



Understanding Customers' Satisfaction with Solid Waste Management Services in Morogoro Municipal Council, Tanzania

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Article History

Received: 2026.01.14

Revised: 2026.05.19

Accepted: 2026.05.31

Published: 2026.06.04

Keywords

Customer Management
Morogoro
Solid Waste

How to cite:

Mligo, I. (2026). Understanding Customers' Satisfaction with Solid Waste Management Services in Morogoro Municipal Council, Tanzania. *Journal of Research and Academic Writing*, 3(2), 36-49.

Abstract

The study aimed to understand the customers' satisfaction with solid waste management services in Morogoro Municipal Council, Tanzania. The cross-sectional research design was used to collect data at a single point in time. The study used a mixed-method research approach to ensure both quantitative and qualitative data were collected concurrently. The study employed the simple random sampling technique to obtain 388 respondents for the household questionnaire survey method. The purposive sampling technique was used to get 12 key informants for in-depth interviews and 16 participants for the Focus Group Discussions. The quantitative data were analysed by descriptive statistics and inferential statistics, whereas the qualitative data were analysed by content analysis. The results show that the majority of both males (95%) and females (96%) respondents generated food waste followed by plastic waste. Other solid wastes generated were paper and cardboard, glass materials, metal, textile, and e-waste. Also, most of the respondents (48%) reported that solid waste was collected from their households through roadside collection. Other methods were the door-to-door collection, informal waste collectors, and the communal collection points. The results further show that customers had higher satisfaction with solid waste management services in two aspects. Specifically, respondents were satisfied that solid waste collection service is available in their area ($M = 3.11, \sigma = 1.40$) and the collection vehicles and equipment are suitable ($M = 3.21, \sigma = 1.33$). On the other side, they had low satisfaction with solid waste management services in the following aspects: Solid waste collection points are easily accessible ($M = 2.93, \sigma = 1.32$), waste collection is done regularly as scheduled ($M = 2.79, \sigma = 1.48$), waste is handled in a hygienic manner ($M = 2.43, \sigma = 1.26$), service interruptions are minimal ($M = 2.71, \sigma = 1.19$), service providers respond quickly to complaints ($M = 2.76, \sigma = 1.13$), and waste collection fee is affordable ($M = 2.51, \sigma = 1.30$). Additionally, the results from ordinal logistic regression model show that the collection schedules ($B = -.619, p = .002, \text{Exp}(B) = 0.538, 95\% \text{ CI}$:

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0.364 - 0.797), coverage of services ($B = -.425$, $p = .027$, $\text{Exp}(B) = 0.654$, 95% CI: 0.449 - 0.953), cost of service ($B = -.422$, $p = .033$, $\text{Exp}(B) = 0.656$, 95% CI: 0.445–0.967), quality of equipment and vehicles ($B = -.441$, $p = .027$, $\text{Exp}(B) = 0.643$, 95% CI: 0.436–0.951), and response to complaints ($B = -.390$, $p = .048$, $\text{Exp}(B) = 0.677$, 95% CI: 0.460–0.997), had a statistically significant negative influence on households' satisfaction with solid waste management services. These findings implied that the collection schedules that was not followed, partial coverage service, unaffordable service, poor quality of equipment and vehicles, and the delayed response to complaints were less likely to influence higher customer satisfaction compared to the followed schedules, full coverage service, affordable service, good quality of equipment and vehicles, and timely response to complaints. The study recommends that service providers and responsible authorities should improve the collection schedules, ensure full coverage of service, improve affordability of services, enhance complaint handling systems, and upgrade transport infrastructure to promote accessibility to all customers.

Introduction

Urban solid waste management stands among the most critical environmental and public health challenges worldwide (Shriwas et al., 2018). Rapid urbanisation, population growth, and changing consumption patterns have led to increasing municipal solid waste generation (Raj et al., 2025). The world produces approximately 2.01 billion tonnes of municipal solid waste each year, and at least 33 per cent of this waste is not managed in an environmentally sound manner. Projections indicate that global waste generation could rise to about 3.40 billion tonnes by 2050 (Kaza et al., 2018).

