

The Disparity Between Urban and Rural Areas in Citizen Satisfaction with Local Public Services

José-Fernando Romero-Subia¹, Juan-Antonio Jimber del Rio¹,
María-Salomé Ochoa-Rico^{1,2}, Arnaldo Vergara-Romero³

¹Department Agricultural Economics, Sociology, and Policy, Faculty of Economics and Business Sciences, Universidad de Córdoba, Córdoba, Spain

²Facultad de Ciencias Económicas y Empresariales, Universidad Ecotec, Samborondón, Ecuador

³Department of Research, Universidad Ecotec, Samborondón, Ecuador

Abstract – The disparities in access to public assistances between rural and urban areas are analyzed in this study, corresponding to the intensity in which the constructs are related to expected quality, perceived quality and perceived value as influential factors in citizen satisfaction and loyalty. In Guayaquil, a survey is carried out at the household level, 428 valid questionnaires are obtained in the rural area of Tenguel and 521 Valid questionnaires in the urban area of Tarqui, applying to the American Customer Satisfaction Index (ACSI). The research used a Structural Equation model (SEM) to evaluate the hypotheses raised, if they observe significant differences in citizen perception between inhabitants of urban and rural areas about the quality of community services, this as a determining cause in the level of citizen satisfaction and loyalty to choose their municipal authorities. The multigroup analysis allowed to identify inequalities in the observation of the quality of municipal or local community assistances between rural and urban areas; the findings are considered to local public administrators for the design of public policy aimed at improving levels of citizen satisfaction and loyalty.

Keywords – Citizen satisfaction, urban and rural disparities, loyalty, multigroup analysis, local governments.

1. Introduction

Access to public services in urban and rural areas may reflect inequalities, showing superior development in cities or centers compared to towns or the periphery[1], our urban versus rural approach is established due to differences in access to various public services between urban and rural areas.

Several studies analyze the disparity between urban parish and rural parish, in issues related to health[2], employ[3], voting intention [1], transport [4], land use [5], sports services [6], economic growth [7], life satisfaction[8].

The increase in urbanization in the world and the rapid growth of greatertowns, has caused significant revolutions in the structure of urban parish and rural parish [9], life in rural areas is characterized by affordable housing, rural well-being, green environments are considered as desirable places to raise children or for retirement life[10]. However, the situation of the most remote rural areas is associated with low income, deprivation and poverty [11], social exclusion and inequality [12], poor public services, access to precarious jobs and lack of cultural or recreational activities [13].

Now, if only material goods such as clothing, housing or any other were everything that had an impact on satisfaction, then the solution would be simple, satisfaction would always be more excellent in urban parish compared to rural parish. However, life in urban regions entails difficulties that have unfavorable effects on joy such as: pollution, feelings of isolation and alienation[7].

Citizen participation in democratic governance has the consequence that governments pay attention to voters' opinions; meanwhile, citizens expect elected public servants to commit to their requests.

DOI: 10.18421/TEM121-34

<https://doi.org/10.18421/TEM121-34>

Corresponding author: Arnaldo Vergara-Romero,
Department of Research, Universidad Ecotec,
Samborondón, Ecuador


Email: avergarar@ecotec.edu.ec

Received: 01 October 2022.

Revised: 14 November 2022.

Accepted: 29 November 2022.

Published: 27 February 2023.

 © 2023 José-Fernando Romero-Subia et al; published by UIKTEN. This work is licensed under the Creative Commons Attribution-NonCommercial-NoDeriv 4.0 License.

The article is published with Open Access at <https://www.temjournal.com/>

Therefore, the satisfaction of citizen requests occupies an elementary function in the intention of citizen vote [14].

The uncertainty exists due to political polarization in Europe, where urban and rural areas have a fundamental role in decisions. For example, in the Brexit vote, metropolitan areas, on average, were more likely to remain in the European Union than rural areas [1].

Economic geographers mention that the results of polarization are consequences of patterns of inequality in development, with growth models focused on urban and central areas, with little attention to rural areas and periphery. An interpretation of the political disparities for urban parishes and rural parishes could be income inequalities, different displacement patterns between urban and rural areas, various opinions in the local administration, disparity in access to quality [1] public services [2].

The study was carried out in Guayaquil; it is the second most populated district in Ecuador with almost three million people, an urban and rural parish was chosen, the selected urban parish called Tarqui has an area of 227.44 km², Tarqui is chosen for having the most significant urban and commercial development in Guayaquil, it has a population of approximately 800,000 inhabitants [15].

The rural area chosen is called Tenguel, it is a rural parish of the Guayaquil canton, located 170 km away, being the parish situated more on the outskirts of the capital Guayaquil. Tenguel occupies a land area of 138.12 km², has a population of 13800 inhabitants; the rural parish is selected for the study for being the rural area furthest from Guayaquil and is linked to agriculture, livestock, forestry and fishing [16].

The methodology used in the research to determine citizen satisfaction for urban parishes and rural parishes of Guayaquil City with the assistances providing by the Guayaquil City Hall, was the estimation of causal relationships between expected quality, perceived quality, perceived value, satisfaction and loyalty [17].

The expectations of the citizens who reside in the municipality of Guayaquil, whether they are rural or urban citizens, about public services establish the bases of our study. Individual perceptions derived from beliefs and knowledge of the area leads him to compare expected quality and perceived quality, as well as to build the perceived value of the set of municipal or local community assistances received.

In the literature, researchers are observed as among others who study the satisfaction levels between rural and urban areas. Still, none of these studies addresses the intensity of causal relationships, between the variables that build satisfaction with municipal public

services and loyalty to elected municipal authorities [5].

