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INFLUENCING FACTORS OF CONSUMERS' BRAND PREFERENCE OF POWDERED MILK

Abstract: *Consumer brand preference (CBP) is a precursor to a consumer's final purchase decision of a product, and is an important area in the field of consumer buying behaviour. This is particularly so owing to the multitudinous array of competing products in the market place. Thus, the purpose of this study is to investigate the variables that influence consumers' brand preferences for powdered milk in the study area. In order to realise the objectives of the study, data were drawn from a sample of 381 milk consumers in Delta and Edo States in Southern Nigeria, using stratified and purposive sampling methods. The data generated were analysed with descriptive and inferential statistics including frequency tables, cross tabulation, ANOVA and multiple regression. The results of the cross-tabulation of monthly income and milk brands reveal that 'Dano' is the most preferred (17.3%) powdered milk brand, while 'Milksi' is the least preferred (5.8%) by consumers across all income groups. The multiple regression results indicate that CBP for milk powder is significantly influenced by consumers' attitude, reference groups, product quality, consumption emotions, television advertisement and product price, with positive consumption emotions as the dominant predictor. The study also found significant variation in CBP with respect to educational status, household size and income. Therefore, milk producing companies should adopt pragmatic pricing and marketing strategies to reach desired target segments in order to sustain customers' patronage and ensure they remain loyal to their brands.*

Keywords: *consumer brand preference; purchase decision; consumption emotions; powdered milk; Nigeria*

JEL classification: *D12, M30, M31*

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რძის ფხვნილის მომხმარებელთა ბრენდის უპირატესობაზე მოქმედი ფაქტორები

აბსტრაქტი: სამომხმარებლო ბრენდის უპირატესობა (CBP) არის პროდუქტის მომხმარებლის საბოლოო შეძენის გადაწყვეტილების წინამორბედი და წარმოადგენს მნიშვნელოვან სფეროს მომხმარებელთა ყიდვის ქცევის სფეროში. ეს განსაკუთრებით ეხება ბაზარზე არსებული კონკურენტული პროდუქტების მრავალრიცხოვანი რაოდენობის გამო.

კვლევის მიზანია გამოიკვლიოს ცვლადები, რომლებიც გავლენას ახდენენ მომხმარებელთა ბრენდის პრეფერენციებზე რძის ფხვნილზე საკვლევ ტერიტორიაზე. კვლევის მიზნების განსახორციელებლად, მონაცემები შეგროვდა 381 რძის მომხმარებლის ნიმუშიდან დელტასა და ედოს შტატებში სამხრეთ ნიგერიაში, სტრატეგიცირებული და მიზანმიმართული შერჩევის მეთოდების გამოყენებით. გენერირებული მონაცემები გაანალიზდა აღწერილობითი სტატისტიკით, სიხშირის ცხრილების, ჯვარედინი ცხრილების, ANOVA და მრავალჯერადი რეგრესიის ჩათვლით. თვითური შემოსავლისა და რძის ბრენდების ჯვარედინი შეჯამების შედეგები ცხადყოფს, რომ „დანო“ არის ყველაზე სასურველი (17.3%) რძის ფხვნილის ბრენდი, ხოლო „Milksi“ ყველაზე ნაკლებად (5.8%) მომხმარებელთა შემოსავლის ჯგუფში. მრავალჯერადი რეგრესიის შედეგები მიუთითებს, რომ CBP რძის ფხვნილისთვის მნიშვნელოვან გავლენას ახდენს მომხმარებელთა დამოკიდებულებაზე, საცნობარო ჯგუფებზე, პროდუქტის ხარისხზე, მოხმარების ემოციებზე, სატელევიზიო რეკლამაზე და პროდუქტის ფასზე, დომინანტური პროგნოზირებით დადებითი მოხმარების ემოციებით. კვლევამ ასევე დაადგინა მნიშვნელოვანი ცვალებადობა CBP-ში განათლების სტატუსთან, შინამეურნეობის ზომასა და შემოსავალთან მიმართებაში. ამიტომ, რძის მწარმოებელმა კომპანიებმა უნდა მიიღონ პრაგმატული ფასების და მარკეტინგული სტრატეგიები, რათა მიაღწიონ სასურველ სამიზნე სეგმენტებს, რათა შეინარჩუნონ მომხმარებლების მფარველობა და უზრუნველყონ, რომ ისინი დარჩებიან თავიანთი ბრენდების ერთგულები.

საკვანძო სიტყვები: მომხმარებლის ბრენდის უპირატესობა; შესყიდვის გადაწყვეტილება; მომხმარებლის ემოციები; რძის ფხვნილი; ნიგერია

JEL კლასიფიკაცია: D12, M30, M31

Introduction and review of literature

Many households in Nigeria consume different brands of powdered milk as an essential part of their daily diet. Powdered milk is a type of milk that has been pasteurized and dried through evaporation and it provides essential nutrients for human growth and development. It is enriched with high nutritional value and good properties such as fat, protein, lactose, ash, calcium and vitamin D which supports human health in terms of brain and bone development, dental health, cholesterol control, immunity-boosting and healthy growth in both children and adults (Pfeuffer & Watzl, 2017, cited by Gorska-Warsewicz, Rejman, Laskowski & Czacotko, 2019). Powder milk is usually used as an additive to breakfast meals such as tea, beverages, coffee, oats, cornflakes, pancakes, custard and pap, to mention a few. Consumers consider different factors when making decisions on milk brands preference and their consumption. This may be attributed to the fast growing concern of consumers about personal health, human development and the nutritional needs of individuals in the family. Furthermore, consumers' preference for different brands of powdered milk may also be due to improved processing and packaging to enhance the low value and reduce the challenges involved in preserving raw milk. Thus, consumers demand for powdered milk has grown so rapidly that dairy manufacturing companies are producing improved quality milk with improved storage and efficient distribution to meet their needs (Parasuraman, Singh, Nachimuthu, Arumugam & Kumar, 2021).

