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CONSUMERS' PERCEPTION AND CHOICE OF SHOPPING PLACE FOR LOCALLY PRODUCED TOMATOES IN THE ASHANTI REGION, GHANA

Fred Nimoh, Enoch Kwame Tham-Agyekum, Alexander Annor Frimpong✉, Lenouse Annan Mensah

Kwame Nkrumah University of Science and Technology, Ghana

Abstract. This study set out to investigate consumers' preference of shopping place for tomatoes in Kumasi and the factors that influence their choice. A multi-stage sampling technique was adopted to identify 399 respondents. Descriptive Statistics, Perception Index and Multivariate Probit (MVP) models were used for analysis. The study revealed that the majority of the respondents were aware of the sale of quality, locally produced tomatoes in the supermarkets and were also knowledgeable about the quality of these locally produced tomatoes. Empirical results from the MVP model revealed that socioeconomic factors such as income level, proximity to shopping place, education and age of respondent have a significant influence on consumers' choice of shopping venue for locally produced tomatoes. Perception statements with respect to health, economic, nutrition and service benefits provided by the various shopping places were also found to have a significant influence on consumers' choices when shopping for tomatoes. The study recommends that supermarkets should restructure their marketing plans by creating more awareness of locally produced tomatoes for consumers to purchase from them. Moreover, policy makers and business operators or entrepreneurs should consider proximity to consumers before siting their retail outlet.

Keywords: consumers perception, shopping places, supermarket, tomatoes, Ghana

INTRODUCTION

Consumer behaviour is the study of individuals, groups, or organizations and the processes they use to select, secure and dispose of products, services, experiences or ideas to satisfy needs, and the impacts that these processes have on the consumer and society (Hawkins, 2020). Consumers usually express their buying habits and choices while shopping for goods and services. Shopping always involves a buyer and seller and a consensus being reached for trading to take place. Shopping places can range from open-air markets, small shops and street hawking joints to malls and supermarkets. The rise of supermarkets and shopping malls has marked a major trend in recent times. Although the emergence of supermarkets and shopping malls is an ongoing trend, marketers are faced with dynamic consumer behaviour and an independent competitive environment. In such an uncertain environment, predicting consumer behaviour and perception are key (Brassington and Pettitt, 2000).

Supermarkets and malls face considerable competition from traditional open-air markets and street hawking joints when it comes to consumers' selection of shopping place, and as such, certain measures need to be implemented so as to make consumers realize the benefits of shopping in malls and supermarkets. The latter outlets have recently proved to be ideal for some

✉Alexander Annor Frimpong, Department of Agricultural Economics, Agribusiness and Extension, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana, e-mail: alexanderfrimpong4@gmail.com, https://orcid.org/0000-0001-9522-5728

shoppers when they want to obtain certain kinds of commodities (Steinhofer, 2005). According to White et al. (2019), what influences a consumer's choice of a particular shopping place or not is a comparison process, which evaluates various stores in terms of an overall appearance. Factors such as value for money, special offers, and convenience of location, payment and product quality also play important roles in the consumers' product selection process. This is in agreement with the traditional 4 Ps of marketing mix, namely; Product, Place, Price and Promotion (Thabit and Raewf, 2018).

Mini stores in Ghana make locally produced foodstuff available to the consumer on their doorstep. Foreign foods are easily accessible to consumers but to obtain local foods, one may have to go to a particular specific place, such as open-air markets and mini-grocery stores (Asomani-Boateng, 2015). The mini stores and many others such as supermarkets, hawkers and open-air markets all constitute food retail outlets or actors in food retail. In the supermarket industry, product availability is an important measure of quality. The risk of customers switching stores appears to provide strong incentives for investment in product quality. Several large Chinese cities have been reported that about 49% of consumers bulk-buy their fresh vegetables from supermarkets (Yuan et al., 2021). Nevertheless, in developing countries like Ghana, mini stores, hawkers and open-air markets contribute by selling the bulk of local commodities to consumers. The competition created by these other food retail outlets makes it difficult for supermarkets to withstand the pressure exerted by these traditional markets. Research indicates that only 18% of locally produced agricultural goods are sold in Ghanaian supermarkets. The majority of these products, constituting the remaining percentage, are imported from other countries. This situation leads to the limited visibility and prominence of locally sourced agricultural commodities in supermarkets, and reflects the challenge faced by local supermarkets in competing for shelf space with foreign goods, despite the competitiveness of local producers (Asomani-Boateng, 2015).