The research contributes to the growing literature on differences in satisfaction for urban parishes and rural parishes, the purpose of this investigation is to accomplish a comparative evaluation between rural parish and urban parish about the intensity of causal relationships, concerning the provision of municipal public services and observe disparities between the observed value, height of satisfaction and loyalty produced by the probable quality and observed citizen quality in the use of municipal or local public assistances.

Following the introduction section, the research is configured as a theoretical framework; in this section, the methodologies and results achieved by several authors are exposed, the third section continues with the method applied in this research, the following paragraph makes the presentation of results obtained. It culminates with the discussion and conclusions that precede the bibliographic citations.

2. Theoretical Framework

The diversity of authors analyzed the expected quality and perceived quality of public management regarding public services. Similarly, there is research on citizen satisfaction and loyalty comparing urban and rural areas.

2.1. *Perceived Quality in the Facility of Local Community Services*

Perceived quality is the set of sensations and experiences by each individual in the different experiences they have as a client, consumer and in our case a citizen who receives and uses the different municipal services [18]. The effect of perceived quality on customer satisfaction has been demonstrated by various researches [19], i.e., if perceived quality increases, satisfaction should increase [20].

2.2. *Expected Quality in The Provision of Municipal Services*

Expected quality is the advanced measurement of the consumer to the quality of an item or service, which symbolizes the experience preceding the purchase [21]. For [22] a consumer's agreement with the product depends on the perceived quality and the expected quality. The variables that intervene in the scheduled quality are schooling, income or social status [23]. Consequently, satisfaction is differentiated between the anticipated quality of citizens of urban and rural areas [8].

2.3. Perceived Value in Urban Parish and Rural Parish

Perceived value is the result between what the customer gets and what they sacrifice in exchange for quality [24]. In general, the literature establishes that a satisfied person is very prospective to be reliable to the merchandise or service and recommend it to their personal environment. [21].

The association of perceived value [25] and satisfaction is observed in the study by means of the American Customer Satisfaction Index (ACSI) model or standard; demonstrate the effect of perceived value as a critical factor on consumer satisfaction and its subsequent impact on consumer loyalty.

Research [26] shows that perceived value is an important prognosticator of consumer satisfaction through 70,000 consumer surveys at companies operating in the United States using the American Customer Satisfaction Index [27]. Using data from national longitudinal surveys and examining the perceived value of China's rural Dibao program, they found a strong positive effect on citizen satisfaction in rural areas.

2.4. Citizen Satisfaction in Urban Parish and Rural Parish

The sufficiency of a merchandise or service to match the expected quality of a customer is called satisfaction [28]. In addition, it is the synchrony between observed quality and observed value. In the literature it is accepted how satisfaction influences loyalty [29].

[30] conducted citizen satisfaction studies in the urban area of Eskisehir, Turkey. Their findings revealed through factor analysis, general satisfaction of citizens with the municipal services of Eskisehir, such as transportation, transit, cultural and artistic activities, garbage collection, urban planning, green areas, sports fields and support for associations.

Studies such as those by [28] mention that rural citizens who live in the area of influence of large cities are more satisfied than urban residents [10].

2.5. Loyalty

Loyalty is the intention to repurchase or recommend a merchandise or service [31]. Within the scientific literature there is a link between satisfaction and loyalty, concluding that the greater the satisfaction, the greater the objective consumption of a customer's [32], while dissatisfied customers do not reveal loyalty to merchandise or services that do not, please them [33].

Academics [34], [35] as researching the sensitivity of the quality of public assistances, allowing to interpret the importance of the offer of quality public services, increasing the interest of political actors in the continuous improvement of the providing of assistances in urban parish and rural parish.

The continuous improvement processes applied to the application of public policy concerning the provision of public assistances generate an influential factor in citizen loyalty [36]. Building resident satisfaction and loyalty with community assistances, in a study of [37] testing a model of citizen loyalty empirically with 402 surveys of Saudi citizens, the findings showed that quality of service and user satisfaction explain citizen loyalty to services providing by the local government.

The investigate analyzes the quality of community services in the urban parish of Guayaquil city and the rural parish, such as Tenguel.

2.6. Hypothesis Development

The variables that were used to evaluate resident satisfaction and fidelity in the rural parish and urban parish of Guayaquil city, these will allow comparing the results of direct and moderate causal relationships were: (1) Expected quality of public services, (2) Perceived quality of public services, (3) Perceived value is the comparison with expected quality and perceived quality, (4) Satisfaction is the response where the emotion or cognition of citizens who use public services is incorporated and (5) Citizen Loyalty is based on the experimental effects has on the use of community services offered by City Hall.

Once the model for rural and urban areas (subsamples) has been evaluated, a model is developed integrating both subsamples and a grouping variable (label) is defined, these take the values 1 = urban citizen and 2 = rural citizen, to culminate with the calculation of the multigroup analysis. The hypotheses proposed according to the theoretical framework that justifies the use of causal variables for the construction of citizen satisfaction and loyalty are (Figure 1):

Hypothesis 1 (H1). According to the estimation of the causal relationships: there are significant differences between the expected quality and the perceived quality between citizens residing in rural parish and citizens residing in urban parish.

Hypothesis 2 (H2). According to the estimation of the causal relations: there are significant differentiations in the expected quality and the perceived value between citizens residing in rural parish and residents residing in urban parish.

Hypothesis 3 (H3). According to the estimation of causal relationships: there are significant differences between perceived quality and perceived value

between citizens residing in rural parish and citizens residing in urban parish.

