A Comprehensive Analysis of Factors Influencing Drivers' Perceptions and Preferences for Petrol Filling Stations in Tanzania

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Abstract

This study examines factors influencing consumers' choice of petrol filling stations in Handeni district, Tanga Region, Tanzania. The research employed a cross-sectional design to achieve two primary objectives: first, to identify the external factors affecting consumers' choice of petrol filling stations, and second, to assess the effectiveness of marketing strategies employed at these stations in influencing consumer choice. The study used simple random sampling to select respondents from three wards, resulting in a sample of 384 drivers. Primary data were collected through questionnaires, comprising both closed-ended and open-ended questions, and interviews. A multinomial logistic regression model was utilized to analyze the magnitudes and directions of the factors influencing consumer choice. The findings indicated that petrol quality, price, brand, service quality, promotion, and payment options were statistically significant determinants in consumers' choice of petrol filling stations. Descriptive analysis revealed that the four most preferred petrol stations were Mount Meru, Teacher Oil, KSK Oil, and Msawi petrol stations out of the eight stations considered. The study recommends that petrol station owners implement integrated strategies that focus on multiple critical factors to enhance consumer choice. Additionally, the government could provide tax breaks to petrol stations that invest in modern payment systems and maintain well-stocked convenience stores to further support consumer preferences and improve service delivery in the petrol retail market.

1. Introduction

Consumer choices and perceptions vary significantly when it comes to purchasing necessities (Kitole & Sesabo, 2022). Previous experiences and marketing strategies shape these perceptions and brand images, driving companies to improve quality and offer rewards to attract consumers. At the time of purchase, numerous factors influence consumer decisions, including location and service quality, which play crucial roles in evaluating product quality and maintaining customer satisfaction (Nelson, 1970; Wall & Berry, 2017).

Location and distance influence consumer behavior in deciding where to buy products (Wall & Berry, 2017). Consumers constantly face consumption-related choices, which vary in complexity and frequency. These choices range from simple, frequent purchases to complex, infrequent decisions requiring extensive information search, funds, and time (Mwenda & Oloko, 2016; Kitole & Utouh, 2023). In competitive markets, attracting and retaining customers is challenging due to similar offerings from multiple players. Although customers may have favorable attitudes toward a product, this does not always translate into purchases (Franklin, 2019; Kitole & Genda, 2024).

Geographical convenience is critical, as consumers prefer nearby locations, especially during rush hours. The visibility and accessibility of a business, such as a petrol filling station on a main road, significantly impact its success (Franklin, 2019; Kitole et al. 2024). Additionally, the quality of service and customer relationships positively influence loyalty. Quick service, a friendly environment, and accurate transactions are essential to meeting customer expectations (Vesel & Zabkar, 2010; Kitole & Sesabo, 2024; Grönroos, 2001).

Consumers assess product quality based on their satisfaction with services. Issues such as being overcharged or receiving poor service can lead to mistrust and high turnover rates. Engaging customers in assessing service quality fosters a healthy relationship and encourages feedback (Kenyon and Sen, 2012; Dabholkar, 2014). Rewards and discounts also motivate consumers, with significant rewards sometimes prompting increased spending. Such incentives help marketers promote their brands and create positive perceptions among customers (Kivetz & Simonson, 2002; Alvi, 2015).

The number of petrol stations in Tanzania has grown due to increased investments by local and international Oil Marketing Companies (OMCs) following the liberalization of the petroleum sector. From 1,181 licensed stations in 2014, the number has risen to 2,032 in 2022 (EWURA, 2022). Despite regulated fuel prices, competition remains intense in the oil and gas industry, prompting OMCs to offer a variety of services to attract consumers. Understanding consumer choices and attitudes is crucial for these companies (Schiffman & Kanuk, 1997).

In Tanga region, a key port city, petrol stations play a vital role in supporting transportation and commerce. The development of these stations is closely linked to the city's growth and the rising demand for fuel services. Various studies have explored

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factors influencing consumer choices, with mixed results. For example, Mwenda et al. (2016) found that fuel prices do not significantly influence consumer choice, while Alvi et al. (2016) concluded that location, quality, and rewards are not significant factors. Conversely, Kwame et al. (2019) and Moose (2019) found strong positive relationships between service quality and consumer choice, highlighting the importance of location. These studies focused on factors such as fuel quality, service quality, price, location, and brand. However, other factors like promotions, security, payment options, and additional services (e.g., convenience stores and car washes) also influence consumer choices but were not discussed in previous research. This study aims to fill this gap by including these additional variables, specifically focusing on the Tanga region of Tanzania.

