



Exploring Consumer Perceptions and Value Addition in Street Cuisine: A Case of Kalai Ruti

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aims: The study focused on Kalai Ruti, a popular street food made from black gram in Chapai Nawabganj, Bangladesh. It is aimed to examine the potential for enhancing the dish's value and to assess consumer attitudes towards street food in that region.

Study Design: This study adopted quantitative approach where purposive sampling technique was used to select the sample size. Face-to-face interviews were performed with a structured questionnaire facilitated in-depth interactions with the respondent to reach the goal.

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Methodology: The research involved direct surveys with 100 Kalai Ruti customers and 30 local vendors. It is employed multiple linear regression and descriptive statistics to analyze data. This included examining the value addition from incorporating various meats and vegetables typical in Bangladeshi cuisine of Kalai Ruti, as well as analyzing the cost and selling price of these ingredients.

Results: Findings showed significant value addition from different meats: BDT 370.07 per kg for chicken, BDT 988.3 per kg for beef, BDT 386.03 per kg for duck, and BDT 38.8 per kg for eggplant. Consumer's feedback was overwhelmingly positive, with over 76% of participants expressing favorable opinions. The analysis also revealed that the street food culture around Kalai Ruti is shaped by a blend of value addition, consumer preferences, and socio-demographic factors. It is also seen that education, family size, and income had minor effects, age, gender, occupation, and marital status significantly influenced consumer choices.

Conclusion: The study offers valuable insights that can help enhance marketing strategies and support the sustainable development of the street food sector in the area. Furthermore, it is opening the gate of future research on this sector to discover the scope and expansion of Kalai Ruti's market.

Keywords: Consumer's perception; value addition; kalai-ruti; street food.

1. INTRODUCTION

Street foods play an important socioeconomic role by meeting the food and nutritional needs of city dwellers at an affordable price, particularly for lower and middle-income groups. They are widely appreciated for their unique flavors and convenience [1]. Thus, street foods not only fulfill the dietary needs of communities with lower incomes but also save time for people who are in rush and have less time to prepare meals or dine at expensive restaurants [12]. The trend of street foods is most common in low and middle-income countries, with the types of food varying according to the socioeconomic status of the buyer and the local food culture [7]. They are typically sold in busy public areas such as pavements, school premises, beaches, and railway and bus stations [21]. In developing countries like Bangladesh, the street food industry serves as a significant source of income for millions of men and women with limited education or skills, hence its popularity. It is notable that "Behula," a village in Chapai-Nawabganj, is renowned for its distinctive ethnicity, accent, and organic cuisine. This area faces intense seasonal temperatures and frequent floods from the Ganges, yet is home to the famous "Kalai Ruti", a thick flatbread made from black gram flour that is ideal for any meal on busy days [4]. Besides, street vendors are common in developing countries and provide fast food items and services that foster job creation, entrepreneurship, and poverty reduction [3]. They have a significant economic influence, but facing many challenges and issues that are frequently ignored. Recognizing the

socioeconomic importance of street food, especially in countries like Bangladesh where it is a major economic driver and a lifeline for millions of low-income people, it is crucial to explore street foods appeal towards the consumers, insights and determining the future market.

Numerous studies have investigated the global landscape of fast-food consumption, yet scant attention has been given to understanding consumer preferences and the driving forces behind fast food consumption in Bangladesh [1]. It is imperative to recognize that value addition within any industry necessitates the introduction of novel activities or the displacement of traditional practices downstream in the value chain [9]. While formal education may not directly correlate with business success, factors such as initial capital and business acumen have demonstrated a positive influence on sales revenue [2]. Additionally, reports have underscored significant hurdles faced by businesses in Bangladesh, such as raw material availability and vendor concerns regarding security [1]. Street food consumption patterns in Dhaka have been meticulously analyzed, revealing six key motivating factors including pleasure, convenience, cost, beauty, food value, and taste [22]. Taste, variety, accessibility, affordability, and attractiveness have been identified as crucial elements in attracting customers to street food offerings [1].

