



## QUALITY APPROACH TO THE SUSTAINABILITY OF PUBLIC TRANSPORT

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**Abstract.** Transport is an essential part of national economic, social and sustainable development that can produce both positive and negative effects on the environment and the quality of life depending on the level of development and indicated preferences. Modern interpretations of sustainable urban development require reducing the use of private cars through improving the quality of public transport services. Therefore, identifying the inefficiencies of the public transport system will help with improving service management, expanding coverage and increasing the attractiveness of public transport services. There is a general agreement that excellent customer service is a source of competitive advantage. The key to providing effective customer service is the accurate determination of the customer's needs and response to them in a consistent manner in order to assure their satisfaction. The SERQUAL model was employed as an instrument to measure customer satisfaction and give valuable information and guidelines for transport service companies on necessary improvements in their daily operations. The SERQUAL approach, in case service quality is defined and measured as the difference between expectations and perceptions, is the major point of departure from the previous attempts to find possible solutions to improving public transport services.

**Keywords:** sustainable development, public transport, urban mobility, service quality, customer satisfaction, SERQUAL.

### 1. Introduction

Transport is the backbone of European economy, accounting for about 7% of GDP and more than 5% of the total employment in the EU. As network industry, transport requires elements such as infrastructures, vehicles, equipment, ICT applications and operational procedures to interact smoothly in order to move people and goods efficiently (European Commission 2009). If not developed sustainably, it imposes significant costs on society in terms of environmental and health impacts. Therefore, transport is one of the key sectors in urban development and in many cases it reflects national socio-economic development level.

As transport could not be separated from national socio-economic development, it must be developed sustainably or otherwise it will impose significant costs on society in terms of health and environmental impacts. *From the environmental point of view*, noise is a relevant problem closely linked with an increasing number of vehicles that is a common feature at the national and worldwide level. Traffic-generated noise accounts for 60÷80% of noise prevailing in towns. It has a negative effect in all urban territories, including residential areas, hospitals, sanatoriums, recreation areas, town centres,

utility and industrial territories. Therefore, recent citizens' complains about the level of noise have been constantly increasing (Baltrėnas *et al.* 2010; Gražulevičienė, Bendokienė 2009; Vaišis, Januševičius 2009; Leipus *et al.* 2010; Paulauskas, Klimas 2011).

Energy is another very important issue to be discussed. The world experiences energy crises and expresses concern for environmental issues. Thus, the mobility factor also plays a very important role in this field. According to data provided by the European Environment Agency (2010), transport accounted for close to a quarter (23.8%) of the total GHG emissions and slightly more than a quarter (27.9 %) of the total CO<sub>2</sub> emissions in the EU-27 in 2006. Compared with levels in 1990, no other sector has got the growth rate of GHG emissions as high as that of transport (Fig. 1).

As the transport sector relies on fossil fuels for 97% of its needs, the fight against climate change in this sector goes hand in hand with efforts to improve quality management and management quality of public transport services in order to make it safe and secure as well as more attractive to customers. The goal is to establish a sustainable transport system that meets public economic, social and environmental needs. Transportation systems must be developed and the effectiveness

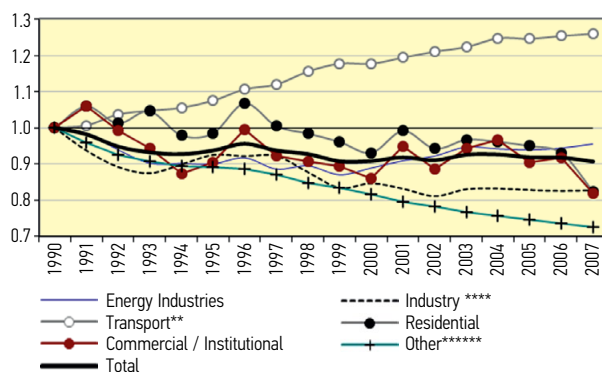


Fig. 1. GHG emissions in the EU-27, by sector (1990 = 1) (European Commission 2010)