This phenomenon may also be attributed to the increased taste and preference of foreign commodities in Ghanaian communities, hence the practice of stocking supermarket shelves with foreign commodities. Also, due to the lack of competitiveness among local producers, their products are of low standards resulting in its low patronage by supermarkets. Competitiveness and consumer satisfaction lead to the maximization of profits all along the chain. This will also increase jobs, since more support activities are needed to make the product competitive and also raise the standards to meet those of the supermarkets (Asomani-Boateng, 2015).

In their study, Adams et al. (2022) they bridged a knowledge gap by assessing consumer perception and purchasing behaviour of greenhouse vegetables in Ghana. Additional research, such as that by Reardon et al. (2009), delved into the impact of supermarkets, examining the competition between supermarkets and other entities in the food system. Nagy-Pércsi and Fogarassy (2019) found that consumers who regularly shop at supermarkets also purchase fresh foods in traditional markets. Despite this, there is a notable lack of comprehensive insights into consumers' perceptions of locally produced tomatoes. Understanding the factors influencing these preferences, including perceived quality, freshness, and trust in local produce, is crucial for stakeholders in the agricultural supply chain. Furthermore, addressing any existing misconceptions or negative perceptions regarding locally produced tomatoes is vital for targeted interventions that enhance consumer confidence and promote local agricultural products. The complex interplay of factors influencing the selection of shopping places for tomatoes has not received sufficient research attention. Identifying these determinants is essential for local farmers, markets and policymakers to optimize distribution channels and improve market access for locally produced tomatoes. By addressing these knowledge gaps, the present study aims to not only benefit local farmers and vendors but also contribute to the overall economic development of Asokwa Municipality. The goal is to foster a sustainable and competitive local agricultural market. Therefore, this research seeks to determine consumers' awareness of the availability and quality of locally produced tomatoes in supermarkets or malls, their preferences regarding shopping places, and the factors influencing their choice of shopping place for locally produced tomatoes.

MATERIALS AND METHODS

The study was conducted in the Asokwa Municipality in the Ashanti region of Ghana. The purposive sampling technique was used to select Asokwa Municipality. This selection was based on the fact that Asokwa contains the

Table 1. Demographic characteristics of respondents

Variables		Frequency $N = 399$	Percentage (%)
Community	Asokwa	120	30.1
	Ahinsan	99	24.8
	Gyinase	60	15.1
	Atonsu	120	30.1
Gender	Male	134	33.5
	Female	265	66.5
Marital status	Married	151	37.8
	Single	230	57.6
	Divorced	5	1.3
	Separated	13	3.3
Social status	Lower income earner (GHS0.00-1,200)	318	79.7
	Middle income earner (Above GHS1,200)	81	20.3

Demographics	Std. deviation	Minimum	Mean	Maximum
Age	9.95	20.0	32.08	71.0
Household size	2.44	1.0	5.0	13.0
Years of formal education	4.37	0.00	10.70	26.00
Income	693.53	80.00	859.00	5000

Source: field survey, 2021.

majority of the supermarkets and malls in the Kumasi metropolis. The target population of the study was consumers interested in the sale and consumption of vegetables in Asokwa Municipality. A sample size of 399 respondents was obtained using Slovin's formula. Communities such as Asokwa, Ahinsan, Atonsu and Gyinyase in Asokwa Municipality were selected, due to the fact that they had the majority of supermarkets and other shopping places. The population size of these communities was obtained from Asokwa Municipal office for the study. Quota sampling was used to share the sample size among these four communities, namely, Atonsu (203), Asokwa (58), Ahinsan (96) and Gyinyase (42). Systematic sampling was used to select respondents. An interval of three (3) was used to select every 3rd household for interviewing. Table 1 below provides information on the demographic characteristics of the respondents.