2. Empirical review

Several studies have investigated the factors influencing consumers' choice of petrol filling stations, revealing common themes and significant insights. Anthony and Mwakyusu (2023) found that service quality, fuel quality, price, and brand positively and significantly influenced consumers' choice of petrol filling stations in Dar-es-Salaam, Tanzania. Similarly, Mwenda and Oloko (2016) in Kenya discovered that service quality, accessibility, brand preference, promotion, and prices positively influenced motorists' choices. These studies underscore the importance of multiple factors, including the quality of services and products, the accessibility of the location, and effective promotional strategies in determining consumer preferences.

In contrast, Alvi et al. (2016) investigated consumer perceptions in Karachi and concluded that quality, location, and rewards did not significantly influence consumer choices. This finding suggests that in some regions, traditional determinants may not hold as much sway over consumer behavior as they do in others.

Kwame et al. (2019) explored the spatial distribution and operations of petrol stations in Ghana, finding that location was a significant factor influencing consumer choice. Petrol stations situated along highways were preferred, highlighting the role of convenience and ease of access in consumer decision-making. This is consistent with the findings of White et al. (2017), who emphasized the importance of location in ensuring visibility and easy access, which in turn influences consumer satisfaction and loyalty. Also, Inderadi and Setiad (2020) identified product quality as the most influential factor in consumer decision-making at petrol stations in Ayer Keroh. This aligns with the research by Saini and Mutinies (2020), who found that consumers prioritize convenience and speed of service. These studies suggest that consumers value high-quality products and efficient service, which enhance their overall experience and satisfaction.

On the other hand, various studies have examined the effectiveness of marketing strategies at petrol filling stations in influencing consumer choice and loyalty, with consistent findings across different contexts. Xavie (2022) studied predictors of customer satisfaction at petrol stations in Malaysia and found that service quality, convenience, and promotion significantly positively influenced customer satisfaction. This is corroborated

by Gajesanan et al. (2020), who highlighted the importance of perceived product quality, store atmosphere, perceived price, promotion, and brand image in developing customer repurchase intention at gas service stations in Bangkok.

Pilelienė and Bakanauskas (2016) emphasized that price, price-quality association, and location are critical factors influencing petrol station brand choice in Lithuania. Their study suggests that aligning marketing strategies with consumer priorities, such as competitive pricing and convenient locations, is essential for attracting and retaining customers.

The role of payment options in consumer choice was explored by White et al. (2017), who found that offering a variety of convenient and secure electronic payment methods significantly influenced consumer satisfaction and loyalty. Similarly, Patel and Gupta (2020) highlighted the impact of emerging payment technologies, such as mobile wallets and contactless payments, on consumer behavior. Their research indicated that convenience, security, and familiarity drive the adoption of these technologies, emphasizing the need for petrol stations to integrate modern payment solutions to meet evolving consumer preferences.