In developed countries, municipal solid waste services benefit from advanced infrastructure, including automated collection vehicles, smart bins, waste tracking systems, and integrated management strategies. These innovations ensure higher efficiency and customer satisfaction. In contrast, developing countries often face inadequate infrastructure, limited resources, and weak institutional capacity. Consequently, waste collection may be irregular, bins may overflow, and sanitation conditions may decline. Evaluating customer satisfaction is essential for understanding public perceptions, improving service quality, and guiding sustainable urban planning.

In Africa, particularly Sub-Saharan Africa, 174 million tonnes of waste were generated in 2016, at a rate of 0.46 kilograms per capita per day. Currently, 69 per cent of waste in the Sub-Saharan Africa region is openly dumped and burned, with the remainder dumped in streets, drains, or rivers (Kaza et al., 2018). Inefficiencies arise from insufficient infrastructure, low funding, a shortage of trained personnel, and weak governance systems. Residents' satisfaction is pivotal to service compliance and participation in waste-reduction initiatives, such as household segregation and community recycling. Understanding citizen perceptions and satisfaction levels is therefore crucial for designing efficient and sustainable municipal waste management systems in African cities.

Tanzania, particularly urban centres such as Morogoro, Dar es Salaam, Mwanza, and Dodoma, has experienced rapid population growth, resulting in increased municipal solid waste generation. Na-



tional estimates indicate that the country generates approximately 12.1–17.4 million tonnes of municipal solid waste annually, equivalent to 0.66–0.95 kg per capita per day (Singh, 2021). Morogoro Municipal Council, as a key urban centre, faces rising demand for efficient solid waste management services. The council, often in collaboration with private contractors, is responsible for managing municipal solid waste collection and disposal.

Despite these efforts, residents frequently report dissatisfaction with service quality. Challenges include irregular collection schedules, poor communication with service providers, and delayed response to complaints. There is limited empirical evidence on customer satisfaction levels and their determinants in Morogoro. Inadequacy of these evidences limits the ability of municipal authorities to design effective interventions on solid waste management. This study, therefore, aimed to understand customer satisfaction and its determinants on solid waste management services in Morogoro Municipal Council, Tanzania.

Theoretical Framework

This study was guided by the Service Quality Theory. The Service Quality Theory, commonly known as the SERVQUAL Theory, was developed by A. Parasuraman, Valarie A. Zeithaml, and Leonard L. Berry in 1985 and refined in 1988. The theory postulates that customer satisfaction is largely determined by the quality of service provided. It argues that customers evaluate service quality by comparing their expectations of a service with their perceptions of the service they actually receive. When perceived service performance meets or exceeds expectations, customers are satisfied; when it falls below expectations, dissatisfaction occurs (Parasuraman et al., 1988). The theory identifies five dimensions of service quality as follows: 1. Tangibility (the physical appearance of facilities, equipment, vehicles, personnel, and communication materials), 2. Reliability (the ability to perform the promised service dependably, accurately, and consistently), 3. Responsiveness (the willingness and ability of service providers to assist customers promptly and effectively), 4. Assurance (the knowledge, competence, courtesy, and trustworthiness demonstrated by service personnel), and 5. Empathy (the degree of caring, individualised attention, and understanding provided to customers).

In the context of solid waste management services, the theory suggests that customer satisfaction is influenced by customers' perceptions of service quality dimensions such as the condition of waste collection equipment and vehicles (tangibility), adherence to collection schedules (reliability), prompt response to complaints (responsiveness), professionalism of waste management personnel (assurance), and attention to community needs (empathy). Higher perceived service quality across these dimensions is expected to lead to higher customer satisfaction.

Methodology

The study was conducted in the Morogoro Municipal Council, and especially in Kichangani and Kilakala wards. This Council is located between latitudes 6°39'00" and 6°55'30" South of the Equator, and between longitudes 37°34'30" and 37°46'30" east of Greenwich Meridian. The area is characterised by high population growth, expanding settlements, and a wide mix of socio-economic activities, all of which influence both the generation of solid waste and the level of demand for waste management services. These features make the Morogoro Municipal Council an appropriate and relevant setting for assessing customer satisfaction with solid waste management services.