The Nigeria dairy products market is flooded with different types of powdered milk ranging from infant to adult milk, with different brands and variants to choose from based on individual consumer's needs. The fact that consumers have different brands of powdered milk to choose from implies that they will only purchase their most preferred brands based on their nutritional requirements. The preference of brand varies amongst consumers; while some buyers are totally loyal to a brand others may switch over to other brands owing to variety-seeking behaviour. It is therefore imperative for marketers to understand what determines consumers' preference for a product's brand.

Consumers' brand preference (CBP) is a precursor to a consumer's final choice to purchase a product and is an important aspect of consumer buying behaviour. It explains rational and irrational behaviour of consumers on how they choose a particular brand of product in the presence of other competing brands. It is the satisfaction that consumers associate with a brand which is influenced by the product core value and socio-demographic factors that ultimately define the favoured brand. Furthermore, as consumers emotionally engage with brands and develop positive feelings towards them, such emotional responses would ultimately impact the brand preferences of consumers (Kim & Sullivan, 2019). Besides, marketing strategies and tactics employed by dairy products manufacturing companies also help to shape consumers brand preference to a great extent.

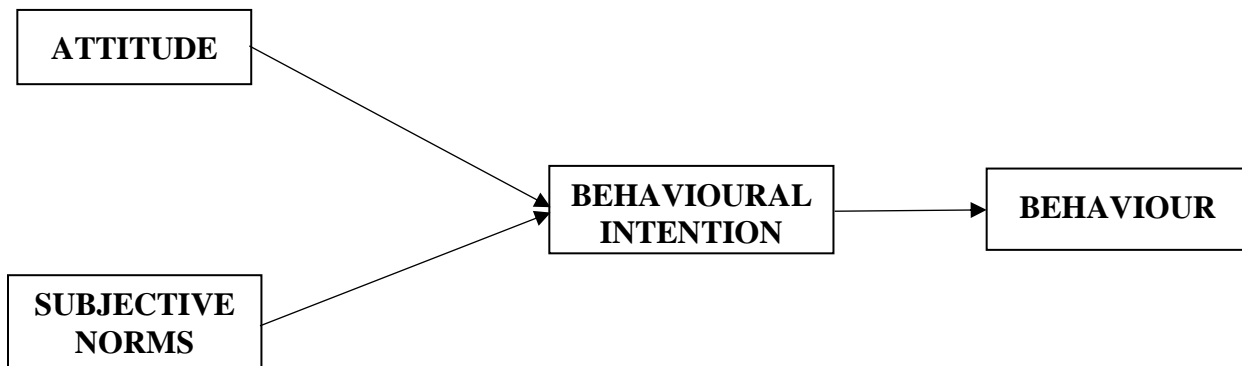
The high demand for powdered milk by consumers has led to rapid growth of the dairy industry in Nigeria with different brands of powdered milk such as *Nido, Cowbell, Milksi, Coast, Peak, Hollandia, Loya, Dano* and *Three Crowns* among others. Therefore, firms operating in the industry are faced with stiff competition in a bid to establish their brands in the heart of consumers and expand their market

shares. Furthermore, in determining the strength of a brand in the hearts and minds of buyers, marketers and milk producers need to understand influencing factors of consumers' behaviour and their brand preferences. Therefore, the purpose of this study is to investigate factors that determine consumers' brand preference of powdered milk in Southern Nigeria. Specifically the study ascertained the influence of television advertisement, product quality, product price, positive consumption emotions, consumer attitude and reference groups on brand preference; and whether demographic factors influence CBP of milk powder. The inclusion of attitude and subjective norms in the conceptual model, as well as the variation of CBP with respect to socio-demographic variables, are modest contribution of this study.

Theoretical Framework and Literature Review

The Theory of Reasoned Action (TRA) is one of the theories that explains the motivational influences on consumer behaviour. The TRA was introduced by M. Fishbein and I. Ajzen (1975) and has been widely used to predict behavioural intentions as well as actual behaviour (Madden, Ellen & Ajzen, 1992). According to TRA (Figure 1), behavioural intention is an antecedent of behaviour as behavioural intentions is based on an individual's beliefs that carrying out a specific behaviour will result in pre-set outcomes. The two categories into which these beliefs

Figure 1: Theory of Reasoned Action



Source: Madden, Ellen & Ajzen (1992)

can be separated are the person's subjective norms and their attitude toward engaging in the behaviour; that is what they perceive others do, or would have them do, influence their behavioural intentions, which in turn predict their actual behaviour (Madden, Ellen & Ajzen,1992). Therefore, the TRA will serve as the basis for this study as it considers factors that are within the volitional control of individuals.

Conceptual Model for the Study

The conceptual framework for the study thus leaned on the TRA and the extant literature on factors that influence brand preference and purchase intent. Consequently in this study, it is hypothesized that consumers' brand preference is influenced by consumers' attitudes, reference groups, product quality, television advertisement, product price and positive consumption emotions (Figure 2).

Research Hypotheses

The study's tested hypotheses are as follows:

H₁: Consumer brand preference is significantly influenced by product quality.