Furthermore, a cross-sectional study examining food safety knowledge, attitudes, and practices among street food sellers and consumers in Dhaka unveiled disparities in awareness levels

among sellers in different educational settings, with younger consumers exhibiting more positive sentiments [11]. This highlights the urgent need for enhanced infrastructure and stricter hygiene standards among vendors to bolster street food safety in Bangladesh [11]. Consumer behavior studies have emphasized the multifaceted influences on purchasing decisions, ranging from demographic factors like age, income, and education to cultural and social influences [13]. Quality and safety considerations, alongside socioeconomic factors, play pivotal roles in determining beef consumption patterns [10]. Moreover, factors such as age, gender, income, country of origin, and brand image significantly impact food purchasing decisions, with brand reputation often outweighing other considerations [8]. It is seen that those who consistently engage in a wide variety of reasonably priced and readily available foods have a tendency to consume it [23]. In addition, street food is well known for being prepared with extreme care for cleanliness, especially when it comes to hygiene [5]. Furthermore, a key factor in deciding pleasure is the sensory experience, which includes the flavor and texture of food at the street market [6]. A number of major determinants of fast-food intake have been discovered, including social pressures, exposure to commercials, education level, monthly family income, and student status [20]. Retailers serve as crucial sources of information for consumers, with age and brand image wielding considerable influence over purchasing behavior [18]. Family opinions and dealer recommendations heavily sway food purchases across income levels, with advertisements also exerting an influential role [19]. Product awareness and attitudes significantly shape consumer buying decisions, with preferences for product quality, price, and manufacturer image varying among consumers [14]. Given this backdrop, the current study seeks to evaluate the value addition of Kalai Ruti and discern consumer perception toward it.

2. MATERIALS AND METHODS

2.1 Selection of Study Area

Chapai Nawabganj was carefully chosen as the focal point for our data collection efforts. Within this district, specific areas such as “Bottola Hat, Malopara, Shantimor, Nimtola, Medical Mor, Puraton Bazar, Noyagola Mor, Baroghoria Bazar, Bisshoroad Mor, and Shibtola Mor of the municipality and sadar upazila” areas were identified as key locals for gathering essential

insights into the value addition process of Kalai Ruti. The presence of an adequate number of street food vendors specializing in Kalai Ruti and a significant consumer base in these areas was a primary consideration. This ensured that the study would have access to a diverse range of vendors and consumers, providing comprehensive insights into the production, marketing, and consumption dynamics of Kalai Ruti.

2.2 Selection of Sample

The study employed purposive sampling techniques to meticulously select a sample size of 100 fast food customers and 30 vendors for comprehensive analysis. Primary data was meticulously gathered from a diverse pool of 100 individuals encompassing various demographics such as housewives, students, service holders, businessmen, among others. Additionally, data was collected from 30 individuals directly involved in the processing of Kalai Ruti and other associated side dishes. Prior to embarking on the data collection phase, a meticulously designed questionnaire was formulated to gather pertinent insights. Subsequently, two enumerators underwent rigorous training to ensure proficiency in administering the questionnaire and accurately collecting data. The questionnaire has been validated and revised via pretesting into the field. Participants were thoroughly briefed about the research objectives, ensuring complete transparency regarding the purpose of the study. Moreover, their voluntary participation was solicited, and measures were taken to guarantee that participants were willing to share information willingly, without any reservations. Face-to-face interviews, utilizing a structured questionnaire meticulously developed by the researcher, served as the primary mode of data collection. This personalized approach facilitated in-depth interactions and enabled the researcher to glean nuanced insights directly from the participants.

2.3 Analytical Technique

2.3.1 Measurement of value addition

The concept of value addition in business [20], refers to the enhancement of raw materials through various processes. It is calculated as the value of outputs minus input value [15,16,17]. In the context of this study, the value addition of Kalai Ruti and additional food items was estimated based on the sales value minus the cost of ingredients. Processors or sellers play a

crucial role in value addition, with their activities not being calculated separately. The cost of processed food is essential for estimating value addition, with ingredients such as rice flour and black gram flour identified for Kalai Ruti. Street vendors, who primarily sell their products in public places, rely on eye estimation rather than precise measurement scales. To assess value addition accurately, the prices per unit need to be determined.

