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Research Article

ANALYSIS OF CONSUMER PREFERENCES FOR BEEF AT MARKET OF TRADITIONALY

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ABSTRACT

The purpose of this study was to determine and analyze the relationship between beef attributes (meat color, meat tenderness, meat aroma, and meat price) with consumer preferences in the decision to buy beef at the Bersahati Traditional Market. This study was conducted at Bersehati Market, Manado City from December 2024 to January 2025. The determination of the sample of consumer respondents used the accidental sampling method of 50 people. The data were analyzed using Chi Square analysis to determine the relationship between beef attributes and consumer preferences at Bersehati Market, Manado City. The results of the Chi-Square analysis showed that the attributes of meat color, meat tenderness and meat aroma have a relationship with consumer preferences for beef at the Bersehati Market in Manado City, while the price attribute has no relationship with consumer preferences. Consumers prefer a fresh aroma compared to a fishy aroma. There is a relationship between beef aroma attributes and consumer preferences. The fresher the red color of the beef, the higher the consumer preference to buy the beef. Conversely, the more colorful the beef pattern, the lower the consumer preference to buy beef at Bersehati Market, Manado City. The study conclud that the attributes that consumers consider most in the decision to buy beef at the Bersehati Market in Manado City were meat color, meat tenderness, and meat aroma. The meat price attribute does not affect consumer demand for beef, even though the price has increased.

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INTRODUCTION

One of the main animal food products consumed by the Indonesian people is beef. The public's need and consumption of beef continues to increase. Data shows that beef consumption in 2022 reached 627,952 tons, while domestic production was only 413,669 tons, indicating a significant increase in demand (BPS, 2023). The population growth rate and beef production in production center areas in Indonesia only increased slightly between 1 - 1.3% per year (Fitri and Handayani, 2020; Hubeis, 2020). Meanwhile, beef consumption far exceeds available production (Syukri and Fitrianti, 2023; Siregar and Julia, 2017). Beef consumption per capita in Indonesia is estimated to reach 2.5 kg per person per year in 2023 (Lubis, et al., 2025). Beef is one of the sources of animal protein that is widely consumed by people in Indonesia, including in Manado City. The demand for beef continues to increase along with population growth, changes in consumption patterns, and increasing purchasing power of the community. Bersehati Market as one of the largest traditional markets in Manado City is a center for beef trading that serves the needs of consumers from various economic and social backgrounds.

Consumer preferences can be interpreted as preferences, choices or something that is liked by consumers (Hidayati, 2016). Consumer preferences in buying beef are greatly influenced by various attributes including price, aroma, color and tenderness. These beef attributes are the characteristics of a product being sold and influence consumer preferences in deciding to buy, which will ultimately affect the amount of sales and income of beef sellers. Consumers tend to have certain considerations in choosing beef, in addition to external factors such as consumption trends, trust in the origin of the meat, and promotions from traders also influence purchasing decisions.

Beef sales in Manado City occur in traditional markets and modern markets (supermarkets), where sales take place every day. Competition between traditional markets and modern markets is getting tighter, so it is important to understand how consumer preferences are in traditional markets, especially in Bersehati Market. Traditional markets are the most frequently visited places by respondents to buy beef. The provision of beef at Bersehati Market with various attributes will influence consumer decisions to buy. Consumers want beef according to their preferences so they pay attention to the attributes attached to beef. Based on this, beef traders at Bersehati Market, Manado City are required to know what consumer preferences and provide the best service according to consumer desires. The purpose of the study was to determine and analyze the relationship between beef attributes and consumer preferences at Bersehati Market, Manado City.