Figure 1: Conceptual framework

External factors

- Fuel quality
- Location
- Brand
- Safety and security
- Convenience

Effectiveness of market strategies

- Promotion
- Payment option
- Service quality
- price

Consumer's choice
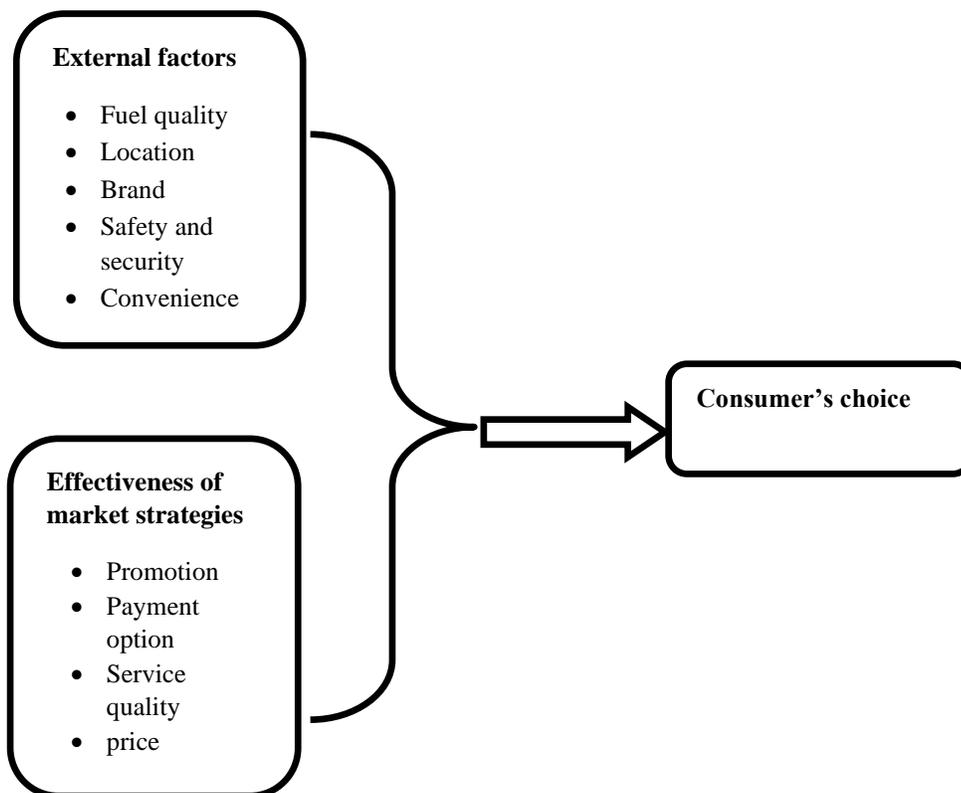
Source: Author's own construction (2023)

3. Methodology

This study employed a cross-sectional design due to its quick and cost-effective nature. Data were collected at a single point in time, with respondents contacted only once, aiming to examine the factors influencing consumers' choice of petrol filling stations. The sampling frame consisted of all drivers in targeted wards in Handeni district. Given the unknown population size, the sample size was estimated using a formula for unknown populations, resulting in a total sample size of 384 drivers. Purposive sampling was used to ensure that the sample adequately represented the targeted wards. Each ward contributed an equal portion of the sample, with 128 drivers from each ward participating in the study. The simple random sampling technique was applied, allowing all targeted members an equal chance of selection. This method involved randomly selecting motor vehicle drivers in the targeted areas to gather comprehensive data on their choices of petrol filling stations.

Figure 2 Study Area
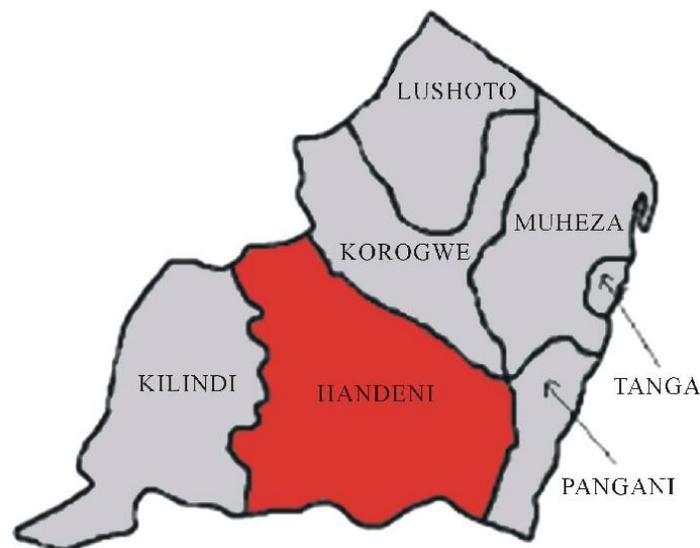
Source: Handeni District Council (2023)

3.1 Analytical modelling

In order to examine the most likely factors influencing consumers' choices of petrol filling stations among various available options, this study employs the multinomial logit model (Maddala, 1983; Dimoso & Andrew, 2021). The choice of this model is based on its capability to utilize the cumulative distribution function of the logistic distribution, making it suitable for analyzing categorical dependent variables with more than two possible outcomes. The multinomial logit model has been widely used in similar studies due to its robustness and effectiveness in handling multiple choice scenarios (Kitole et al. 2023). This model allows us to explore how various regressors, such as service quality, petrol quality, price, brand, promotion, location, payment options, safety and security, and

convenience store offerings, influence the likelihood of consumers selecting specific petrol filling stations. By applying this model, we aim to provide a comprehensive understanding of the key determinants that drive consumer preferences in the competitive petrol retail market. Therefore, consider that:

$$\pi(x) = p(Y = 1 | X = x)$$
$$= 1 - p(Y = 0 | X = x) \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots ..2$$