Consumers' knowledge of quality produce and perception of choice of shopping place for tomatoes

Descriptive statistics such as pie charts, frequencies and percentages were used to summarize the responses regarding consumers' knowledge of quality, locally produced tomatoes and choice of shopping place for the produce. Consumer knowledge of the quality of locally produced tomatoes in the supermarket or malls was analyzed using a 3-point Likert scale (1 – agree; 2 – neutral; 3 – disagree). The mean score of the responses and perception index was calculated and the perception index (P.I) was explicitly expressed as;

$$P.I = \frac{(f_a x1) + (f_n x2*2) + (f_d x3)}{n}$$

Responses were ranked based on (1 – supermarkets/malls, 2 – traditional/open markets, 3 – mini stores, 4 – greenhouses, 5 – street hawkers). The mean and percentages were calculated from the responses.

Consumer perception of the choice of shopping place was analyzed using perception indices based on a three-point Likert scale (1 – agree, 2 – neutral, 3 – disagree). Perception statements were grouped into themes; Health, Economical, Service and Nutritional perceptions.

The mean score was calculated using the formula below:

$$\frac{\{(fx1*1) + (fx2*2) + (fx3*3)}{X}$$

where: $fx1$ to $fx3$ represents the respondents for each category and X is the total number of respondents.

$$\frac{m1 + m2 + m3 + m4}{M}$$

where: $m1$ to $m4$ represents the four perception themes and M is the number of perception statements.

Theoretical framework

Random utility theory provides the theoretical framework to explain consumers' behaviour regarding the choice of shopping place (Greene, 2003). The main assumption that underpins the theory is that when individuals (i.e. consumers) are confronted with options (different shopping places such as supermarkets, traditional markets, greenhouse, street hawking points and mini-stores), they choose the alternative that maximizes their utility (Greene, 2003). This utility is not directly observed; however, the actions of consumers are depicted through the choices they make. For example, if a consumer, j, chooses to buy tomatoes at the supermarket, the understanding is that $Uij > Uj0$; where Uij and Uij is the utility of consumer, j, for buying in the supermarket over utility provided in other tomato markets forgone, $Uj0$. The utility derived from the choice of shopping place can be influenced by two major parts: the first part is determined by an attribute vector X (personal/socioeconomic, institutional and perceptions of shopping place and products' attributes, etc.), and the second part being the residual or noise term, e_i.

Conceptual framework and empirical model specification

Satisfaction/utility derived from a product or service is what consumers always consider before they make purchase decisions. Following the theory of consumer utility maximization, given a consumer's income and a set of prices, the consumer chooses the affordable bundle that maximizes his or her utility (Freeman, 2011). The type of good or service in question (i.e. shopping place for tomatoes) also determines the utility consumers expect to derive from the product and thus the choice of shopping place. When deciding for a shopping trip, the process by which the shopper or consumer chooses a store includes determining categories related to household needs, calculating the utility of shopping in each competing shopping place, which depends on travel distances, expected prices and assortments, and thus choosing the store offering the highest utility. Consumers evaluate a group of shopping outlets on a set of attributes and then, depending on their perceptions and preferences, patronize a particular shopping outlet.

Econometric techniques such as probit, logit, multivariate probit (MVP), multinomial logit (MNL) and probit (MNP), as well as linear regression models (Mohammed and Ortmann, 2005), have been used to solve choice problems among alternatives. According to Greene (2003), the type of dependent variable and residuals distribution determines the model that fits the data analysis. In this regard, the probit and logit techniques are employed for dichotomous dependent variables, while MNL, MNP and MVP are employed for polychotomous dependent variables. In this study, the Multivariate probit (MVP) model was used to analyze the factors influencing consumers' choice of markets/shopping places for locally produced tomatoes. This model was used because of multiple dependent variables (i.e. supermarkets, street hawking, mini-stores and traditional markets) that are not mutually exclusive. The use of the multivariate probit distribution instead of the logistic distribution allows correlations among possible alternatives.

The multivariate probit model of consumers' choice of markets with Y categories of dependent variables can be represented as:

$$Y_i = \alpha + \beta_i X_i + e_i$$

where: Y_i – dependent variables (supermarkets, street hawking, mini-stores and traditional markets), X_i – consumers' personal/socioeconomic, institutional and

