Wolniak, R., Jonek-Kowalska, I. (2021). The quality of service to residents by public administration on the example of municipal offices in Poland. *Administratie si Management Public,* 37, 132-150. DOI: 10.24818/amp/2021.37-09

The quality of service to residents by public administration on the example of municipal offices in Poland

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Abstract: *Currently, at a time when the Smart City concept is aimed at improving the quality of life of residents and being implemented in cities, the role of measuring the functioning of offices in relation to the customer is growing. The publication presents the results of research on the quality of service to residents by public administration on the example of municipal offices in Poland. The aim of the research, resulting from the identified research gap, was to examine the level of customer service quality in Polish municipal offices and to determine whether monitoring the quality of life and the quality of public services provided affect the quality of customer service. The research was carried out on a wide sample of 287 cities located around Poland, the sample was selected at random. The sample was good in such a way as to maintain the structure by province. The survey included questions rated on a 5-point Likert scale. The conducted research shows that there are no statistically significant differences in the level of customer service quality by municipal offices between individual provinces of Poland. Based on the research, it was found that: the existence of a quality-of-life department in the city has a positive impact on the quality of customer service in the office; monitoring the quality of life of residents and the quality of public services provided by the municipal office has a positive impact on the quality of customer service in the office, the implementation of the ISO 37120 standard by the municipal office has a positive impact on the quality of customer service in the city. A particularly high correlation occurs in the case of the impact of monitoring the quality of customer service.*

Keywords: service quality, Smart City, quality of life, public management, municipal office, public quality

JEL: O18, L15, H83

DOI: 10.24818/amp/2021.37-09

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Introduction

Implementation of the development of modern cities through implementation of the Smart Cities concept not only requires the implementation of technical aspects of the city's functioning, but also the basic level of ensuring the appropriate level of services provided (McCarney, 2015; Meijer and Bolivar, 2016). This is a basic element, because in order for a resident to be satisfied with the detailed services provided by the city in the case of a Smart City, they must be provided with an appropriate level of service quality by municipal offices (Caragliu et al., 2011; Ahvenniemi, 2017; Albino et al., 2015; Hajduk and Litavniece, 2019). In this context, it is important to research this level of quality as well as the factors that may influence it.

The level of customer service quality with services is usually measured with the use of survey methods, which use one of the methods of operationalization of variables specific to the area under study. The specific way of operationalization depends on what area is being studied as well as on the goals of the particular research.

In the analyzed literature on the subject, one can rarely come across more comprehensive studies of the quality level of services provided by municipal offices, especially on a large sample, representative for the entire country. Existing research usually focuses on measuring the quality level of services, while only to a small extent consider the factors that influence this quality measurement (Mokhlis et al., 2011; Ramseook-Munhurrun, 2010; Kwateng et al., 2017; Zabri et al., 2016). In particular, the impact of monitoring the quality of life and customer service level as well as the implementation of quality of life monitoring standards on the level of customer service in municipal offices was not analyzed. The problem seems to be an interesting research gap, because by performing this type of analysis, one can try to empirically prove that methods of monitoring the quality of services, e.g. by means of resident surveys, actually work and contribute to the improvement of customer service. This kind of empirical confirmation in research conducted on a large group of offices is an important argument for the city authorities that such tools are worth using.

The aim of the research, resulting from the identified research gap, was to examine the level of customer service quality in Polish municipal offices and to determine whether monitoring the quality of life and the quality of public services provided affect the quality of customer service.

To achieve the research goal, the following research questions were asked:

- What is the subjective level of customer service quality in Polish cities and are there statistically significant differences in this respect between individual provinces?
- Is there a correlation between the use of monitoring of the quality level of life and the level of quality of services provided, and the quality of customer service in the surveyed municipal offices?

For these purposes, the following research hypotheses were defined:

- H1. There are statistically significant differences between the level of customer service quality in individual provinces.
- H2. The existence of a department examining the quality of life in cities has a positive impact on the quality of customer service in the municipal offices surveyed.
- H3. The office's monitoring of the quality of life of residents and the quality of public services provided has a positive impact on the quality of customer service in the municipal offices surveyed.
- H4. Implementation of the ISO 37120 standard by the office has a positive impact on the quality of customer service in the municipal offices surveyed.