Hypothesis 4 (H4). According to the estimation of causal relationships: there are significant differences between perceived quality and satisfaction between citizens residing in rural parish and citizens residing in urban parish.

Hypothesis 5 (H5). According to the estimation of causal relationships: there are significant differences between perceived value and satisfaction between citizens residing in rural parish and citizens residing in urban parish.

Hypothesis 6 (H6). According to the estimation of causal relationships: there are significant differences between perceived quality and loyalty between citizens residing in rural parish and citizens residing in urban parish.

Hypothesis 7 (H7). According to the estimation of causal relationships: there are significant differences between satisfaction and loyalty between citizens residing in rural parish and citizens residing in urban parish.

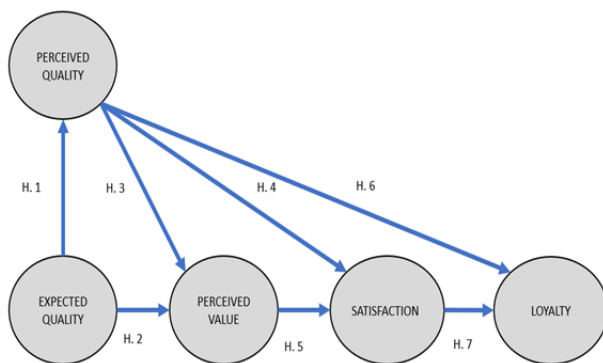


Figure 1. Theoretical research model
Source: Authors.

3. Materials and Methods

This section describes the materials and methods, as well as the sample and instruments that will be used in this research.

3.1. Sample

The questionnaire was conducted in the city of humble Guayaquil-Ecuador, the sample of the urban area was extracted in the Tarqui parish, and the statistics group of the rural area was carried out in the Tenguel parish. The Tarqui metropolitan area is considered the most important urban and commercial center of Guayaquil and the most densely populated parish of the city [15], while the Tenguel rural area is the rural sector with the most significant agricultural

extension and the second rural parish with the most influential territorial extension of Guayaquil [16].

The universe of the Tarqui urban area is made up of 800,000 inhabitants, for the collection of data was counted on the collaboration of a group of previously trained interviewers, the survey was applied to 642 families selected with simple random sampler, getting 521 acceptable surveys, the surveys were conducted between October 5 and 18, 2020.

The rural area Tenguel has a universe of 13.800 inhabitants, where 576 families chosen with simplified random sampling were surveyed, getting 428 effective surveys, using the same pollsters during April 3-9, 2021.

The sample population was informed that the surveys carried out were for educational reasons, and the object of study, and anonymity was guaranteed if oral agreement was requested in the participation of the study. The survey provided sociodemographic information, the levels of estimated quality, observed quality, observed value, satisfaction and loyalty of the residents of the urban and rural area of the study. The surveys were carried out from citizens of legal age onwards and without distinction of the education, income or professional space.

3.2. Instrument

The study of the variables that form the constructs of the suggested theoretical standard. for rural and urban areas, a questionnaire of 67 items was carried out, grouped into three sections:

First: Questions that evaluate the public services providing by Guayaquil City Hall, related to the quality of these services that citizens expect, the perceived quality and perceived value in rural and urban areas, in aspects such as land use planning, roads, public transport, organization and zoning, roads, crosswalks, parking facilities, address information, transportation station services.

Second: Questions related to the satisfaction and loyalty of rural and urban residents about local government, founded on the knowledge of citizens with the assistance providing by Guayaquil City Hall.

Third: Questions regarding the sociodemographic profile of the urban and rural citizens of the parishes under study.

American Customer Satisfaction Index (ACSI), is the standard used in this investigate (see figure 1), in this way the latent variables are evaluated with the measurements of the items corresponding to the aforementioned literature (see table 1).

Table 1. Variable, Acronym and References

Latent Variable	Acronym	References
Expected Quality	(EXPEQUAL)	[38]
Perceived Quality	(PERQUAL)	[39]
Perceived Value	(PERVALU)	[40]
Satisfaction	(SATISFAC)	[10]
Loyalty	(LOYALTY)	[34]

Source: Authors.

4. Results

The results section groups the calculations obtained after applying the models of structural equations, validating the observed and latent variables, the hypotheses of causal relationships are contrasted. We begin with a synthesis of the sociodemographic profile of the rural and urban citizens surveyed, followed by the consistency and rationality of the standard proposal, finalizing with the differences in the causal relationships between the rural and urban sample by including restrictions in the estimated model (multigroup analysis) of the seven hypotheses raised in the theoreticframe.

The sociodemographic summary of the residents of Guayaquil in the rural area Tenguel and the rural area Tarqui (Table 2) shows that 53.50% of the respondents were men in the rural parish while in the urban parish 53.17%. 46.26% and 45.68 women surveyed in the areas, respectively. Most respondents were between 18 and 30 years old, 41.82% in rural areas and 44.72% in urban areas.

The first significant disparity is observed in the level of education in the rural area, 24.3%, up to the level of primary education, in the urban area, up to the same level, 7.1%. In the rural area, 77.57% confirm having incomes below \$ 400, while in the metropolitan area, they are 70.44%, that is, income below the unified basic salary in Ecuador [41].