Table 2. Definition of variables description and a-priori expectations

Variable	Definition	Measurement	Expectation
Socioeconomic factors			
Marital status	Marital status of respondent	Married – 1, otherwise – 0	+
Education	Years of formal education	Years	+
Income	Monthly income of consumer	GHC	+
Family sizes	Household sizes of consumers	Number of people	+
Social status	Category per income bracket	Low (0–1200) – 1, otherwise (> 1200) – 0	+
Age	Age of consumer	Years	-
Proximity	Nearness/time to reach market	Minutes	+
Perception statements			
Pathogen free tomatoes from supermarket		Agree – 1, otherwise – 0	+
Fertilizer residue-free tomatoes from supermarkets		Agree – 1, otherwise – 0	+
Fresh tomatoes from supermarkets		Agree – 1, otherwise – 0	+
Longer shelf-life tomato		Agree – 1, otherwise – 0	+
Value for money		Agree – 1, otherwise – 0	+
Pleasant shopping environment		Agree – 1, otherwise – 0	+
Cost savings		Agree – 1, otherwise – 0	+
Proper handling of complaints		Agree – 1, otherwise – 0	+
Flexible payment methods		Agree – 1, otherwise – 0	+
Customer loyalty due to frequent purchase		Agree – 1, otherwise – 0	+

Source: own elaboration.

perceptions of shopping place and products' attributes variables, α – constant term, β_i – parameter estimates and e_i – error term.

Based on the variables employed in Table 2, the empirical model for consumers' choice of markets with Y categories of dependent variables can be represented as:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k + e_i$$

RESULTS AND DISCUSSION

Awareness and knowledge of quality and sale of tomatoes in supermarkets

This section sought to identify whether respondents were aware of the sale of tomatoes in general in the various supermarkets. According to the data presented in Figure 1, it was observed that 291 participants, accounting for 72.9% of the total sample, were knowledgeable about the availability of high-quality and freshly produced tomatoes in supermarkets, with the remaining 108 respondents, accounting for 27.1%, being unaware. This lack of awareness was attributed to the fact that the minority 27.1% of the respondents sampled perceived supermarkets as only selling finished goods and fewer raw commodities. Another reason was the low patronage of the supermarkets, leading to low exposure and hence a lack of awareness of quality freshly produced tomatoes being sold. The last reason steemed from the fact that supermarkets prioritise the promotion of housewares, equipment and furniture but seem less keen on promoting raw agricultural commodities, hence the low level of awareness of tomatoes being on sale in supermarkets.

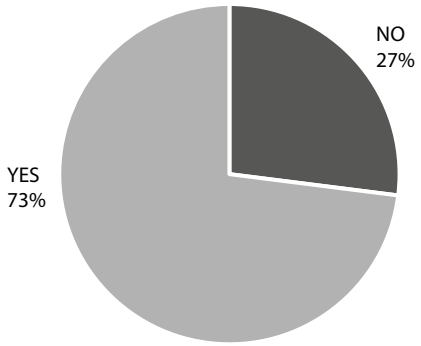

Fig. 1. Awareness of sale of tomatoes in supermarkets
Source: field survey, 2021.

Knowledge attributes of quality tomatoes

Table 3 shows that the overall mean of knowledge was 1.17, indicating that the respondents agreed with the knowledge statements that the physical and physiological measures of quality indicated the quality attributes of tomatoes. It was also found that the mean of the physical measures of knowledge was 1.19 and the mean of the physiological measures of knowledge was 1.15, meaning the respondents were more knowledgeable about both themes. These results show that consumers look out for other quality factors such as tomatoes being free of bruises, uniform in colour and having an attractive appearance before making a decision to purchase them.

Perception of choice of shopping places

The estimation of the perception index (P.I) for consumers' choice of shopping places for tomatoes was based on the mean score from all the respondents on the various perception statements presented to them. The perception statements were grouped into four categories, namely, Health, Economic, Service and Nutritional perceptions (Table 4).

The results in Table 4 reveal the overall perception index to be 1.62, indicating that the majority of the respondents had a neutral view with regard to the perception statements provided. These statements were further grouped into health statements with an index of 1.67, economic statements with an index of 1.63, nutritional statements with a perception index of 1.53, and service statements with an index of 1.65. The 1.67 perception