1. Literature review

In recent years, one can notice a trend towards wider and wider coverage of issues in the field of Smart Cities by both management theorists and practitioners. In the literature on the subject, you can find analyses of articles published in the years 1991-2021 in international databases on Smart Cities (Winkowska et al., 2019; Guo et al., 2019; Gupta et. al., 2019; Androniceanu, 2019), sustainable cities (Janik et al., 2020; Jonek-Kowalska et al., 2018; Janik and Ryszko, 2018; Hajduk, 2017; Hajduk, 2018; Coccia, 2014; Yigitcanlar et al., 2019), and related topics, analyzed using keywords. Their analysis shows that over the last 30 years the number of publications on Smart Cities and the number of citations on this issue has increased (Kourti and Nijkamp, 2012). In particular, after 2010, one can notice that this trend accelerated.

In terms of the issues of Smart Cities, an important role is played by the issues of measuring the quality of services provided by public administration. These issues are derived from research into service quality and service quality measurement. In the case of physical goods, their quality can be directly examined by testing them. However, the classic methods of quality control used for physical goods, e.g. in production quality management, are not directly applicable when it is necessary to measure the quality of service.

Service quality measurement methods were developed by Parasurman and his team in 1985. The model was based on a study of gaps in the difference between perceived quality and expected quality (Parasurman et al., 1985). The model was later used in many variants and improved. In particular, instead of the original model, some authors used it in the SERVPREV version, where only perceived quality was measured (Jain and Gupta, 2004; Kilbourne et al., 2004).

In particular, initially, methods of measuring service quality were applied to banking services (Jamal, and Nsaer, 2002; Johnston, 1997; Newman, 2001; Othman and Ismail, 2008). Successively, the methods used to measure the quality of services were used in other industries, wherever there was a need to assess the

quality of services provided. Depending on the type of research, the original concept of Pasarurman was sometimes used, but it was often adapted to the specifics of certain research. Among others, research has been conducted on the measurement of quality in health care (Kilbourne et al., 2004; Zigdon et al., 2020), in hotels (Ramsaran-Fowdar et al., 2007), in tourism (Nowacki, 2005; Yoon and Cha, 2020), in public transport (Liong et al., 2007; Jomnkwao et al., 2020), in a library (Ahmed et al., 2009), a courier company (Zisis et al., 2009), the police (Donelly et al., 2006), in the conditions of industry 4.0 (Saniuk, 2020) or people with disabilities (Wolniak, 2016, Wollniak and Skotnicka-Zasadzień, 2016).

Service quality management specialists distinguish different methods and approaches to service quality management, such as: analysis of service performance measurement using various measures, analysis of customer satisfaction or the analysis of employees and how they assess the quality of services provided to the customer (Ramya et al., 2019; Ciobanu et al., 2019). Each of these approaches can be classified as so-called soft methods of measuring the level of service quality. Apart from them, there are also hard methods, in which an attempt is made to approach the problem from the perspective of the analysis of these factors, which can be measured using physical indicators, e.g. queuing time, delays in the implementation of a given service, service time, etc.

Service quality researchers distinguish five basic dimensions of service quality (Ramya et al., 2019; Wetzel et al., 2020):

- reliability – the ability to perform a promised service accurately and dependably,
- responsiveness – the willingness to help a particular customer in a process and provide them with a prompt service,
- assurance – employee knowledge, courtesy and the ability of the organization and its employees to inspire trust and confidence in customers,
- empathy – defined as caring, with an individualized approach to customers by the organization,
- tangibility – the appearance of physical facilities, equipment, communication materials and technology.

Research on the quality of services has shown that differences in the service provided and its efficiency lead to a change in the level of customer satisfaction (Al.-Azzam, 2015). Satisfied customers buy more products, which leads to an improvement in the market position and an increase in the profit of the organization.

This approach was correct but it applied to commercial organizations. However, after 2000, the concept of measuring the quality of services began to be applied in the case of public services. Some of the concepts could be directly transferred from the commercial sector, but they had to be adapted to the specificity of public services.

Improving the quality of functioning of public administration and the process of its improvement means designing and implementing effective standards

and rules of operation, combating manifestations of corruption and improving the effectiveness and efficiency of the functioning of a given institution (Alonso et al., 2016; Raisiene et al., 2019). This requires leaving the bureaucratic model of public administration behind and replacing it with the new public management model. Naschold and von Otter characterize the following features of new public management: separating the roles of the customer and recipient of the service from the service provider, promoting the contracting of public services, focusing on achieving results, making wages and working conditions more flexible (Naschold and Otter, 1996). Such an approach also required the development of methods for measuring the quality of the services provided.

