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RESEARCH PAPER

Evaluating the Impact of Municipal Service Delivery on the Satisfaction of Citizen: A Case Study of Sindh Province

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ABSTRACT

This study has examined the relationship between quality of municipal service and level of satisfaction of the citizens. The municipalities in Sindh, under the Sindh Local Government Act- 2013, are mandated to provide different compulsory and optional services including water supply, sanitation, refuse collection, development work and emergency response services etc. The ordinal logistics regression method is employed by taking service delivery as independent variable and satisfaction of citizens as dependent variable. All the major compulsory services were analyzed. The research found that 64% of respondents are not satisfied with overall municipal service delivery. The reasons include either non provision of mandated services or poor management in the services provided by municipalities. The higher odd ratio for analyzed services intimates strong disliking by citizens for the reasons mentioned against each category. The research recommends addressing the bottlenecks to improve both the quality of municipal services and the satisfaction of citizens.

KEYWORDS Municipal Services, Quality of Municipal Services, Satisfaction of Citizens

Introduction

Municipalities are mandated to provide crucial municipal services. They include provision of water, sanitation, cleanliness and public health promotions etc, as mandated under local government laws in Sindh (Hirani et al., 2024; Rafique, et al., 2023). However, municipal services are not provided up to mark to meet their most pressing demands. The aftermaths are the additional cost and severe backlogs at the part of council concerned (Ahmad, et. al. 2015; Zerihun & Mashigo, 2022). Municipalities face different challenges in the service delivery sector including inability to provide basic municipal services, political interference, poor participation and lack of infrastructure facilities (Beyers & Erasmus, 2016). Citizens expect quality municipal services.(Muzaffar, et. al., 2023) The failure of municipalities in this regard results in the negative attitude of the citizens towards their councils (Akgul, 2012).

Research reports an increasing community impatience regarding municipal service delivery. When municipalities remain failed to provide basic services, it results in protests by citizens who remain unserved (Masiya et al., 2019). Even municipal service partners face similar challenges where they are assigned to provide municipal services on behalf of local municipalities (John et al., 2022). Local municipal income is directly related to the quality of service provided. The municipalities having satisfied citizens tend to generate more income than unsatisfied ones (Hirani & Chandio, 2024). Willingness to pay local taxes is directly associated with quality of municipal services. Research revealed that where municipalities have improved their services it motivates positively to local inhabitants to pay their local taxes and bills. Since to deliver mandated services, local municipalities always require resources to be generated through local taxes (Glaser and Hildreth, 1999; Pop et al., 2015).

To determine the quality of municipal services, it is imperative to assess it by determining classes of service quality including safety, empathy, tangibility, reliability and responsibility along with the gap in between what citizens expect from respective

municipality to deliver and what municipalities are delivering (Zivkovic et al., 2019). There are more than 80% mandated municipal services which are not delivered. This depicts a wide gap between what is committed and what is delivered (Hirani et al., 2023). To improve overall service quality the compulsory services are mandatory to be addressed at first (Hirani and Chandio, 2024).

Research reveals that the satisfaction of citizens with municipal services is directly related to their performance. Such an evaluation by citizens may be treated as an indicator of outcome to bring an effective performance monitoring in local councils (Muzaffar, et. al., 2024; Swindell & Kelly, 2000). Within municipal services the satisfaction of citizens varies as people are more satisfied with basic services including provision of water, solid waste and electricity provision, and less satisfied to non-satisfied when it comes to assess municipal tasks like maintenance of roads, creation of jobs and crime controlling (Akindboade et al., 2012).

There are various intangible factors influencing the satisfaction of citizens with municipal services including quality of life and the relationship of municipality and its citizens (Guterman and Billing, 2021). The satisfaction of citizens with municipal services is influenced by various factors including age, education and income. Moreover, the citizens living in urban areas are less satisfied compared to rural ones. The same does happen with employed versus unemployed citizens, when ranking municipal services (Vilke and Vikas, 2018). The satisfaction of citizens with municipal services also depends on their awareness and sensitization regarding process and durability of services being provided by their municipality (Bello et al., 2018).