Table 3. Knowledge attributes concerning quality tomatoes

Knowledge statements	Agree (1)	Neutral (2)	Disagree (3)	Mean
Physical measures				
Bruises free tomatoes	370 (92.7)	9 (2.3)	20 (5.0)	1.12
Fresh tomatoes	391 (98.0)	4 (1.0)	4 (1.0)	1.03
Bright red colour and attractive appearance	341 (85.5)	26 (6.5)	32 (8.0)	1.23
Smooth texture and clear-skinned tomato	360 (90.2)	20 (5.0)	19 (4.8)	1.15
Plump and dense tomatoes	297 (74.4)	50 (12.5)	52 (13.0)	1.39
Firm tomatoes	343 (86.0)	33 (8.3)	23 (5.8)	1.20
Mean for physical measures of knowledge				1.19
Physiological measures				
Pathogen and fertilizer free tomato	382 (95.7)	11 (2.8)	6 (1.5)	1.06
Uniform tomato colour inside and out	330 (82.7)	42 (10.5)	27 (6.8)	1.24
Mean of physiological measures of knowledge				1.15
Overall knowledge means				1.17

Source: field survey, 2021.

Table 4. Perception statements with respect to the choice of shopping place

Perception statements	Agree (1)	Neutral (2)	Disagree (3)	Mean
Health perceptions				
Pathogen free tomatoes from supermarkets	285 (71.4)	43 (10.8)	71 (17.8)	1.46
Fertilizer free tomatoes from supermarkets	233 (58.4)	80 (20.1)	86 (21.6)	1.63
Pathogen free tomatoes from open air markets	191 (47.9)	151 (37.8)	57 (14.3)	1.66
Pathogen free bruised tomatoes from street hawkers	124 (31.1)	185 (46.4)	90 (22.0)	1.91
Mean of health perceptions				1.67
Nutritional perception				
Fresh tomatoes from supermarkets	325 (81.5)	15 (3.8)	59 (19.8)	1.33
Tomatoes with retained nutritional value in supermarkets due to storage means	287 (71.9)	33 (8.3)	79 (19.8)	1.48
Bruised tomatoes with nutritive value from open air markets	147 (36.8)	158 (39.6)	94 (23.6)	1.87
Nutritional information on tomato packaging in supermarkets	216 (54.1)	26 (6.5)	157 (39.3)	1.85
Mean of Nutritional perceptions				1.63
Economic perception				
Longer shelf lived tomatoes in supermarkets	280 (70.2)	41 (10.3)	77 (19.3)	1.49
Off season tomatoes provided by supermarkets	246 (61.7)	31 (7.8)	122 (30.6)	1.69
Cheaper tomatoes sold by open air markets and mini store	332 (83.2)	34 (8.5)	33 (8.3)	1.25
Tomato varieties provided by supermarkets	280 (70.2)	18 (4.5)	101 (25.3)	1.55
Supermarkets provide value for money	226 (56.6)	74 (18.5)	99 (24.8)	1.68
Saving cost of buying unsafe tomatoes by supermarkets	281 (70.4)	24 (6.0)	93 (23.3)	1.53
Mean of economic perceptions				1.53
Service perception				
Pleasant atmosphere provided by supermarkets	321 (80.5)	4 (1.0)	74 (18.5)	1.38
Better handling of complaints by supermarkets	228 (57.1)	26 (6.5)	144 (36.1)	1.79
Other payment methods provided by supermarkets	246 (61.7)	18 (4.5)	133 (33.3)	1.72
Better customer service provided by street hawkers	240 (60.2)	63 (15.8)	95 (23.8)	1.64
High probability of meeting same street hawker	218 (54.6)	82 (20.6)	97 (24.3)	1.70
Mean of service perceptions				1.65
Overall perception index				1.62

Source: field survey, 2021.

index for health statements indicated that the respondents had a neutral perception about most of the health statements presented to them. In Marx-Pienaar and Erasmus (2006), customers rated place-related attributes such as cleanliness of supermarkets at 85%, which was said to be highly satisfying. The perception index of 1.63 concerning nutritional statements suggests that the respondents generally held a neutral stance or agreed moderately with the nutritional statements presented. The majority of the respondents agreed with most of

the statements regarding nutritional perception, 81.9% of the respondents confirming that the tomatoes sold in the supermarkets are mostly fresh, with a mean of 1.33.

The 1.53 perception index for economic statements showed that most of the respondents were in agreement with all of the economic statements, with approximately 24.8% disagreeing with the perception that supermarkets provide value for money. The money that is exchanged for the utilization of a need is generally considered acceptable if the value of the product purchased is perceived to be equal to or exceeding the amount paid (Assael, 1993). Price has a significant influence on the choice of shopping place for all items. The general perception is that goods sold in supermarkets are more expensive than in the other shopping places. As a result, the use of discounts will help sell these vegetables (Symmank et al., 2018).