A public service, like other services, has an intangible, non-permanent dimension, which means that it cannot be stored. It is also characterized by inseparability (it is provided and consumed at the same time), diversity (it is different each time despite the existence of standards, even when it is provided by the same person). In the case of public services, the methods of measuring their quality were both applied to issues related to the public administration itself and the functioning of municipal services, such as public transport (Mikhalov et al., 2015).

When talking about the dimensions of the quality of public services, one can define the basic factors of the quality of public services. They were first defined by Sancho (Sancho, 1999) and then developed by other specialists. In particular, the following factors are mentioned (Rodriguez, 2009):

- access to service,
- communication level,
- an understandable administrative system,
- the ability to provide a flexible and speedy replay,
- receptivity to services,
- competence of the staff that supplies services,
- politeness and kindness of the administration staff,
- credibility in service quality,
- reliability and responsibility in the service supply,
- supply security and quality of tangible aspects.

In the process of improving the quality of public services provided, a very important factor is the involvement of employees and their professionalism. Customers require efficient, professional and friendly assistance. The assessment of the level of service quality is also influenced by such factors as their availability, information, competences of the service providers, responsibility, reliability, honesty as well as the knowledge of buyers' needs. The quality of the service provided by public administration institutions is an important factor that shapes the prestige and authority of an official.

2. Methodology of research

The research, the results of which were used in the development of this article, were carried out at the turn of 2019/2020 by a professional research agency at the request of the Faculty of Organization and Management of the Silesian University of Technology in Gliwice. The research questionnaire, developed by the authors of the publication, was provided to the agency. The research was carried out in 287 cities located in Poland, the sample selection was done through a random method. The sample was selected to maintain the structure of the sample by provinces. The research was carried out using a questionnaire placed on the Internet, to which the link was sent to representatives of Polish cities. The survey included questions rated on a 5-point Likert scale.

As a result of the research, 287 correctly completed questionnaires were received. The distribution of the sample by individual provinces was as follows: Dolnośląskie – 27; Kujawsko-Pomorskie – 16; Lubelskie – 15; Lubuskie – 13; Łódzkie – 13; Małopolskie – 19; Mazowieckie – 26; Opolskie – 11; Podkarpackie – 15; Podlaskie – 12; Pomorskie – 15; Śląskie – 21; Świętokrzyskie – 13; Warmińsko-Mazurskie – 15; Wielkopolskie – 34, Zachodniopomorskie – 20.

The aim of the research was to determine the level of quality of customer service (residents) by municipal offices and whether the monitoring of the quality of life carried out by the office has an impact on the quality of customer service.

In the first part of the research, the level of customer service by municipal offices was measured. For this purpose, a survey questionnaire was developed, based on the literature on the subject of researching and measuring the quality of customer service (Ramseook-Munhurrun, 2010; Zabri et al., 2016; Kwateng, 2017; Rodrigiez et al., 2009; Mikhlis et al., 2011; Zisis et al., 2009) and the expert method. As a result of the analyses, 18 variables were identified, which were used to measure the quality of services provided to residents in the city. Individual variables were measured on a five point scale of 1-5, where 1 is very bad and 5 is very good.

The following variables were included in the research:

- C1 – The municipal office has modern IT and office equipment (computers and other equipment).
- C2 – The municipal office is conveniently located (easy to get to).
- C3 – The municipal office has sufficient parking spaces.
- C4 – The municipal office has attractive and eye-catching guide books and leaflets.
- C5 – The municipal office has a well-developed website.
- C6 – The website of the municipal office is constantly updated.
- C7 – The municipal office is renovated and well maintained.
- C8 – The municipal office communicates with customers via social media.
- C9 – The municipal office is also open in the afternoon and during the weekend.