Local municipalities are closest to citizens for their role in community development. In the concurrent times people are more demanding and prefer attentive response from their councils. Local citizens continue to evaluate municipal services against their expectations (Nogueira and Romondes, 2024). The satisfaction of citizens varies against services provided by municipalities. Research has found citizens are more satisfied with some services and less with others (Muzaffar, & Choudhary, 2017);Fatih & Kuzu, 2022).

Satisfaction of citizens is important for local politicians to secure public votes. It is apprehended that unsatisfied people with basic municipal services may not elect the same representative in the next term (Bostanci and Erdem, 2020). Trust in local politicians is influenced by the performance of local municipalities. It is found that citizens tend to be consumers of local services while evaluating the trust for local politics (Gustavsen et al., 2017).

Satisfaction of users is directly related to municipal service delivery which depends mostly upon the resources at hand. Thus, financially sound councils are found in a better position to deliver demanded services and vice versa (Ndebele and Lavhelani, 2017). There are various service delivery challenges including inability to deliver what is required and political interference in the functioning of local municipalities (Beyers and Erasmus, 2016). Depleting satisfaction of municipal users shows their discontentment towards the basic municipal services they are provided with, including water, sanitation and infrastructure development. This results in an increased pressure of local councils to deliver more within limited resources (Zondi et al., 2017). Urbanization may help in improving municipal services. So does the better economic conditions of citizens (Krugell et al., 2010).

Analysis of the citizens' satisfaction with municipal services is important both for improving the services of local municipalities as well as ensuring loyalty to local politicians. The findings are crucial to identify bottlenecks and make needful improvements (Romero-Subia et al., 2022). In modern days either municipality or other public entity need effective performance evaluation method. Hence, performance of urban services is evaluated by structured mathematical equation. The study found that variables of social, cultural,

constructional and technical municipal services directly impact the satisfaction of citizens (Lakovic, 2021).

Thus, from all above discussion it is evident that local municipalities are mandated to deliver municipal services. However, there is gap between mandated services and services delivered on the ground (Hirani et al., 2023). To improve the status of municipal services it is required to promote both efficiency and responsive towards the service needs of citizens (Marumahoko, 2020; Baalen et al., 2019). This inability to either utterly overlook mandated services or provide poor quality of services, affects negatively the satisfaction of citizens. The unsatisfied citizens are less willing to pay their taxes and bills which results in decreased revenue collection. The depleted revenue further aggravated poor municipal service delivery. This paper recommends evaluating citizens' satisfaction and devising implementation framework accordingly to improve municipal service delivery.

Material and Methods

The satisfaction of users is determined using the SERVQUAL model comprised on the citizens perception regarding quality of municipal services versus their expectation. customers' expectations and another for their perception of the service quality. Five different quality determinants were employed to assess quality of municipal services (Zivkovic et al., 2019). The Satisfaction of citizens from municipal services is assessed by applying M regression analysis. Factors from people's perceptions are scored taken as independent variable while municipal services as dependent variable. Hence, a mathematical model is developed to determine overall satisfaction with service delivery (Samkar & Alpu, 2011).

Satisfaction of citizens with municipal service delivery is measured upon the Likert Scale. It is useful to rank respondents' perception in 05 to 07 different categories ranging from strongly agree to strongly disagree. Likert Scale is useful to rank satisfaction scale with the services from heterogenous users (Robinson, 2023; Kim and Chung, 2016). However, ordinal logistics analysis is the most fitted regression model to assess and examine the ordinal responses. Such modelling takes usually perception or responses of users as independent variable and service delivery as dependent one (Zhou et al., 2020, Liu and Koirala, 2012). Ordinal model is employed to assess the satisfaction of citizens with service delivery (Yung et al., 2017; Sarkarabad et al., 2021).