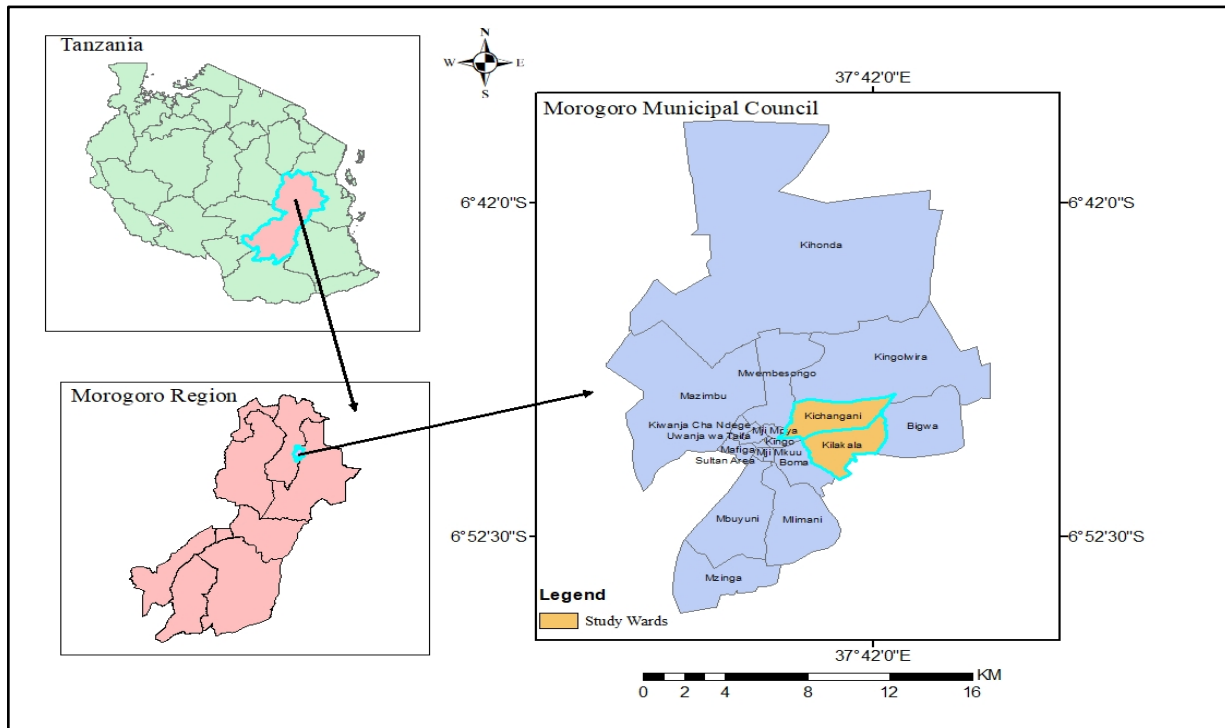


Figure 1: Location of the study area

Source: Survey data, 2026

This study employed a cross-sectional research design. Although this design has limitations in establishing causal relationships between variables, it enabled the collection of data on customers' satisfaction with solid waste management services at a single point in time. A mixed-methods approach was used, whereby both quantitative and qualitative data were collected concurrently. Using a mixed-methods approach strengthened the study by enabling triangulation, enhancing validity, and providing a comprehensive understanding of satisfaction levels and determinants. The study population consisted of households that received solid waste management services within the Morogoro Municipal Council. It also included the waste management officers from Morogoro Municipal Council as well as private waste collection contractors. These groups are directly involved in either receiving or providing waste management services and are therefore central to the assessment of satisfaction and service performance.

The study used a sample size of 388 respondents, which was determined by Yamane's (1967) formula,

$$\text{and given as: } n = \frac{N}{1+N(e)^2}$$

Where n = sample size, N = population size and e = the level of precision (5%).

$$\text{Therefore } n = \frac{13,231}{1+13,231(0.05)^2} = n = \frac{13,231}{1+13,231(0.0025)} = 388 \text{ respondents}$$

The proportional allocation formula by Kothari (2004) was used to determine the number of re-

$$\text{spondents for the study wards. The formula is expressed as: } ni = \frac{Ni}{N} \times n$$

Where ni represents the sample size for the i^{th} ward, Ni is the population of the i^{th} ward, N is the total population of all selected wards, and n is the overall sample size for the study (Table 1).