of transportation service must be increased while environmental pollution must be decreased or prevented (Susnienė, Sargūnas 2008; Mikalajūnė, Jakučionytė 2011; Tica *et al.* 2011). From the organizational point of view, more sustainable mobility could be achieved through increasing and improving public transport services and trying to return customers who give preference to using private cars. When designing and creating accessible public transportation and a related barrier-free environment, it is crucial to apply a system approach to resolving these complex issues (Matuška 2010; Tica *et al.* 2011; Milosavljevic *et al.* 2010; Miao *et al.* 2010). Transport provides access to a number of our freedoms — the freedom to work and live in different parts of the world, the freedom to enjoy different products and services and the freedom to trade and to establish personal contacts (European Commission 2009). Access to goods and services demand greater transport safety, security and comfort (quality dimensions of public transport). The success of this proposition, however, hinges largely on whether public transport offers attractive alternatives to using private cars (Susnienė, Sargūnas 2008; Lo *et al.* 2010). Car design, ownership and use are clearly major determinants of the degree of carbon emissions produced as a result of personal transport (Whitmarsh, Köhler 2010).

Though the public shows interest in environmental issues, it would be naïve to expect fast changes in their lifestyles or purchase decisions accordingly. At present, urban population is increasing fast while the problem of traffic becomes more and more serious. Growing Lithuanian economy and the increasing quality of living conditions prompt population mobility, motorization level and increasingly high transport flow on streets and roads across the country (Jakimavičius, Burinskienė 2009a, 2009b; Burinskienė 2009; Burinskienė *et al.* 2011; Skrodenis *et al.* 2009; Dzemydienė, Dzindzalieta 2010). While most people express concern about climate change and are worried about traffic fumes and smog, a minority have cut down on car use for short journeys (DEFRA 2007).

The challenge is quite great *taking into account psychological-societal factors*. First, travel behaviour is not simply determined by environmental considerations. Rather, it is an outcome of a complex set of psychological, social, economic and infrastructural factors (Whit-

marsh, Köhler 2010). Personal preferences for autonomy, comfort and convenience have a significant influence on transport choices (Whitmarsh *et al.* 2009). Less conscious determinants such as social identity, symbolism and status associated with vehicle choice and use also influence transport choices (Steg *et al.* 2001).

Second, travel behaviour is often habitual and is difficult to change. Individuals who have a strong habit of car use pay less attention to alternative travel choices. Furthermore, where car use becomes a strong habit, individuals tend to exaggerate the poor quality of alternatives (Fujii *et al.* 2001).

Therefore, improving the overall quality of public transport must remain a high priority in transport policy. A safer and more secure urban environment can lead to a shift of a greater use of public transport, cycling and walking. Consequently, this would not only ease congestion, reduce emissions and noise, but also have positive effects on people's health and well-being (European Commission 2009).

From a legal point of view, the public transport sector in European countries has experienced a wide range of reforms over the past 25 years: the division of horizontally integrated agencies and authorities into smaller single purpose organizations, the transformation of former state companies into shareholder companies, and in some cases privatization, tendering and public private partnership, contracts and management considering objectives and results. Particular stakeholders or their groups could be distinguished in these enterprises. A very large impact on the decisions of public transport enterprises has typical stakeholders (customers and end users, employees, owners and investors, suppliers and partners, community) as well as state institutions and local authorities (municipalities). Unlike other organizations, public transport enterprises experience a strong influence from state institutions and local authorities in their decision taking, organizational management and performance. Therefore, public transport enterprises have particular stakeholders with specific relationships and influence.

The only reasonable way to reconcile individual aspirations and the will of all stakeholders in public transport is to provide public transport services of the highest possible quality in a way that will persuade a large number of inhabitants to resist the temptation to use individual modes, to give public transport a try and become regular public transport users. Improvement in quality presents positive stakes for all stakeholders concerned: public authority, clients, operators, community, environment, etc. Therefore, identifying the inefficiencies of the public transport system will help with improving service management, expanding coverage and increasing the attractiveness of public transport service.

However, increasing the attractiveness and quality of passenger transportation is a complicated issue requiring good professional skills based on knowledge, practical experience, high intellect and new ideas of all people involved in this process (Sivilevičius, Maskeliūnaitė 2010). In order to provide high quality public transport

services, they must be objectively measured. Usually these services are measured to identify customer perceived quality and/or their satisfaction. However, it takes only one dimension into account and lacks conceptual explicitness. Actually, in the majority of academic literature, service quality and satisfaction were used interchangeably as synonymous concepts. Thus, the paper deals with the SERQUAL model designed by Parasuraman *et al.* (1994) reflecting different aspects of service quality in public transport. *The research object* is the application of the SERQUAL model for public transport services. *The goal of the paper* is to gain a better understanding of the SERQUAL method in order to adapt it to public transport services and to identify the factors determining customer's satisfaction in this sector. *The methods employed* cover a systematic and comparative analysis of academic papers and a sociological research method – a questionnaire for conducting empirical research. The results were processed using statistical data analysis methods and presented in textual and graphic forms. Mathematical-statistical methods (using *Microsoft Excel*) allowed ensuring tool validity. Descriptive statistics was applied to express mean percentages, mean standard deviation, reliability analysis and weighted average.