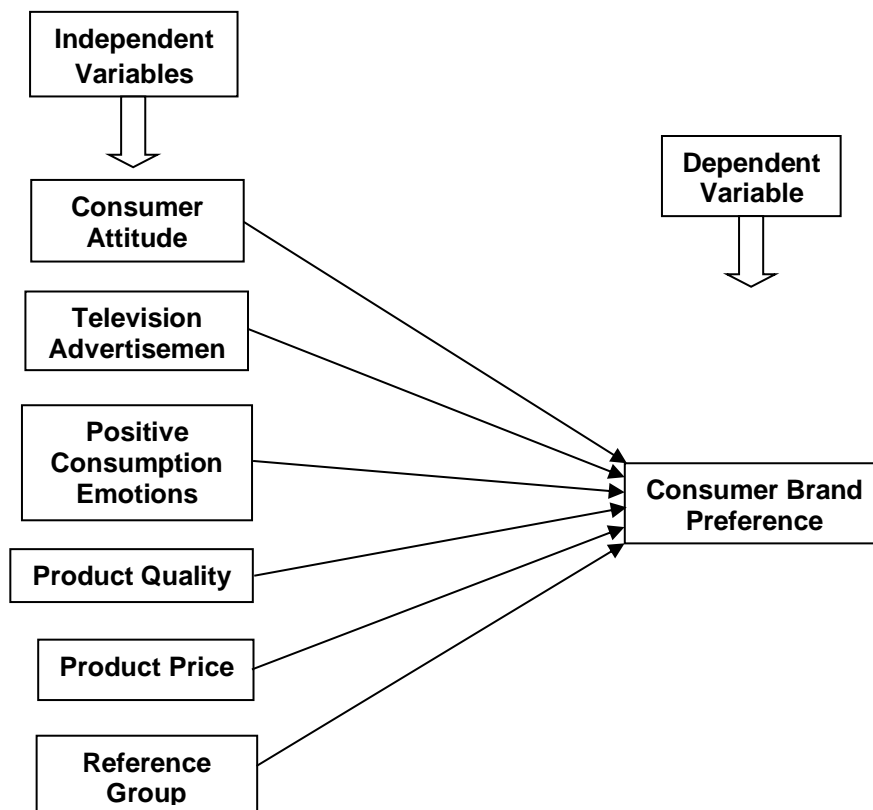
H₂: Consumer brand preference is significantly affected by product pricing.

- H₃: Positive consumption emotions have significant effects on consumer brand preference.
- H₄: Television advertisement significantly affects brand preference.
- H₅: Consumer attitude has significant influence on consumer brand preference.
- H₆: Reference group has significant effects on consumer brand preference.
- H₇: Consumers' brand preference varies with demographic factors.

Empirical Review

Marketing mix plays a pivotal role in consumers' brands preference, because it is a business instrument that is used by the management of organizations to enable them to operate in the hyper competitive global economic environment. Data from a sample of 200 respondents in the Matara area of Sri Lanka were analyzed using SPSS by R. Kishokumar and K. Suganya (2019) in their study, "Impact of Marketing Mix on Consumer Brand Preference in Milk Powder Industry." The results showed that of the 4Ps, product is the predominant predictor of brand preference amongst others, while place exerted no significant influence. In terms of revenue and income generation for the many participants in the subsector, the dairy industry is crucial to the Indian economy. Although India is the predominant milk producer in the globe, about 80% of the volume of milk produced is marketed in an unorganised sector which is comprised of producers, wholesalers, retailers and local vendors, while the formal and organised sector is dominated by cooperative societies and government agencies.

Figure 2: Conceptual Framework for the Study



Source: Author's construction, (2023)

N. Aswini, K. R. Ashok, S. Hemalatha and P. Balasubramaniyam (2020) collected a sample of 120 consumers in a study of the level of awareness and factors affecting consumers' preference towards milk products in Tamil Nadu. Garrett's rank analysis was used to analyse the factors influencing consumers' buying behaviour of milk and its products. The findings revealed that product quality, taste and price were the major determinants of milk products compared to flavour, colour and packaging. The major milk product preferred by consumers was ghee while quantity purchased had significant association with monthly income, age and household size. The authors conclude that understanding consumers' behaviour is essential for operators to succeed in the growing and competitive dairy market.

A. G. K. Wijesinghe, N. R. Abeynayake and R. L. C. Priyadarshani (2020), studied 'Factors Influencing Milk Powder Brand Preference in Kegalle District of Sri Lanka', and reported that consumers' preference for locally produced powdered milk brands in Sri Lanka has been significantly impacted by the prevalence of hazardous component contamination of imported milk powder. The study focused on examining factors that affect consumer brand preference of local and imported milk powder as well as to determine whether such factors significantly influence consumer preference of milk brands. Data for the study were obtained from a sample of 250 respondents in Kegalle District, by interview method. The results showed that brand trust, brand loyalty and product factors are the predominant variables that significantly affected consumer brand preference for milk powder. Therefore, they suggested that there is need to implement necessary product improvements and quality enhancement in the milk powder industry to stimulate brand preferences of consumers.

The intense competition in international markets due to globalisation of businesses across the world has made it imperative for companies to produce high quality products that will meet consumers' utilitarian and hedonic needs. In a study of 'Consumer Preferences towards Goat Milk' in Yogyakarta, Indonesia, Y. Agustina, J. H. Mulyo, L. R. Waluyati and M. Z. Mazwan (2021) identified combinations of several attributes such as price, flavour variants, milk type and packaging as determinants of consumer preferences of branded powdered goat milk, *Bumiku Hijau*. Data for the study were obtained from a sample of 100 respondents while conjoint analysis with pairwise-comparison was used for data analysis. Conjoint analysis is a multivariate technique used specifically to find out consumers' preferences over a product. The findings showed that flavoured variants yielded the highest utility with a value of 0.166, powdered milk 0.073, while consumers' preference had a price attribute utility value of 0.356. The authors concluded that based on utility value, price, flavour variant, type of packaging and type of milk are the consumers' preferred attributes.

In a study titled "Exploring the factors influencing consumer preference toward dairy products" conducted in India, P. K. Bahety, S. Sarkar, T. De, V. Kumar and A. Mittal (2022) determined the factors that impact consumers' inclination towards milk products. Data for the study were obtained from a sample of 912 respondents comprising of (49.1%) females and (50.9%) males using structured questionnaire and convenience sampling technique. Results of the regression analysis indicated that product quality, health consciousness, price and availability were the decisive elements that affected brand preference and the decision to purchase milk products. The findings also revealed that product quality and milk price exerted significant effects on brand preference among consumers.