57.1% of the population expressed agreement with the perception that supermarkets handled complaints better than other shopping places. However, the respondents had a neutral perception of 1.70, indicating that there was a high probability of meeting the same street hawkers on the daily routes they use. Consequently, customer relationships and loyalty can be built. In supermarkets, the likelihood of meeting the same service staff is quite low due to the number of employees of these supermarkets and the shifts they work. According to a study by Marx-Pienaar and Erasmus (2006), customers were not content with the personnel or the process-related attributes such as friendliness of staff, where this was rated at 12%, which is said to express a low level of satisfaction. In general, however, this study is in line with the study by Lombart et al. (2019).

Descriptive statistics associated with the empirical model

From the survey, it was found that the majority of the respondents shopped in the open-air markets (94.5% of the sample), but since the dependent variables were not mutually exclusive, respondents could choose from more than one shopping outlet. Most of the consumers also shopped in mini grocery stores and with street hawkers, accounting for 81% and 36.1%, respectively.

Factors that influence consumers' choice of shopping place for tomatoes

Earlier studies have found age, household size, educational level, income, marital status to be factors that influence consumers' food shopping choices (Meng et al., 2014). In this study, age, years of formal education, income, proximity, household size and various perception statements were found to be significant factors that affect the choice of shopping place for freshly produced tomatoes.

Table 5. Descriptive of dependent variables

Variable	Frequency	Percentage of sample (%)
Supermarkets	60	15.0
Mini grocery stores	323	81.0
Street hawkers	144	36.1
Open air markets	377	94.5

Source: field survey, 2021.

From the study, years in formal education positively affected consumers' choice of buying tomatoes at supermarkets at 1%. Consumers with higher levels of education are 6.9% more likely to purchase tomatoes in supermarkets, implying that they are more conscious of their health and the quality of food they eat; as the saying goes '*You are what you eat*'. Supermarkets also tend to provide varieties of tomatoes to choose from with high-quality standards. This finding is similar to the results obtained in greater Tunis (Tessier et al., 2010). Income positively influenced consumers' choice of purchasing tomatoes at supermarkets, at a level of 5%. Compared to middle- and lower-income earners, people with high levels of disposable income are more likely to shop for tomatoes in supermarkets. A rise in a consumer's income increases the likelihood of shopping for tomatoes in the supermarkets by approximately 1%. This is due to the fact that high income earners tend to be less price-sensitive, and supermarkets give assurance of quality and safety with respect to purchasing tomatoes. Other factors found to influence consumers' decisions to shop in supermarkets included marital status, fertilizer residue-free tomatoes being available in supermarkets, a pleasant environment for shopping in supermarkets and costs saved from not buying unsafe tomatoes.

Proximity had a positive influence on the choice of shopping for tomatoes in mini grocery stores, at a level of 1%. An increase in the proximity of a mini grocery store increases the probability of consumers shopping in them by 1%. Compared to supermarkets, which are

situated in planned settlements, mini grocery stores tend to be situated near vantage points around homes. The nearness of these mini stores enables easy and quick shopping of tomatoes for any emergency situation, with little or no cost incurred with respect to distance. The perception statements regarding fresh tomatoes from supermarkets, longer of expiry dates tomatoes and value for money all had a negative influence on consumers choosing mini groceries, whilst other payment methods and customer loyalty due to frequent meetings positively influenced consumers' decisions.

Age was found to have a negative effect on consumers' choice of buying tomatoes from street hawkers (10%), as presented in Table 6. An increase in age reduces the likelihood of consumers purchasing tomatoes from street hawkers. As people grow older, they become more health-conscious and concerned about what they eat, since they wish to live longer. They tend to be less price-sensitive and are willing to pay premium prices for tomatoes, which might be due to quality and safety concerns. Fresh tomatoes from supermarkets and the proper handling of complaints both had a negative