## 2. Research into Service and Customer Satisfaction

To attract more passengers, transport services should be improved implying not only the availability of high-quality vehicles but also the identification of needs for passengers (Sivilevičius, Maskeliūnaitė 2010; Susnienė, Sargūnas 2009). The measurement of customer needs and satisfaction is a prerequisite for organizational interventions to improve customer satisfaction (Shahani-Denning 2001). It is recommended that in order to improve customer satisfaction, human resource professionals should listen to customers before changing organizational practices (Schneider *et al.* 1998). To maximize their competitive advantage, service businesses should match human resource practices to their market segment (Schneider *et al.* 1997).

There has been a considerable debate over how to define service, but Gronroos (1990) provides a succinct list of characteristics:

- services are more or less intangible;
- services are activities or a series of activities rather than things;
- services are at least to some extent produced and consumed simultaneously;
- the customer participates in the production process at least to some extent.

Due to outside influence, recent studies add other characteristics such as technological advances or government regulations as keys to understanding service. A number of these characteristics suggest a human factor approach (Drury 2003).

Referring to Cavana *et al.* (2007), public transport companies can be characterized taking into account the customer and organizational approach. From the cus-

tomers' point of view, speed, reliability, comfort, convenience, safety, special services and innovations are important dimensions. From an organizational point of view, they cover system efficiency, pollution and demand.

Downing *et al.* (2000) defined the quality of public transport services as a measure of accessibility, reliability, convenience, comfort and safety.

Usually the indicators of public transport services can be grouped into the categories of efficiency and productivity (Pullen 1993). According to efficiency, the measures concerning the service supply process are defined, whereas considering productivity the measures should define service quality.

With reference to productivity, service quality is one of service supply indicators consisting of accessibility, reliability, safety and comfort (Table 1).

**Table 1.** Public transport services: customer-organizational approach

Source	Dimensions of customer approach	Dimensions of organizational approach
Cavana <i>et al.</i> (2007)	speed; reliability; comfort; convenience; safety; special services; innovations	
Downing <i>et al.</i> (2000)	accessibility; reliability; convenience; comfort and safety	system efficiency; pollution; demand
Pullen (1993)	productivity category (service quality): accessibility; reliability; safety; comfort	efficiency category (measures concerning the process of service supply)

In order to identify customers' opinion about the service quality of public transport, it is first necessary to know their expectation and experience. Customer expectations are influenced by different factors such as direct intercommunication (personal needs along with last experience can guide expectations), the relationship of the service provider with the customer. Appropriate communication reduces customer dissatisfaction and gives the impression of better service provision as well as of its higher quality.

Three possible situations can be identified:

- if customer's expectations were higher than provided service, then, the result would be of insufficient quality, which means that the customer hasn't received service s/he paid for (Fig. 2);
- if customer's expectations and benefit were equal, then, the quality of provided service corresponded to customer's expectations when paying (Fig. 3);
- if customer's expectations were lower, consequently, service quality was too high and the customer got more than paid (Fig. 4).

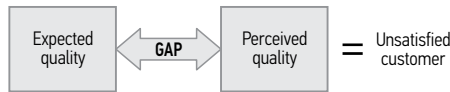


Fig. 2. Expected quality is higher than perceived quality



Fig. 3. Expected quality and perceived quality are equal

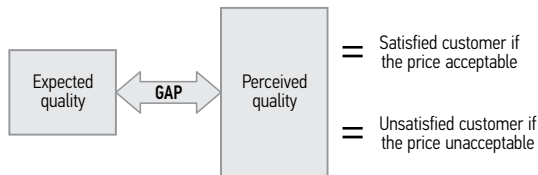


Fig. 4. Expected quality is lower than perceived quality

It is very important to assure an optimal balance between provided service quality and customer's expectations. In case they are moderate, it is not necessary to provide more. If you provide more, this action is inefficient. The customer can feel satisfied with spending less money on it.

