Analysis of Customer Service Quality Models and for their Approbation Opportunities in Aviation

Laura Poškuvienė1, Kristina Čižiūnienė1, Jonas Matijošius2*

1 Logistics and Transport Management Department, Faculty of Transport Engineering, Vilnius Gediminas Technical University, Plytinės st. 27, 10105 Vilnius, Lithuania
2 Institute of Mechanical Science, Faculty of Mechanics, Vilnius Gediminas Technical University, Jono Basanavičiaus st. 28, 03224 Vilnius, Lithuania
* Corresponding author, e-mail: jonas.matijosius@vgtu.lt

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Abstract
The article examines tools, which may be used to assess service quality in aviation and to analyze service quality models. Many experts analyzing customer service state that a good customer service is one of the most important reasons for customer satisfaction and loyalty. This is particularly important in aviation customer service, because aviation services are subject to higher requirements due to the specifics of the service. In pursuit of the top-level customer service, refining customer needs and expectations becomes very important, because knowing customer expectations allows purposefully focusing the customer service process based on them and achieving high customer satisfaction. Also, the nature of customer service in aviation is different; here staff must be trained with more scrutiny and examples of specific situations.

In order to investigate the quality of customer service, conducting a theoretical analysis of customer needs or service criteria alone is not sufficient. Customer service quality is perceived differently due to a variety of factors, thus service quality models are used to find out customer expectations or to identify service gaps, also helping to conduct analyses and to improve processes.

The analysis of customer service models revealed that they have not been adapted for aviation due to the following: their focus on a single service factor, the lack of relationship between components, neglected role of employees in customer service, and the like.

Keywords
quality, quality models, customer service, aviation

1 Introduction
An exceptionally large number of passengers travel by air, so meeting the expectations of passengers that they have for the services provided by airports is very important. With the rapidly changing airport industry, today’s airline passengers have a wide choice of airports. In order to meet customer needs, an intense competition between airports for better meeting the expectations of airline customers has been observed. Although passenger perception of the quality of airport services and service provision is only one of several variables (such as itineraries, planning, destination and price), which contribute to the overall appeal of an airport, appeal is nevertheless an important variable due to the increasing customer focus on a competitive advantage in the airline industry.

With increasing customer role in service creation and provision, creating customer-focused organizations has been encouraged (Setia et al., 2013). Nowadays, customers have built up a large baggage of examples of how their needs were satisfied, thus exceeding customer expectations has become increasingly more difficult. Various methodologies have been used to find out what customers want and how their needs could be met. Parasuraman et al. (1988) developed a quality service model based on the gaps analysis and identified 5 key gaps; Grönroos (1990) created a model of commonly perceived service quality; Hallam (2013) presented principles for customer complaint analysis; Jeon and Kim (2012) analyzed passenger emotions with physical airport environment, Arif et al. (2013)
examined airport infrastructure and its dependence on customers, Cook (2016) analyzed service assessment and created a model of customer service processes based thereon. However, the researchers' theoretical level of problem exploration was observed to focus more on customer service satisfaction, dependence of airport terminals on customers and gaps in customer service quality, although the problem of nowadays is the developing customer experience and the changing expectations of customers, which trigger changes in customer service quality models.

This article examines whether service quality models have a sufficient level of analysis, which would be relevant for aviation customers of today and would be used at airports of all sizes. The purpose of the article is to analyze customer service quality models and their applicability in aviation. The following tasks have been set to achieve the purpose:

1. to conduct an analysis of sources of scientific literature related to customer service quality and models;
2. to determine if the examined quality models can be approbated in aviation customer service;
3. to develop a theoretical aviation customer service model.

2 Aviation customer service quality analysis tools and quality models
Hernon and Nitecki (2001) state that the basis of service quality is the belief that an organization serves its customers, i.e. if it plans to survive and to thrive in a highly competitive and changing market. Service quality emphasizes that customers must be listened to and that they are the best judges.

Many studies have found a reliable direct relationship between the company's customer service quality and its long-term success. The quality of customer service is not an end in itself. The establishment of smooth high-quality relations with customers ensures their greater confidence, a pleasure of working together, the benefit of getting services that best meet their needs, and time and energy savings, which means building a circle of regular satisfied customers. After all, we all go back to the places, to the people, with whom we feel a connection. When a connection is good, minor mistakes can be easily forgiven, but acknowledging them and seeking to correct them is important. It is also worth remembering that customers themselves are reluctant to change service providers, because, as Hong (in press) observed, changing providers sometimes requires additional time and money (completing various forms, participating in mandatory introductory procedures, etc.). Finally, a regular relationship established between regular customers and the provider helps to better understand and assess customer needs and priorities (Selech et al., 2017).

