

DEVELOPING A NEW SCALE FOR SERVICE QUALITY IN INTERCITY BUSES: IBUSQUAL

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ABSTRACT

Service quality is an important output for most industries. Since occupancy rates are very important for intercity bus companies (IBCs), the perception of service quality (SQ) is critical. Despite this, it is apparent that scale studies measuring the perception of SQ in bus companies are insufficient. In this context, the aim of this study is to develop a scale that can evaluate the SQ of IBCs. Quantitative research method was used in the study. Data were collected with survey from intercity bus users and a pretest (n: 153) and then a main study (n: 461) were conducted. As a result of the analysis, it was determined that the IBUSQUAL scale comprises seven dimensions (employee behavior (EB), office services (OS), promised service (PS), rest area (BRA), passenger interactions (PI), free shuttle services (FSS), and bus comfort (BC)) and 30 items. The fit indices of IBUSQUAL were reliable, and construct validity, reliability, and discriminant validity were ensured. The scale is important in terms of revealing that passenger interaction should also be taken into account to measure the SQ perception of IBCs.

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INTRODUCTION

The ability to attract and retain passengers in transportation systems is important for the sustainability of the company (de Oña et al., 2013). The most important way to achieve this is to increase SQ. SQ is the “customer’s judgment about the product/service” (Tavmergen, 2002, p. 24). Berry et al. (1990, p. 29) draw attention to the importance of customer perception by stating that “customers are the only judges of SQ” and that an evaluation is made by comparing the customer’s expectations and perceptions. In today’s competitive environment, providing quality service is recognized as a fundamental strategy for success and survival. In the 1980s, academic and managerial efforts focused on determining what SQ meant to customers and developing strategies to meet their expectations (Zeithaml et al., 1996, p. 31). The pursuit of quality was likely the most significant consumer trend of the 1980s, as consumers now demand a higher level of product quality than ever before (Parasuraman et al., 1985, p. 41). The importance of SQ has increased with increasing competition in recent years (Johnson & Sirikit, 2002).

Ultimately, the increase in SQ encourages the use of transportation systems. This situation reduces the use of private vehicles and contributes to the reduction of environmental, air quality, and traffic problems (Govender & Pan, 2011; Wen et al., 2005). In addition, many studies (Cheunkamon et al. 2022; Çelik & Çizel, 2017; Kozak, 2001; Tosun et al., 2015) show that “transportation” is one of the most crucial aspects of SQ, especially in tourist destinations as a logistic system. For these reasons, measuring SQ is an important tool for managers to determine the level of SQ and make market demand forecasts (Lin et al., 2008). Satisfaction is significantly affected by SQ (Cronin et al., 2000; Shamsudin et al., 2020), customer commitment (Harrison-Walker, 2001), customer loyalty (Etuk et al., 2021; Ricardianto et al., 2023; Shi et al., 2014), and behavioral intention (Hu & Jen, 2007).

Although there are studies on SQ in transportation enterprises, they are limited. The studies were carried out for transportation vehicles such as railways (Prasad & Shekhar, 2010), urban public transport (Bajčetić et al., 2018; Houria & Farès, 2019; Sukhov et al., 2021), intercity bus service (Hu & Jen, 2007; Freitas, 2013; Lin, 2018), Jeepney (Ong et al., 2022) and planes (Shah et al., 2020). However, it has been observed that intercity bus companies (Barabino et al., 2011; Bajčetić et al., 2018; Houria & Farès, 2019) primarily evaluate urban bus transportation within the framework of quality criteria. It has been emphasized by Freitas (2013) that the criteria

and qualifications used in this context are not sufficient for measuring the quality of intercity passenger transportation services.