- C10 – The municipal office handles administrative matters properly the first time round.
- C11 – The municipal office informs the customer on an ongoing basis about the progress of their case.
- C12 – Municipal office employees perform a given service on time.
- C13 – Municipal office employees willingly and competently provide information to customers.
- C14 – Municipal office employees quickly reply to emails.
- C15 – Municipal office employees inspire confidence.
- C16 – Municipal office employees take care of the protection of customers' personal data.
- C17 – Municipal office employees are always polite and kind to customers.
- C18 – Municipal office employees should continue to provide service until the last customer, even when the office's working time is coming to an end.

The research also assessed whether the municipal office monitors the quality of life and the quality of customer service in the city. For this purpose, the following four variables were used:

- M1 – In the city's public administration, there is a person / department dealing with the quality of life in the city (monitoring, identification of expectations, improving the quality of life)
- M2 – The city administration periodically monitors the quality of the life of residents via surveys
- M3 – The city administration monitors the quality level of public services provided (provided by local public administration)
- M4 – The city has implemented the ISO 37120 standard. Sustainable social development – Indicators of urban services and the quality of life

Statistical tools were used to analyze the data collected in the research. Basic statistical measures, such as standard deviation and median, were calculated for individual variables (Donelly, 2019). In the case of individual variables, their histograms were also analyzed. The calculations were made using the Statistica 13 package.

The nonparametric ANOVA Kruskall-Wallis test was used to analyze the differences between individual provinces. This test is a nonparametric alternative to the one-way analysis of variance. It is used to compare the distributions of several variables. The Kruskall-Wallis one-way analysis of variance on ranks has been described by Kruskall and Wallis (Kruskal and Wallis, 1952). It is an extension of the nonparametric U-Mann-Whitney test to more than two populations.

The Spearman correlation coefficient method was used to analyze the relationship between the variables (Spiegehalter, 2019; Meyer, 2019). For the interpretation of the correlation coefficient, the classification of the correlation coefficient proposed by Guilford was used.

3. Results and discussion

The results of the research on the quality levels of customer service variables for each of the studied variables C1-C18, along with the levels of standard deviation and median values, are presented in Table 1. Based on the collected data for individual cities, the customer service quality index (QC) was calculated, which is the arithmetic mean of all the studied variables C1-C18. The distribution graph of the indicator is also shown in Figure 1.

Table 1. The level of customer service quality in Polish municipal offices

Variables	Average	Standard deviation	Median
C1	3.56	1.04	4.00
C2	3.79	0.95	4.00
C3	3.93	0.81	4.00
C4	4.15	0.70	4.00
C5	3.17	1.20	3.00
C6	3.45	0.98	4.00
C7	3.94	0.87	4.00
C8	4.16	0.73	4.00
C9	3.83	0.98	4.00
C10	3.93	1.05	4.00
C11	2.73	1.30	3.00
C12	3.91	0.79	4.00
C13	3.67	0.97	4.00
C14	4.07	0.66	4.00
C15	4.21	0.75	4.00
C16	3.90	0.84	4.00
C17	4.09	0.77	4.00
C18	4.37	0.67	4.00
QC	**3.82**	**0.58**	**3.83**

(*Source*: Author's own research)

Data analysis for individual examined variables shows the existence of large differences between them, from a below average to an above good level. The respondents concluded that the surveyed municipal offices have IT and office equipment at a level of 3.56, with a median of 4. The location of the office and the possibility of getting to it were scored even better (3.79 at a median of 4). The number of parking spaces owned by the office was also scored as good by the respondents (score 3.93, median 4). The situation is slightly different in the case of researching customers with disabilities. In such a situation, as the research conducted by Wolniak shows, issues related to parking spaces, their availability and the location of the office are usually scored much worse (Wolniak, 2016; Wolniak and Skotnicka-Zasadzień, 2018; Wolniak et al., 2019)

The respondents scored the information guides and advertising materials prepared by the office above good (4.45, median 4). Research shows that offices are able to prepare advertising materials well in order to attract the attention of potential investors and residents. On the other hand, the image of the office on the Internet is worse, as the office's website was scored by the respondents at a level of 3.17 (with a median of 3). Issues with the website being updated were also scored with an average (3.45, median 4).

Material issues concerning the appearance of the office building, its renovation and well maintained appearance were scored at a higher level. In this case, the score was 3.45 (median 4).

The communication of offices with the use of social media was assessed high (score 4.16, median 4). Nowadays, all offices in Poland actively run Facebook pages, and many are also present in other social media, such as Instagram or Twitter. It is clearly visible that in this area offices try to follow the trends of modern communication and use tools that ensure quick and direct contact with residents.