2.3.2 Measurement of consumer attitudes

The study utilized a Likert Scale to gauge consumer attitudes toward Kalai Ruti, employing a five-point scale ranging from extremely positive to extremely negative. Respondents indicated their agreement or disagreement with a series of statements using expressions such as “strongly agree,” “agree,” “neutral,” “disagree,” and “strongly disagree,” which were assigned numerical values. These values were then summed up for each respondent to calculate their overall score. Item analysis was conducted to select the most discriminating items for the final scale, assessing each item’s ability to differentiate between high and low scorers. This is called the discriminative power (DP) of the item.

$$DP = Q1 - Q2$$

Where, Q1 = range above the upper quartile, Q2= Range below the lower quartile

For each scale item, the DP value was calculated and the largest DP value shows the best expression of consumer attitude on Kalai Ruti. In calculating the DP, a summation of the scored items for each respondent was made, and placed the scores in an array, from lowest to highest. Then, the range was compared above the upper quartile (Q1) with that below the lower quartile (Q2), and the DP value is calculated as the difference between the weighted means of the scores above Q1 and of those that fall below Q2.

2.3.3 Estimation of factors influencing consumer attitudes toward Kalai Ruti

The present study has been conducted on consumer attitudes amongst Kalai Ruti, utilizing multiple regression analysis to identify influencing factors. Five characteristics were chosen as independent variables, with consumer attitude scores towards Kalai Ruti serving as the dependent variable. The analysis aimed to determine the impact of these factors on

consumer attitudes. Multicollinearity, where independent variables are highly correlated, was assessed using variance inflating factors (VIF). Multiple regression analysis is presented below:

$$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + U_i$$

Where, Y_i = The score of consumer attitudes towards Kalai Ruti, X_1 = Age of the respondent (years), X_2 = Sex of the respondent (1= male, 0= female), X_3 = Level of education of the respondent (years of schooling), X_4 = Profession of the respondent (1= student, 0= others), X_5 = Marital status of the respondent (1= married, 0= unmarried), X_6 = Family size of the respondent, X_7 = Annual income (used as a dummy variable), $D_1 = 1$, if income level <BDT 1,50,000; $D_1 = 0$, otherwise, $D_2 = 1$, if income level BDT (1,50,000 – 2,00,000); $D_2 = 0$, otherwise, $D_3 = 1$, if income level BDT (2,00,000 – 2,50,000); $D_3 = 0$, otherwise, $D_4 = 1$, if income level BDT (2,50,000 – 3,00,000); $D_4 = 0$, otherwise; $D_5 = 1$, if income level >BDT 3,00,000; $D_5 = 0$, otherwise, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ = Regression coefficients, α = intercept, U_i = regression error.

3. RESULTS

3.1 Socio Demographic Status of the Respondents

The study delved further into the demographic composition of the consumer base, revealing intriguing insights into consumer behavior and preferences. It was observed that a significant majority (66%) of consumers fell within the young age bracket, while middle-aged individuals comprised an average portion of 29%, with the elderly constituting the smallest segment at 5%. This indicates a clear trend wherein the younger demographic emerges as the primary consumer group. Moreover, the study noted a notable gender disparity among consumers, with males comprising the majority at 70%. Family size also played a role in consumer behavior, with 56% of consumers belonging to medium-sized families and 35% from smaller households. Notably, none of the consumers surveyed were found to be illiterate. Education emerged as a pivotal factor influencing consumer preferences, with a significant portion (31%) of consumers holding a graduation degree. This was followed by 24% with a Master’s degree, 19% with secondary education, and 15% with primary education. This suggests a correlation between education level

and street food consumption patterns, implying that a more educated younger demographic may lean towards street food options like Kalai Ruti due to time constraints and the convenience it offers over homemade alternatives. Occupational demographics also shed light on consumer preferences, with the majority (46%) of consumers identified as students, followed by 18% government employees, and 17% from the working class, encompassing occupations such as laborers, auto drivers, and rickshaw pullers. These demographic insights, illustrated in Table 1, underscore the importance of understanding consumer demographics and behaviors in shaping marketing strategies and product positioning within the competitive street food market landscape.