M.G.T. Lakmali, G. C. Samaraweera, N. M. N. K. Narayana and W. M. R. Laksiri (2022) carried out a study on, 'Effect of Marketing Mix Antecedents on Consumer Brand Preference of Milk Powder'

in Sri Lanka. Data for the study were obtained from a sample of 100 milk powder consumers with the aid of Google form-based structured questionnaire, using convenience sampling technique. SMART PLS software was used to analyse the data. The findings showed that, brand personality and country of origin have a significant effect on consumers' preference of powder milk brand. Additionally, brand preference was shown to have a positive and significant impact on powdered milk brand loyalty. Furthermore, the results revealed that domestically produced powder milk brands are most preferred by Sri Lankan consumers over imports. The authors concluded that local milk producing and marketing companies should implement strategies that will enhance availability and distribution of domestically produced milk brands by continual improvement on quality in order to sustain consumers' patronage of their brands.

In summary, many of the studies reviewed focused mainly on product attributes, advertisement and availability as determinants of milk purchase choice as opposed to powdered milk brand preference. The few that addressed the question of consumer brand preference employed models of marketing mix elements, brand personality, brand trust and brand loyalty, elements that are actually better predictors of buying decisions. Although consumers in the reviewed studies are heterogeneous in their preferences and choices owing to possible differences in their socio-economic and cultural characteristics, yet demographic factors were not found to exert significant influence on brand preference of milk powder. Therefore, a gap still exists in the literature on theoretical and conceptual issues that this study has attempted to fill by adapting the Theory of Reasoned Action (TRA) and incorporating attitude and reference group as predictors of brand preference.

Methodology

Sampling Procedure, Data Collection and Analysis

The study was conducted in Delta State (4,112,445) and Edo (3,233,366) State, two contiguous States in Southern, Nigeria with a combined population of 7,345,781 persons (Federal Republic of Nigeria, 2009). A structured questionnaire was the research instrument used to elicit information from consumers of various brands of powdered milk, on voluntary basis. The research instrument comprised of three sections; Section A, deals with the socio-demographic; B, leading brands of powdered milk in Nigeria and consumers preferences; while C dwells on TV advertisement, product quality, price, positive consumption emotions, consumer attitude, reference group and brand preference. The constructs and statements applied in this study were modified from previous studies, and all statements were rated on a Likert scale from 1 to 5; where 1 denotes a strong disagreement with the statement, followed by 2 disagree, 3 undecided, 4 agree, and 5 strongly agree. Table 1 displays the descriptive statistics of the statements and constructs that were

Table 1: Descriptive Statistics of Constructs Operationalization

Construct Statements	N	Mean	Std. Deviation
CONSUMER BRAND PREFERENCE			
The brand name is very important in defining my choice of powdered milk	381	4.19	0.453
This milk brand has a significant influence on my purchase decision	381	3.81	0.552
I choose this powdered milk based on the brand's reputation	381	4.10	0.462
The brand gives me sense of belongingness	381	3.81	0.554
The milk brand is special to me	381	3.82	0.551
I love the taste of this milk brand	381	3.7192	1.03231
I will consume this particular powdered milk brand always	381	3.6509	1.08891
This milk brand is one that I am quite familiar with.	381	3.7927	0.87753
When I go shopping, I always purchase my favourite brand.	381	3.6824	1.06940
Because of the brand's reputation for reliability, I chose it.	381	3.7690	1.01005
I tell others good things about the brand.	381	3.8031	1.01338

I am inclined to buy powdered milk from this brand continually rather than other brands.	381	3.7585	1.00235
TELEVISION ADVERTISEMENT			
I pay attention to powdered milk brand television advertisement message	381	3.6352	1.09098
The powdered milk television advertisement creates positive image on my mind	381	3.6588	0.99425
TV advertising affect my purchase decision of milk powder brand	381	3.5984	1.02027
Attractiveness of the TV advertisements influence my choice of powder milk brand	381	3.7192	0.97731
My preference of my milk brand is stimulated by their repeated advertisement on television	381	3.7218	1.02919
The brand TV advertisement provide useful information about its products	381	3.6037	1.09202
Celebrity character of the TV advertisement influence me to purchase a particular milk powder brand	381	3.7402	0.88448
The milk brand TV advertisement is important for me as a consumer.	381	3.6457	1.08235
PRODUCT QUALITY			
Quality is an important factor that affects my purchase of powdered milk	381	3.6535	1.08369
The milk product has consistent quality since I have been consuming it	381	3.6483	0.98525
The product is hygienically well made and safe to consume	381	3.5984	1.00729
The powdered milk brand is actually tasty and nutritious as advertised	381	3.7270	0.98624
Official government agencies consider the product's quality to be acceptable.	381	3.6640	1.03999
The powdered milk brand is highly nourishing compared to other brands	381	3.6588	1.06579
The product perform consistently in terms of quality	381	3.7927	0.87452
PRODUCT PRICE			
My brand of powdered milk is competitively priced	381	3.5722	1.05039
I buy my preferred powder milk brand irrespective of the price	381	3.6089	1.02947
My preferred milk brand gives value for money	381	3.7480	0.97847
My powdered milk brand is a good product for the price	381	3.7192	1.03231
My preferred brand of powdered milk is economical	381	3.6509	1.08891
Special offers on the brand makes me purchase the milk product	381	3.7927	0.87753
Price is an important factor on my brand preference of powdered milk	381	3.6824	1.06940
The price and quality of the milk brand advertised affect my purchase decision	381	3.7690	1.01005
POSITIVE CONSUMPTION EMOTION			
I feel a sense of contentment when I consume my preferred brand of powdered milk	381	3.7585	1.00235
I am happy when I purchase this milk brand	381	3.7454	1.03657
I am excited whenever I buy products of this milk brand	381	3.7113	0.99239
I love to purchase and consume this milk brand always	381	3.82	0.551
I expect to re-purchase this brand whenever my stock is exhausted	381	4.19	0.453
REFERENCE GROUP			
I rarely purchase another brand of milk powder except my friends are using it.	381	3.6667	1.08418
It is important that others like the brand of powdered milk that I buy.	381	3.7900	0.87840
When buying milk I generally purchase the brand that colleagues are buying.	381	3.6772	1.07274
If other people can see me consuming milk, I often purchase what they expect me to buy.	381	3.7533	1.00631
I feel a sense of belonging when I buy the same milk brand as others.	381	3.7900	1.01463
If I want to be like someone, I often try to buy the same brand that they buy.	381	3.7559	1.01086
I often identify with other people by purchasing the same brand of product they purchase.	381	3.7612	1.01471
To make sure I buy the right brand of product I often observe what others are buying and using.	381	3.7428	1.04478
Before purchasing a product, I frequently seek information about its brand from friends.	381	3.7139	1.00762
I think using or buying a certain brand will improve how other people perceive me.	381	3.7874	1.09036
CONSUMER ATTITUDE			
I feel satisfied with my choice of milk brand	381	3.5669	1.14196
I feel fulfilled with powdered milk of my chosen brand.	381	3.6929	1.06755
I believe my choice of milk powder brand enhances my social standing.	381	3.7559	1.01086
My powdered milk brand is very appealing to me	381	3.7612	1.01471
It is a very good decision to choose my brand of milk powder	381	3.7428	1.04478
I have strong liking for my brand of powdered milk	381	3.7139	1.00762
I will always stick to my brand of milk no matter what	381	3.7874	1.09036
Valid N (listwise)	381		