For this study purpose the data is collected using multistage random sampling method from municipalities. Multistage random sampling is very useful to select respondents from geographically diverse regions (BMJ, 2015; Handa et al., 2016; Rafique et. al., 2023a). At first stage Hyderabad and Mirpurkhas divisions were selected. On the second stage, municipal councils were selected. Hyderabad and Mirpurkhas as municipal corporations and Qasimabad municipal committee along with Digri town committee were selected for primary data collection. Since Hyderabad district does not have functional town committee and Mirpurkhas does not have any municipal committee. Hence, Digri being applicant for the municipal committee, was selected.

Stratified random sampling method is used for collection of primary data from citizens of all four selected municipalities. This random sampling method is widely used to select unbiassed representative sample from a large population (Noor et al., 2022; Stehman, 2014). Stratified random sampling presents reliable and accurate results (Emerson, 2015).

Semi-structured questionnaires were developed for data collection from random selected respondents in all targeted municipalities. The data is collected from 400 different users of municipal services comprised of the equal numbers of both households and shop owners. The data is collected from four different municipalities Hyderabad Municipal

Corporation, Mirpurkhas Municipal Corporation, Qasimabad Municipal Committee and Digri Town Committee.

The sample size comprised of the total number of respondents from each municipality from whom the primary data is collected, is tabled below.

Table 1
Primary Data from Municipalities (Number of Respondents)

Data Sources	Hyderabad Municipal Corporation	Mirpurkhas Municipal Corporation	Qasimabad Municipal Corporation	Digri Town Committee	Grand Total
Households	60	60	40	40	200
Shops	60	60	40	40	200
Total	**120**	**120**	**80**	**80**	**400**

Thus, the analysis under this research is done through employing ordinal logistic regression model in which service delivery is taken as independent variable and ordinal responses of citizens as dependent variables. These responses are categorized into five different categories using the Likert Scale ranging from strongly dissatisfied, dissatisfied, neutral to satisfied and strongly satisfied. The mathematical form of this Ordinal Logistics Model (OLRM) is presented in the following equation.

$$\text{Satisfication} = \propto + \beta x_{\text{Services}} + u \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Results and Discussion

Overall, the relationship between municipal services and satisfaction of the citizens is found directly associated. Both the availably and quality of municipal services have significant relationship with satisfaction of end users.

Water Supply

Water Supply Service is a compulsory function of municipalities in Sindh. The analysis suggests that citizens' satisfaction is directly associated with the quality of service provided by the councils.

Table 2
Satisfaction with Water Supply Services

Case Processing Summary		No	%age
Citizens Satisfaction with Water Supply Services	Strongly Dissatisfied	169	42.2%
	Dissatisfied	56	14%
	Satisfied	80	20%
	Strongly Satisfied	95	23.8%
Reasons for Non-Satisfaction with Water Supply	No Supply	23	5.8%
	Insufficient Supply	45	11.2%
	Supply Timing Issue	157	39.2%
	No Reasons	175	43.8%

The table above presents the satisfaction status of the citizens with water supply services. Satisfaction is presented in percentage and the reasons for non-satisfaction with the number and percentage of respondents. The values of both the goodness of fitness and model fitness confirm that the employed model is fit to analyze and present credible results. The McFadden with value of 0.574 under the test results of Pseudo R-Square intimate that this model can predict 57% accurate value in comparison of no model.

Table 3
Model Fitness Information (Water Supply Services)

Model Fitting Information	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	598.609			.000
Final	.000	598.609	3	

Goodness-of -Fit	**Chi-Square**	**Df**	**Sig.**
Pearson	.001	6	1.00
Deviance	.002	6	1.00

Pseudo R Square		
Cox and Snell	Nagelkerke	McFadden
.776	.838	.574

Table 4
Ordinal Regression Results (Water Supply Services)

Parameters Estimates		**Estimate**	**Odd Ratio**	**Std. Error**	**Wald**	**df**	**Sig**
Water Supply	[No Supply=0]	-27.511	1.12	1.067	10.304	1	0.001
	[Insufficient Supply=1]	-38.928	1.24	1.615	43.212	1	0
Service Delivery Analysis	[Supply Timing Issues=2]	-25.805	6.2	1.85	17.859	1	0.001
	[Sufficient Supply / =3]	0a		.	.	0	.