The key point here is a focus on the customer with the aim to understand them and to solve their problems. That way we do not limit our capabilities and do not create solutions to the situation in advance, before meeting the customer. Our honesty and openness help to build long-term cooperative relationships. We do not hide the flaws or the risky sides of our operations, we do not lie or try to show in what may be unnecessary. The key point is to give customers more than what they expect:

- to cheer them up,
- to surprise,
- to reward them,
- to sincerely take care of them.

3 Measures that affect the quality of aviation customer service
In the field of airport management, service quality perceived by passengers has long been neglected as one of the indicators of airport performance. Airport management has usually assessed the objective quality of airport services to identify service deficiencies that threaten the overall performance of airports through various measurement systems called benchmark standards. Francis et al. (2002) acknowledged that airport benchmarking methods have historically changed from measuring workload unit costs and revenue and the comparison of the airport set-up and operations to previously established standards in order to understand the passengers’ assessment of service quality (Punel et al., 2019).

The perception of passengers of the physical environment of airports is an important aspect of the quality of airport services. In order to examine the international environment of airports, Jeon and Kim (2012) evaluated services related to emotional states and behavioral intentions of passengers. The results of the research revealed that the airport functionality, aesthetics and security evoke positive emotions closely related to behavioral intentions of passengers. On the other hand, environmental conditions incite negative passenger emotions, but do not affect behavioral intentions. In addition, the social provision of services at airports has been found to have both a positive and a negative impact on passengers, offering a significant importance of a human factor.
the transcendental approach, quality means "innate mastery". It is a sign of unpleasant standards and high achievements, universally identified and recognized through experience only (Yarimoglu, 2014).

The quality of service is considered a critical aspect of competitiveness, thus excellent service quality and high customer satisfaction are important issues and challenges which the modern service industry currently faces. Service quality is an important topic in the public and private, business and service sectors. This is the extent to which the service meets or exceeds customer needs and expectations. Over the past two decades, the quality of services has become a major focus for practitioners, managers and researchers. Its significant impact on business results, lower costs, return on investment and customer satisfaction increases customer loyalty and profit (Wang and Lalwani, 2018).

Customer service is one of the organizational processes that companies are engaging in the face of more intense competition, with the aim of attracting entrepreneurial opportunities, which lead to increasing profitability and a better market access, increased customer satisfaction and loyalty. According to Wahab et al. (2016), customer service is important, because it ends with the quality of products/services, gaining a competitive advantage and profitable opportunities, and thus leading to increasing sales and revenue. Excellent customer service quality is based not only on individual knowledge and skills, but also taking into consideration the organization as a whole. Jahanshahi et al. (2011) distinguished the key features of excellent customer service, namely, high-level management, customer-focused procedures, enterprise quality standard, consistent marketing messages, middle management support and individual knowledge and skills. This suggests that excellent customer service depends not only on quality standards, but also on the management itself, on the execution of procedures and on individual knowledge and skills.

Lenka et al. (2009) state that the service quality is the provision of services, while satisfaction is customer experience with services. Customers' assessment of a product/service depends on its demand and the availability of alternative services in the market as well as on the information available to customers. Then customers compare these factors (Lenka et al., 2009). During the evaluation process, if customers' expectations are met, they are more likely to feel satisfied with services as well. A positive perception of the service quality is an indicator of customer satisfaction (Lenka et al., 2009). Typically, customer satisfaction is affected by customer expectations or hopes before receiving a service and can be calculated using the equation offered by Parasuraman et al. (1988). Expectations and the perception of services must be differentiated, because service expectations are the unification of customer's predictions of what might happen during a service transaction, and the wishes of that customer. The perception of services can be defined as a customer's decision, which tells about the advantage of the service (Parasuraman et al., 1988; Wolter et al., 2017). Afifah and Asnan (2015) created an equation for this complex concept, which is:

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\text{Perception of services} – \text{expectation for a service} = \frac{\text{perceived service quality}}{\text{customer satisfaction}}. \tag{1}
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This equation makes the concept of service quality and customer satisfaction very easy to understand. This equation also shows that the service provider can manage and control both the perceived service quality and customer satisfaction. Research has shown that perceived quality is considered the first factor in the overall customer satisfaction, and researchers strongly recommend that expectations and professional provision of service have a direct and positive impact on the overall customer satisfaction. Thus, it is obvious that the assessment of quality is based on two key consumer experience components: adaptation and reliability. Thus, after receiving answers, calculating or determining the perceived service quality becomes possible. Another important aspect was revealed by Takala et al. (2006), who said that in assessing customer satisfaction, it is the overall score rather than an individual result that matters (Malik, 2012).