Source: Authors' computation.

used to operationalize the variables. Because no formal sampling frame is available, the R. V. Krejcie and D. W. Morgan (1970) formula for infinite population was applied to obtain an optimal sample size;

$$n = \frac{Z^2 p(1-p)}{M^2}, \quad (1)$$

Where;

n = sample size for infinite population;

Z = Z-value (e.g. 1.96 for 95% confidence level);

P = Population proportion, expressed as decimal, assumed to be 0.5 (50%);

M = margin of error at 5% (0.05)

$$n = \frac{(1.96)^2 \times 0.5 (1-0.5)}{(0.05)^2} = \frac{3.8416 \times 0.25}{0.0025} \quad n = \frac{0.9604}{0.0025} \quad n = 384.16 \approx 385 \quad (2)$$

The research instrument was self-administered by the researchers with the assistance of four enumerators, using a combination of stratified random and convenience sampling methods. The respondents were chosen using a multi-stage sampling procedure. At the first stage, Delta and Edo States were stratified into three broad strata based on their three senatorial districts of Delta Central, Delta North, Delta South; Edo Central, Edo North and Edo South. Secondly, two most populous towns were drawn from each of the three (3) senatorial districts in each State to give a total of six (6) urban centres per State and a total of twelve (12) towns giving a target population of 2,361,462 persons from the two States, where samples were selected. The final sample for the study was distributed according to population size of each selected town when it was drawn. A total of four hundred and fifty (450) copies of the questionnaire were administered to consumers of powdered milk in the study area, but only 381 were used for data analysis as 69 were discarded due to inadequate information and non-response. The survey was conducted from 5th February to 31st May, 2023. The data generated were analysed using descriptive and inferential statistics. Descriptive statistics used mean, frequency table and percentages to describe the demographic profile of powdered milk consumers, while inferential statistics such as correlation and multiple regression analysis was employed to examine the influence of television advertisement, product quality, product price, consumer attitude, reference group and positive consumption emotions on consumers' brand preference, while ANOVA was used to determine whether there are significant differences in consumers' brand preferences due to demographic factors.

Results and Discussion

The socio-demographic features of the respondents indicate that the sample is comprised of more females (58.8%) than males (41.2%). Majority (79.8%) of powdered milk consumers are within the economically active age bracket, while the average age is 48 years (Table 2). Persons that are married constitute 64.3%, and unmarried 35.7% of the sample. Furthermore, 89.8% of them have secondary to postgraduate education, and a modal educational level of HND/First degree. The mean household size is 6 persons; although 70.8 % of the consumers have between 5 and 10 persons on the average per household. The occupational status of the respondents ranged from artisans (12.9%) to self-employed workers (17.8), but the modal occupational status is civil servants accounting for 19.9% of the consumers. The distribution of income ranged from ₦ 30,000.00 – ₦ 65,000.00 to ₦ 205,005.00–₦ 240,005.00 with a mean monthly income of ₦ 134,405.37. Moreover, out of the total respondents sampled, 12.6% are in the least income group, 12.9% in the highest income strata, while 23.6% are within the ₦ 100,002.00-135,002.00 income range. Table 3 shows the result of the cross-tabulation of monthly income and most preferred brand of powdered milk. It revealed that 'Dano' milk is the most preferred (17.3%) powdered milk brand by consumers across all income groups, while 'Milksi' is the least preferred brand by consumers (5.8%). The descriptive statistics of the model variables showing the mean, minimum and

maximum values, the standard deviation, skewness and kurtosis are presented in Table 4. All the variables are normally

Table 2: Socio-demographic Profile of Respondents (n=381)

Parameter	Frequency	Percentage(%)	Mean (mode)
Gender			
Male	157	41.2	
Female	224	58.8	(Female)
Age			
24-32	18	4.7	
33-41	106	27.8	48 years
42-50	102	26.8	
51-59	79	20.7	
60-68	76	20.0	
Marital Status			
Unmarried	136	35.7	
Married	245	64.3	(Married)
Level of Education			
Primary education	39	10.2	
Secondary education	87	22.8	
ND/NCE	102	26.8	
HND/First Degree	110	28.9	(HND/First Degree)
M.Sc./Ph.D	43	11.3	
Household size			
1-2	46	12.1	
3-4	65	17.1	
5-6	91	23.9	6 persons
7-8	75	19.7	
9-10	62	16.2	
11-12	42	11.0	
Occupation status			
Artisan	49	12.9	
Trader	61	16.0	
Civil servant	76	19.9	(Civil servant)
Self-employed	68	17.8	
Teacher	70	18.4	
Private sector employee	57	15.0	
Monthly Income (₦ *)			
₦ 30,000.00 – ₦ 65,000.00	48	12.6	
₦ 65,001.00– ₦ 100,001.00	60	15.7	₦ 134,405.37
₦ 100,002.00– ₦ 135,002.00	90	23.6	
₦ 135,003.00– ₦ 170,003.00	75	19.7	
₦ 170,004.00– ₦ 205,004.00	59	15.5	
₦ 205,005.00– ₦ 240,005.00	49	12.9	