Table 2. Citizens' sociodemographic profile

Variable/ Categories Rural (n=428) - Urban (n=521)	Rural Area		Urban Area	
	Absolute Frequency	Percentage	Absolute Frequency	Percentage
Sex				
Men	229	53.50	277	53.17
Women	198	46.26	238	45.68
No comment	1	0.23	6	1.15
Age				
[Under 30]	179	41.82	233	44.72
[30-39]	71	16.59	165	31.67
[40-49]	82	19.16	67	12.86
[50-59]	50	11.68	40	7.68
60 or more	46	10.75	16	3.07
Level of instruction				
No study	16	3.741	1	0.19
Primary	88	20.561	36	6.91

Secondary	228	53.27	266	51.06
University	95	22.20	207	39.73
Postgraduate	1	0.23	11	2.11
Country of origin				
National	426	99.53	521	100.0
Abroad	2	0.47	0	0.0
Income				
Less than \$400	332	77.57	367	70.44
Between \$400 and \$2000	94	21.96	146	28.02
Between \$2001 and \$5000	2	0.47	4	0.77
Between \$5001 and \$10000	0	0.0	2	0.38
More than \$10001	0	0.0	2	0.38
Guayaquil is their only place of residence.				
YES	405	94.63	447	85.80
NO	23	5.37	74	14.20

Source: Authors.

4.1. Reliability Analysis of Constructs

The way to contrast the validity and determination of the items as[42] the collinearity was examined, where the values of the inflation factor Variance statistic (FIV) is more significant than five; that is, the conclusion showed the absence of collinearity in the variables used for each of the latent variables. As[43];[17], the individual reliability of the factorial loads is corroborated on the outcomes of the estimates. Therefore, the structural quantity model is considered acceptable and consistent to analyze.

The validation between the variables that are observed and the measurement of the latent variable that is formed from these first variables, is expressed in the criterion suggested by [44], where the statistics of Cronbach's alpha and composite reliability of the latent have to have a coefficient equal to or greater than 0.70 to be considered a parsimony model; [45], [46]. The results presented in Table 3 maintain or exceed this limit in rural and urban areas.

Table 3. Compound reliability and Cronbach's Alpha

Source: Authors.

Construct		RURAL		URBAN	
		Composite Reliability	Cronbach's Alpha	Composite Reliability	Cronbach's Alpha
LOYALTY	Loyalty	0.804	0.700	0.939	0.918
SATISFAC	Satisfaction	0.796	0.715	0.910	0.851
EXPQUAL	Expected Quality	0.958	0.954	0.986	0.986
PERVALU	Perceived Value	0.812	0.759	0.939	0.930
PERCQUAL	Perceived Quality	0.847	0.811	0.956	0.952

Convergent validity verifies if a conglomerate of variables explains a construct, the value is obtained from the average variance extracted (AVE). As[17]

delimited that AVE value must be > 0.5 (Table 4), which means that the latent variable in each case segments added than partial of its variation with its indicators.

Table 4. Average variance extracted (AVE)

The average variance extracted (AVE)			
Construct	Acronym	RURAL	URBAN
Expected Qual.	(EXPEQUAL)	0.674	0.800
Perceived Quali.	(PERCQUAL)	0.690	0.593
Perceived Val.	(PERCVLU)	0.520	0.679
Satisfaction	(SATISFACT)	0.665	0.771
Loyalty	(LOYALT)	0.684	0.755

Source: Authors.

The goodness of fit measures is presented to strengthen the standard as a total for its statistical validation, additionally the quality indices are shown in rural areas and their counterpart, the urban. It is important to mention that the reflective constructs and the formative constructs were contrasted, and Table 5 below conforms all the results of the adjusted model. It is confirmed that the results acquired (values of the Threshold of excellence shown in the right column) justify validity and applicability.

Table 5. Model fit and quality indices

Measures of fit	RURAL	URBAN	p-Value
Average path coefficient (APC)	0.222	0.459	
Average R-squared (ARS)	0.2000	0.614	<0.001
Average adjusted R-squared (AARS)	0.197	0.613	
Index of Quality		Value	Ranges
Average block VIF (AVIF)	1.308	3.323	
Average full collinearity VIF (AFVIF)	1.705	4.647	plausible if <= 5, parsimony <= 3.3
Tenenhaus GoF (GoF)	0.283	0.628	lower >= .1, intermediate >= .25, higher >= .36
Sympon's paradox ratio (SPR)	1.000	1.000	plausible if >= .7, parsimony = 1
R-squared contribution ratio (RSCR)	1.000	1.000	plausible if >= .9, parsimony = 1
Statistical suppression ratio (SSR)	1.000	1.000	
Nonlinear bivariate causality direction ratio (NLBCDR)	0.786	1.000	plausible if >= .7

Source: Authors.

4.2. Multi-Group Analysis

The objective of the multigroup analysis is to make a comparison of the product of causal relationships with the variables that make up citizen satisfaction and loyalty. This development shows the disparities

in satisfaction and fidelity levels concerning community services in the rural and urban areas of study.

To obtain the results of the multigroup analysis, the causal relationships were assessed, fragmenting the sample obtained in the urban area and the rural area; later brands were defined to identify if the respondent is a citizen of the rural area or the metropolitan area. Figure 2 shows values of factorial loads of causal relationships for models calculated in rural and urban areas; the p-value is used to validate the importance of the interactions concerning latent variables of the model.

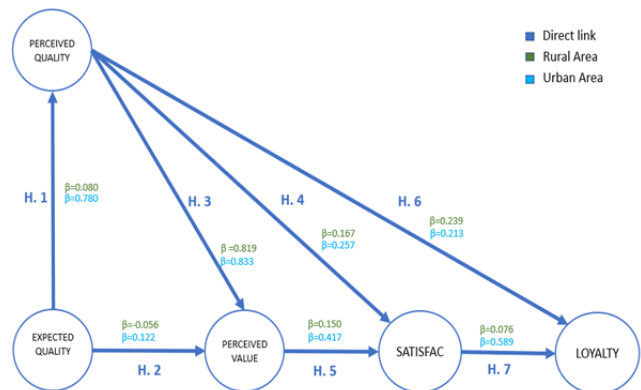


Figure 2. Graph of the suggested model in rural and urban areas

Source: Author.