A creative solution to a customer's problem is an advanced stage of customer service. Companies that manage to solve customer problems in a flexible and creative way have two things in common. First, such companies (both executives and service staff) really care about their customers. Also, employees of such companies have powers to solve customer problems in a flexible and creative way. In other words, if employees really care about customers, but their hands are "tied", there is not much they can do to solve the problem. And vice versa, powers often motivate even those employees, who are not enthusiastic, because having powers is a pleasure in itself (Chung et al., 2017).

4 Models of the assessment of service provision quality

The application and development of quality assessment models cannot be the same for all services (Andrzejczak et al., 2018). Some services affect human consciousness from an intellectual perspective, while others are targeted at
the creation of the material expression of users (Matijošius et al., 2016). The abundance of service quality assessment models presented in scientific literature reveals the complex nature of service quality assessment and reflects the search for one universally applicable quality assessment model (Lee and Yu, 2018).

There are many different models created for assessing customer service quality (Selech et al., 2014). These models are similar, but yet different, and they allow researchers to test theoretical knowledge in practice and to identify gaps in service provision.

The article will further discuss five models.

**Model of gaps in the quality of service provision** by Hill and Alexander (2006). Dissatisfaction is clearly the main reason for a declining number of customers and increasing amount of complaints, but what is causing customer dissatisfaction? There has been considerable research in this field carried out in recent years, resulting in the theory of "quality gaps". The gap between expectations and experience is a common reason for customer dissatisfaction, but other causes of such dissatisfaction can usually be attributed to one of the following five gaps: advertising, understanding, procedures, behavior and perception (Hill and Alexander, 2006). Thus, any of the five gaps can lead to an overall gap resulting in customer dissatisfaction. No organization seeks to provide poor service, and gaps usually form due to a different approach to what business believes to have offered and what customers think to have received. A regular evaluation of customer satisfaction only will help to identify and to eliminate gaps (Jahanshahi et al., 2011). Aviation services are no exception here, as they receive a lot of complaints. The application of this model would allow analyzing procedural aspects in aviation services and identifying gaps, but there would be no way to resolve them and to decide on the sequence of operation of an organization to ensure continuous error prevention and monitoring. This model is unsuitable for aviation due to its applicability in one field only – it focuses only on error traceability.

**Model of quality gaps** by Parasuraman et al. (1988) analyzed service quality indicators and created a gap model, which is an important framework for defining and assessing service quality (Grönroos, 1990; Yarimoglu, 2014) distinguished two aspects of service quality, namely, the functional quality, which covers the quality of the services provided, and the technical quality, which is the actual service result. Finally, Parasuraman et al. (1988) conceptualized service quality using disqualification model, which measures customer expectations and perceptions, later developing and improving the SERVQUAL methodology in 1988 (Parasuraman et al., 1988). The model used to evaluate service quality depends on the scope and direction of the so-called internal gaps. The following deficiencies can be distinguished:

- **Gap 1 (positioning gap)** – a gap between customer expectations and management. This gap focuses on the emerging difference between customer expectations and management in perceiving service quality (Shahin and Samea, 2010).
- **Gap 2 (specification gap)** is related to management's perception of customer expectations and specifications of the company's service quality. The second gap is the result of what has not been implemented or has been implemented improperly (Candido and Morris, 2000).
- **Gap 3 (presentation gap)** - Shahin and Samea (2010) state that this gap highlights the difference between a quality service specification and an actually delivered service, i.e. the service execution gap. Factors, such as inadequate cooperation, control, improper service provided by contact personnel as well as such exogenous factors as trust, commitment and conflict lead to the formation of this gap (Urban, 2009).
- **Gap 4 (communication gap)** - the fourth major reason for poor quality service perception is a gap between what a company promises and what it actually provides. Promises made by the service provider often shape customer expectations. The most common reason for the formation of this gap is the inability to properly use external communication tools: organizations are unable to deliver what they offer, even though they promise a lot to their customers (Candido and Morris, 2000).
- **Gap 5 (perception gap)** is the difference between the client's inner perception and belief in services (Yarimoglu, 2014). This gap depends on the size and direction of the four gaps associated with service provider's delivery of the service quality (Shahin and Samea, 2010). Having developed the service quality gap model, the authors also offered a tool for assessing quality, which is called SERVQUAL methodology in scientific literature.