3.2 Value Addition of Kalai Ruti

According to respondents (vendors), rice flour and black gram flour are the main ingredients of Kalai Ruti. Additionally, for each meat type (chicken, beef, duck, etc.), raw meat, soybean oil, onion, ginger, garlic, chili, and spices are

required (Table 2). The respondents provided costs for ingredients such as 1 kg of rice flour and approximately 0.2 kg to 0.25 kg of black gram flour, typically used to prepare a Kalai Ruti. However, they did not specify the quantities of oil, onion, ginger, garlic, chili, and spices, but they provided their respective values. To obtain a clearer picture of the ingredients used, the study approximated the quantities of these items based on respondents' input. The average values of these ingredients were then considered for calculating the processing costs.

Value addition is calculated as the difference between the total expenses incurred in processing a product and the total revenue acquired from its sale. Various items had been purchased from five vendors to estimate the weight of Kalai Ruti. Kalai Ruti was found to be sold at BDT 20 per piece by vendors. Along with it, chicken meat, beef meat, duck meat, and mashed eggplant were sold at average prices of BDT 94, BDT 193.33, BDT 153.67, and BDT 10 per plate respectively (Table 3).

Table 1. Distribution of the respondents according to their selected characteristics

Characteristics	Scoring method	Observed Score	Categories	Respondents No=100 Percentage
Age	Number of years	19-55	Young aged (up to 33)	66
			Middle-aged (34-47)	29
			Aged (>47)	5
Sex	Gender (Male)	3-8		70
			Gender (Female)	30
Family Size	Number of Members	3-8	Small (up to 4)	35
			Medium (5-6)	56
			Large (> 6)	9
Level of annual income			Less than BDT 1,50,000	3
			BDT1,50,000-2,00,000	20
			BDT2,00,000-2,50,000	19
			BDT2,50,000-3,00,000	40
			More than BDT 3,00,000	18
Level of Education (Years of schooling)		0-17	Primary (0-5)	15
			Secondary (6-10)	19
			Higher Secondary (11-12)	11
			Graduate (13-16)	31
			MS (17)	24
Profession			Housewife	8
			Student	46
			Working people	17
			Govt. employee	18
			Private employee	11

Table 2. Different products along with Kalai Ruti's production cost

S.L. No	Main Product	Ingredients	Amount (kg)	Price (BDT/kg)	Cost (BDT)	% of the total cost	Total cost
1.	Kalai Ruti	Black gram flour	0.225	150	33.75	42.86	78.75
		Rice flour	1	45	45	57.14	
2(i)	Chicken meat	Chicken	1	185	185	64.25	287.93
		Oil		175	29.47	10.24	
		Onion		40	10.93	3.8	
		Ginger		140	7.43	2.58	
		Garlic	-	220	14.53	5.05	
		Chili		200	9.23	3.21	
		Spices		-	31.33	10.88	
2(ii)	Beef meat	Beef	1	700	700	82.45	849.03
		Oil		175	38.5	4.53	
		Onion		40	16.57	1.95	
		Ginger	-	140	12.03	1.42	
		Garlic		220	17.2	2.03	
		Chili		200	11.4	1.34	
		Spices		-	53.33	6.28	
2(iii)	Duck meat	Duck	1	420	420	76.51	548.97
		Oil		175	38.5	7.01	
		Onion		40	16.57	3.02	
		Ginger	-	140	8.03	1.46	
		Garlic		220	12.87	2.34	
		Chili		200	10.37	1.89	
		Spices		-	42.63	7.77	
2(iv)	Mashed eggplant	Brinjal	1	30	30	58.97	50.87
		Mustard oil		220	13.77	27.07	
		Onion	-	40	4.35	8.55	
		Chili		200	2.75	5.41	