Thus, simple model for logistic regression will be given by the equation;

$$Logit[\pi(x)] = log\left(\frac{\pi(x)}{1 - \pi(x)}\right)$$
$$= \alpha + \beta x \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots 3$$

Whereas the odds will always be given by;

$$Odds$$
$$= \frac{\pi(x)}{1 - \pi(x)} \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots 4$$

Therefore, the logarithm of the odds is called logit which is hereby given by

$$Logit[\pi(x)] = log\left(\frac{\pi(x)}{1 - \pi(x)}\right) = log[\exp(\alpha + \beta x)]$$
$$= \alpha + \beta x \dots \dots \dots \dots \dots \dots \dots \dots \dots ..5$$

When there are multiple cattle breeding choices the model can be extended as follows;

Let k represents the number of predictors of the binary dependent variable Y that $x_1, x_2, x_3 \dots \dots x_k$. Hence the model for the log of odds is given by;

$$logit\,[P(Y = 1)]$$
$$= \alpha + \beta_1 x_1 + \beta_2 x_2 + \cdots$$
$$+ \beta_k x_k \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots ..6$$

With the alternatively direct expression being

$$\pi(x)$$
$$= \frac{\exp(\alpha + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k)}{1 + \exp(\alpha + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k)} \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots 7$$

Whereby β_i represents effects explanatory variable x_i on log-odds that $Y = 1$, while controlling other explanatory variables x_k , therefore $\exp(\beta_i)$ become a multiplicative effect on odds of a unit increases on the explanatory variable x_i, when all other variables x_k are constant. Therefore, when there are n observations, p independent variables, and k categorical responses in the given function, the ideal behind constructing multinomial logit is by making one of the responses as a base outcome of which all other remaining categories will be constructed relatively to it and all responses are not ordered hence any of them can be a base outcome. To simplify these explanations, consider π_j as a multinomial probability of observations falling into j^{th} category with p explanatory variables, $x_1, x_2, x_3 \dots \dots x_p$

Therefore, the multiple logistic regression model is given by;

$$log\left[\frac{\pi_j(x_i)}{\pi_k(x_i)}\right] = \alpha_{0i} + \beta_{1j} x_{1i} + \beta_{2j} x_{2i} + \cdots$$
$$+ \beta_{pj} x_{pi} \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots 8$$

Whereas $j = 1, 2, \ldots, (k-1), i = 1, 2, \ldots, n.$ However, $\pi's$ add to unity therefore the equation is reduced to;

$$log(\pi_j(x_i))$$
$$= \frac{\exp(\alpha_{0i} + \beta_{1j} x_{1i} + \beta_{2j} x_{2i} + \cdots + \beta_{pj} x_{pi})}{1 + \sum_{j=1}^{k-1} \exp(\alpha_{0i} + \beta_{1j} x_{1i} + \beta_{2j} x_{2i} + \cdots + \beta_{pj} x_{pi})} \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots 9$$

For $j = 1, 2, \ldots, (k-1)$, and the parameters will be estimated by the use of maximum likelihood. Therefore, the use of the multinomial logistic model in this study assumed that the petrol consumers are stricted to only one choice of petrol station at a time, and had no means of choosing more than one petrol stations at once.

4. Results

The demographic characteristics of the drivers surveyed in this study provide a comprehensive overview of the population's composition, helping to understand the factors influencing their choices of petrol filling stations are presented in Table 1.

