Mind is the peak in the brand awareness element, where respondents can mention the first brand that comes to mind of consumers (Aaker, 2018). SGM succeeded in becoming the top of the minds of consumers. Brands with a high top of mind score will have a high consideration value for purchase. Generally, brands that are stored in the minds of consumers are brands that are liked and disliked (Durianto et al., 2004).

Table 2. *Top of mind*

Brand	Amount (person)	Percentage (%)
SGM	15	29.41
Bebelac	12	23.53
Dancow	8	15.69
Vidoran Xmart	4	7.84
Morinaga	4	7.84
Lactogrow	2	3.92
Nutrilon	2	3.92
Enfagrow	2	3.92
Chilgo	1	1.96
S26	1	1.96
Total	51	100.00

2. Brand recalls

Brand recall, namely remembering another brand after mentioning the first brand, is done spontaneously and is not given assistance. This indicator serves to recall other brands of formula milk products aged 1-3 years. Based on these data, Dancow leads with a value of 43.14%. Creating creative advertisements and increasing the frequency of advertisements is useful so that brands are more attached to people's minds and brand awareness is increasing (Rachmayanti and Ady, 2018).

Table 3. *Brand Recall*

Brand	Amount (person)	Percentage (%)
Dancow	22	43.14
SGM	15	29.41
S26	6	11.76
Bebelac	4	7.84
Lactogrow	2	3.92
Morinaga	1	1.96
Pediasure	1	1.96
Total	51	100.00

3. Brand Recognition

Brand recognition is brand recognition after being given assistance in the form of criteria or characteristics of a product (Aaker, 2018). This indicator is to remind respondents regarding the existence of Dancow Batita and SGM formula milk products. 98.04% knew Dancow and SGM products. (Ramadayanti, 2019) states that brand recognition can be enhanced by using a special, different and unusual brand name.

Table 4. *Brand Recognition*

Brand	Amount (person)	Percentage (%)
Dancow	50	98.04
SGM	50	98.04

4. Unaware of brand

Unaware of brand is a condition where consumers are not aware of a brand even though they have been given assistance. This indicator shows that respondents did not know that Dancow Batita and SGM are existed. Each of these two products, there is one person who does not know the existence of this brand.

Table 5. *Unaware of Brand*

Brand	Amount (person)	Percentage (%)
Dancow	1	3.33
SGM	1	3.33

Brand associations

Brand associations are all the thoughts and impressions that a person has that are linked to his memories of a particular brand (Durianto et al., 2004). A brand will have a superior position in the competition if it is supported by a variety of strong associations. Brand association was tested via the Cochran test method. The linkage of the associations that form the brand image of the brand is shown through a comparison of the Cochran and Chi square table values.

Table 6. Analisis Asosiasi Merek Dancow Batita

Level	Associations	Df	Qtest	Qtab	Result	Conclusion
Test 1	1,2,3,4,5,6,7,8,9,10,11	10	11.61	18.307	Qtest<Qtab	Accept H0

Table 7. Analisis Asosiasi Merek SGM

Level	Associations	Df	Qtest	Qtab	Result	Conclusion
Test 1	1,2,3,4,5,6,7,8,9,10,11	10	8.00	18.307	Qtest<Qtab	Accept H0

Based on the Cochran test, all associations on Dancow Batita and SGM products are interrelated. This shows that the eleven associations are very attached to both brands. These results indicate that Dancow Batita and SGM have a brand image that includes safe and practical product packaging, the product has a good image, the product has completed nutritional content, the product has an affordable price, the way to present the product is very easy, the product is safe for toddlers. 1-3 years, the product is recommended by many people, the product shows a healthy lifestyle, the product has good shelf life, a choice of flavors, and the product is available in various regions. The impression related to a brand will increase as a person's experience in consuming the brand increases or when the company's strategy seeks to show the brand more often (Durianto et al., 2004).

Perceived quality

Perceived quality is defined as the consumer's view of the quality of a product. Consumer perceptions have a direct impact on determining purchasing decisions. Assessment for each indicator of the dimensions of perceived quality using a differential semantic scale. This method aims to measure the psychological meaning of an opposite object.

Table 8. Perceived quality

Atribut	Dancow	SGM
Perfomance	4.14	3.97
Reliability	4.52	4.47
Durability	4.19	4.20
Feature	4.19	4.40
Serviceability	4.48	4.50
Conformance	4.48	4.47
Result	4.52	4.50
Mean	4.36	4.36

Based on all the attributes, it can be shown that the average value of all seven perceived quality attributes of the Dancow and SGM brands has the same value, namely 4.36. This shows that consumers consider these two brands as a whole to have very good quality. Even so, the two companies still need to increase innovation and focus on product quality. This is because every producer should have more selling points that competitors don't have (Firmansyah, 2019). Producers must know what attributes are evaluated by consumers so that producers can create a unique and useful differentiation so that consumers can buy their products (Sumarwan et al., 2013).

Brand loyalty

Brand loyalty aims to measure the level of consumer loyalty. Brand loyalty consists of five levels, namely committed buyer, liking the brand, satisfied buyer, habitual buyer, and switcher/price buyer.