* 1US Dollar = ₦ 1,300 (Nigerian Naira) as at December, 2023

Source: Authors' computation (2023)

Table 3: Cross tabulation of Monthly Income * Most Preferred Brand of Powdered Milk

		Most Preferred Brand of Powdered Milk									Total
		Peak	Three Crowns	Dano	Coast	Cowbell	Loya	Milksi	Hollandia	Nido	
Monthly Income	₺ 30,000.00-65,000.00	5	5	4	8	8	6	2	5	5	48
	₺ 65,001.00-100,001.00	6	6	9	11	9	4	7	5	3	60
	₺ 100,002.00-135,002.00	6	10	16	8	14	6	6	8	7	81
	₺ 135,003.00-170,003.00	11	9	15	10	18	6	5	4	5	83
	₺ 170,004.00-205,004.00	9	15	10	5	2	2	2	3	3	51
	₺ 205,005.00-240,005.00	19	10	12	6	1	0	0	6	4	58
Total		56	55	66	48	52	24	22	31	27	381

Source: Authors' computation (2023)

Table 4: Descriptive Statistics of Model Variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
Consumer Brand Preference	381	2.60	4.95	3.8329	0.49379	-0.079	0.125	-0.591	0.249
Television Advertisement	381	2.11	5.00	3.6675	0.65499	0.070	0.125	-0.813	0.249
Product Quality	381	1.86	4.86	3.6557	0.63656	-0.183	0.125	-0.741	0.249
Product Price	381	2.13	5.00	3.6287	0.66023	-0.048	0.125	-0.778	0.249
Consumption Emotion	381	1.20	5.00	3.6640	0.78098	-0.187	0.125	-0.068	0.249
Consumer Attitude	381	1.57	5.00	3.6953	0.67315	-0.074	0.125	-0.512	0.249
Reference Group	381	2.40	5.00	3.7382	0.57933	0.098	0.125	-0.605	0.249
Valid N (listwise)	381								

Source: Authors' computation (2023)

distributed with skewness values ranging from -0.187 to 0.098 and kurtosis, -0.813 to -0.068 . The rule of thumb is that the variables are normally distributed when their values ranged between -1 and $+1$ (Hair et al., 2018). The Cronbach's coefficient alpha was used to measure the reliability and internal consistency of the constructs (Table 5). All the values are greater than or equal to 0.7 , the acceptable threshold for internal consistency (Hair et al., 2018).

Regression Results

Regression results of factors influencing consumers' brand preference of powdered milk are shown in Table 6. The model has a good fit with adjusted R^2 of 0.86 , implying that 86% of the variance in consumers' brand preference is explained jointly by television advertisement, positive consumption emotions, product price, product quality, consumer attitude and reference group. The independence of the error terms and the lack of autocorrelation between the variables are indicated by the Durbin-Watson (D.W.) statistic of 1.90 . The ANOVA results revealed the statistical significance ($F_{(6, 374)} = 387.506, p < 0.01$) of the model.

Table 5: Constructs’ Reliability Statistics

Construct	No. of Items	Cronbach’s coefficient alpha
Consumer Brand Preference	12	0.854
Television Advertisement	8	0.869
Product Quality	7	0.861
Product Price	8	0.871
Positive Consumption Emotion	5	0.898
Consumer Attitude	7	0.884
Reference Group	10	0.875
Research Instrument	57	0.889

Source: Authors’ computation (2023)

The VIF values show the insignificance of multicollinearity among the variables, with values ranging between 1.693 and 4.271, below a threshold of 5 (Sekaran & Bougie, 2019). Moreover, the findings show that television advertisement, positive consumption, emotions product price, product quality, consumer attitude and reference group has positive and highly significant effects on consumers’ brand preference for powdered milk.

Table 6: Regression Results of Factors Influencing Consumers’ Brand Preference

A. Model Summary ^a										
Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R ² Change	F Change	df1	df2	Sig. F Change	
1	0.928 ^a	0.861	0.859	0.18528	0.861	387.51	6	374	0.000	1.900
B. ANOVA ^a										
Model				Sum of Squares	df	Mean Square	F	Sig.		
1	Regression			79.816	6	13.303	387.506	0.000 ^b		
	Residual			12.839	374	0.034				
	Total			92.655	380			92.655		
C. Coefficients ^b										
Model 1	Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics				
	B	Std. Error	Beta			Tolerance	VIF			
(Constant)	0.624	0.071		8.793	0.000					
Consumer Attitude	0.050	0.019	0.068	2.553	0.011**	0.525	1.904			
Referencgroup	0.083	0.023	0.097	3.526	0.000**	0.490	2.042			
ProductPrice	0.202	0.025	0.270	7.981	0.000**	0.323	3.098			
PConsemotions	0.207	0.016	0.328	13.088	0.000**	0.591	1.693			
ProductQuality	0.118	0.029	0.152	4.072	0.000**	0.266	3.754			

TelevisionAdvert	0.216	0.030	0.286	7.199	0.000**	0.234	4.271
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a. Dependent Variable: CBRNDPRFNC

b. Predictors: (Constant), TelevisionAdvert, PConspemotions, ConsAttitude, Referncgroup, ProductPrice, ProductQuality; ** (p < 0.01)

Product quality exerted significant ($\beta = 0.152, p < 0.01$) effects on consumers brand preference. According to the findings, consumers' preference for a particular milk powder brand will rise by 0.15 for every unit improvement in product quality. The quality of milk powder in terms of its taste, aroma, flavour and shelf-life and the emotional fulfilment of using the brand are very important determinants of consumer purchase behaviour. Thus, this finding supports hypothesis one (H_1). Given that the desired quality attributes of the product is good, then more consumers are likely to prefer and purchase them. The result is in consonance with the report of E. Wang, Z. Gao, Y. Heng and L. Shi (2019) which found product quality as a determinant of brand preference in a study of milk powder consumers in Zhengzhou, China. Rabiei et al. (2021) also identified income and product quality as major determining factors of milk brand preference and purchase decision among Iranian consumers. Comparable findings were also reported by Bahety et al. (2022) amongst powdered milk consumers in India.