Table 1: Description of the drivers' characteristics

Demographic	Category	Frequency	Percentage (%)
Gender	Male	374	97.4
	Female	10	2.6
	Total	**384**	**100**
Education Level	Primary	152	39.5
	Secondary	208	54.2
	Tertiary	24	6.3
	Total	384	**100**
Marital status	Married	198	51.6
	Single	186	48.4
	Total	384	**100**
Education Level	No schooling	36	9.5
	Primary education	60	15.7
	Secondary education	99	25.87
	Vocational training	125	32.6
	University	63	16.33
	Total	**384**	**100**
Household size	0-3 members	108	28.13
	4-6 members	129	33.59
	7-10 members	89	23.18
	More than 10 members	58	15.10
	Total	**384**	**100.00**

Source: Author's computation (2023)

The gender distribution among the drivers is highly skewed, with 97.4% being male and only 2.6% female. This significant disparity suggests that the petrol filling stations' marketing strategies and services are primarily catered to male customers. Understanding this gender distribution is crucial for tailoring services and promotional efforts to better meet the needs of the predominant demographic. Moreover, the education level of the respondents indicates a diverse range of educational backgrounds. A substantial proportion of drivers, 54.2%, have attained secondary education, followed by 39.5% with primary education, and a smaller segment, 6.3%, with tertiary education. This distribution highlights that the majority of the drivers have at least a basic level of education, which could influence their preferences and decision-making processes when choosing petrol filling stations. Additionally, another layer of educational data shows that 32.6% have

vocational training, and 16.33% have a university education, suggesting a relatively educated population overall.

The marital status of the drivers is almost evenly split, with 51.6% married and 48.4% single. This balance indicates that the preferences and needs of both married and single drivers are relevant for petrol filling stations. Marketing strategies and service offerings should consider the distinct needs and preferences of these two groups to effectively attract and retain customers from both segments. Additionally, the household size data reveals that a significant portion of the drivers (33.59%) have households with 4-6 members, followed by 28.13% with 0-3 members, 23.18% with 7-10 members, and 15.10% with more than 10 members. This information suggests that many drivers are likely to be responsible for larger families, which may influence their choices in terms of convenience, cost-effectiveness, and additional services offered by petrol filling stations.

4.1.1.2 The consumer's choice

The survey results on consumers' choice of petrol filling stations, as presented in Figure 3, show a varied preference among different stations. Mount Mare was the most preferred station, chosen by 26% of respondents. This suggests that Mount Mare has strong attributes, such as service quality, location, or pricing, that appeal to a large segment of consumers. Additionally, Teacher Oil Station was the second most preferred, with 14% of respondents favoring it, followed closely by KsK Oil Station at 13.30% and Msawi Petrol Station at 13%. These stations likely offer competitive advantages that attract a significant number of customers.

Figure 3: Consumers' choice on the use of Petrol stations

Source: Author's computation (2023)

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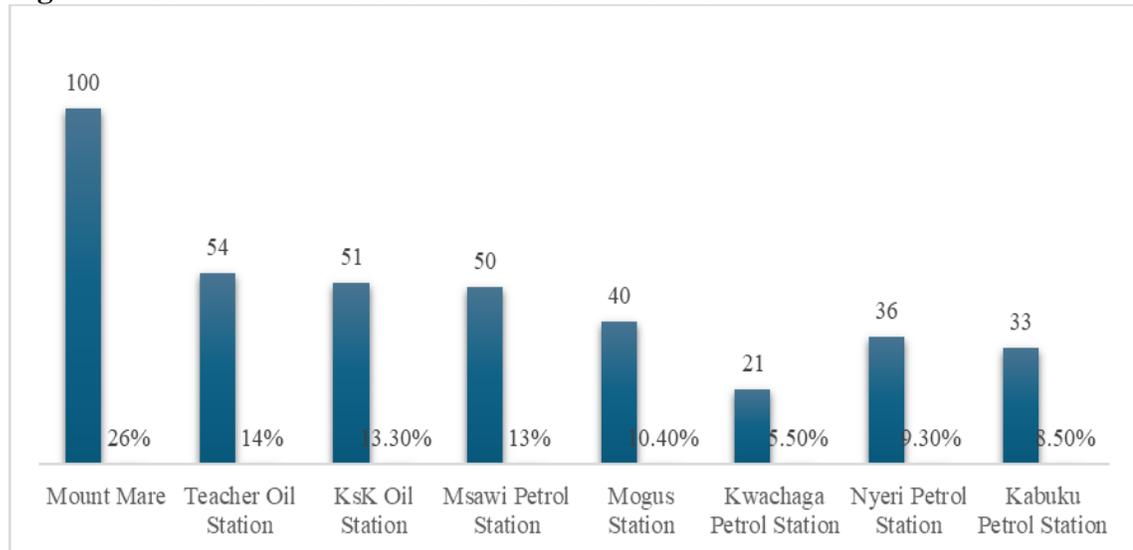
Mogus Station was chosen by 10.40% of respondents, indicating a moderate level of preference, possibly due to satisfactory service or convenient location. Moreover, the remaining stations, including Kwachaga Petrol Station (5.50%), Nyeri Petrol Station (9.30%), and Kabuku Petrol Station (8.50%), had lower preference rates. This lower preference could be due to factors such as less favorable location, service quality, or pricing compared to the more popular stations.