The method used for the multigroup analysis is restricted latent growth, similar to the technique applied in a complete analysis of latent development; in the process used, the sub-sample formed by the rural and urban area studied is restricted. The point of the restricted crescent method is that the subsamples considered by way of [47] are not more significant than the subsample analyzed. Table 6 reveals the absolute latent growth coefficients and the limit probability of the causal associations of the suggested model and shows substantial disparities in causal relationships.

Table 6. Hypotheses analysis

Hypothesis	Path Coefficient		Path coeff. Differences (Urb-Rur)	p-Value	Supported?
	RURAL	URBAN			
H1: EQ-PQ	0.080	0.780	0.642***	<0.001	YES
H2: EQ-PV	-0.056	0.122	0.818***	<0.001	YES
H3: PQ-PV	0.819	0.833	0.021	0.261	NO
H4: PQ-S	0.167	-0.257	0.147***	<0.001	YES
H5: PV-S	0.150	0.417	0.158***	<0.001	YES
H6: PQ-L	0.239	0.213	0.070*	0.015	YES
H7: S-L	0.076	0.589	0.262***	<0.001	YES

Source: Author.

The following conclusions are drawn from the hypotheses raised in this research. The H1 hypothesis

with a coefficient (0.642***) and limit probability (<0.001) is confirmed, showing that there are disparities in the causal relationships between citizens of the rural area concerning citizens of the urban area. The H2 hypothesis is secured with a positive coefficient (0.818***) and limits probability (<0.001). The disparities between citizens of rural parish and urban parish of revision are maintained, with the causal association in expected quality and perceived value.

Hypothesis H4 is confirmed with the coefficient (0.147***) and limit probability (<0.001), significant differences between citizens of urban and rural areas are established, hypothesis H5 is secured with a positive coefficient (0.158***) and the limit probability (<0.001), disparities arise in the causal relationships of citizens of urban and rural areas, with the causal relationship perceived value and satisfaction.

Hypothesis 6 is confirmed with a positive coefficient (0.070*) and a limit probability of (0.015) between citizens of rural and urban areas, maintaining significant differences with the causal relationship perceived quality and loyalty. Hypothesis 7, with a positive coefficient (0.262***) and limit probability (<0.001), shows disparities between the opinions of rural citizens concerning urban citizens in the causal association in satisfaction and loyalty.

Figure 3 presents the model evaluated with the differences in intensity of causal relationships between citizens of rural areas and citizens of urban areas.

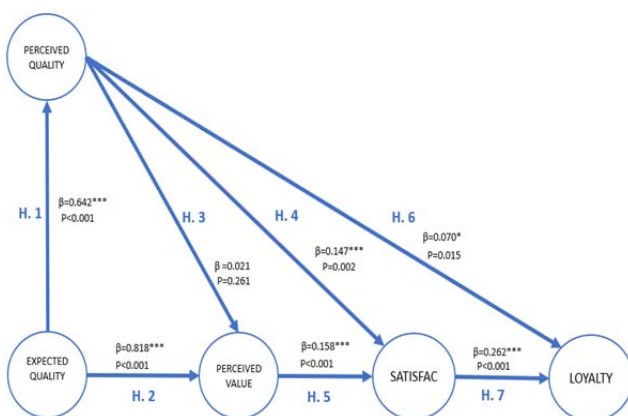


Figure 3. Model diagram with the absolute differences of the coefficients and p-Value
Source: Authors.

5. Discussion and Conclusions

Citizen satisfaction in the local government services of residents in rural and urban sectors is a conclusive component for the collaborators of said local government.

This satisfaction also has a chain effect, since the experience or personal experience is transmitted to the family and close friends, this translates into votes when choosing or recommending a local president. In this same way, the importance of improving the quality of public assistance suggested by City Hall in an efficient manner is discussed.

Several authors in the literature address citizen satisfaction in urban and rural areas [9]; [48]; [49]; [5], among others, but there are no studies that compare theoretical models of causal relationships of variables that make up the satisfaction of municipal public services and loyalty to the elected authorities in the municipality, between citizens of rural parish and urban parish.

The objective of the research was to carry out a comparative analysis of the intensity with which the constructs are related between the two theoretical models proposed to measure citizen satisfaction, in the same way, differences in urban parish and rural parish are analyzed, their sensitivity of the quality of public services providing by the Guayaquil City Hall. The analysis allowed us to know the perceived value, the height of satisfaction and citizen loyalty.

Applying the multigroup analysis, there are disparities in citizen perception between the inhabitants of urban parish with the inhabitants of rural parish, the relationships that generate impact also differ between perceived value and satisfaction concerning citizens of urban parish and rural parish; inequalities are also manifested in the levels of loyalty to the authorities in office with urban parish and rural parish.

In the results of the measurements, urban parish are more satisfied than rural parish, with the provision of public services in the Municipality of Guayaquil; this is transferred more excellent roots to the territory and greater loyalty to municipal authorities than rural areas.

The research points to the importance of heterogeneity in establishing public policies, with different propositions for citizens of rural and urban areas [7]. In addition, citizen satisfaction analysis studies contribute relevant information to local governments in designing strategies that generate territorial roots and loyalty to their authorities [1].