The price of the product also has a positive and significant ($\beta = 0.27, p < 0.01$) influence on consumer brand preference of powdered milk, thus supporting hypothesis two (H_2). Although price is assumed to have an inverse relationship with the demand for a normal good, its association with brand preference is otherwise positive. According to the beta coefficient, a unit increase in price results in a 0.27 increase in brand preference. This implies that as the price increases, milk consumers continue to buy their preferred brands irrespective of such increases due probably to their loyalty to the brand; as they are prepared to pay that price premium to maintain their utility of the product (Velcovska & Larsen, 2021). Furthermore, consumers emotional attachment to a brand may make them undermine the cost of the product while making final purchase decision. Parasuraman et al. (2021) reported that price of milk has significant association with brand preference in a study of consumers' choice and preferences of dairy based products, in India. Agustina et al. (2021) also reported similar results in a study of consumers' preference for goat milk in Indonesia where the price attribute was found to have the highest utilitarian value in terms of preference. Similarly, L. Nguyen (2021) also found price as the strongest predictor of brand choice amongst consumers of *Dielac Alpha* powdered milk brand in Vietnam. However, M. Srdjan, S. Nikolaos and R. Konstantinos (2020), found that higher prices of novel dairy products have a negative impact on consumers' preference and purchase intentions in Greece and Serbia.

There is a positive and significant ($\beta = 0.328, p < 0.01$) influence of pleasant consumption emotions on consumers' brand preference. The implication of this finding is that a unit increase in positive emotions will cause a 0.33 percentage rise in consumers' brand preference for milk powder. Thus, as the level of feelings of fulfilment and joy of consumers is further stimulated by their satisfaction, brand preference will increase as well as their decision for repeat purchase of the brand in the future. This result supports hypothesis three (H_3), and is in consonance with that of H. Afzal, F. Faisal and A. I Hunjra (2020) in Pakistan which reported that sensorial and emotional experiences generate positive evaluations, which influence consumers' attitudes and preferences toward a brand. H. H. Wu, P. Tipgomut, H. F. L. Chung and W.K. Chu (2019) affirmed that when consumers purchase products with both utilitarian and hedonistic value, happy consumption feelings have the potential to foster favourable sentiments toward the brand in their minds.

The effects of television advertisement on consumers’ brand preference of milk powder is also positive and significant ($\beta = 0.286, p < 0.01$), thus hypothesis four (H₄) is supported. Television advertisement is the second most important predictor of powdered milk brand preference after positive consumption emotions. The implication of the finding is that a unit rise in milk television advertisement will lead to 0.29 increase in brand preference. Powdered milk manufacturers in Nigeria spend a great volume of financial resources in television advertisement of their products using celebrities such as internationally acclaimed sports and music super stars and renowned actors and actresses. Every day, our homes are bombarded with different types of TV adverts by milk producing firms to ensure that consumers do not switch brand but remain loyal to their brands in order to expand their market shares and maintain their competitive advantage in the industry. The significant influence of TV advert on brand preference has been reported by G. S. Atabek and U. Atabek (2019) which investigated the effects of mass media on consumer perceptions of dairy products in Turkey.

Consumer’s attitude also shows a positive and significant ($\beta = 0.068, p < 0.05$) influence on brand preference, though it has the least effect amongst the predictors. The implication of this finding is that a unit increase in consumer attitude will cause a 0.07 percentage rise in consumers’ brand preference for milk powder. This result supports hypothesis five (H₅). According to H. Afzal, F. Faisal and A. I Hunjra (2020), product attributes help to build buyers’ attitudes towards packaged milk which influences their preference for the brand and final purchase decision. Therefore, the significant effect of personal attitude on brand preference found in the study could be attributed to this situation.

The effects of reference group on consumers’ brand preference of milk powder is also positive and significant ($\beta = 0.097, p < 0.01$), thereby supporting hypothesis six (H₆). The result indicates that a unit increase in influence of reference group will result in a 0.1 increase in brand preference. A according to M. A. Shareef, B. Mukerji, Y. K. Dwivedi and N. P. Rana (2019), “Reference groups are considered a social influence in consumer purchasing because they are often groups that consumers will look up to while making purchasing decisions”. The finding is similar to the report of D. D. Prabarini, Sumiati and M. Setiawan (2022), wherein reference group significantly affected customers' repurchase intentions.

Anova Results of Demographic Variables and Consumers’ Brand Preference

The results of ANOVA of differences in consumers’ brand preference and demographic variables are presented in Table 7. It shows that significant differences ($p < 0.05, 0.01$) exist in the educational level, household size and monthly income of consumers. Consequently, Turkey HSD

Table 7: Anova Results of Variance of Consumers’ Brand Preference with Demographic Factors

Variable	Sum of Squares	df	Mean Square	F	Sig.
Age					
Between Groups	1.271	4	0.318	1.307	0.267 ^{ns}
Within Groups	91.385	376	0.243		
Total	92.655	380			
Educational level					
Between Groups	11.906	4	2.976	13.859	0.000**
Within Groups	80.750	376	0.215		
Total	92.655	380			

Occupation status					
Between Groups	1.418	5	.284	1.165	0.326 ^{ns}
Within Groups	91.237	375	.243		
Total	92.655	380			
Monthly Income					
Between Groups	6.293	5	1.259	5.465	0.000**
Within Groups	86.362	375	.230		
Total	92.655	380			
Household Size					
Between Groups	6.925	5	1.385	6.059	0.000**
Within Groups	85.730	375	0.229		
Total	92.655	380			