The office opening hours were scored at 3.83 (median 4), which is almost good. In recent years, many municipal offices in Poland, in order to meet the expectations of residents, have introduced longer opening hours on some days, making it easier for people working full-time to settle matters. Also a positive score concerns the handling of administrative matters the first time round (3.93, median 4).

The worst situation occurs when the office informs customers about the ongoing implementation of its case. In this situation, the score was the lowest of all the studied variables and amounted to 2.73 (median 3). A similar situation occurs in the case of other world studies, e.g. problems with the speed of information are noted by Ramseook-Munhurrun when examining the quality of public services in Egypt (Ramseook-Munhurrun, 2010). Offices should use modern communication channels (emails, social networks, etc.) to a much greater extent to inform the customer about the case. It would be optimal if each resident could check the progress in the implementation of a given case using customer accounts on e-administration sites. This possibility of accessing the course of online cases is technically possible, therefore offices should implement it in the future or expand the existing possibilities, as some offices in Poland already have such possibilities in the field of matters handled by e-administration.

On the other hand, issues related to the timely provision of services are assessed positively – the score is 3.91 (median 4). The respondents estimate that in most cases the surveyed offices keep the deadlines for official resolving of the case, imposed on them by legal requirements. Kwateng in his research conducted in Ghana also pointed out that officials quickly try to resolve the customer's matters, while problems occur in meeting deadlines (Kwateng et al., 2017). Similar results were obtained by Zabri in Malaysia (Zabri et al., 2016).

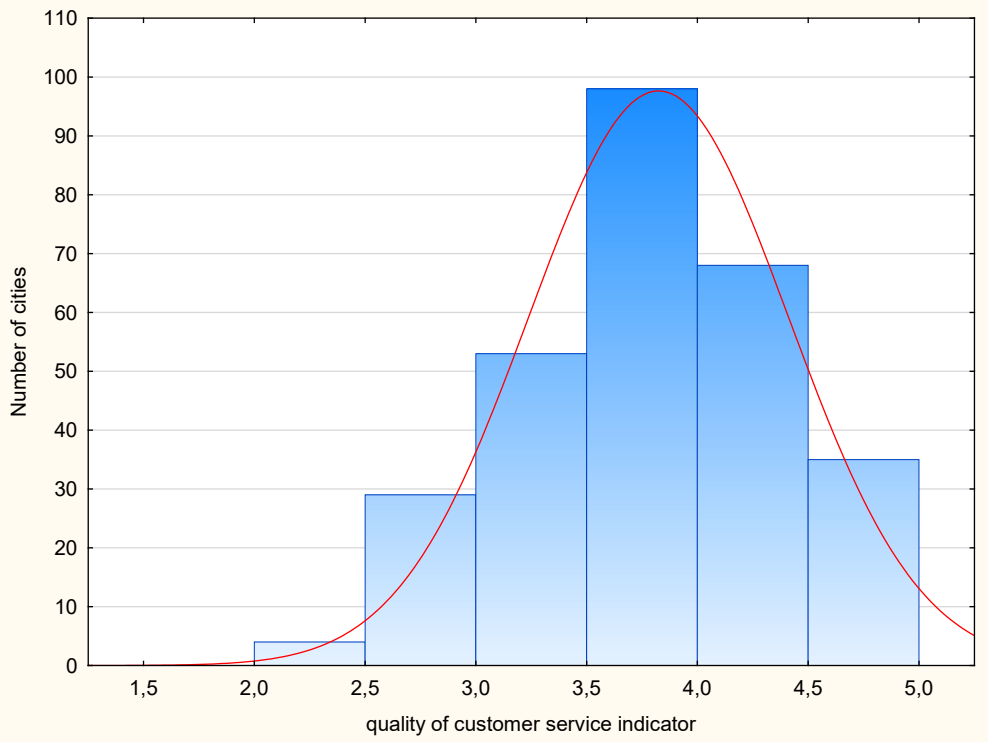
The willingness of officials to provide information to customers and their competences were assessed a little worse, but still at a relatively high level – a score of 3.67 (median 4). It is important because competent and friendly officials

later have a great impact on the positive image of the office's work among residents.