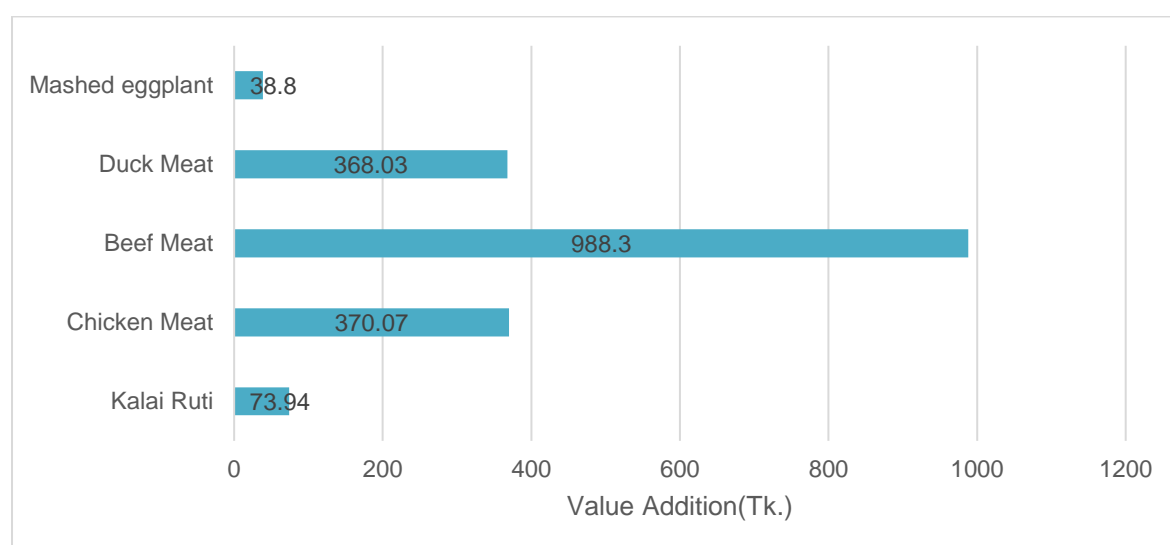


Fig. 1. Value addition (BDT) of 1 kg of Kalai Ruti, Chicken meat, Beef meat, Duck meat, and Mashed eggplant (ignoring the value addition of other ingredients)

Table 3. Value Addition of Kalai Ruti and additional items when it is processed

S.L No	Items	Total Ingredients (Kg)	Total Cost (BDT)	Selling Unit (piece, plate)	Price (BDT/piece/plate)	Selling Amount (BDT)	Value Addition (BDT)	Value addition (BDT/kg)
1.	Kalai Ruti	1.225	78.75	8.47 pieces	20	169.33	90.58	73.94
2(i)	Chicken meat	1	287.93	7 plates	94	658	370.07	370.07
2(ii)	Beef meat	1	849.03	9.5 plates	193.33	1837.33	988.3	988.3
2(iii)	Duck meat	1	548.97	5.97 plates	153.67	917	368.03	368.03
2(iv)	Mashed eggplant	1	50.87	8.97 plates	10	89.67	38.8	38.8

During the processing of Kalai Ruti, 1 kg of rice flour and 0.225 kg of black gram flour were utilized, resulting in a total of 1.225 kg. This created a value addition of BDT 90.58, which equates to BDT 73.94 per kg of Kalai Ruti. Furthermore, the value addition for 1 kg of raw chicken, beef, duck, and mashed eggplant was estimated to be BDT 370.07, BDT 988.3, BDT 368.03, and BDT 38.8, respectively.

The estimation of value addition for Kalai Ruti and additional items revealed significant variation. Beef meat had the highest value addition at BDT 988.3 per kg, while mashed eggplant had the lowest at BDT 38.8 per kg (Fig. 1 and Table 3). This discrepancy in value addition was observed even when considering the proportional weight of ingredients used. Specifically, the value addition for processed items were ranked as follows: beef meat (BDT 988.3), chicken meat (BDT 370.07), duck meat (BDT 368.03), Kalai Ruti (BDT 73.94), and mashed eggplant (BDT 38.8).

3.3 Consumer Attitudes towards Kalai Ruti

The Likert scale was employed to gather data on consumers' attitude toward Kalai Ruti, utilizing 22 statements. A five-point scale ranging from strongly agree to strongly disagree was used for respondents to express their agreement with each statement. Positive statements were scored as follows: strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1), while negative statements were scored inversely. Among the 22 statements, 17 were positive and 5 were negative regarding Kalai Ruti.