From the analysis above it is evident that citizens who don't receive sufficient water supply have lower satisfaction. The – (sign) estimates lower satisfaction with degradation of services. The higher Odd Ratio of category 2 i-e of 6.2 indicates strong likelihood of higher dis-satisfaction for water supply timing issues.

Hypothesis Testing for Water Supply Service

The test of parallel lines assumption with the significance value of above 0.5, as tabled below, confirms that the results produced under this model are accurate and reliable to report.

Table 5
Test of Parallel Lines Assumption (Water Supply Services)

Test of Parallel Lines – Assumption	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Null Hypothesis	.000			
General	.000[b]	.000	6	1.000

Sanitation Services

Sanitation service is a compulsory function of municipalities in Sindh. The analysis suggests that citizens satisfaction is directly associated with quality of sanitation service provided by the municipalities.

Table 6
Satisfaction with Sanitation Services

Case Processing Summary		**No**	**%age**
Citizens Satisfaction with Sanitation Services	Strongly Dissatisfied	70	17.5%
	Dissatisfied	251	62.7%
	Satisfied	72	18.0%
	Strongly Satisfied	7	1.8%
	Drains Chocked	25	6.2%
	Sewerage Lanes Non-Functional	86	21.5%

Reasons for Non-Satisfaction with Sanitation Services	Drain Overflow Frequently	210	52.5%
	No Reasons	79	19.8%

The table above presents the satisfaction status of the citizens with sanitation services. Satisfaction is given in percentage coupled with reasons of non-satisfaction. Model fitness values as tabled below confirm the suitability of this model to estimate the results. The McFadden value of 0.531 indicates that this model can predict 53% more accurate value in comparison of no model.

Table 7
Model Fitness Information (Sanitation Services)

Model Fitting Information	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	415.299			.000
Final	.000	415.299	3	
Goodness-of -Fit	**Chi-Square**	**Df**	**Sig.**	
Pearson	.000	6	1.000	
Deviance	.000	6	1.000	
Pseudo R Square				
Cox and Snell		Nagelkerke	McFadden	
.646		.753	.531	

Table 8
Ordinal Regression Results (Sanitation Services)

Parameters Estimates		**Estimate**	**Odd Ratio**	**Std. Error**	**Wald**	**Sig**
Sanitation Service Delivery Analysis	[Sewerage Lines Non-Functional=0]	-35.843	2.71	8.454	11.086	0.001
	[Drain overflow frequently=1]	-36.054	2.19	8.328	10.435	0.001
	[Drains Chocked=2]	-25.585	7.73	1.615	43.212	0.001
	[Good Service=3]	0a		.	.	.

Citizens who don't receive good quality sanitation services are less satisfied. The – (sign) estimates lower satisfaction with degradation of services. The Odd Ratio of 7.73 for Chocked drains reveals higher likelihood of non-satisfaction for this category.

Hypotheses Testing for Sanitation Service

The test of parallel lines assumption results confirms that the estimations are reliable to report.

Table 9
Test of Parallel Lines Assumption (Sanitation Services)

Test of Parallel Lines – Assumption	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Null Hypothesis	.000			
General	.000[b]	.000	6	1.000

Refuse Collection Services

The refuse collection is a compulsory function of municipalities in Sindh. The analysis suggests that citizens satisfaction is directly related to the quality of refuse collection service provided by respective municipalities.