Overall, the distribution of preferences highlights that certain petrol filling stations have distinct competitive advantages that make them more attractive to consumers. Understanding these factors can help less preferred stations improve their offerings to better meet consumer needs and increase their market share

4.2.1 Determinants for drivers' choice of petrol filling stations
The multinomial logistic regression results provide insights into the determinants influencing drivers' choice of petrol filling stations. The analysis considers various factors such as brand logo and reputation, petrol quality, service quality, price, location, payment option, safety and security, and the presence of convenience stores. Moreover, Brand logo shows a significant negative influence on the choice of Mogus, Kwachaga, Kabuku, and Nyeri petrol stations, with p-values less than 0.05 for Mogus and Kabuku, and less than 0.01 for Kwachaga and Nyeri. This indicates that a negative perception of the brand logo significantly reduces the likelihood of choosing these stations. In contrast, reputation positively affects the choice of Teacher Oil Station (p<0.1), suggesting that drivers are more likely to choose this station if they perceive the brand positively. However, brand reputation negatively impacts the choice of Kabuku station (p<0.05).

Table 3: Multinomial logistic regression on the consumers' choice of petrol filling station

Variables		PETROL STATIONS						
		TEACHER	KSK	MSAWI	MOGUS	KWACHAGA	KABUKU	NYERI
Brand	Logo	0.4231 (0.9146)	-0.4206 (1.0893)	-0.3364 (0.8319)	-2.596** (1.0790)	-3.687*** (1.3252)	-1.9850** (0.8781)	-3.61*** (0.9010)
	Reputation	1.5900* (0.8912)	-0.1818 (1.0063)	0.3345 (0.8017)	-1.1481 (1.0976)	-1.7595 (1.2290)	-2.0904** (1.0146)	-1.4059 (0.1601)
Petrol quality		-0.3112 (0.5000)	-0.4702 (0.7023)	-0.3161 (0.5717)	1.1435 (0.7238)	-1.0444 (0.8100)	0.4979 (0.6433)	0.1983 (0.8453)
Service quality		0.4259 (0.6189)	3.55*** (0.8020)	0.9832 (0.6835)	5.210*** (1.2317)	2.5228* (1.4094)	16.5004 (698.477)	4.064*** (1.0326)
Price		0.0849 (0.1087)	-0.02** (0.0083)	-0.194** (0.0071)	-0.0115 (0.0088)	-0.0039 (0.0120)	-0.0179** (0.0086)	-0.0347** (0.0091)

Location	-0.0715 (0.4970)	-0.4373 (0.0172)	-0.2298 (0.4889)	-0.2557 (0.5654)	-0.9793 (0.7172)	0.5262 (0.6462)	-1.3389** (0.6064)
Payment option	0.8331 (0.5453)	0.9268 (0.6172)	0.8207 (0.5674)	1.4113** (0.6435)	1.9013* (1.0531)	0.7664 (0.6775)	1.9998** (0.7452)
Safety and security	0.1081 (0.3811)	-0.1557 (0.4611)	-0.5132 (0.3882)	-0.2918 (0.4640)	0.0837 (0.6224)	-0.7803 (0.4798)	-0.6406 (0.5130)
Convenience store	-0.0672 (0.3811)	0.2663 (0.4431)	-0.1031 (0.3855)	0.3251 (0.4799)	-0.4507 (0.6054)	0.2914 (0.4696)	0.2476 (0.5084)
Constant	37.2995 (23.818)	66.8212 (27.7882)	62.3748 (23.960)	35.8206 (29.5059)	11.0529 (40.4209)	45.1642 (699.073)	112.9359 (30.3368)

*p<0.1, **p<0.05, ***p<0.01*

Standard error in parenthesis

Source: Author's computation (2023)

Additionally, Petrol quality does not significantly influence the choice of most petrol stations, as indicated by the lack of significant p-values across the stations. This suggests that while petrol quality is an essential factor, it may not be the primary determinant in choosing a petrol station among the surveyed options. Also, Service quality emerges as a crucial determinant, significantly influencing the choice of KSK (p<0.01), Mogus (p<0.01), Kwachaga (p<0.1), and Nyeri (p<0.01) petrol stations. The positive coefficients for these stations indicate that higher service quality substantially increases the likelihood of these stations being chosen. Notably, service quality is extremely influential for KSK, Mogus, and Nyeri stations.