**SERVQUAL methodology.** The SERVQUAL methodology is aimed at assessing the perceived quality of service at a certain point in time, irrespective of the overall process of its formation. This model allows to identify and assess
gaps in the quality of service provision that indicate the differences between user expectations before the provision of the service and the actually received service, the quality of which the customer assessed based on the perceived expectations, service quality standards, service provision and external relations (Rezaei et al., 2018). The SERVQUAL methodology distinguishes five key criteria that are used to assess service quality, namely, material values, reliability, sensitivity, empathy and assurance. The SERVQUAL methodology allows measuring (Chou et al., 2011): the overall deviation between expectations and the quality received; deviation of a single parameter, such as accessibility, security, expectations and the quality received; Service Quality Index SQI, i.e. the ratio of the sum of expectation scores and scores of the quality received. Pakdil and Aydn (2007) notes that the SERVQUAL methodology has been criticized for its adaptability in various specific industries, although the methodology itself is considered universal. Also, this instrument for assessing service quality has been criticized for its focus on the service delivery process (functional quality), ignoring the technical quality (Kang and Hansen, 2018). Awasthi et al. (2011) assert that the SERVQUAL instrument is only suitable for assessing the areas that sell pure services and is hardly applicable where services are intertwined with goods, because distinguishing additional criteria is necessary to measure the quality of services intertwined with goods. The summary of the authors' ideas allows stating that the SERVQUAL methodology is not only the most popular but also the most commonly used tool for assessing the quality of service provision/services, although it has drawbacks. This methodology cannot be used in specific service areas, because the data received are inappropriate. Moreover, the methodology deals with functional (process) quality only. The authors (Ijadi Maghsoudi et al., 2019) also emphasize that the methodology has been developed for "pure services", so it is better to refrain from its use in services intertwined with goods. This model is relevant in aviation, because it assesses the perceived quality of service and analyses the service staff. Aviation service provision has a lot of direct contact with customers, because it is subject to enhanced security controls, customers are asked questions for security reasons, they are screened at airport security stations to be able to enter the sterile airport zone. Interaction between airport staff and customers determines further customer emotions and their travel mood, so this model is relevant for exploring the quality of aviation customer service. However, the model cannot be applied in aviation customer service, because it addresses gaps in the service provided and opportunities for their improvement only. Aviation customer service should devote a particular attention to staff development and the assessment of the former situation due to its specific work environment and tasks of employees. It also lacks a very important component - collaboration with external customers.

Grönroos's model of overall perceived quality. Grönroos (1990) developed a model of overall perceived quality, which covers functional and technical quality parameters, image and customer expectations (the expected quality). According to Prentice et al. (2019) and Shen and Tang (2018), technical quality focuses on how the key service meets customer expectations, while functional quality is related to the impact on customers' participation in the service provision process. Both of these parameters have a significant influence on how customers value service quality and how loyal they are to the service provider. In describing the technical quality, Roy et al. (2018) state that from the technical point of view, before serving/providing a service, tangible tools could be demonstrated to customers. The quality of these tools affects the expectations for future service. However, technical quality parameters do not in themselves guarantee that the service provided to customers will be of good quality, even if it is in line with external obligations and promises of the provider. Thus, according to Dixon and Verma (2013), the functional aspect, which must meet the customer's expectations, is much more important, or otherwise the technical quality becomes absolutely irrelevant, and customers have a poor opinion of the quality of service provision. According to Frohlich and Dixon (2001), the Grönroos's model does not determine the level of the perceived quality in terms of technical and functional quality parameters. This model shows the difference between the expected quality and the quality received, and measures how well the service provision/service process and its outcome meet the customer's expectations. Having developed its model of overall perceived quality, Grönroos distinguished four service quality assessments for examining the model. According to Palaima and Banyté (2006), a well-perceived quality is achieved when the quality received meets the customer's expectations. However, if waiting is unreasonable, all the perceived quality will be low, even if the quality received and objectively assessed is good. To sum it all up, the Grönroos's model of overall perceived quality is more useful than the SERVQUAL methodology. Grönroos's model assesses not only the functional (process) quality, but also covers the technical quality, which is also important in
servicing/service provision. This quality model is important in the aviation service area, because it allows understanding the difference between the quality expected and received by customers. If the quality does not meet customer expectations, an immediate response is possible to improve the situation in order to avoid losing customers and receiving complaints. However, this model, like the SERQVUAL methodology, does not provide for staff training and collaboration with external customers. Aviation requires collaboration with external customers, which is why the said components are necessary in servicing aviation customers in pursuit of a high service quality, efficiency of situation analyses, innovation application, etc.