Table 10
Satisfaction with Refuse Collection Service

Case Processing Summary		**No**	**%age**
Citizens Satisfaction with Refuse Collection Service	Strongly Dissatisfied	109	27.3%
	Dissatisfied	181	45.2%
	Satisfied	110	27.5%
	Strongly Satisfied	-	-
Reasons for Non-Satisfaction with Refuse Collection Service	Refuse Rarely Collected	109	27.3%
	Refuse Collected Once a Week	181	45.2%
	Refuse Collected Regularly / Daily	110	27.5%
	Valid	400	100.0%

The table above presents the satisfaction of the citizens with refuse collection service in percentage. The reasons for non-satisfaction and their relative frequency cum percentage are also illustrated. The Goodness of fit and model fitness validate that the employed model is fit to estimate accurate values. Similarly, the 0.531 value of McFadden reveals that the employed model can predict more 53% correct value in comparison of no model. Although this Pseudo R-Square results technically don't explain the model fitness. This, however, explains data estimation accuracy which otherwise could not be done if there is no model employed.

Table 11
Model Fitness Information (Refuse Collection Services)

Model Fitting Information	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	854.495			.000
Final	.000	854.495	2	
Goodness-of -Fit	**Chi-Square**	**Df**	**Sig.**	
Pearson	.002	2	.999	
Deviance	.005	2	.998	
Pseudo R Square				
Cox and Snell		Nagelkerke	McFadden	
.882		.543	.531	

Table 12
Ordinal Regression Results for Refuse Collection Services

Parameters Estimates		**Estimate**	**Odd Ratio**	**Std. Error**	**Wald**	**df**	**Sig**
Refuse Collection *Service Delivery Analysis*	[Refuse Collected Rarely=1]	-49.992	1.194	14.673	18.095	1	0.003
	[Refuse Collected Once a Week=2]	-24.999	1.30	7.217	9.324	1	0.001
	[Collected Timely=3]	0a		.	.	0	.

Citizens who don't receive good quality services of refuse collection are less satisfied. The – (sign) estimates lower satisfaction with degradation of these services. The

Odd Ratio of 1.30 for 'refuse collected once a week' reveals a higher likelihood of non-satisfaction for this category.

Hypotheses Testing for Refuse Collection Service

This hypothesis testing of the parallel lines assumption with a result of significance value greater than 0.5 explains that the estimated results are reliable and accurate to report.

Table 13
Test of Parallel Lines Assumption (Refuse Collection Services)

Test of Parallel Lines – Assumption	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	.000			
General	.000[b]	.000	2	1.000

Development Work Services

Development work is a compulsory function of municipalities in Sindh. The analysis suggests that citizens satisfaction establishes a direct association with quality of development work provided by the councils.

Table 14
Satisfaction with Development Work Service

Case Processing Summary		No	%age
Citizens Satisfaction with Development Work Services	Strongly Dissatisfied	191	47.8%
	Dissatisfied	144	36.0%
	Satisfied	65	16.2%
	Strongly Satisfied	-	-
Reasons for Non-Satisfaction with Development Work Services	Bad Quality Work	120	30.0%
	Wrong Selection of Area	215	53.8%
	Good Quality Work / No Reasons	65	16.2%

The table above depicts the overall satisfaction of respondents with development work services executed by council concerned. Likewise, the reasons for dissatisfaction are also tabled in the second part with respective frequency and percentage. The model fitness results also confirm that this model is suitable for predicting accurate results. Furthermore, the Pseudo R-Square results reveal that this model has 67% more capacity to estimate correct results in comparison of no model.

Table 15
Model Fitness Information (Development Work Services)

Model Fitting Information	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	854.495			.000
Final	.000	854.495	2	
Goodness-of -Fit	**Chi-Square**	**Df**	**Sig.**	
Pearson	.002	2	.999	
Deviance	.002	2	.999	
Pseudo R Square				
Cox and Snell		Nagelkerke	McFadden	
.744		.857	.671	

Table 16
Ordinal Regression Results for Development Work Services

Parameters Estimates		Estimate	Odd Ratio	Std. Error	Wald	df	Sig
Development Work	[Bad Quality Work=0]	56.892	1.95	2.067	18.304	1	0.003
Service Delivery Analysis	[Wrong Selection of Area=1]	-37.207	6.9	1.519	41.419	1	0
	[Wrong Selection of Scheme=2]	-56.892	1.9	4.75	27.753	1	0.004

[Good Quality Work=3]	0a	.	.	0	.