Price has a significant negative influence on the choice of KSK, Msawi, Kabuku, and Nyeri petrol stations, with p-values less than 0.05 for all except KSK (p<0.01). This suggests that higher prices reduce the likelihood of these stations being chosen. Consumers are price-sensitive, and stations with higher fuel prices are less attractive to drivers. Furthermore, location has a significant negative impact on the choice of Nyeri petrol station (p<0.05), indicating that less favorable location characteristics reduce its likelihood of being chosen. While location is generally a critical factor for convenience, this result suggests that other factors might outweigh the importance of location for Nyeri station. Lastly, payment options significantly positively influence the choice of Mogus (p<0.05), Kwachaga (p<0.1), and Nyeri (p<0.05) petrol stations. The availability of convenient payment options makes these stations more attractive to consumers, highlighting the growing importance of payment flexibility in consumer choice.

5. Discussion
Brand logo significantly influences consumer choice negatively for several stations, including Mogus, Kwachaga, Kabuku, and Nyeri. This finding suggests that negative perceptions of brand logos can substantially reduce the likelihood of these stations being chosen. This result is consistent with Kumar and Singh (2020), who emphasized the importance of brand perception in consumer decision-making. Conversely, brand

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reputation positively affects the choice of Teacher Oil Station, indicating that a positive brand reputation can attract more consumers, a conclusion supported by Smith et al. (2018), who found that brand reputation is crucial for customer loyalty. However, this study's finding that brand reputation negatively impacts Kabuku station contradicts Kakunu (2018), who argued that a good brand reputation uniformly enhances consumer preference.

Petrol quality, while generally considered important, did not significantly influence the choice of most petrol stations in this study. This outcome is somewhat unexpected and contrasts with Inderadi and Setiadi (2020), who found petrol quality to be a significant factor in consumer choice. This discrepancy suggests that while petrol quality is essential, other factors might overshadow its importance in the current context. On the other hand, service quality emerged as a critical determinant, significantly influencing the choice of several petrol stations, including KSK, Mogus, Kwachaga, and Nyeri. This aligns with the findings of Mwenda and Oloko (2016), who highlighted service quality as a primary factor in consumer preference. The positive impact of service quality suggests that consumers prioritize high-quality service, a point also emphasized by Kim and Park (2018). This highlights the importance for petrol stations to invest in training and maintaining high service standards to attract and retain customers.

Price also played a significant role, with higher prices negatively impacting the choice of KSK, Msawi, Kabuku, and Nyeri stations. This finding is in line with Parmeswaran (2009), who found that price sensitivity is a major factor in consumer choices in competitive markets. The negative correlation between price and consumer choice underscores the need for petrol stations to remain competitive in their pricing strategies to attract price-sensitive consumers, a conclusion also supported by Gupta and Rao (2021).

Location was found to significantly negatively impact the choice of Nyeri petrol station, suggesting that less favorable locations can deter consumers. This finding is consistent with Sarkar (2019), who argued that location convenience is a crucial determinant of consumer choice. However, this study suggests that for Nyeri station, other factors may outweigh location's importance, aligning with Brown and Davis (2019), who found that while location is important, it is not always the most critical factor. Moreover, payment options significantly positively influenced the choice of Mogus, Kwachaga, and Nyeri stations, indicating that flexible and convenient payment methods are highly valued by consumers. This result supports the findings of Jones and Smith (2018), who emphasized the increasing importance of payment convenience in consumer preferences. As digital payment methods become more prevalent, petrol stations that offer a variety of payment options can significantly enhance their appeal, a point also noted by Chen and Lee (2019).

Interestingly, safety and security did not significantly affect the choice of any petrol stations in this study, which contrasts with Mulenga (2011), who highlighted safety as a crucial factor in consumer decisions. This discrepancy suggests that while safety and security are important, they may not be primary determinants in the specific context of

choosing petrol stations, possibly because most stations meet a baseline level of safety that satisfies consumers.