Customer satisfaction is a key to success for organizations. Customer satisfaction influences current business at individual, organizational and industry levels (Anderson *et al.* 2004). The individual level reflects the customer's intention of buying, the organizational level – profitability and industry level – the role of economics in industry. There are many definitions of customer satisfaction in academic literature (Giese, Cote 2000; Rust, Oliver 2000; Gundersen *et al.* 1996; Zavadskas, Turskis 2011). The conception of customer satisfaction has been developing for a long time and today it seems to be quite elaborate. However, Singh (2008) notices that there is a gap between research on customer satisfaction and satisfaction content.

### 3. Conceptual Research Model

Companies, operating in the present uncertain business environment, have to focus their efforts on product/service quality in order to survive severe competition and economic recession. Both customer satisfaction and service quality are different constructs (Rust, Oliver 2000; Lin 2007; González *et al.* 2007). Service quality compares research to the global approach, whereas when researching customer satisfaction it is a clear agreement. It is established that sometimes high quality services are followed by low customer satisfaction. Consequently, it proves the existence of two separate constructs (Rust, Oliver 2000).

Service quality is often conceptualized comparing service expectations with actual performance perceptions. At an operational level, the SERQUAL method prevailed in research on service quality. The SERQUAL method is based on the so-called gap model recognized

as the major contribution to service management theory and practice.

The SERQUAL model was designed by Parasuraman *et al.* (1994) to measure service quality evaluated by the customer. Parasuraman *et al.*'s (1994) measure for service quality was based on Oliver's disconfirmation model. The disconfirmation theory conceptualizes the perception of service quality as a comparison of the service of the expected level and actual service performance (Parasuraman *et al.* 1994). Expectations are understood as what the customers want, i.e. what they feel the provided service should offer. Perceptions refer to the evaluation of service by the customers, i.e. the evaluation of how a service provider is successful at delivering service. Consequently, if performance perceptions gained by the customer exceed his/her expectations, then, service quality is at the right level and means that the service supplier provides high standard service. The evaluation of service quality is defined as the gap between customer expectation and their experienced service quality (Fig. 5).

Thus, the SERQUAL method from Parasuraman *et al.* (1994) is a method that can be used for performing a gap analysis of the organization's service quality against service quality needs expressed by the customer (Fig. 5). SERQUAL originally measured 10 aspects of service quality: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding or understanding the customer and tangibles. By the early '90s, the authors had refined the model and the methodology was originally based around five key dimensions:

1. *Tangibles.* The appearance of physical facilities, equipment, personnel and communication materials.

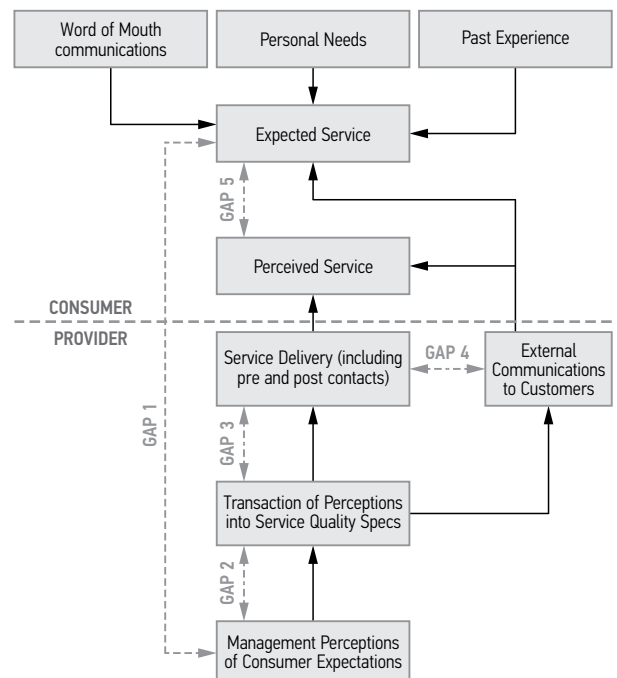


Fig. 5. SERQUAL or Gaps Model (Parasuraman *et al.* 1994)

2. *Reliability*. The ability to perform the promised service dependably and accurately.
3. *Responsiveness*. Willingness about helping the customers and providing prompt service.
4. *Assurance*. Knowledge and courtesy of employees and their ability to convey trust and confidence.
5. *Empathy*. The company provides care and individualized attention to its customers.