Citizens who don't receive good quality development work are less satisfied. The – (sign) estimates lower satisfaction with degradation of services. The Odd Ratio of 6.9 for 'wrong selection of area' reveals a higher likelihood of non-satisfaction for this category.

Hypothesis Testing for Development Work Service

This hypothesis testing results with a significance value of greater than 0.5 confirm that the estimations are both accurate and reliable to report.

Table 17
Test of Parallel Lines Assumption (Development Work Services)

Test of Parallel Lines – Assumption	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	.000			
General	.000[b]	.000	3	1.000

Emergency Response Services

Emergency Response is a compulsory function of municipalities in Sindh. The – (sign) estimates lower satisfaction with degradation of services. The analysis suggests that citizens satisfaction is directly related to the quality of emergency response provided by the councils.

Table 18
Satisfaction with Emergency Service

Case Processing Summary		No	%age
Citizens Satisfaction with Emergency Services	Strongly Dissatisfied	95	23.8%
	Dissatisfied	32	8.0%
	Satisfied	273	68.2%
	Strongly Satisfied	-	-
Reasons for Non-Satisfaction with Emergency Services	No Response	95	23.8%
	Poor Response	32	8.0%
	Response to Specific Areas	103	25.8%
	Adequate Response / No Reasons	170	42.5%

The case processing summary as presented in the above table illustrates the satisfaction of respondents with emergency response services provided by their councils in case of emergencies or unforeseen circumstances. Whereas the reasons for non-satisfaction are summarized along with responses percentages. Both the model fitness and goodness of fit results prove that the employed model is fit for regression. Besides, the Pseudo R-Square values of .91 confirm that this model has capability to predict 91% correct values comparing to the situation if no model was ever employed.

Table 19
Model Fitness Information (Emergency Response Services)

Model Fitting Information	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	643.356			.000
Final	.000	643.356	3	
Goodness-of -Fit	**Chi-Square**	**Df**	**Sig.**	
Pearson	.001	3	1.00	

Deviance	.001	3	1.00
Pseudo R Square			
Cox and Snell		Nagelkerke	McFadden
.800		.891	.910

Table 20
Ordinal Regression Results for Emergency Response Services

Parameters Estimates		Estimate	Odd Ratio	Std. Error	Wald	df	Sig
Emergency Response	[No Response=0]	-52.129	2.29	2.068	12.315	1	0.002
	[Poor Response=1]	-26.103	4.6	3.678	35.416	1	0
Service Delivery Analysis	[Response to Specific Areas=2]	-11.219	1.34	1.968	19.446	1	0.001
	[Good Response =3]	0a	.	.	.	0	.

Citizens who don't receive timely emergency response have lower satisfaction. The higher Odd Ratio of 4.6 indicates a strong likelihood of higher dissatisfaction for 'poor response' during emergencies.

Hypothesis Testing for Emergency Response Service

This hypothesis testing also confirms that the results generated through this modeling are reliable and accurate to report.

Table 21
Test of Parallel Lines Assumption (Emergency Response Service)

Test of Parallel Lines – Assumption	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	.000			
General	.000[b]	.000	3	1.000

Traffic Management Services

Traffic Management is a compulsory function of municipalities in Sindh. The – (sign) estimates lower satisfaction with degradation of services. The analysis suggests that citizens satisfaction is directly associated with quality of traffic management service.

Table 22
Satisfaction with Traffic Management Service

Case Processing Summary		No	%age
Satisfaction with Traffic Management Services	Strongly Dissatisfied	229	57.2%
	Dissatisfied	3	0.8%
	Satisfied	168	42.0%
	Strongly Satisfied	-	-
Reasons for non-satisfaction	No Traffic Management	107	26.8%
	Traffic Jam Issues	27	6.8%
	Crowd on Roads	95	23.8%
	Good Management / No Reasons	171	42.8%

The results presented in table above depict the categorical satisfaction of citizens. The reasons for dissatisfaction are also enunciated with respective response percentage. Model fitness also reveals that the selected model is fit to estimate accurate values. Moreover, the McFadden value of 0.953 ensures that this model has capacity to predict 95% more accurate values of estimators compared to no model.