Table 1: Population and sample size for the study

Wards	Population	Households	Sample ($ni = \frac{Ni}{N} \times n$)	(%)
Kichangani	24,184	7,107	208	54
Kilakala	21,758	6,124	180	46
Total	45,942	13,231	388	100

Source: National Bureau of Statistics, 2022

The simple random sampling technique was used to get a sample size of 388 household heads from the sampled wards. The purposive sampling technique was used to select two wards from the 29 wards in the Morogoro Municipal Council. This technique was also employed to select four (4) streets, with two streets chosen from each ward for the study. Additionally, purposive sampling was used to select 12 key informants for in-depth interviews and 16 participants for the focus group discussion.

In this study, both primary and secondary data were collected. The heads of households, government officials, and other stakeholders at Morogoro Municipal Council were the sources of primary data. Published and unpublished documents were used as sources of secondary data. The primary data on customer satisfaction and its determinants in solid waste management services were collected through in-depth interviews with key informants, Focus Group Discussions (FGDs), and a household questionnaire survey.

The qualitative data collected through in-depth interviews of key informants and Focus Group Discussions were analysed using thematic analysis. The analysis involved data transcription, coding of meaningful sections, theme development, and interpretation of the data in relation to the study objectives. The quantitative data collected through the household questionnaire survey were analysed through descriptive statistics and an ordinal logistic regression model using the IBM SPSS software version 20. The model was used to assess the determinants of customer satisfaction with solid waste management services. The model was expressed as:

$$Y = \beta_0 + \beta_1 (Cosch) + \beta_2 (Covs) + \beta_3 (Cost) + \beta_4 (Qev) + \beta_5 (Csp) + \beta_6 (Rc) + \beta_7 (Awcs) + \dots + \beta_z$$

Where Y = Customer satisfaction on solid waste management services, B_0 = Constant, B_1-B_z = Coefficient of the explanatory variables, $Cosch$ = Collection Schedules, $Covs$ = Coverage of Services, $Cost$ = Cost of service, Qev = Quality of Equipment and Vehicles, Csp = Communication with service providers, Rc = Response to Complaints, and $Awcs$ = Access to waste collection service.

Additionally, in this model, the dependent variable is customer satisfaction on solid waste management services (Y), defined in three ordered categories. Specifically, $Y = 0$ represents customers with low satisfaction, $Y = 1$ represents customers with moderate satisfaction, and $Y = 2$ represents customers with high satisfaction with solid waste management services. The model's independent variables were the determinants of customer satisfaction with solid waste management services (Table 2).



Table 2: Independent Variables Used in the Ordinal Logistic Regression Model

Independent variables	Coding
Collection Schedules	0 = Not followed, 1 = Followed
Coverage of Services	0 = Partial Coverage, 1 = Full Coverage
Cost of Service	0 = Unaffordable, 1 = Affordable
Quality of Equipment and Vehicles	0 = Poor, 1= Good
Communication with service providers	0 = Poor, 1= Effective
Response to Complaints	0 = Delayed, 1= Timely
Access to waste collection service	0 = Limited Access, 1 = Access

Source: Field data, 2025

Findings and Discussion

The types of solid waste generated by households

The findings in Table 3 indicate that there was no statistically significant difference ($\chi^2 = 4.885$, P-value = 0.674) between females and males in the type of solid waste generated. This means that the majority of both males (95%) and females (96%) respondents generated food waste, followed by plastic waste. Other solid waste generated was such as paper and cardboard, glass materials, metal, textile, and e-waste. These findings corroborate those of Kihila et al. (2021), who reported that most of the households in the study area produced food waste, followed by other types such as plastic waste and glass.

Table 3: The types of solid waste generated by households

Types of solid waste generated	Sex of household head				χ^2 P- Value
	Male		Female		
	Count	Column N %	Count	Column N %	
Food waste (organic waste)	205	95%	158	96%	4.885
Plastics (bottles, bags)	176	82%	131	80%	0.674
Paper and cardboard	11	5%	13	8%	
Glass materials	8	4%	6	4%	
Metal	16	7%	9	6%	
Textile waste (clothes, fabric)	24	11%	14	9%	
Other solid waste such as E-waste	8	4%	11	7%	