As mentioned above, service quality perceived by the customer is interpreted according to the gap between the quality expected by the customer and received quality:

- the gap is the difference between customer expectations and how these expectations are perceived by company's management (Fig. 5 GAP 1);
- the gap is the difference between how customer expectations are perceived by the management and a definition of service quality (Fig. 5 GAP 2);
- the gap is the difference between the definition of service quality and delivered service quality (Fig. 5 GAP 3);
- the gap is the difference between service delivery and how customers are informed about service (Fig. 5 GAP 4);
- the gap is the difference between customer expectations and perception (Fig. 5 GAP 5).

The main interest in this research is devoted to the last gap, i.e. difference between customer expectations and perception which can be measured and compared in different ways:

- as separate indicators, e.g.  $P1 - E1 = GAP$ , where:  $P$  is perceived quality;  $E$  is expected quality;  $No 1$  – helpfulness;
- as dimensions, e.g. dimension 'Tangibles' include four indicators  $(P1+P2+P3+P4)/4 - (E1+E2+E3+E4)/4 = GAP$ ;
- as an overall sum of 22 indicators comprised by the SERQUAL model, e.g.  $(P1+P2+P3+...+P22)/22 - (E1+E2+E3+...+E22)/22 = GAP$ .

Parasuraman *et al.* (1994) further developed the conceptual model and created the concept of a tolerance zone that is the area between the exact value perceived by the customer and the expected quality level (Fig. 6).

The zone is influenced by many factors, e.g. situational factors, acquired experience, specific promises about services. The model can be defined by two statements: customers assess service delivery according to two standards, i.e. what they desire and what seems acceptable to them; the tolerance zone reveals the gap between desired and adequate service quality (the tol-

erance zone is calculated by deducting minimal service evaluation from desirable service evaluation).

There are many different arguments pros and cons concerning the SERQUAL instrument when discussing its advantages and disadvantages (Sureshchandar *et al.* 2002; Foster 2000). As described above, SERQUAL has paired questions about expectations and perceptions. Service quality is measured as the difference between expectations and perceptions, commonly referred to as the gap score. Since the very beginning, this scale (expectations and perception) has received both extensive use and criticism. The heaviest major criticism has been directed to the use of gap scores to measure service quality (Woodruff *et al.* 1983; Bolton, Drew 1991; Cronin, Taylor 1992; Babakus, Mangold 1992; Teas 1994; Lee *et al.* 2000). While gap scores have been shown to have better diagnostic capabilities, the perception-only measures of service quality appear to have higher convergent and predictive validity (Kilbourne *et al.* 2004). Also, Wall and Payne (1973) noted that the people asked to indicate the desired service level (expectations) and the experienced level (perceptions), and therefore psychologically tend to rate expectations higher than perceptions ( $E > P$ ). Apart from this, sometimes people become bored and confused by replying to two versions of the questionnaire (Siu, Cheung 2001). Consequently, this can negatively influence data quality. The number of dimensions in the SERQUAL model has been another area of criticism; however, Asubonteng *et al.* (1996), after completing a comprehensive study on service quality, concludes that differences in the number of dimensions appear to be linked to differences among industries (Kilbourne *et al.* 2004). For example, Kettinger *et al.* (1995) identified four dimensions in a study on the quality of information systems (IS). Tangible dimension was not evident; this is understandable since tangibles are not visible to the customer in IS industry.

Despite many critical remarks, the SERQUAL method is considered to be a valid instrument for measuring service quality because the determined gap between perceived and expected service quality is a good starting point for quality improvement in different service sectors. According to Parasuraman *et al.* (2005), the SERQUAL instrument can be widely used as a 'skeleton' that could be adapted to the specific needs of an organization. Further, the latest researches proved the 'gap theory' to be a relevant and effective tool for service management (Centeno *et al.* 2008). The results of various researches (Grapentine 1998; Swanson, Davis 2003) show that reliability is the most important dimension for service users, whereas tangibles are the least important.