Similarly, the presence of convenience stores did not significantly influence consumer choice, which is somewhat surprising given Kivetz and Simonson (2002) found that additional services can enhance customer satisfaction and attract more consumers. This indicates that while convenience stores add value, they are not a decisive factor for consumers choosing between petrol stations, possibly because the primary need for fuel outweighs the additional benefits of convenience store offerings.

Furthermore, the findings of this study highlight that service quality, price, brand reputation, and payment options are significant determinants of drivers' choices of petrol filling stations. These results align with previous research by Mwenda and Oloko (2016), Kumar and Singh (2020), and others, while also presenting unique insights that contribute to a nuanced understanding of consumer behavior in the petrol retail market. Petrol stations aiming to enhance customer satisfaction and loyalty should focus on improving service quality, maintaining competitive pricing, leveraging positive brand reputation, and offering flexible payment options.

6. Conclusion and policy implications

The findings of this study reveal that several key factors significantly influence drivers' choices of petrol filling stations. Service quality, price, brand reputation, and payment options were found to be the most critical determinants. Service quality positively impacted the selection of KSK, Mogus, Kwachaga, and Nyeri stations, emphasizing the importance of high service standards. Price sensitivity was evident, with higher prices negatively affecting the choice of KSK, Msawi, Kabuku, and Nyeri stations. Brand reputation played a significant role, particularly for Teacher Oil Station, while flexible payment options were highly valued by consumers at Mogus, Kwachaga, and Nyeri stations. Conversely, factors such as petrol quality, safety and security, and the presence of convenience stores were not found to significantly influence consumer choices in this context.

The implications of these findings for policymakers and petrol station operators are substantial. First, there is a clear need for petrol stations to invest in improving service quality. This could involve comprehensive staff training programs to enhance customer service, ensuring that all interactions are efficient, friendly, and professional. High service standards not only attract customers but also foster loyalty, leading to repeat business and positive word-of-mouth referrals. Policymakers could support this by developing industry-wide service quality benchmarks and certification programs that petrol stations can aim to achieve.

Price competitiveness is another crucial area. Petrol stations must adopt pricing strategies that reflect market conditions and consumer price sensitivity. Offering competitive prices without compromising on service quality can attract price-sensitive consumers. Policymakers could facilitate this by ensuring transparent pricing regulations and fostering a competitive market environment that discourages price gouging. Additionally,

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subsidies or tax incentives for petrol stations that maintain fair pricing could be considered to alleviate the financial burden on consumers.

The significant role of brand reputation underscores the importance of maintaining a positive public image and trust. Petrol stations should engage in consistent brand-building activities, including community engagement, environmental sustainability practices, and transparent business operations. Policymakers can aid this process by enforcing stringent regulations on business practices, ensuring that petrol stations operate ethically and responsibly. Recognition programs for stations that demonstrate outstanding community and environmental contributions could further enhance brand reputation.

The importance of flexible payment options highlights the need for petrol stations to embrace technological advancements in payment systems. Stations should offer a variety of secure and convenient payment methods, including mobile wallets, contactless payments, and traditional credit/debit card options. Policymakers can encourage this by promoting digital payment infrastructure development and providing incentives for petrol stations to upgrade their payment systems. Ensuring robust cybersecurity measures are in place to protect consumer data is also essential.

While safety and security did not emerge as primary determinants in this study, maintaining high safety standards remains crucial. Ensuring the safety of both staff and customers should always be a priority. Policymakers can continue to enforce rigorous safety regulations and provide resources for petrol stations to implement best practices in safety and security.
Lastly, while convenience stores did not significantly impact consumer choice, they can still serve as value-added services that enhance the overall customer experience. Petrol stations could consider offering a wider range of products and services within their convenience stores to attract customers who value additional conveniences. Policymakers could support small business growth within petrol stations, potentially through grants or incentives for stations that diversify their offerings.

In conclusion, the study highlights the multifaceted nature of consumer choice in the petrol retail market. By focusing on improving service quality, maintaining competitive pricing, building a strong brand reputation, and offering flexible payment options, petrol stations can better meet consumer needs and enhance customer satisfaction. Policymakers play a crucial role in supporting these efforts through appropriate regulations, incentives, and support programs that promote a competitive, fair, and consumer-friendly petrol retail market.

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