**Significant at 5%

Key: χ^2 = Pearson Chi-Square

Source: Survey data, 2026

The results from Focus Group Discussions (FGDs) revealed that most households produce more food and plastic waste than other waste streams, such as metal, glass, and textile waste. Furthermore, it was revealed that there was a variation between households in the amount of waste produced. Households with high incomes were more likely to purchase a variety of household goods, which leads to the production of a variety of waste, compared to those with low incomes. For example, those with higher income are able to purchase varieties of food, drinks and textile materials that after consumption their remains turn to be wastes. One of the participants in FGDs said:

In my experience, most families produce more solid waste from food remains and plastic materials. Also, there are variations in the amount of waste produced among families. That means families with high income are able



to buy a variety of foods, drinks and textile materials that generate more waste than low-income families (Male, 43 years old in Kilakala ward).

The quantity of food waste generated by households in kilograms

The results in Table 4 revealed that most of the respondents (41%) generated the food waste between 11 and 20 kilograms per week. Additionally, the findings indicate a statistically significant difference ($\chi^2 = 15.840$, P-value = 0.003) between household size and the quantity of food waste generated by households, in kilograms per week. It indicates that the majority of the households with above six members (53%) generated above 20 kilograms of food waste per week, compared to households with 4 to 6 members (46%) who generated the food waste between 11 and 20 kilograms per week.

Table 4: The quantity of food waste generated by households in kilograms

Food waste (In Kg. Per week)	Household size			Total	χ^2 P- Value
	1 to 3 Mem- bers	4 to 6 Members	Above six Members		
	N (%)	N (%)	N (%)		
1 -10 Kg	12 (25)	50 (22)	16 (15)	78 (20)	.003
11 - 20 Kg	17 (35)	106 (46)	35 (32)	158 (41)	
Above 20 Kg	20 (40)	73 (32)	59 (53)	152 (39)	
Total	49 (100)	229 (100)	110 (100)	388 (100)	

****Significant at 5%**

Key: χ^2 = Pearson Chi-Square

Source: Survey data, 2026

These results implied that large family sizes tend to consume more food and are therefore more likely to produce more food waste than smaller families. Similar results were reported by Kibonde (2024): large family sizes tend to consume larger meal portions and produce more food waste than small family sizes.

These findings concur with those from in-depth interviews with key informants that households with more members are likely to eat more per meal, and, with that amount, they tend to produce much more solid waste than households with fewer members. This was reported by one of the key informants who said:

My family is larger, comprising eight members. We used to eat larger portions per meal. I think that by eating larger amounts of food per meal, we are among families that produce larger amounts of solid waste. By estimate, my family produce 25 Kilograms of food solid waste per week (Female, 62 years old in Kichangani Ward).

Solid waste collection methods

The findings in Table 5 revealed that most respondents (48%) reported that solid waste was collected from their households via roadside collection. Others (36%) reported door-to-door collection, 11% reported collection by informal waste collectors, and 5% reported communal collection points. These results implied that most streets are poorly planned, hindering vehicles from collecting waste directly from households. Therefore, the majority of residents are forced to place their waste along the roadside on the day of waste collection by service providers. However, Mbwilu & Mahenge (2022) they had



different findings that most of the respondents (76%) reported that point collection was the main method used to collect solid waste at Mbeya City, Tanzania, followed by door-to-door collection and special collection methods.

Table 5: Methods used to collect solid waste from households

Solid waste collection Methods	Ward of residence		Total N = 388	χ^2 P- Value
	Kichangani N = 208	Kilakala N = 180		
	%	%	%	
Door-to-door collection by service provider	53	16	36	64.386** 0.000
Roadside collection	31	67	48	
Collection by informal waste collectors	10	13	11	
Communal collection points	6	4	5	
Total	100	100	100	

**Significant at 5%

Key: χ^2 = Pearson Chi-Square

Source: Survey data, 2026

The results further revealed statistically significant differences ($\chi^2 = 64.386$, P-value = 0.000) between wards of residence and solid waste collection methods. It indicates that the majority of respondents (53%) in Kichangani Ward reported that door-to-door was the method used to collect solid waste from their homes, while the majority of respondents (67%) in Kilakala Ward reported the roadside collection method. In the door-to-door collection method, the service providers collect solid waste directly from households and transport it to the disposal sites. The roadside collection method involved residents to place their solid waste along roadsides where collection vehicles were easily accessed it and transferred to disposal areas. These results suggest that most streets in Kichangani Ward are planned to allow vehicles to reach most houses and collect waste, whereas streets in Kilakala ward require residents to place their waste along the roadside.