1. Committed buyers

Committed buyers are analyzed through the statement "You will recommend the formula milk product to others". Dancow Batita's consumers are committed buyers with a value of 81.25%, while SGM differs slightly, namely 78.57%. This shows that Dancow Batita consumers are loyal, so they promote the products they use to others. The average value of Dancow Batita's committed buyers is in the very good category (4.21-5) with a score of 4.38, while SGM is in the good category (3.41-4.20) with a score of 4.07. Loyal or committed consumers are actualized by promoting the brand to others (Durianto et al., 2004).

Table 9. Committed Buyer

Score	Dancow Batita	SGM
Mean	4.38	4.07
Standard deviation	0.65	0.84
Committed buyer (%)	81.25	78.57

2. Liking the brand

Liking the brand is analyzed through the statement "You really like the formula milk

product". Respondents who liked the Dancow Batita brand had a score of 75%, while those who liked SGM were 71.43%. This shows that Dancow Batita and SGM consumers really like the brands they use. The two average values of liking the brand are in the good category (3.41-4.20) where the Dancow Batita score is 4.19 and the SGM score is 3.86. Consumers like brands can be caused by good previous experiences, associations associated with brands, or high quality perceptions (Durianto et al., 2004).

Table 10. Liking the Brand

Score	Dancow Batita	SGM
Mean	4.19	3.86
Standard deviation	0.96	1.21
Liking the brand (%)	75.00	71.43

3. Satisfied buyers

The results of the analysis of satisfied buyers are known through the statement "You are satisfied with the formula milk product". Dancow Batita customer satisfaction is higher than SGM. The value for toddler dancow is 68.75%, while SGM is 50%. This shows that Dancow consumers are satisfied with the purchase of these products. The average for Dancow Batita respondents is in the good category (3.41-4.20), while SGM is in the moderate category (2.61-3.40). Consumers who are satisfied with the products they buy tend to continue buying these products so that consumer satisfaction influences purchase decisions (Oktaviani and Hernawan, 2022).

Table 11. Satisfied Buyer

Score	Dancow Batita	SGM
Mean	4.00	3.21
Standard deviation	1.60	2.03
Satisfied buyer (%)	68.75	50.00

4. Habitual buyers

Habitual buyers of these two formula milk products are known by the statement "You buy these formula milk products because it has become a lifestyle and habit". The results of the analysis show that respondents who buy out of habit are very high, namely Dancow Batita as much as 81.25% and SGM 71.43%. The average value of Dancow Batita's habitual buyer is in the very good category (4.21 – 5.00) with a value of 4.38 outperforming SGM products which are in the good category (3.41 – 4.20) with a value of 3.86. Habitual buyers have an effect on consumer loyalty because at least they don't feel dissatisfied when consuming the brand (Tantu et al., 2016).

Table 12. Habitual Buyer

Score	Dancow Batita	SGM
Mean	4.38	3.86
Standard deviation	0.65	1.21
Habitual buyer (%)	81.25	71.43

5. Switchers/Price Buyers

The results of the switcher/price buyer analysis showed that respondents who bought formula milk because of the biggest price factor were Dancow, which was 81.25%, while SGM was 64.29%. This is due to the higher price of dancow compared to SGM. The price factor greatly influences Dancow purchases where the average is 4.19. Even though the average value of SGM consumers tends to be lower with a value of 3.5, consumers of these two brands still consider the price factor in their decision to buy formula milk because the average is in the good category. Price is one of the most important factors for consumers to decide on a purchase (Engel et al., 2004). Consumers tend to compare the prices of the various product options available, then decide to buy the product they want (Khoirotunnisa and Dhewi., 2016).

Table 13. Switcher

Score	Dancow Batita	SGM
Mean	4.19	3.50
Standard deviation	1.23	1.81
Switcher (%)	81.25	64.29

The information obtained is strengthened by the analysis results of the brand switching matrix or the brand switching matrix. The result was that the Dancow Batita PRoT value was 47.96% and SGM 83.62%. The lower PRoT value of Dancow Batita means that Dancow Batita consumers tend to be more loyal than SGM consumers. Brand switching can be influenced by prices, sales promotions, distribution, and the emergence of new products (Susanti et al., 2021). Kotler and Keller (2007) state that loyalty refers to consumer's determination to repeatedly buy the brand that they like.

Market share estimation analysis

Based on the results of unaided brand awareness, product attractiveness, willingness to pay, and availability obtained, the estimated market share for Dancow Batita is 32.10% and SGM is 34.38%. Apart from several elements that go into purchasing decisions, price is an important indicator in purchasing decisions. The price of SGM brand milk is more varied and below the price of Dancow brand milk. Therefore, the market share of the SGM brand is better than the Dancow brand. Meanwhile, the estimated market share value of 33.52% is owned by various brands mentioned by respondents (Permatasari et al., 2022). Market share analysis or market share is carried out in order to see market percentages by comparing company sales with overall product sales (Novita et al., 2021).

CONCLUSION

Based on the results and discussion, it can be concluded that Dancow Batita and SGM have a fairly strong brand equity value. These two brands have a brand image with 11 brand associations and a good quality perception. SGM outperformed brand awareness and estimated market share, while Dancow Batita led in brand loyalty.Both brands are equally superior for brand association and perceived quality.

CONFLICT OF INTEREST

We certify that there is no conflict of interest with any financial, personal, or other relationships with other people or organization related to the material discussed in the manuscript.

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