Table 23
Model Fitness Information (Traffic Management Service)

Model Fitting Information	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	549.052			.000
Final	.000	549.052	3	
Goodness-of -Fit	**Chi-Square**	**Df**	**Sig.**	
Pearson	.001	3	1.000	
Deviance	.001	3	1.000	
Pseudo R Square				
Cox and Snell		Nagelkerke	McFadden	
.747		.978	.953	

Table 24
Ordinal Regression Results for Traffic Management Services

Parameters Estimates		**Estimate**	**Odd Ratio**	**Std. Error**	**df**	**Sig**
Traffic Management	[No Traffic Management=0]	-34.422	1.12	674.2	1	0
	[Traffic Jam=1]	34.422	1.12	793.7	1	0
Service Delivery Analysis	[Crowd on Roads=2]	34.422	1.18	843.6	1	0
	[Good Management =3]	0a	.	.	0	.

Citizens who don't receive traffic management have lower satisfaction. The higher Odd Ratio of 1.18 indicates a strong likelihood higher dis-satisfaction for crowd on roads.

Table 25
Hypothesis Testing for Emergency Response Service

Test of Parallel Lines – Assumption	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Null Hypothesis	.000			
General	.000[b]	.000	3	1.000

The significance value above 0.5 under the hypothesis testing confirms that the results are reliable and correct to estimate the predictions.

Conclusion

The results presented above conclude that 64% of the citizens are not satisfied with municipal services. The bifurcation includes 36% strongly satisfied and 28% dissatisfied citizens. Whereas 36% respondents expressed their satisfaction with municipal service delivery including 4% strongly satisfied and 32% satisfied citizens. This response percentage varies when each compulsory municipal service is assessed separately. Water supply has higher satisfaction followed by emergency response and traffic management. Whereas cleanliness, including refuse collection and sanitation services are ranked very low on the overall satisfaction scale.

Reasons for dissatisfaction also vary according to the type of municipal service. The issues of water supply timing and insufficient quantity of water supply are among the major

reasons for dissatisfaction with water supply service. 06% respondents also intimated that no water is supplied to them by the respective municipality. Whereas the reasons for non-satisfaction with sanitation service includes overflow of drains and non-functioning of sewerage lanes. For the refuse collection service respondents expressed their dissatisfaction for different reasons viz refuse not collected or refuse collected rarely. Such a condition results in dumping of solid waste in public streets.

Similarly, for the development work the dissatisfied citizens shared the work quality is not good and area selected for development work is not done as per need cum merit. Likewise, it was also found that emergency response service is also biassed one. Only specific areas based on favoritism are opted to ensure emergency response by municipalities in Sindh. Finally, most of the non-satisfied respondents are of the opinion that there is no proper traffic management. The other reasons include traffic jam issues and traffic crowds on the roads.

The ordinal responses obtained through regression results explain that the higher odd ratio intimate strong likelihood of dissatisfaction against each municipal service. Regarding water supply services, the strong disliking of respondents is for water supply timing issues and chocked drains for sanitation services. Similarly, for refuse collection service the frequency of refuse collected after a week is strongly disliked by citizens. However, for development work service a strong disliking is found for wrong selection of areas. Finally, the higher odd ratio for poor response while responding emergency situations and crowd on roads for traffic management service intimate strong dissatisfaction for these services respectively.

Hence, it is concluded that 2/3rd majority of citizens are not satisfied with the municipal services provided to them by respective municipalities. The reason for dissatisfaction includes either services are not provided, or the service provision is poorly managed by municipalities.

Recommendations

The research recommends addressing the indicated areas of improvement to ensure satisfaction of citizens and to enhance and upgrade overall municipal service delivery.

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