Households' satisfaction with solid waste management services

This section presents results on households' satisfaction with solid waste management services, measured on a five-point Likert scale and summarised as weighted means and standard deviations. The interpretation of respondents' satisfaction levels was based on a threshold mean of 3.0. Mean scores above 3.0 indicated high satisfaction with solid waste management services; a mean score of 3.0 indicated moderate satisfaction; and mean scores below 3.0 indicated low satisfaction with the services provided.

The results in Table 6 indicate that respondents were highly satisfied with solid waste management services in two aspects: For example, they had high satisfaction that solid waste collection service is available in their area (M = 3.11, σ = 1.40) and the collection vehicles and equipment are suitable (M = 3.21, σ = 1.33).



Table 6: Households' satisfaction with solid waste management services

Items	SD	D	N	A	SA	Mean	σ	Decision
Solid waste collection service is available in my area	78 (20%)	58 (15%)	62 (16%)	124 (32%)	66 (17%)	3.11	1.40	Agree
Waste collection is done regularly as scheduled	84 (22%)	134 (35%)	36 (9%)	46 (12%)	88 (22%)	2.79	1.48	Disagree
Collection points are easily accessible	70 (18%)	108 (28%)	24 (6%)	151 (39%)	35 (9%)	2.93	1.32	Disagree
Collection vehicles and equipment are suitable	47 (12%)	95 (25%)	46 (12%)	128 (33%)	72 (18%)	3.21	1.33	Agree
Waste is handled in a hygienic manner	107 (28%)	127 (33%)	70 (18%)	49 (12%)	35 (9%)	2.43	1.26	Disagree
Service interruptions are minimal	33 (9%)	200 (52%)	49 (13%)	58 (14%)	48 (12%)	2.71	1.19	Disagree
Service providers respond quickly to complaints	29 (8%)	171 (44%)	103 (27%)	36 (9%)	49 (12%)	2.76	1.13	Disagree
Waste collection fee is affordable	87 (22%)	167 (43%)	30 (8%)	59 (15%)	45 (12%)	2.51	1.30	Disagree
Overall weighted mean						2.81		

Key: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, and σ = Standard Deviation. Decision Threshold = $1+2+3+4+5 / 5 = 15/5 = 3$.

Source: Survey data, 2026

On the other hand, the respondents (Table 6) had low satisfaction with solid waste management services in six aspects: For example, they had low satisfaction that collection points were easily accessible ($M = 2.93, \sigma = 1.32$), waste collection is done regularly as scheduled ($M = 2.79, \sigma = 1.48$), waste is handled in a hygienic manner ($M = 2.43, \sigma = 1.26$), service interruptions are minimal ($M = 2.71, \sigma = 1.19$), service providers respond quickly to complaints ($M = 2.76, \sigma = 1.13$), and waste collection fee is affordable ($M = 2.51, \sigma = 1.30$).

The findings from FGDs revealed that most of the participants had low satisfaction with the solid waste management service. They had low satisfaction because the service was provided through irregular schedules, workers of service providers had no tools like gloves to protect their health, and wastes were not handled and transported hygienically to disposal sites, as wastes tend to fall down along roads from transporting vehicles (Male, 35 years old in Kichangani Ward).

The customers' overall satisfaction with solid waste management services

The findings in Table 7 show that the majority of respondents (37%) had low satisfaction with solid waste management services, 31% had moderate satisfaction, and 32% had high satisfaction. Fetene (2018), reported that most of the customers were not satisfied with the solid waste management service by the Jimma City Municipality, Ethiopia. Furthermore, the results indicate a statistically significant difference ($\chi^2 = 9.056, P\text{-value} = 0.011$) between wards of residence in satisfaction with solid waste management services. This means that the majority of respondents (37%) in Kichangani Ward had moderate satisfaction with solid waste management services, compared to most of the respondents



(38%) in Kilakala Ward who had high satisfaction with solid waste management services. These results suggest that there was improved transport infrastructure in Kilakala ward that simplified waste collection service, and thus residents were satisfied with the service. Akimana & Letema (2022), reported that most households that were living in high-class residential areas had higher satisfaction with solid waste management service than those that were living in middle or low-class residential areas.