Extended 4Q quality model by Lovelock and Gummesson (2004). The essence of the extended 4Q quality model by Lovelock and Gummesson is the need to consider external and internal quality. According to Lovelock and Gummesson, four qualities related to the equivalence of services and goods help to manage the quality perceived by customers. These are design, production and presentation, relationships and future benefits. Thus, this model reflects four sources of quality (Frohlich and Dixon, 2001). According to Dixon and Verma (2013), the extended 4Q quality model is particularly suitable for research, because it is combined and suited for measuring both the quality of goods and service provision/service. The first two concepts in the quality model are quality sources, which are the design quality and the production and delivery quality. Two other concepts shape the result from the production of goods and delivery of services (quality dimensions), i.e. relationship quality and technical quality (Palaima and Banytė, 2006). To sum up the opinion of various authors about Gummesson’s extended 4Q quality model, this model can be said to cover the assessment of the quality of both the services and the supply of goods to the market. Moreover, when talking about the use of the model in assessments, the share of services in the sale of goods does not matter. This model also reviews the external and internal quality, thus four key qualities are distinguished, also distinguishing expectations, experience and image, which comprise the quality perceived by customers in Gummesson’s extended 4Q model. This model is relevant in aviation service, because in aviation, customers go through different stages where the quality of service may differ significantly from baggage registration and check-in to boarding. The model would allow analyzing the quality of each process and comparing it according to customer expectations and the actual quality received. However, the model lacks an important staff training standard component in the absence of which customers are likely to be served beyond international level standards. Also, cooperation and complaint analysis are very important in aviation customer service, because this is the most expensive mode of customer service, which requires a high level of attention to complaints, losses, failures and requires a high quality level and trust.

5 Models of the assessment of service provision quality

The analysis of the most popular customer service models revealed that they are unsuitable for aviation customer service. Their deficiencies are serious, making the customer service quality model useless in aviation and unusable by staff serving customers in airports. The customer service model could be used in airports in combination with other analyzes, complemented by key components that are relevant in aviation (see Fig. 1).

All components in the theoretical model (see Fig. 1) are important, because they determine the quality of service of aviation customers. The assessment of the current and future service, collaboration with external environment, assessment of customer needs, which covers the analysis of complaints and gaps, followed by the improvement of service after identifying problem areas have been introduced. The next step is staff training. In the face of changes, internal communication with staff and their training is of particular importance. It is important to remember that customer service standard is very important for staff, as it has a significant influence on perfect customer service. Staff must be excellent at serving customers, be prepared for difficult and conflict situations, which often occur in aviation. Improved customer service improves the service quality, however, continuous assessment of the provided service reviewing and improving it is necessary.

Fig. 1 Application of the theoretical model in aviation customer service
6 Conclusions

Our conclusions are the following:

1. Passenger-customer traffic in aviation has been growing significantly each year, and thus the quality of service of aviation customers is very important. Customers are the ones to support all the expanding aviation industry.

2. The analysed four quality models revealed that the use of these models does not allow for a comprehensive analysis of the service quality in aviation service. The models have been designed for usual service, and are not suited for assessing service quality at airports of different sizes. Process differences, the time spent in each customer service stage and even the image of the terminal itself depend on the size of airports. Thus, the assessment of aviation customer service quality may render inaccurate results, as some customers may have a perception of the service quality formed on the basis of comparison with other foreign airports, while others may have an initial opinion only after being served in aviation for the first time. Aviation service differs from regular service: it is known for other dominant processes, baggage check-in, security, boarding procedures, thus the models analyzed are not comprehensively suitable for accurate assessment of aviation service quality.

3. The theoretical aviation customer service model has been developed on the principle of continuous improvement, which involves continuous process monitoring, assessment of the current and past situation, the analysis of gaps and complaints, staff training and service improvement. The theoretical model surpasses the other models analyzed, because it has all the components required in aviation.

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