RESEARCH METHOD

This research was conducted at Bersehati Market, Manado City, North Sulawesi Province from December 2024 to January 2025. The samples used were beef consumers at Bersehati Market, Manado City. Determination of consumer respondent samples using the accidental sampling method, where this method is a technique for determining samples by chance, anyone who meets the researcher and suitable as a data source (Sugiyono, 2017). The number of samples used as respondents in this study was 50 beef consumer respondents at Bersehati Market, Manado City. The data analysis used in this study was Chi Square analysis. Chi Square analysis is used to determine whether there are differences in beef attributes that are consumer preferences. If the significance result is 0.00 <0.05, it means that there is a significant correlation between the dependent variable and its predicted value. Chi Square analysis is used to determine consumer preferences for beef, with the following formula:

$$x^2 = \sum_{i-1}^{n} \frac{[(fo - fe)]}{[\,fe\,]} : dimana\ fe\ \frac{Ri\ x\ Ci}{\Sigma \mathrm{Ri}}$$

Description:
χ2 : Chi Square
fo : frequency observed in the study
fe : expected frequency in the study
i…k : attribute category on the beef variable in Bersehati Market, Manado City
Ri : number of rows I
Ci : number of columns I
ΣRi : number of observations

RESULTS AND DISCUSSION

Consumer Preferences for Color of meatBeef

Consumer preference for beef is a choice between likes or dislikes by a consumer for the choice of beef products to be consumed. These choices also differ between one consumer and another (Simarmata, et al., 2019). Consumer preference for beef in the Bersehati market in Manado City can be known by looking at the frequency of consumers in choosing the attribute categories of beef, i.e. meat color, meat tenderness, meat aroma, and meat price. Consumer preference for beef in the Bersehati market in Manado City was analyzed using Chi Square analysis. The basis for decision making in the Chi Square test according to Santoso (2014) by looking at the value of the "Chi Square Test" output table from the results of SPSS data processing with two events. First, comparing the Asymp.Sig. value with a critical limit of 0.05. Second, comparing the Chi Square Calculation value with the Chi Square table value at a significance of 5%.

Beef color is one of the important factors that need to be considered in beef production. Because the first impression of consumers to buy beef by looking at the color as its physical appearance. The color of meat that consumers prefer is bright red which indicates the quality of the meat. Consumer preferences for the color of beef at Bersehati Market, Manado City can be seen in Table 1 below:

Table 1 Consumer preferences of beef meat color in market of Bersehati, Manado City

Description	Consumer preferences		Respondent	Percentage
	Not Purchase	Purchase		
Whitlight	10	3	13	26
Lightred	0	37	37	74
Total	10	40	50	100

Table 1 shows the color of beef preferred by respondents at the Bersehati Market in Manado City was bright red beef.This colored meat shows the color of beef preferred by respondents at the Bersehati Market in Manado City, which was bright red. Bright red beef is preferred because it indicates that the beef is young beef, still fresh has just been slaughtered, while pale colored beef is less in demand or less purchased because respondents doubt that the beef they buy is no longer fresh or stale. This is in accordance with the results of research by Firnanda, et al. (2023), that the attribute of beef preferred by consumers at Bumi Sambutan Asri Housing is beef that has a bright red color attribute. Hidayati and Gusteti (2016), the beef preferred by consumers in several traditional markets is bright red beef. Bright red beef is preferred because it indicates that the beef is young beef, still fresh or has just been slaughtered.

Ridayana, et al (2023), the color of beef preferred by consumers in Taman Rahayu Housing is bright red meat, because it shows that the beef is fresh beef, has not gone through a very long handling process and has just been slaughtered. However, many factors affect the color of the meat such as the condition of the meat, differences in types of beef, and the amount

of fat in the meat. This statement is in accordance with Putri's research (2017) which states that beef that has a bright red color is meat that comes from young cattle, usually has just been slaughtered. Nurjaya, et al (2020) showed that consumers in the Cianjur Regency Traditional Market prefer bright red beef.

Table 2 Chi-Square Test of Consumer Preferences for Beef Color at the Bersehati Market in Manado City

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi- Square	35.577a	1	.000		
Continuity Correctionb	30.932	1	.000		
Likelihood Ratio	35.995	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	34.865	1	.000		
N of Valid Cases	50				

Decision making was based on the significance value (Asymp.Sig), where based on the output table above the Asymp.Sig value (2-lateral) in the Pearson Chi-Square test was .000 <0.05, means that there is a relationship between the Aroma attribute of beef and consumer preferences, which explains that the fresher the red color of the beef, the greater the consumer preference to buy the beef. Conversely, the more colorful the beef pattern, the lower the consumer preference to buy beef at the Bersehati market in Manado City.