The respondents positively assessed the speed of response to emails by office employees (score 4.07 with a median of 4). Likewise, the respondents assess the trust of employees at a good level (score 4.21 with a median of 4) and taking care of the protection of residents' personal data (score 3.9, median 4). In particular, the issue of adequate protection of personal data is very important today due to the relevant legislation (GDPR provisions) as well as the high level of risk that occurs when the office's computer system is connected to the Internet or when using social networking sites. Data risk in social media was already noticed almost 10 years ago by He (He, W., 2012). Currently, this issue is more and more often discussed in publications (Kumar and Somani, 2018; Pollak and Marković, 2021)

The other two variables were also assessed as good by the respondents. They found that municipal office employees are polite and friendly towards the customer (score 4.09, median 4), as well as that they continue providing service to the last customer even if the office's working time is coming to an end (score 4.37, median 4). It is worth paying attention to the last variable – because it is assessed the highest among all the examined variables concerning the level of the quality of life.

Figure. 1. Histogram for the variable quality of customer service indicator



(*Source*: Author's own research)

The conducted research shows that the total indicator of the quality of customer service is at a relatively high level of 3.82 on a five point scale. Figure 1 shows the distribution histogram for the customer service quality indicator. The data shows that the respondents scored the level of customer service quality in most cases at a level between 3 and 4.5 on a five point scale, i.e. between average and very good. The highest number of scores is in the 3.5-4 range, which includes 98 surveyed cities. The graph is left skewed – more cities have a positive than a negative assessment, this is due to the nature of the research carried out using the self-assessment questionnaire, and as shown in the literature, in the case of self-assessment research, there is always a tendency to overly positive assessments (Schulte and Hallsted, 2018; Lee and Quazi, 2001). The 35 surveyed cities belong to the highest level of customer service quality assessment. A score below level 3, considered to be an average quality of customer service, occurs relatively rarely, nevertheless, in the case of 29 cities, the score was in the range of 2.5-3, and for 4 cities, the average score was in the range of 2-2.5.

Table 2. Assessment of customer service quality variables in municipal offices in Poland by province

	Province																
Variable	**Dolnośląskie**	**Kujawsko-Pomorskie**	**Lubelskie**	**Lubuskie**	**Łódzkie**	**Małopolskie**	**Mazowieckie**	**Opolskie**	**Podkarpackie**	**Podlaskie**	**Pomorskie**	**Śląskie**	**Świętokrzyskie**	**Warmińsko-Mazurskie**	**Wielkopolskie**	**Zachodniopomorskie**
1	.44	.50	.53	.54	.77	.74	.69	.55	.40	.00	.33	.62	.00	.60	.29	.95
2	.89	.06	.73	.77	.46	.21	.54	.64	.67	.67	.13	.05	.38	.00	.38	.20
3	.93	.00	.60	.08	.08	.63	.08	.91	.13	.58	.20	.10	.92	.20	.47	.25
4	.93	.17	.87	.23	.23	.89	.23	.00	.40	.92	.27	.43	.38	.40	.91	.35
5	.78	.94	.00	.23	.08	.68	.31	.00	.07	.08	.60	.48	.54	.00	.03	.30
6	.48	.50	.20	.62	.69	.32	.81	.45	.33	.75	.93	.71	.23	.47	.03	.70
7	.07	.17	.80	.15	.23	.79	.04	.82	.93	.50	.13	.95	.00	.20	.50	.00
8	.22	.33	.13	.15	.08	.11	.23	.00	.27	.83	.47	.14	.46	.33	.79	.25
9	.89	.22	.40	.62	.85	.21	.04	.45	.87	.92	.13	.71	.92	.93	.74	.15
10	.00	.33	.07	.85	.92	.47	.12	.18	.93	.58	.40	.19	.69	.87	.68	.20