To identify the most significant statements, Discriminant Power (DP) values were calculated for each statement. The statements with the highest DP values were selected. These DP values were presented in Table 4, arranged in ascending order. Statements with the lowest DP values (statements 1, 3, 6, 8, 20, and 22) were excluded from further analysis.

A list of 16 statements about Kalai Ruti, ordered according to their Discrimination Power (DP) values, which range from 0.52 to 1.6. These DP values serve as indicators of how effectively each statement distinguishes between different consumer attitudes towards Kalai Ruti. A higher DP value means the statement is more potent in differentiating between favorable and unfavorable views among consumers. The

statements at the lower end of the DP scale, with values of 0.52, address basic perceptions and could be related to logistical aspects (like the parcel system) or general impressions (such as being homemade or locally made). These show that while important, these factors may not strongly influence consumer attitudes. Moving up the scale, statements with medium DP values, such as those concerning health implications (both positive and negative) and the demeanor of street food vendors, start to show more significant differentiation in consumer attitudes. This indicates that health and social interactions play a moderate role in shaping perceptions of Kalai Ruti. At the higher end of the DP scale, statements with values above 1 highlight critical factors that significantly impact consumer attitudes. These include the absence of preservatives, employment creation, taste variation, and the special regional status of Kalai Ruti. Notably, the highest DP values are assigned to statements emphasizing the social and health-conscious aspects of Kalai Ruti, suggesting these are pivotal in defining consumer preferences. Such statements not only reflect the product's intrinsic qualities but also its broader implications for health, community, and environment.

Overall, the DP values provide a nuanced understanding of consumer attitudes towards Kalai Ruti, highlighting the importance of both product-related factors and wider social and health implications in shaping consumer preferences. This insight can be invaluable for targeting improvements and marketing strategies to enhance consumer perception and acceptance of Kalai Ruti.

3.4 Favorableness and Un-favorableness of Consumers towards Kalai Ruti

Consumers' attitudes towards Kalai Ruti were evaluated based on their responses to 16 selected statements, with total score values ranging from 16 to 80. These scores categorized consumers into four groups: highly favored towards Kalai Ruti (61-80), favored towards Kalai Ruti (48-60), neutral towards Kalai Ruti (47), and un-favored towards Kalai Ruti (16-46).

The distribution reveals that a substantial majority (66%) of respondent's favor Kalai Ruti to some extent, indicating general satisfaction with the product among consumers. A small but notable portion (10%) expresses strong favorability, highlighting a group of enthusiasts

who might particularly enjoy Kalai Ruti's taste, cultural significance, or other attributes. Meanwhile, 20% of the participants do not favor Kalai Ruti, which suggests areas for potential improvement in the product or its perception among this subgroup. The presence of a neutral category (4%) points to a minority of consumers with either balanced views or a lack of strong opinions about Kalai Ruti. This diverse range of responses underscores the complexity of consumer preferences and the importance of addressing various aspects of the product to cater to different segments of the market, from enhancing quality to effectively communicating Kalai Ruti's cultural and social value.

3.5 Average Score Value on Individual Statements towards Kalai Ruti

In Table 6, the average score value for every 16 statements were calculated using a weighted average method to assess attitude towards individual statements and facilitate comparisons.

Score range from a minimum of 1.00 to a maximum of 5.00, where higher value indicating greater favorableness towards Kalai Ruti. The ascending order of average score value provides insight into the extent of attitude towards each statement, aiding in understanding consumer perception of Kalai Ruti. The results highlight a diverse range of consumer perceptions, from concerns about health and environmental management to appreciation for the food's cultural significance and positive social impacts, such as employment creation. Notably, aspects like the absence of preservatives, quality of service, and support for local communities receive higher favorability, reflecting a consumer preference for products that are not only safe and high-quality but also socially and environmentally responsible. This table encapsulates a nuanced consumer perspective that values both the intrinsic qualities of the food and its broader impacts on society and the environment.

Table 4. Selected 16 statements according to higher DP values for measuring consumer attitude towards Kalai Ruti.