Citizens of the rural area of Tenguel, on average, have higher expectations than urban citizens of the Tarqui area. The average of 5.5 for the citizens surveyed in the metropolitan area and 6.8 for the citizens surveyed in the rural area, this in aspects such as territorial planning, roads, public transport, organization and zoning, roads, pedestrian crossings, parking facilities, address information, transportation station services.

On the other hand, when the answers are evaluated based on the perception of the citizens of the urban

area, this subsequent experience of the quality of the detailed aspects of territorial planning results in an average of 4.27, while the perception of citizens of rural areas obtained an average 3.7, the lowest evaluations were in the address information service and parking services [35].

Expected quality in the questions related to the experience of citizens with municipal public services, for inhabitants of the rural area it is greater than the coefficient for inhabitants of the urban area, 5.6 is the average for citizens of the metropolitan area studied of Guayaquil and for citizens of the rural area it is 6.8, in the results it is observed greater propensity of the rural parish in the expectation to the community services providing by the Guayaquil City.

At the time of testing the quality of municipal services, the perception of citizens of the urban area is higher than the perception of citizens of rural areas, services in aspects of sewerage and drinking water, garbage collection, public lighting, funeral services, firefighters and municipal police among others, obtained an average of 4.14 for citizens of urban areas and 3.90 for citizens of rural areas [50].

For questions related to the environmental aspect, the expected quality for citizens of the rural area the average is 6.7, concerning citizens of the urban area they obtained on average 5.4, the results of perceived quality after experiencing aspects such as air pollution, noise pollution, evaluating green places and recycling points was 3.99 for rural area dwellers and 3.85 for urban area dwellers, emphasizing the lowest weighting points to air pollution and recycling points in the metropolitan area [51].

In the points so far reviewed, the expectations of rural citizens in municipal public services are higher than the expectation of citizens of the urban area. Still, once the community services providing by the Guayaquil City Hall have been used, quality perceived in the section of territorial planning and municipal services varies, being higher scored by the citizens of the urban area. The rural area inhabitants rated better in environmental aspects concerning the residents of urban parish; the results obtained influence the causal correlation in perceived value and satisfaction.

Value perceived in this study is the predisposition of citizens to pay their tax burden, reflected in taxes, fees and municipal permits, for the community services providing by the Guayaquil City Hall. The citizens of the urban area had an average of 4.48; the best-rated services were the garbage collection service and the transport terminal. The citizens of the rural area obtained an average of 3.70, and their best-qualified services were the supply of drinking water and the garbage collection service [52].

The levels of general satisfaction of all sections have an average of 5.24 for citizens of the urban area and 4.86 for citizens of the rural area [6], [7]. Loyalty to the elected authorities consulting if they would re-elect him the urban area obtained 4.94, and for the citizens of the rural area, it was 4.41. In contrast, in the recommendation to family and friends to choose the same authority in the urban area, 4.87, in the rural area it is 4.32. Another aspect of loyalty is rootedness to the territory. The urban population obtained 5.01 and rural population 4.61. Constructs of perceived value, satisfaction, and loyalty generally maintain higher averages in urban areas relative to rural areas [1].

The disparity in the intensity of the causal relationships between the models of the urban and rural area is confirmed in this study, the levels of relationship between constructs are positive and significant. However, the influence between constructs in the urban area exceeds the rural one due to the coefficients obtained from the observed variables that constitute each construct.

A restriction of this investigate is the sample, meanwhile they were achieved in a single urban and rural sector of the city of Guayaquil, allowing the application only in territories with similar political, socioeconomic and demographic contexts, in addition, these types of studies yield outcomes that are estimated to be correct in entirely circumstances. Still, additional investigation must be carried out to confirm if citizens' perceptions change with time. The research opens the way to further studies that determine satisfaction and loyalty indices.

References

- [1]. Mitsch, F., Lee, N., & Morrow, E. R. (2021). Faith no more? The divergence of political trust between urban and rural Europe. *Political geography*, 89, 102426. <https://doi.org/10.1016/j.polgeo.2021.102426>
- [2]. Song, H., Feng, D., Wang, R., Tang, S., Ghose, B., Li, G., ... & Feng, Z. (2019). Urban-rural disparity in the utilization of national community-based hypertension monitoring service—results from the China Health and Retirement Longitudinal Study, 2015. *PeerJ*, 7, e7842.
- [3]. Jain, M., Korzhenevych, A., & Hecht, R. (2018). Determinants of commuting patterns in a rural-urban megaregion of India. *Transport Policy*, 68, 98-106. <https://doi.org/10.1016/j.tranpol.2018.04.018>
- [4]. Hult, Å., Perjo, L., & Smith, G. (2021). Shared mobility in rural contexts: Organizational insights from five mobility-as-a-service pilots in Sweden. *Sustainability*, 13(18), 10134. <https://doi.org/10.3390/su131810134>
- [5]. Zhao, P., & Wan, J. (2021). Land use and travel burden of residents in urban fringe and rural areas: An evaluation of urban-rural integration initiatives in Beijing. *Land Use Policy*, 103, 105309.