Table 7: Customers' overall satisfaction with solid waste management services

Variables	Categories	Ward of residence		Total N = 388	χ^2 P- Value
		Kichangani N = 208	Kilakala N = 180		
		%	%		
Overall satisfaction	Low satisfaction	36	38	37	9.056**
	Moderate satisfaction	37	24	31	0.011
	High satisfaction	27	38	32	
Total		100	100	100	

**Significant at 5%

Key: χ^2 = Pearson Chi-Square

Source: Survey data, 2026

The findings from in-depth interviews with key informants revealed that most respondents were dissatisfied with the solid waste management service. They had low satisfaction because the waste collection schedules were irregular, service providers' workers communicated poorly with customers, and waste was not handled hygienically. For example, one of the key informants in Kilakala ward said:

Generally, we are not satisfied with the solid waste management service provided by the Municipal, which co-operates with private organisations or groups such as Viva com, Triple M and J. These service providers had no regular waste collection schedules. This situation causes customers to remain with a larger amount of waste at home for a long time, which puts households at risk of contracting diseases. Apart from that, there is poor communication between service providers and us as customers, particularly on service interruptions. We may here announcement from service providers that tomorrow the collection vehicles will be available for waste collection, but when the day arrives, we don't find a vehicle, and there is no specific information about the interruption (Male, 54 years old in Kilakala ward)

The service-related factors influencing customers' satisfaction with solid waste management service

In this section, the results from the ordinal logistic regression model in examining the service-related factors influencing customers' satisfaction with solid waste management service are presented. The model fitting results (Table 8) show that the final model provides a significantly better fit to the data than the intercept-only model. The Chi-square ($\chi^2 = 30.857, p < .000$) was statistically significant. This indicates that the independent variables included in the model significantly improve the prediction of the dependent variable. Therefore, the model is suitable for explaining the variation in the outcome variable.



Table 8: Model Fitting Information

Model	Model Fitting Information			
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept-Only	454.956			
Final	424.100	30.857	7	.000

Source: Survey data, 2026

The results in Table 9 reveal that the collection schedules had a statistically significant negative influence on customers' satisfaction with solid waste management service ($B = -.619, p = .002$). The odds ratio of 0.538 (95% CI: 0.364 - 0.797) suggests that the collection schedules for solid waste that were not followed were less likely to influence customers' high satisfaction with the solid waste management service than those followed. Specifically, the odds of influencing high satisfaction rather than low or moderate satisfaction were reduced by approximately 46.2%. These findings emphasise the critical role of reliable and timely waste collection schedules in enhancing customer satisfaction with solid waste management services.

Coverage of service had a statistically significant negative influence on customers' satisfaction with solid waste management service ($B = -.425, p = .027$). This implied that partial coverage of solid waste management services was less likely to affect customers' high satisfaction with the service than full coverage. The odds ratio of 0.654 (95% CI: 0.449-0.953) indicates that partial coverage of solid waste management service had approximately 34.6% lower odds of influencing high satisfaction compared with full coverage. This result suggests that inadequate service coverage diminishes customers' likelihood of attaining high levels of satisfaction.



Table 9: The service-related factors influencing customers' satisfaction with solid waste management services

		Parameter Estimates							
		Estimate	Std. Error	Wald	df	Sig.	Exp (B)	95% CI for Odds Ratio [Exp(B)]	
								Lower	Upper
Threshold	[Sat = .00]	-1.548	.361	18.349	1	.000	0.213	0.105	0.432
	[Sat = 1.00]	-.181	.352	.264	1	.607	0.834	0.419	1.664
Location	[Cosch=.00]	-.619**	.200	9.575	1	.002	0.538	0.364	0.797
	[Cosch=1.00]	0 ^a	.	.	0	.	.	.	.
	[Covs=.00]	-.425**	.192	4.894	1	.027	0.654	0.449	0.953
	[Covs=1.00]	0 ^a	.	.	0	.	.	.	.
	[Cost=.00]	-.422**	.198	4.555	1	.033	0.656	0.445	0.967
	[Cost=1.00]	0 ^a	.	.	0	.	.	.	.
	[Qev =.00]	-.441**	.199	4.891	1	.027	0.643	0.436	0.951
	[Qev =1.00]	0 ^a	.	.	0	.	.	.	.
	[Csp =.00]	.156	.255	.373	1	.541	1.169	0.709	1.929
	[Csp =1.00]	0 ^a	.	.	0	.	.	.	.
	[Rc =.00]	-.390**	.197	3.894	1	.048	0.677	0.460	0.997
	[Rc =1.00]	0 ^a	.	.	0	.	.	.	.
	[Awcs =.00]	.163	.196	.692	1	.406	1.177	0.802	1.730
	[Awcs =1.00]	0 ^a	.	.	0	.	.	.	.