Sl. No.	Statements	Ascending order of DP value
1	Its parcel system is good, so I like it	0.52
2	I don't like because it is locally made	0.52
3	It seems like home-made	0.52
4	It is healthy	0.6
5	It can create health problem	0.6
6	Street food vendors are friendly and they have potential growth in future	0.64
7	I don't like because it is not managed in a good environment	0.76
8	Appearance, surrounding and environment is satisfactory	0.92
9	This is a special food in this region, so I like it	1
10	This food is made by the poor people, I want to help them	1.12
11	Food serving is good	1.12
12	I found flies in the kitchen where it is made, so I don't like it	1.16
13	The staffs are welcoming and friendly	1.2
14	I like because of its taste has variation	1.26
15	It creates employment for poor people or for unemployed person	1.44
16	Preservative is not used to produce this Ruti, so I like this	1.6

Table 5. Favorableness and un-favorableness towards Kalai Ruti on the basis of the consumer score value

Score value	Particulars	Percentage
61-80	Highly favored on Kalai Ruti	10
48-60	Favored on Kalai Ruti	66
47	Neutral	4
16-46	Not favored on Kalai Ruti	20

Table 6. Consumer attitude towards Kalai Ruti on individual scale item

Sl. No.	Statements	Ascending order of average score value
1	It seems like home-made	2.48
2	Its parcel system is good, so I like it	2.97
3	I like it because its taste has a variation	3.05
4	It can create a health problem	3.14
5	The staff are welcoming and friendly	3.17
6	I don't like it because it is locally made	3.27
7	It is healthy	3.33
8	I don't like it because it is not managed in a good environment	3.33
9	Appearance, surroundings, and environment are satisfactory	3.43
10	Food serving is good	3.44
11	Street food vendors are friendly and they have potential growth in the future	3.46
12	Preservative is not used to produce this Ruti, so I like this	3.5
13	I found flies in the kitchen where it is made, so I don't like it	3.51
14	This food is made by poor people, and I want to help them by purchasing this food	3.53
15	This is a special food in this region, so I like it	3.54
16	It creates employment for poor people or for the unemployed person	3.66

Table 7. Estimation of multiple regression of factors affecting consumers' attitude towards Kalai Ruti

Variables	Coefficients	t-value	Significance	VIF
(Constant)	78.432	26.804	.000	
Age (years)	-.393	-6.243	.000	2.791
Sex (1 for male, 0 for female)	1.487	1.914	.059	1.223
Level of education (years of schooling)	.123	1.335	.185	1.861
Profession (1 for student, 0 otherwise)	5.076	3.627	.000	4.696
Marital status (1 for married, 0 otherwise)	2.560	3.627	.034	3.355
Family size	-.064	-.219	.827	1.181
Annual income < BDT 1,50,000	-.981	-.470	.640	1.224
BDT (1,50,000 – 2,00,000)	5.366	2.450	.016	7.412
BDT (2,00,000 – 2,50,000)	1.089	.507	.614	6.867
BDT (2,50,000 – 3,00,000)	.765	.363	.718	10.307
>BDT 3,00,000	.115	.053	.958	6.764
R ²	77.8%			

3.6 Factors Influencing the Attitudes of Consumers toward Kalai Ruti

From Table 7, it was evident that several significant findings regarding the influence of demographic variables on consumers' attitudes towards Kalai Ruti. Firstly, the coefficient for the age of the respondent was negative, with a value of -0.393. This suggested that, older individuals tend to hold less favorable attitudes towards Kalai Ruti. The significance level, which was below 5% (0.05), indicated statistical significance, implying that the age of respondents does indeed influence their attitudes towards Kalai Ruti. Secondly, the coefficient for

the sex of respondents is positive (1.487), indicating that male respondents tend to hold more favorable attitude towards Kalai Ruti compared to female respondents. This result was statistically significant, suggesting that gender does influence attitudes towards Kalai Ruti. Similarly, respondents with a main profession related to being a student exhibit greater favorableness towards Kalai Ruti compared to other professions, as indicated by a significant coefficient of 5.076.