Table 6. Determinants of choice of shopping place for tomatoes

Determinant	Supermarkets			Mini grocery stores			Street Hawkers		
	dy/dx	S.E	*P*	*dy/dx*	S.E	*P*	*dy/dx*	S.E	*P*
Marital status	–0.0135*	0.0117	0.057	0.0233	0.0112	0.472	–0.0112	0.01013	0.443
Years of formal education	0.0694***	0.0241	0.003	0.0814	0.0402	0.873	0.1523	0.0840	0.366
Income	0.0055**	0.0021	0.020	–0.0216	0.0103	0.180	0.0242	0.0196	00.805
Household size	0.0296	0.0287	0.892	0.0282**	0.0140	0.017	–0.0594	0.0352	0.465
Social status	–0.0221	0.0162	0.586	–0.0435	0.0332	0.937	–0.0631	0.0451	0.241
Age	–0.0016	0.0004	0.918	0.0112	0.0112	0.289	–0.0126*	0.0113	0.084
Proximity	0.0017	0.0011	0.109	0.0032***	0.0008	0.001	0.0005	0.0010	0.725
Pathogen free tomatoes from supermarkets	–0.0235	0.0356	0.304	0.0537	0.0350	0.132	–0.0672	0.0442	0.309
Fertilizer residue-free tomatoes from supermarkets	0.0664*	0.0326	0.067	–0.037	0.0323	0.378	–0.0492	0.0390	0.381
Fresh tomatoes from supermarkets	0.0142	0.0317	0.463	–0.1038***	0.0329	0.001	–0.1230***	0.0396	0.003
Longer shelf-life tomato	0.0135	0.0293	0.763	–0.0969***	0.0308	0.001	–0.0158	0.0308	0.786
Value for money	–0.0303	0.0279	0.145	–0.0311**	0.0285	0.026	0.0447	0.0344	0.105
Pleasant environment for shopping in supermarkets	0.0188*	0.0341	0.079	0.0652	0.0345	0.126	0.0191	0.0416	0.304
Cost saved from buying safe tomatoes	0.0663*	0.0322	0.062	–0.0468	0.0328	0.641	–0.0301	0.0328	0.962
Proper handling of complaints	–0.0131	0.0267	0.747	–0.0420	0.0270	0.117	–0.0664*	0.0325	0.088
Flexible payment methods	–0.0333	0.0255	0.211	0.0555*	0.0264	0.073	0.0486	0.0318	0.327
Customer loyalty due to frequent purchase	–0.0749	0.0368	0.176	0.0492*	0.0305	0.084	0.0826***	0.0284	0.006

dy/*dx* – marginal effects; S.E. – standard error.
*** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.
Source: field survey, 2021.

influence on consumers choosing street hawkers, whilst customer loyalty due to frequent meetings with these sellers had a positive impact.

CONCLUSION

The study sought to examine consumers' preference of shopping place and factors that influence their choice of shopping places for tomatoes. Based on the findings, it is concluded that consumers are aware of quality tomatoes, and the choice of shopping place for the produce is influenced by their varying socioeconomic characteristics and perception of the attributes and place of shopping. Factors such as years in formal education, income, fertilizer residue-free tomatoes from supermarkets, a pleasant environment for shopping in supermarkets and cost savings have a positive influence on consumers in choosing supermarkets, with the exception of marital status, which influenced it negatively. Consumers selecting mini-grocery stores were influenced by household size, proximity, fresh tomatoes from supermarkets, value for money, other payment methods and customer loyalty due to frequent meetings, whilst proper handling of complaints, fresh tomatoes from supermarkets, age and customer loyalty due to frequent meetings influenced consumers' decisions to buy their tomatoes from street hawkers.

This study proposes the following policy recommendations: Supermarkets should restructure their marketing plans to factor in the promotion of locally produced agricultural products as a whole in order to boost awareness among consumers and to enable consumers to purchase these raw products from them. This can be done through advertisement on televisions, radio and social media. There is a perception associated with supermarkets with respect to economic benefits that they charge exorbitant prices for agricultural products and do not provide value for money, and that they tend to extort people and provide less value for consumers. These perceptions tend to deter consumers from shopping in the supermarkets. Supermarkets could boost awareness of the other forms of value they provide as a shopping place and also charge moderate prices for commodities. This would change the view that they do not provide value for money. Socioeconomic factors such as proximity and age were found to have a significant influence on consumers' choice of shopping place for tomatoes, hence policy makers and businesspeople should consider proximity to consumers before siting a retail outlet, and also consider middle-aged and older citizens, as they tend to be health-conscious and look out for quality. This will enable them to increase sales.

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