	Province																
Variable	**Dolnośląskie**	**Kujawsko-Pomorskie**	**Lubelskie**	**Lubuskie**	**Łódzkie**	**Małopolskie**	**Mazowieckie**	**Opolskie**	**Podkarpackie**	**Podlaskie**	**Pomorskie**	**Śląskie**	**Świętokrzyskie**	**Warmińsko-Mazurskie**	**Wielkopolskie**	**Zachodniopomorskie**
11	.07	.28	.07	.92	.77	.37	.62	.45	.00	.67	.13	.38	.54	.33	.24	.85
12	.96	.11	.87	.92	.92	.95	.04	.91	.87	.58	.93	.19	.00	.87	.62	.85
13	.81	.78	.40	.62	.85	.63	.65	.45	.73	.17	.80	.71	.77	.80	.56	.80
14	.07	.06	.33	.92	.08	.00	.19	.00	.13	.58	.93	.38	.23	.13	.88	.15
15	.15	.17	.40	.08	.00	.05	.19	.09	.13	.67	.27	.52	.46	.33	.15	.45
16	.70	.94	.00	.85	.08	.84	.81	.64	.07	.33	.07	.24	.92	.07	.76	.10
17	.11	.06	.07	.15	.08	.00	.15	.09	.13	.75	.20	.38	.31	.00	.76	.30
18	.37	.33	.53	.31	.23	.37	.27	.00	.47	.00	.47	.48	.62	.27	.38	.60
C	.83	.94	.72	.83	.85	.68	.89	.65	.86	.48	.08	.04	.85	.93	.57	.03

(*Source*: Author's own research)

The next table (Table 2) compares the values of individual variables from the point of view of the surveyed provinces. The nonparametric ANOVA Kruskall-Wallis test was used to analyze the differences between the variables. Based on the test results, it can be concluded that statistically significant differences (at the level of statistical significance $\alpha = 0.05$) occur for the following variables: C1, C2, C3, C6, C11.

The conducted research and data analysis do not support the H1 hypothesis concerning the occurrence of statistically significant differences between individual provinces in terms of the quality of customer service. The correlation was only found for 5 variables, but not for the remaining ones and for the total customer service quality indicator. On this basis, it can be concluded that there are no statistically significant differences in the level of customer service quality between cities located in individual provinces. Services provided by public administration have a similar quality standard regardless of the part of the country in which the office operates

In the next stage of the research, a correlation was calculated between the monitoring by a given municipal office of indicators concerning the quality of life and the quality of public services provided and the presented level of customer service quality. (C1-C18). Since both variables are qualitative variables on the 1-5

order scale, the Spearman rank correlation coefficient was used to determine the relationship between them. Results of the relevant correlations are presented in Table 3. It shows in bold those correlations that are statistically significant at a significance level of $\alpha = 0.01$.

Table 3. Assessment of the examined quality of life variables in Polish cities

Variables	M1	M2	M3	M4
C1	**0.36**	**0.31**	**0.40**	**0.34**
C2	**0.30**	**0.26**	**0.33**	**0.29**
C3	**0.21**	**0.17**	**0.30**	**0.30**
C4	**0.22**	**0.16**	**0.31**	**0.33**
C5	**0.08**	**-0.08**	**0.12**	**0.03**
C6	**0.23**	**0.22**	**0.42**	**0.40**
C7	**0.17**	**0.09**	**0.43**	**0.35**
C8	**0.19**	**0.12**	**0.43**	**0.47**
C9	**0.12**	**0.16**	**0.36**	**0.31**
C10	**0.16**	**0.24**	**0.45**	**0.47**
C11	**0.34**	**0.25**	**0.45**	**0.36**
C12	**0.23**	**0.16**	**0.39**	**0.37**
C13	**0.27**	**0.26**	**0.45**	**0.36**
C14	**0.15**	**0.15**	**0.37**	**0.34**
C15	**0.21**	**0.17**	**0.42**	**0.36**
C16	**0.24**	**0.22**	**0.28**	**0.33**
C17	**0.23**	**0.11**	**0.41**	**0.35**
C18	**0.26**	**0.20**	**0.39**	**0.35**
QC	**0.32**	**0.25**	**0.55**	**0.48**

(*Source*: Own study)

When interpreting the presented correlations, the classification of the correlation coefficient proposed by Guilford (Guilford, 1965) was used. According to it, the correlations in the range of 0.51-0.7 are defined as high and in the range of 0.3-0.5 as average.

The research shows that there is a statistically significant correlation with an average value of 0.32 between the existence of a department in the city or an individual dealing with the issues of quality of life and the level of quality provided by the municipal office. The results support the H2 hypothesis of the existence of a positive impact on the level of customer service quality in a situation where the office has a department dealing with quality of life issues.