Moreover, marital status also played a significant role, with married respondents showing more

favorableness towards Kalai Ruti than unmarried respondents (coefficient: 2.560). Additionally, the income group of BDTs (1,50,000 – 2,00,000) has a significant influence on attitudes towards Kalai Ruti compared to other income groups.

However, education level and family size did not demonstrate significant influence, as their coefficients did not reach statistical significance (education: 0.123, family size: -0.064). Overall, these findings underscore the importance of demographic factors in shaping consumers' attitudes towards Kalai Ruti, with variables such as age, gender, profession, marital status, and income group playing significant roles.

4. DISCUSSION

The study provides valuable insights into both the demographic composition of the consumer base and their attitudes towards Kalai Ruti, a popular street food. By understanding these factors, marketers can modify their strategies effectively to target specific consumer segments and enhance the product's positioning within the competitive street food market landscape.

The demographic analysis revealed several key trends that can inform marketing strategies. Firstly, the dominance of young consumers suggests that targeting this demographic could yield significant returns. With 66% falling within the young age bracket, marketers could focus on channels and messaging that resonate with this age group, such as social media campaigns or events targeting university campuses. That was also noted by previous research and said that, almost 50% respondents who belongs in 20 to 30 years group prefer fast food [20]. Moreover, the gender disparity among consumers, with males comprising 70%, indicates a potential opportunity to explore gender-specific marketing approaches. Understanding the preferences and behaviors of male consumers can help customize messaging and product offerings to better appeal to this dominant segment. The occupation breakdown also provides valuable insights. The fact that students represent the largest group at 46% suggests that marketing efforts could be directed towards locations frequented by students, such as educational institutions or areas with a high concentration of student residences. Furthermore, the findings regarding marital status and income group highlight additional avenues for targeted marketing. Married individuals and those within specific income brackets may have different

consumption patterns and preferences, necessitating tailored approaches to effectively reach and engage these segments.

The study's analysis of consumer attitudes towards Kalai Ruti enlighten on the factors influencing consumer perception and acceptance of the product. By utilizing the Likert scale and Discriminant Power analysis, the study identified key drivers of consumer attitudes, ranging from health implications to social and cultural factors. The significant variation in value addition across different items, such as beef meat having the highest value addition compared to mashed eggplant, underscores the importance of understanding the economics behind product offerings. This information can inform pricing strategies and help vendors maximize profitability. Moreover, the discussion on factors influencing consumer attitudes, such as age, gender, profession, marital status, and income group, provides actionable insights for marketers. By recognizing the demographic variables that play a significant role in shaping consumer attitudes, marketers can adapt their messaging and product offerings to better resonate with target audiences.

5. CONCLUSION

The study emphasized economic importance of Kalai Ruti as a value-added product in the local market considering its popularity as a street food. The value addition per kilogram estimate showed how much street food production especially Kalai Ruti contributes economically to the area. The majority of consumers have favorable opinions upon Kalai Ruti, and a significant number of respondents said they would recommend this street food. However, concerns over hygiene and packaging appears as areas of improvement, suggesting the need of higher quality standards to meet customer expectations and ensure market competitiveness. Consumer perceptions of Kalai Ruti are greatly influenced by demographic characteristics, including age, gender, occupation, marital status, and income level.

Understanding these elements were essential for formulating focused promotional strategies and catering particular customer preferences to improve market outcomes. For those who involved in the creation, promotion, and consumption of Kalai Ruti and other street delicacies, the study's conclusion offers valuable insights. Stakeholders may ensure sustainable

growth in the street food business by optimizing market performance and promoting strategies that match with changing demographics, while also addressing concerns related to hygiene and packaging. The study emphasizes how crucial consumer-centric strategies are in determining the structure of the street food industry. Through the use of techniques that align with consumer preferences and socio-demographic patterns, interested parties can open up new potential for expansion and improvement, ultimately boosting the socioeconomic progress of the area and people. However, as it is regulated into a particular region, the present study influencing further research in this particular sector to explore its potentiality by informing strategic initiatives and enhancing the marketing system as well as augmenting the popularity of Kalai Ruti within the market.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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