- [6]. Guo, X., Hu, A., Dai, J., Chen, D., Zou, W., & Wang, Y. (2018). Urban–rural disparity in the satisfaction with public sports services: Survey-based evidence in China. *The Social Science Journal*, 55(4), 455-462. <https://doi.org/10.1016/j.soscij.2018.05.003>
- [7]. Easterlin, R. A., Angelescu, L., & Zweig, J. S. (2011). The impact of modern economic growth on urban–rural differences in subjective well-being. *World development*, 39(12), 2187-2198. <https://doi.org/10.1016/j.worlddev.2011.04.015>
- [8]. Sørensen, J. F. (2014). Rural–urban differences in life satisfaction: Evidence from the European Union. *Regional Studies*, 48(9), 1451-1466. <https://doi.org/10.1080/00343404.2012.753142>
- [9]. Adeel, M. (2018). Travel Behavior variations across urban and rural areas of Pakistan. *TeMA Journal of Land Use, Mobility and Environment*, (01/18), 83-94.
- [10]. Hoogerbrugge, M. M., Burger, M. J., & Van Oort, F. G. (2022). Spatial structure and subjective well-being in North-West Europe. *Regional Studies*, 56(1), 75-86. <https://doi.org/10.1080/00343404.2021.1873261>
- [11]. Phimister, E., Upward, R., & Vera-Toscano, E. (2000). The dynamics of low income in rural areas. *Regional Studies*, 34(5), 407-417. <https://doi.org/10.1080/00343400050058666>
- [12]. McAreavey, R., & Brown, D. L. (2019). Comparative Analysis of Rural Poverty and Inequality in the UK and the US. *Palgrave Communications*, 5(1), 1-10.
- [13]. Yarwood, R. (2005). Beyond the rural idyll: images, countryside change and geography. *Geography*, 90(1), 19-31. <https://doi.org/10.1080/00167487.2005.12094114>
- [14]. Song, M., An, S. H., & Meier, K. J. (2021). Quality standards, implementation autonomy, and citizen satisfaction with public services: cross-national evidence. *Public Management Review*, 23(6), 906-928.
- [15]. McEvoy, S., van de Ven, F. H., Santander, A. G., & Slinger, J. H. (2019). The influence of context on the use and added value of Planning Support Systems in workshops: An exploratory case study of climate adaptation planning in Guayaquil, Ecuador. *Computers, Environment and Urban Systems*, 77, 101353.
- [16]. Polo Almeida, P. (2020). Determinación social de la salud en el territorio: miradas de los trabajadores bananeros en Tenguel (Ecuador). *Revista Ciencias de la Salud (Bogotá)*, 18, 152-173. <https://doi.org/10.12804/revistas.urosario.edu.co/revsalud/a.9073>
- [17]. Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- [18]. Anderson, E. W., & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing science*, 12(2), 125-143.
- [19]. Martensen, A., Gronholdt, L., & Kristensen, K. (2000). The drivers of customer satisfaction and loyalty: cross-industry findings from Denmark. *Total quality management*, 11(4-6), 544-553.
- [20]. Johnson, M. D., Gustafsson, A., Andreassen, T. W., Lervik, L., & Cha, J. (2001). The evolution and future of national customer satisfaction index models. *Journal of economic Psychology*, 22(2), 217-245.
- [21]. Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American customer satisfaction index: nature, purpose, and findings. *Journal of marketing*, 60(4), 7-18. <https://doi.org/10.1177/002224299606000403>
- [22]. Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 17(4), 460-469. <https://doi.org/10.1177/002224378001700405>
- [23]. Bostanci, B., & Erdem, N. (2020). Investigating the satisfaction of citizens in municipality services using fuzzy modelling. *Socio-Economic Planning Sciences*, 69, 100754. <https://doi.org/10.1016/j.seps.2019.100754>
- [24]. Flint, D. J., Woodruff, R. B., & Gardial, S. F. (2002). Exploring the phenomenon of customers' desired value change in a business-to-business context. *Journal of marketing*, 66(4), 102-117. <https://doi.org/10.1509/jmkg.66.4.102.18517>
- [25]. Hult, G. T. M., Sharma, P. N., Morgeson III, F. V., & Zhang, Y. (2019). Antecedents and consequences of customer satisfaction: do they differ across online and offline purchases?. *Journal of Retailing*, 95(1), 10-23. <https://doi.org/10.1016/j.jretai.2018.10.003>
- [26]. Hult, G. T. M., Morgeson, F. V., Morgan, N. A., Mithas, S., & Fornell, C. (2017). Do managers know what their customers think and why?. *Journal of the Academy of Marketing Science*, 45(1), 37-54. <https://doi.org/10.1007/s11747-016-0487-4>
- [27]. Chi, X., Lee, S. K., Ahn, Y. J., & Kiatkawsin, K. (2020). Tourist-perceived quality and loyalty intentions towards rural tourism in China. *Sustainability*, 12(9), 3614. <https://doi.org/10.3390/su12093614>
- [28]. Yi, Y. (1990). A critical review of consumer satisfaction. *Review of marketing*, 4(1), 68-123.
- [29]. Taylor, S. A., & Baker, T. L. (1994). An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions. *Journal of retailing*, 70(2), 163-178. [https://doi.org/10.1016/0022-4359\(94\)90013-2](https://doi.org/10.1016/0022-4359(94)90013-2)
- [30]. Samkar, H., & Alpu, O. (2013). M regression approach for satisfaction of municipality services: the case of Eskisehir. *Quality & quantity*, 47(3), 1629-1637. <https://doi.org/10.1007/s11135-011-9616-9>
- [31]. Oliver, R. L. (1999). Whence consumer loyalty?. *Journal of marketing*, 63(4 suppl1), 33-44. <https://doi.org/10.1177/00222429990634s105>
- [32]. Verhoef, P. C., Franses, P. H., & Hoekstra, J. C. (2001). The impact of satisfaction and payment equity on cross-buying: A dynamic model for a multi-service provider. *Journal of Retailing*, 77(3), 359-378. [https://doi.org/10.1016/S0022-4359\(01\)00052-5](https://doi.org/10.1016/S0022-4359(01)00052-5)
- [33]. Oliver, R. L. (2014). *Satisfaction: A behavioral perspective on the consumer*. Routledge, Taylor & Francis Group. <https://doi.org/10.4324/9781315700892>