Consumer Preferences for Beef Tenderness

Terderness of meat is determined by the content of connective tissue. The older the age of the livestock, the more connective tissue is arranged, so that the meat produced is more elastic and if pressed with a finger, healthy meat will have a chewy (dense) consistency. According to Soeparno (2015), the tenderness and texture of meat are most likely the most important determinants of meat attributes. Consumer preferences for beef tenderness at Bersehati Market, Manado City can be seen in Table 3 below:

Table 3 Consumer Preferences for Beef Tenderness at Bersehati Market, Manado City

Description	Consumer Preferences		Respondent	Percentage (%)
	Don't buy	Buy		
Soft Texture	10	5	15	30
Chewy Texture	0	35	35	70
Total	10	40	50	100

The results in Table 3 show that the level of consumer preference in choosing beef based on meat texture mostly buys chewy texture with 35 respondents, while soft meat texture was 5 respondents. This is in accordance with the results of research by Ridayana, et al. (2023), the texture of beef preferred by consumers in Taman Rahayu Housing is tender meat texture, because it shows that the beef is fresh, has good quality, easy to process into food ingredients and consumed, can absorb cooking spices better and faster.

Table 4 Chi-Square Tests of Consumer Preferences for Beef Tenderness at Bersehati Market, Manado City

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	29.167a	1	.000		
Continuity Correctionb	25.149	1	.000		
Likelihood Ratio	30.945	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	28.583	1	.000		
N of Valid Cases	50				

Decision making was based on the significance value (Asymp.Sig), where based on the table above the Asymp.Sig value (2-lateral) in the Pearson Chi-Square test was .000 <0.05, means that there was a relationship between the attributes of beef tenderness and consumer preferences, which explains that the morechewy the characteristics of beef, the greater the consumer preference to buy the beef. Conversely, the softer the texture of the beef, the lower the consumer preference to buy beef at the Bersehati Manado market.

Beef Aroma

The factor that influences taste is the aroma detected by the nose. The aroma of beef is influenced by the type of feed given when the cow is alive. Abnormal aromas will usually be smelled immediately after the animal is slaughtered. Aroma is one of the important sensory properties that can affect the acceptability of food ingredients. Good meat can be judged by its aroma. Fresh meat has a distinctive smell, if the meat is damaged it will smell bad and this smell is caused by the activity of microorganisms.

Fresh aroma is one of the main attributes considered by consumers in buying beef at the Bersehati market in Manado City. Fresh aroma is considered an important indicator of the freshness and quality of beef. Consumer preferences for the aroma of beef at the Bersehati Market in Manado City can be seen in Table 5 below:

Table 5. Consumer Preferences for the Aroma of Beef at the Bersehati Market in Manado City

Descripton	Consumer Preferences		Respondent	Persentase (%)
	buynot	buyed		
Bad smell	10	1	11	22
Fresh aroma	0	39	39	78
Total	10	40	50	100

Table 5 shows that consumers prefer a fresh aroma compared to a fishy aroma, because consumers were very strict in choosing beef at the Bersehati Market in Manado City. This statement was in accordance with the results of research by Nugrahani and Yusalina (2019) which shows that beef aroma is the attribute most considered by consumers in purchasing beef at traditional markets in Bogor City.

Fresh aroma is considered the main indicator of meat quality, even more important than color or texture. Hairil Ansyarif (2021) found that around 50% of consumers at the Sape District Traditional Market, Bima Regency choose beef based on its distinctive fresh aroma. Rizky Purnama (2023) revealed that consumers in Kediri City prefer beef with a fresh aroma. Fresh aroma is one of the main factors in purchasing preferences, besides the meat portion and price. Sitohang, et al. (2024), Smell/aroma has a trust value of 4.08 which is considered very good. This illustrates that consumers have confidence that the aroma/smell of beef purchased at

traditional markets is the aroma of beef that consumers like, the typical aroma of beef and does not smell fishy.