The relationship can be expressed as the following equation:

Customer service quality level indicator = 3.52 + 0.167*M1

The research shows the need to monitor the quality of life in the city. Thanks to detailed data on the functioning of the city and the satisfaction of its residents, it is possible to introduce improvement actions to improve the functioning of the office. This is confirmed by the analysis of subsequent dependencies.

The obtained results support the H3 hypothesis because statistically significant correlations were noticed between the customer service quality indicator and the monitoring of the quality of life of residents, amounting to 0.25, and between the customer service quality indicator and the monitoring of the quality of public services, amounting to 0.55. In particular, in the latter case, according to the adopted Guilford's classification, one can talk about the existence of a high correlation between the variables. The results indicate a very high importance of the detailed monitoring of the quality level of public services provided by the office. The data obtained from them constitutes a very important element in improving the quality of the office's work.

The dependencies can be expressed in the form of the following equations:

Customer service quality level indicator = 3.5589 + +0.1207*M2

Customer service quality level indicator = 3.2116 + +0.2464*M3

The research also allowed to obtain data supporting the H4 hypothesis. The data supports the hypothesis on the existence of a positive correlation between the fact that an office has the implemented ISO 37120 standard and the quality level of services provided by the municipal office. The correlation coefficient between the variables is 0.48.

The relationship is expressed by the following equation:

Customer service quality level indicator = 3.1914 + 0.219*M4

The obtained results indicate that both the quality of services and the level of customer service should be frequently monitored. Other researchers had similar conclusions, such as Mokhlis conducting research on the satisfaction of residents in Thailand (Molhlis et al., 2011).

4. Conclusion

The conducted research shows that there are no statistically significant differences in the level of customer service quality by municipal offices between individual provinces of Poland. The collected data did not support the H1 hypothesis of this kind of difference. The level of quality of services provided by municipal offices is similar throughout the country. As it is also quite high (3.8 on a five point scale), it is good proof of the compatibility of services and compliance with the applicable procedures throughout the country.

A positive assessment of the level of customer service quality in the surveyed cities does not mean that there are no areas for improvement. In the first place, the variable for which the value of the quality level was below 3 should be corrected, i.e. informing the customer about the progress of the case on an ongoing basis. The use of e-administration and the possibility of remote monitoring of the case by the resident can be recommended here. Subsequently, the improvement of service quality may focus on the variables obtained by the values in the 3-3.5 range.

A very important element of improving the quality of services should be various methods of monitoring this level of quality, whether it is the overall quality

of life in the city, or the direct level of customer service in the office. The obtained results positively supported all three H2-H3 hypotheses concerning the studied issues. Based on the research, it was found that:

- The existence of a department examining the quality of life in the city has a positive impact on the quality of customer service in the office.
- The monitoring of the quality of life of residents and the quality of public services provided by the municipal office has a positive impact on the quality of customer service in the office.
- The implementation of the ISO 37120 standard by the municipal office has a positive impact on the quality of customer service in the city.

A particularly high correlation occurs in the case of the impact of monitoring the quality of customer service. The conducted research has shown that monitoring the level of service is justified and actually contributes to the improvement of service quality. Offices that monitor their functioning, quality of life and satisfaction of their residents better and more often are able to use the collected data to improve their processes. There is a positive feedback loop between the measurement of a given phenomenon and the identification of problems and its improvement. Conversely, when offices do not use quality of life monitoring or resident satisfaction surveys, they provide services at a considerably lower level.

Demonstrating the existence of this relationship on a large sample of surveyed offices is an original contribution of the authors of the publication. It shows an important recommendation for municipal offices that do not yet monitor their services to implement such tools. Only then will they be able to enter the described feedback loop and improve the quality of the services provided.

The studies presented in this publication have their limitations. The first limitation was the fact that they were conducted in one country – Poland. The results of research on the level of quality of services provided by offices in other countries may be different. Nevertheless, it seems that high values of statistical significance in the case of the H2-H4 hypotheses suggest that in other countries such a relationship between the implementation of various methods of measuring the quality of life and functioning of the office and the quality of services provided is also very likely. Additionally, the method of operationalization of the variables used, resulting from the analysis of the literature, the authors' experience and the application of the expert method, was only one of the possible methods. A different operationalization of the variables could change the detailed results of the considerations, nevertheless it seems that it would not change the main conclusion of the study.

Authors Contributions

The authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

Conflict of Interest Statement

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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