** significant (p < 0.01)

Source: Authors' computation (2023)

Post-hoc tests were conducted on each of the demographic factors in order to identify the groups where significant differences occurred. Analysis of the post-hoc comparison revealed significant variation in CBP for powdered milk between respondents with Masters/Ph.D. degrees and those who have Secondary School Education, Diploma/NCE and HND/First Degree holders; between HND/First Degree holders and Secondary School leavers as well as holders of ND/NCE (Table 8). Education helps to shape individual attitudes. Therefore, consumers with higher levels of education are more likely to consider the nutritional value as well as health benefits of the products before revealing their preferred brand, and eventual purchase. They also have a better understanding of possible harm the consumption of certain variants of milk powder could cause to consumers of particular age groups within their households, and this also informs their brand preference. Turkey post-hoc tests also show that respondents in (₦ 170,004-205,004) income group exhibited significantly different levels of CBP than those in (₦ 135,003-170,003) and (₦ 30,000-65,000) groups. Also, CBP of those within the income bracket (₦ 100,002-135,002) differ significantly from those of ₦ 30,000-65,000 and ₦ 135,003-170,003. The implication is that given the perceived qualities of various brands of milk powder in the Nigerian market, high income earners are likely to prefer brands of higher quality since they have the means to purchase them. Similarly, significant variation is also noticed in CBP with regards to the number of persons per household, as household size of 9 – 10 differ in CBP from those of 3 – 4, 5 – 6 and 7 – 8 persons. Also, CBP of 11 – 12 and 5 – 6 persons households vary respectively with those of 5 – 6 and 1 – 2 persons. Members of consuming households vary in ages and their nutritional needs for milk. Therefore, families that are composed of young children will prefer brands that produce milk powder for infants and growing children, unlike those families that are made up essentially of adults and the aged that will patronise brands that produce skimmed milk due to health concerns. Thus, the

Table 8: Results of Turkey HSD Post-Hoc tests of differences in CBP among Demographic Variables

Dependent Variable: Consumers' Brand Preference				
Tukey HSD				
Variable	Groups	Mean Difference	Std. Error	Sig.

Educational level					
Masters/Ph.D.	Secondary School Education		0.55475**	0.08639	0.000
	ND/NCE		0.54556**	0.08426	0.000
	HND/First Degree		0.35472**	0.08335	0.000
HND/First Degree	Secondary School Education		0.20003*	0.06649	0.023
	ND/NCE		0.19084*	0.06370	0.024
†ND/NCE	Primary School Education		-0.26551*	0.08725	0.021
Secondary School Education	Primary School Education		-0.27471*	0.08930	0.019
Monthly Income Group					
₺ 170,004.00-205,004.00	₺ 30,000.00-65,000.00		-0.36006**	0.09328	0.002
	₺ 135,003.00-170,003.00		-0.31919**	0.08351	0.002
	₺ 205,005.00-240,005.00		0.28810*	0.09275	0.025
₺ 100,002.00-135,002.00	₺ 30,000.00-65,000.00		0.27237*	0.08577	0.020
	₺ 135,003.00-170,003.00		0.23150*	0.07503	0.026
Household Size					
11 – 12	5 – 6		-0.32480**	0.08919	0.004
9 – 10	3 – 4		-0.26247*	0.08488	0.026
	5 – 6		-0.36680**	0.07874	0.000
	7 – 8		-0.25975*	0.08207	0.021
5 – 6	1 – 2		0.25340*	0.08650	0.042

**mean difference is significant ($p < 0.01$); *mean difference is significant ($p < 0.05$).

†ND/NCE is National Diploma/ National Certificate of Education; HND is Higher National Diploma

Source: Authors' computation (2023)

differences in preference by households of different sizes may be attributed to this variation in need. The independent sample t-test of differences in CBP between married and unmarried consumers shows that significant differences existed (Table 9), implying that the preferences of buyers who are not married and probably single may not be the same with married people with family members that are of different age groups with varying nutritional and health needs. Such differences in consumers' preferences could be attributed to composition of the households.

Table 9: Independent Sample t-test of Differences in CBP between Male and Female Consumers

Parameter	Gender	N	Mean	Std. Deviation	Mean Difference	t-value	Sig (2-tailed)
Consumers' brand Preference	Unmarried	136	3.6863	0.46417	-0.22798	-4.422	0.000**
	Married	245	3.9142	0.49183			

**mean difference is significant ($p < 0.01$)

Source: Authors' computation (2023)

Therefore, based on the results of ANOVA and independent sample t-test, H_7 is supported as there is a significant variation in consumer brand preference based on respondents' educational level, income, household size, and marital status.

Conclusion

Many households consume powdered milk as an essential part of their daily diet for growth and nutritional needs of members of their families. However, households consider several factors while making final brand purchase decisions. Consumer brand preference is a precursor to a consumer's final choice to purchase a product brand, and is an important aspect of consumer buying behaviour. This study identified and examined key factors that determine consumers' brand preference of powdered milk in Delta and Edo States, in Southern Nigeria. The cross-tabulation of income and preferred brand of powdered milk shows that 'dano' milk is the most preferred brand by consumers across all income groups, while 'milkxi' is the least. The regression results indicate that television advertisement, positive consumption emotions, product price, product quality, consumers' attitude and reference groups have positive and significant effects on consumers' brand preference of milk powder, with positive consumption emotion as the dominant predictor. The positive relationship between price and brand preference, and consequently purchase decision, is a pointer to the fact that customers are willing to pay a price premium to maintain their utility of their chosen brands irrespective of price increase. Since the overall quality of milk powder is an important determinant of brand preference and purchase decision, firms should endeavour to continuously improve on the quality attributes of their products to retain and attract new customers. Besides, milk manufacturing companies should adopt pragmatic pricing and marketing strategies to increase their market share and ensure that customers remain loyal to their brands in the face of fierce industry competition.

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