One more important instrument for measuring customer satisfaction can be introduced. Schneider and his associates (Schneider *et al.* 1997, 1998) have pioneered work in the United States on the measurement of customer satisfaction by examining the relationship between employee perceptions and customer satisfaction. In their study, they used employee attitudes to draw conclusions about organizational processes in the field of shaping customer satisfaction. In general, they have

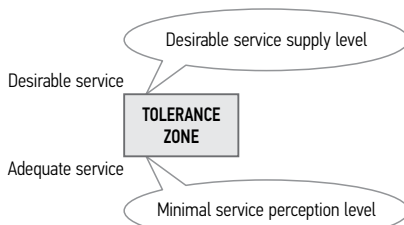


Fig. 6. The tolerance zone of service



found a fair amount of agreement between employee and customer perceptions of service climate, thus suggesting that contact employees can be a good source of information on customer attitudes (Shahani-Denning 2001). Tornow and Wiley (1991), Wiley (1991) found a positive relationship between employee opinions and customer satisfaction. Thus, it is important to involve employees as respondents in the survey as they can provide useful opinion regarding organizational initiatives that might impact customer satisfaction. Employees are easier to access than customers and may be a source of rich information that may otherwise get ignored.

**4. Methodology**

The pilot survey has been carried out in order to test quality criteria meeting customer satisfaction and the adaptability of the SERQUAL method in public transport.

**4.1. Sample and Procedure**

A questionnaire was employed to gather data on the pilot survey. The questionnaire was distributed to 150 respondents. 98 questionnaires were accepted to be suitable for analysis, which is 65.3% response rate considered as satisfactory for pilot research analysis. According to occupation among the respondents who use public transport services (busses and coaches), distribution was as follows: 23 students/schoolchildren, 48 workers, 27 retired and other surveyed participants. Similarly, 70 questionnaires were distributed to the drivers of a public transport company JSC ‘Panevėžys Coach Park’ (UAB ‘Panevėžio autobusų parkas’, <http://www.panevezioautobusai.lt>) (48 of those were accepted with 68.6% response rate). The drivers’ responses were important in order to measure service quality regarding the quality loop. The drivers were chosen as front line workers having close interaction with the customers the answers of which were useful for comparing information obtained while interviewing drivers.

The questionnaire contained 22 items corresponding to five dimensions with reference to the SERQUAL model (questions 1÷4 referred to tangibles, 5÷9 to assurance, 10÷13 to reliability, 14÷18 to empathy, 19÷22 to responsiveness). The respondents had to offer two answers to the same questions considering expected or perceived service quality. Each item in the questionnaire was rated applying a seven-point Likert scale starting with number 1 and the statement ‘strongly disagree’ as well as with number 7 and the statement ‘strongly agree’.

Research was carried out in Panevezys, the fifth largest town in Lithuania in the beginning of 2010.

**4.2. Reliability**

Reliability analysis indicates that the survey is reliable for measuring service quality where reliability coefficient above 0.70 is generally considered acceptable. Following research done by Parasuraman *et al.* (2005), negatively worded items were avoided as they tend to get consistently higher standard deviation than the positive ones.

As shown in Table 2, Cronbach’s alphas for each SERQUAL dimension are consistently high and indicate high internal consistency among items within each dimension.

A mean standard deviation of five dimensions makes 0.79 which indicates that five SERQUAL dimensions are reliable and give similar results.

**Table 2.** Reliability coefficients of five SERQUAL dimensions

Dependent variable	No. of items	Cronbach alpha
Tangibles	4	0.74
Reliability	4	0.85
Responsiveness	4	0.77
Assurance	5	0.82
Empathy	5	0.79

**4.3. Analysis and Results**

The first step in the assessment of service quality is the calculation of the gap score between expected and actual service:

$$GAP\ score = Perception\ score\ (P) - Expectation\ score\ (E).$$

As mentioned above, this can be measured in different ways. This research shows the gap measured by the formula discussed in Chapter 3  $(P1+P2+P3+P4)/4 - (E1+E2+E3+E4)/4$ . All 5 dimensions comprise 4 or 5 indicators.

The weighted average of each service quality dimension with their gap scores is calculated using *Microsoft Excel*. The summarised research data are presented in Table 3.