In addition, in some studies (Mapunda, 2021; Mikhaylov et al., 2015), a scale has been developed to determine SQ in bus companies based on SERVQUAL measurements. However, although it has been mentioned as an important aspect of the service encounter for a long time, there are almost no studies examining the effects of customer-to-customer (CtoC) interactions on SQ (Moore et al., 2005, p. 483; Wu, 2008, p. 1502), especially in transportation businesses, which have been ignored in the service literature. This situation is also seen in studies other than scale development studies (Sakti et al., 2021; Shamsudin et al., 2020). However, one of the factors that determines both satisfaction and quality is customer interaction. At this point, Wirtz and Lovelock (2021, p. 27) emphasize the necessity of a customer portfolio to provide a customer experience, stating that “we need to use marketing communications to attract the right customer segments to the service facility and train them on the right behavior once there.” In a similar approach, Gummesson (1993) demonstrates the importance of customer interaction by saying that “hiring the right customers is as important as hiring the right staff” (as cited in Grove & Fisk, 1997). CtoC interaction is an integral part of the service experience and a crucial component that shapes the customer service experience (Zgolli & Zaiem, 2017, p. 46). “The phenomenon of CtoC interaction, which was implemented in the context of services only 20 years ago, is a theme that draws the attention of both academics and practitioners to the general proposition that the development of a strong interaction between consumers improves the service experience” (Zgolli & Zaiem, 2017, p. 45). In transportation companies, this situation can be handled with passenger interaction. Passenger interactions are expressed as actions taken by passengers during the time they spend from the starting point to the destination (Kadam & Bandyopadhyay, 2020).

The presence of other customers in a service environment can affect interaction quality and the customers’ service experience (Grove & Fisk, 1997). When this situation is considered in terms of service businesses, it is much more significant for intercity bus companies since passengers sit next to or closely behind one another. The purpose of this study is to develop a reliable and valid scale that also takes into account passenger interaction to determine the quality levels of intercity bus companies. Utilizing a systematic literature review, Bakar et al. (2022) analyzed the SQ of bus performance in Asia. They researched 41 articles and identified 12 dimensions of service quality in bus performance. These dimensions do not

include passenger interaction attributes. Also, Mazzulla and Eboli (2006) created an index for SQ by collecting data from those who prefer the bus and those who do not. However, passenger interaction was not considered in that index. Therefore, the significance of this study lies in its ability to provide suggestions for bus companies to establish SQ standards and develop applicable strategies. As a result, bus companies will be able to measure SQ more accurately. In addition, it will allow for the evaluation of customers' perceptions of SQ. In this way, companies will be able to act more rationally in understanding and meeting changing customer expectations, thereby providing a successful competitive advantage. The IBUSQUAL scale that emerged from the research is significant since it reveals the previously unmeasured customer interaction with transportation companies. After an explanation of SQ and SQ scales, studies on SQ in bus companies were mentioned, followed by a discussion of methods and findings and the presentation of recommendations.

LITERATURE REVIEW

Service Quality

Before talking about SQ, it is useful to mention the concept of quality. As in many definitions, it can be observed that there are different perspectives on the concept of quality. The American Society for Quality (ASQ, 2022, p. 4) stated, "In technical usage, quality can have two meanings: 1) the characteristics of a product or service that bear on its ability to satisfy stated or implied needs; 2) a product or service free of deficiencies." In addition, quality is "fitness for use," according to Juran (1951), and "conformance to requirements," according to Crosby (1980, p. 15). In the light of these definitions, SQ can be defined as "the judgment arising from an evaluation process in which consumers' perceptions of the service they receive and their expectations are compared" (Chawla & Sharma, 2017, p. 48). Therefore, quality service can be defined as a service that exceeds consumers' expectations (Parasuraman et al., 1985, p. 42).

In other words, if the expectations are kept constant, a higher evaluation of SQ is observed when a perception of a higher performance level for the service received occurs, and a negative or lower evaluation of SQ is observed when a perception of low performance occurs (Boulding et al., 1993, p. 8; Grönroos, 1984, p. 36–37). In the literature on SQ, expectations are viewed as desires or wants (i.e., what a service provider believes they should provide rather than what is actually provided). It is formed based on a firm's previous experience, competitors, the marketing mix, and word-

of-mouth (Lewis, 1993, p. 5). As can be seen, the definitions related to SQ focus on meeting the needs and requirements of customers and how well the service provided meets their expectations.

In the related literature, researchers (Grönroos, 1984; Parasuraman et al., 1985) have investigated the effect of performance on expectations in the post-consumption evaluations of the product, sometimes by making comparisons and sometimes by asserting that satisfaction with quality services depends on the approval or disapproval of expectations (Smith & Houston, 1982). In this context, researchers used various scales to make an evaluation between service and service expectations. The most studied scales in the literature are Grönroos' SQ model, the SERVQUAL and SERVPERF scales, and the LODGSERV (Çiğdemli & İştin, 2018) SQ measurement model.