Table 6 Chi-Square Test of Consumer Preferences for the Aroma of Beef at Bersehati Market Manado City

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	44.318[a]	1	.000		
Continuity Correctionb	38.818	1	.000		
Likelihood Ratio	43.338	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	43.432	1	.000		
N of Valid Cases	50				

Decision making was based on the significance value (Asymp.Sig), where based on the output table above, the Asymp.Sig value (2-sided) in the Pearson Chi-Square test is .000 <0.05 means that there was a relationship between the Beef Aroma attribute and consumer preferences, which explains that the fresher the aroma of beef, the greater the consumer preference to buy the beef. Conversely, the fishier the aroma of beef, the lower the consumer preference to buy beef at Bersehati Market, Manado City.

Beef Price at Bersehati Traditional Market

Price is one of the main factors that influences consumer preferences in buying beef. Consumers consider prices before determining or deciding to buy beef. Prices that are too high can reduce purchasing power, while reasonable and stable prices can encourage consumer purchases and loyalty. Price is one of the key factors in consumer behavior, especially for basic needs such as beef. Price plays an important role in determining consumer preferences for beef, but it is not the only factor. Consumers tend to make purchasing decisions based on a combination of fair prices and good product quality. Therefore, price stability and efforts to maintain product quality are very important in maintaining consumer loyalty. Consumer preferences for beef prices at Bersehati Market, Manado City can be seen in Table 7 below:

Table 7. Consumer Preferences for Beef Prices at Bersehati Market, Manado City

Description	Consumer Preferences		Respondent	Persentase (%)
	Buynot Beli	Buy		
Low Praize	0	10	10	20
Hight Prize	3	37	40	80
Total	3	47	50	100

The results in Table 7 show that consumer preferences in buying beef were mostly at high prices (expensive). Consumers consider high-priced beef as an indicator of quality. High beef prices can give rise to various assumptions among consumers, depending on their economic level, experience, and perceptions.

The highest reliability test result was the price attribute of 0.822, followed by the place attribute and product attribute, this because respondents in Kediri City assume that this price attribute greatly influences decision making in purchasing fresh beef so that respondents in Kediri City limit their spending to buy beef in traditional markets where this attribute always changes with the support of external factors that cause the high price of beef. The price of beef

that consumers like the most in Magelang City Traditional Markets was the price according to quality (98%) because it considered to have guaranteed quality.

The price of meat is the same as the quality offered by traders if the beef is bright red, has a distinctive meat aroma, a chewy texture, a non-slimy and sticky texture, and the meat fibers are clearly visible (Al-Jabbar, et al., 2021). Purnama's research (2017) stated that consumer preference decisions tend to prefer red (50%) and bright red (50%) liver meat, little fat (49%), the top of the meat (74%), and the price of the meat according to the quality (98%). Sitohang, et al. (2024), the price attribute is considered good by consumers with a trust value of 3.60. The price of beef in traditional markets in Palangka Raya City is preferred by consumers, according to the set market price of IDR 140,000/Kg. Consumers understand that the price of beef is higher than other food commodities, so consumers who can afford it do not mind the price but according to the appropriate quality.

Table 8 Chi-Square Test of Consumer Preferences for Beef Prices at Bersehati Market, Manado City

Description	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.798a	1	.372		
Continuity Correctionb	.022	1	.882		
Likelihood Ratio	1.386	1	.239		
Fisher's Exact Test				1.000	.504
Linear-by-Linear Association	.782	1	.377		
N of Valid Cases	50				

Decision making was based on the significance value (Asymp.Sig), where based on the output table above the Asymp.Sig value (2-sided) in the Pearson Chi-Square test is 0.372> 0.05, means that there was no relationship between the price attribute of beef and consumer preferences, even though the price was expensive, consumers still buy beef at the Bersehati Manado market.

CONCLUSION

The attributes of meat color, meat tenderness and meat aroma have a relationship with consumer preferences for beef at the Bersehati Market, while price has no relationship with consumer preferences. Consumer considerations in buying beef at the Bersehati market were based on meat color, meat tenderness, and meat aroma. Meat prices do not affect consumer demand for beef, even though prices have increased.

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