**Table 3.** The results of research on customers’ opinions applying the SERQUAL model

Dimension	Perception score	Expectation score	The gap
Tangibles	17.50	24.0	-6.50
Reliability	16.61	23.8	-7.19
Assurance	21.99	29.0	-7.01
Responsiveness	17.93	23.7	-5.77
Empathy	16.45	24.0	-7.55

Dimension ‘assurance’ got the highest score, which means that customers (passengers) feel safe and secure, the behaviour of employees is helpful and they provide customers with the information they need. However, gap score is not the highest one, and therefore not everything is fine in this field. The rest of dimensions were scored quite similarly and the scores imply that the quality of transport service is quite good. Regarding gap score, none of the dimensions corresponds to customers’ expectations. In such a case, the closest to expectations is ‘responsiveness’ and the biggest gap is observed in ‘empathy’. The latter means that customers experience a lack of individual attention, the understanding of their

interests and specific needs, etc. Such result implies that closer attention must be given to improve factors causing greater satisfaction regarding empathy.

The second step in research was obtaining data from the provider of public transport service. The drivers were chosen to have direct contact with customers, observe the situation or experience the 'moments of truth'.

The results presented in Table 4 show the opinion of drivers about customers' expected and perceived service quality. It can be easily noticed that drivers and customers' opinions differ.

A general view is that the drivers suppose that their customers experience higher service quality than the customers think themselves. The biggest gap score is seen in dimension 'tangibles' where the drivers think that the cleanness, comfort and a technical state of transport means are not as good as should be. The truth is possibly somewhere in between customers and drivers' opinions because one of the reasons for the drivers to accept such position is an explanation presuming that the drivers themselves are not satisfied with these factors at work and think that passengers think in a similar way.

**Table 4.** The results of research on drivers' point of view applying the SERQUAL model

Dimension	Perception score	Expectation score	The gap
Tangibles	22.1	26.00	-4.01
Reliability	21.4	25.02	-3.62
Assurance	29.8	31.00	-1.20
Responsiveness	21.0	24.79	-3.79
Empathy	28.0	30.06	-2.06

The following lowest scored gaps are dimensions of 'reliability' and 'responsiveness', which means that service providers (drivers) agree there is space for quality improvement in delivering prompt services, showing sincere interest in finding a solution to the encountered problem, indicating willingness to help, etc.

An interesting point is that the drivers are of a better opinion about dimension 'empathy'. The customers do not feel that they are given individual attention, that operating hours are convenient, that their specific needs are understood, etc. According to the drivers' opinion, the above mentioned dimension showed the least gap score among all dimensions.

## 5. Conclusions and Implications for Further Research

1. The benefits of public transport include increased mobility for everyone, reduced car dependence and a negative impact on health as well as decreased consequential needs for highway expansions. Considering an increased emphasis on achieving sustainability and decreasing negative impacts on society and environment, public transit is at the forefront in solving the

key issues of urban regions and modern transportation systems. As public transport is one of the prerequisites of sustainable mobility, special attention must be paid to improving the attractiveness of provided service quality the role of which is widely recognized as a critical determinant for the success and survival of an organization in the present competitive environment. Any decline in customer satisfaction due to poor service quality would be a matter of concern. Customers continually require higher and higher standards of service that goes together with higher expectations.

2. Service performance leads to customer satisfaction, which in turn leads to retention generating market share and producing profits. An important point is having in mind that the public transport system involves many stakeholders and that their influence is important to strive for better service quality and consequently improved sustainability. However, the public transport system will not be successful unless travel speeds and other dimensions of transport service quality are more competitive using private vehicles; hence, the need to remove system inefficiencies is apparent. In case it is important to increase the use of public transport at a regional level, it is essential to stop the shrinkage of routes in public transport service in Lithuania in order to decrease travel times, cover wider areas and improve service quality as to assure customer satisfaction.

3. The purpose of SERQUAL is to serve as a diagnostic tool for discovering distinctive areas of company's service shortfalls and strengths. The performed research indicates that SERQUAL is a multidimensional, useful and vigorous measure of service quality. The executed study allows drawing a conclusion that customers' expected and perceived quality influences company image and that there is a gap between all dimensions of quality in public transport services. The SERQUAL method shows the areas where improvement actions should be taken. For more exactness, involving the tolerance zone factor into research on service quality would be useful, i.e. side by side with expected and perceived service quality, such indicator as a minimal tolerance level should be included and measured. The obtained results could be interesting and useful for improving the understanding of delivered service quality, determining the lowest service quality to be tolerated, etc. To sum up, the SERQUAL model can be adapted and used for public transport services as it allows for a better understanding of the construct of service quality in public transport services.

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