- [34]. Puška, A., Pamucar, D., Stojanović, I., Cavallaro, F., Kaklauskas, A., & Mardani, A. (2021). Examination of the sustainable rural tourism potential of the brčko district of bosnia and herzegovina using a fuzzy approach based on group decision making. *Sustainability*, 13(2), 583. <https://doi.org/10.3390/su13020583>
- [35]. Wirtz, B. W., Langer, P. F., Göttel, V., & Thomas, M. J. (2020). Public social media services: A citizen's perspective. *Public Performance & Management Review*, 43(6), 1342-1358. <https://doi.org/10.1080/15309576.2020.1760112>
- [36]. Castillo Canalejo, A. M., & Jimber del Río, J. A. (2018). Quality, satisfaction and loyalty indices. *Journal of Place Management and Development*, 11(4), 428-446. <https://doi.org/10.1108/JPM-D-05-2017-0040>
- [37]. Alkrajji, A., & Ameen, N. (2021). The impact of service quality, trust and satisfaction on young citizen loyalty towards government e-services. *Information Technology & People*, 35(4), 1239-1270. <https://doi.org/10.1108/ITP-04-2020-0229>
- [38]. Yilmaz, V., Ari, E., & Oğuz, Y. E. (2021). Measuring service quality of the light rail public transportation: A case study on Eskisehir in Turkey. *Case Studies on Transport Policy*, 9(2), 974-982. <https://doi.org/10.1016/j.cstp.2021.05.005>
- [39]. Caruana, A. (2002). Service loyalty: The effects of service quality and the mediating role of customer satisfaction. *European Journal of Marketing*, 36(7/8), 811-828. <https://doi.org/10.1108/03090560210430818>
- [40]. Han, H., & Gao, Q. (2020). Does welfare participation improve life satisfaction? Evidence from panel data in rural China. *Journal of Happiness Studies*, 21(5), 1795-1822. <https://doi.org/10.1007/s10902-019-00157-z>
- [41]. Ministerio del Trabajo. (2021). Salario básico para 2021 se mantiene sin cambios, en USD 400 Retrieved from: <https://www.primicias.ec/noticias/economia/salario-basico-ecuador-2021-igual-ecuador/> [accessed: 30 September 2022].
- [42]. Hulme, A., Stanton, N. A., Walker, G. H., Waterson, P., & Salmon, P. M. (2022). Testing the reliability and validity of risk assessment methods in Human Factors and Ergonomics. *Ergonomics*, 65(3), 407-428. <https://doi.org/10.1080/00140139.2021.1962969>
- [43]. Alonso-Garcia, J., Pablo-Martí, F., Núñez-Barriopedro, E., & Cuesta-Valiño, P. (2022). Digitalization in B2B marketing: omnichannel management from a PLS-SEM approach. *Journal of Business & Industrial Marketing*, (ahead-of-print). <https://doi.org/10.1108/JBIM-09-2021-0421>
- [44]. Franco, V. R., Laros, J. A., Wiberg, M., & Bastos, R. V. S. (2022). How to think straight about psychometrics: Improving measurement by identifying its assumptions. *Trends in Psychology*, 1-21. <https://doi.org/10.1007/s43076-022-00183-6>
- [45]. Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43(1), 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- [46]. Schmiedel, T., Vom Brocke, J., & Recker, J. (2014). Development and validation of an instrument to measure organizational cultures' support of Business Process Management. *Information & Management*, 51(1), 43-56. <https://doi.org/10.1016/j.im.2013.08.005>
- [47]. Laporte, F., Charcosset, A., & Mary-Huard, T. (2022). Efficient ReML inference in variance component mixed models using a Min-Max algorithm. *PLoS computational biology*, 18(1), e1009659. <https://doi.org/10.1371/journal.pcbi.1009659>
- [48]. Liu, H., & He, Q. (2019). The effect of basic public service on urban-rural income inequality: a sys-GMM approach. *Economic research-Ekonomska istraživanja*, 32(1), 3205-3223. <https://doi.org/10.1080/1331677X.2019.1661005>
- [49]. Suparman, Y., Folmer, H., & Oud, J. H. (2016). The willingness to pay for in-house piped water in urban and rural Indonesia. *Papers in Regional Science*, 95(2), 407-426. <https://doi.org/10.1111/pirs.12124>
- [50]. Tran, C. T. T. D., & Dollery, B. (2022). An Empirical Analysis of Administrative Scale Economies in Victorian Local Government. *Public Administration Quarterly*, 46(2), 89-109. <https://doi.org/10.1111/1467-8500.12421>
- [51]. Gibson, J. M., Rigby, D., Polya, D. A., & Russell, N. (2016). Discrete choice experiments in developing countries: willingness to pay versus willingness to work. *Environmental and Resource Economics*, 65(4), 697-721. <https://doi.org/10.1007/s10640-015-9919-8>
- [52]. Ochoa Rico, M. S., Vergara-Romero, A., Subia, J. F. R., & Del Río, J. A. J. (2022). Study of citizen satisfaction and loyalty in the urban area of Guayaquil: Perspective of the quality of public services applying structural equations. *PloS one*, 17(2), e0263331. <https://doi.org/10.1371/journal.pone.0263331>