Note: **Significant at 5%

Key: Sat = Satisfaction, Cosch = Collection Schedules, Covs = Coverage of Services, Cost = Cost of Service, Qev = Quality of Equipment and Vehicles, Csp = Communication with service providers, Rc = Response to Complaints, and Awcs = Access to waste collection service.

Source: Survey data, 2026

Cost of service had a statistically significant negative influence on customers' satisfaction with solid waste management service (B = -.422, p = .033). This suggests that the unaffordable cost of solid waste management services was less likely to influence customers' high satisfaction with these services than the affordable cost. The odds ratio of 0.656 (95% CI: 0.445–0.967) indicates that unaffordable costs of solid waste management services were approximately 34.4% less likely to influence high satisfaction than affordable costs. This finding implies that perceptions of unfavourable service charges may affect customers' overall satisfaction with waste management services.

Quality of equipment and vehicles had a statistically significant negative influence on customers' satisfaction with solid waste management service (B = -.441, p = .027). These results suggest that poor quality of equipment and vehicles used by service providers in the management of solid waste was less likely to influence customers' high satisfaction with solid waste management services than poor quality. The results further revealed that the odds ratio of 0.643 (95% CI: 0.436–0.951) indicates that poor quality of equipment and vehicles was associated with 35.7% lower odds of influencing high satisfaction compared to those with good quality. These findings suggest that improvements in environmental service quality are more likely to enhance customer satisfaction. These findings concur with



those of Shriwas et al. (2018), who reported that customers in both the Raipur and Bilaspur study areas were satisfied with the high quality of the equipment and vehicles used to collect garbage for disposal at sites.

Response to complaints had a statistically significant negative influence on customers' satisfaction with solid waste management services ($B = -.390, p = .048$). These findings imply that delayed responses to complaints about solid waste management services were less likely to affect customers' high satisfaction with these services than timely responses. The odds ratio of 0.677 (95% CI: 0.460–0.997) indicates that the delayed response to complaints was approximately 32.3% less likely to influence high satisfaction than the timely response. The results highlight the importance of effective complaint handling and timely service response in promoting customer satisfaction. Similar findings were reported by Son et al. (2023), that the highest responsiveness of workers in the solid waste management service had influenced customers' higher satisfaction level.

Conclusion

The Morogoro Municipal Council is experiencing rapid population growth, leading to increased municipal solid waste generation. The council, in collaboration with a private contractor, continues to manage municipal solid waste collection and disposal. Despite these efforts, residents frequently report low satisfaction with service quality, including irregular collection schedules, poor communication with service providers, and delayed response to complaints. The findings of this study revealed that customers were more satisfied with solid waste management services in the following areas: solid waste collection services are available in their area, collection points are easily accessible, and the collection vehicles and equipment are suitable. On the other hand, the majority were not satisfied with solid waste management services in the following aspects: waste collection is done as scheduled, waste is handled hygienically, service interruptions are minimal, service providers respond quickly to complaints, and the waste collection fee is affordable. This study recommends that the government, through the Morogoro Municipal Council, in cooperation with contractors, provide training to workers on customer care and proper waste handling. Also, it should improve the transport infrastructures, such as roads, to connect all streets or homes where customers are living, and simplify the management of solid waste. Moreover, the government should convert solid waste into a source of employment opportunities for the youth. This could be achieved by welcoming inverters for recycling food waste, metal, plastic, textile materials, and e-waste. For example, food waste can be recycled into organic fertiliser for improving agriculture.

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