The Grönroos model was proposed by Grönroos as a result of a study conducted on service business managers in 1984 to develop a SQ model. The starting points of the study in this context were the following: 1) to define how SQ is perceived by consumers, and 2) to determine how SQ is affected. Two types of quality have been suggested in the Grönroos model: technical and functional quality. Technical quality refers to what the consumer actually receives from the service, while functional quality refers to how the service is received or delivered. In addition, Grönroos (1984, p. 38–40) suggested that image can be considered a dimension of quality depending on the perception of technical and functional quality.

Based on the definition of SQ by Parasuraman et al. (1988) the SERVQUAL scale is the most common scale used to measure SQ. The objective of Parasuraman et al. (1988) is twofold: the development of a multi-item scale to measure SQ and a discussion of the features and potential applications of the scale. On the SERVQUAL scale, SQ was examined in five dimensions: tangibles, reliability, responseveness, assurance, and empathy (Parasuraman et al., 1988).

The SERVQUAL scale was later taken into account by Cronin and Taylor (1992), and the SERVPERF scale was developed. They claimed that the SERVPERF scale was sufficient to measure performance compared to the SERVQUAL scale (Cronin & Taylor, 1992, p. 64). In addition, the SERVQUAL scale was insufficient in that consumers did not have any expectations about the service before purchasing it, nor did they know what to anticipate (Cronin & Taylor, 1992, p. 55–56). The purpose of comparing the SERVQUAL and SERVPERF scales is to determine which indexes are superior measures of SQ (Cronin & Taylor, 1992, p. 128).

Knutson et al. (1990) developed a new scale for the hospitality industry under the name “LODGSERV.” The LODGSERV scale is specifically designed to measure customer expectations based on hotel experience. Five main dimensions (reliability, trust, responsibility, physical characteristics, and empathy) were developed for the LODGSERV scale (Knutson et al., 1990, p. 278). Kuntson et al. (1990) made two important contributions by recommending and validating the LODGSERV measurement. First, both the LODGSERV and SERVQUAL scales were developed as consistent five-dimensional scales, which further confirms the reliability of Parasuraman et al.’s (1988) study. Again, Knutson et al. (1990) concluded that the process of developing LODGSERV could be replicated for other segments of the hospitality industry, especially restaurants and clubs (Liu et al., 2017, p. 120).

Examining the scales in the literature on SQ reveals that quality measurement is examined in the context of internal and external factors. Internal factors express the circumstances for the business (how the service is provided, physical features and equipment, personnel appearance and behavior, personnel knowledge and skills, etc.), and external factors express the circumstances for the consumer (the consumer’s perception of the service received, customer expectations, customer satisfaction, etc.). In addition to these factors, another important factor affecting SQ is customer interactions within the service environment. Although service environment is a significant factor affecting SQ, it is not accounted for in the scales. However, the environments in which the service is delivered can encourage positive emotional responses while strengthening customer perceptions and customer retention. Therefore, service environments play an important role in service delivery (Lin & Liang, 2011, p. 352). The service environment (customer interaction, etc.) must be well managed to improve SQ (Rust & Oliver, 1994).

As in other service areas, the role of the service environment plays a crucial role in public transportation (Pareigis et al., 2011, p. 112). In their qualitative research to determine the important dimensions of the service process defined by customers, Pareigis et al. (2011) revealed that a customer has the potential to affect the service experience of other customers. Even Pareigis et al. (2011, p. 115–117) stated that customers leaving garbage and free newspapers, speaking loudly, and asking questions have an impact on the service process.

Service Quality in Bus Companies

This section discusses the SQ studies conducted in bus companies. Silcock (1981) studied the effectiveness of bus service in the context of quality according to a predetermined schedule and a schedule along a given route. Similarly, Pullen (1993) stated that measures of operational performance of bus services can be categorized as efficiency (service quality, service utilization, and cost-effectiveness) and effectiveness (operating costs, vehicle use, workforce efficiency, and energy efficiency), and SQ measures can generally be considered a subset of effectiveness measures. In addition, in many studies (Mapunda, 2021; Sánchez Pérez et al., 2007; Shamsudin et al., 2020), SQ was measured in bus companies by forming the basis of the SERVQUAL scale. In addition, studies have been carried out on both intercity bus companies (Freitas, 2013; Özdemir & Mısırlı, 2020; Wen et al., 2005) and public transport companies (Islam et al., 2014; Shamsudin et al., 2020; Yaya et al., 2015). However, only one scale development study for intercity bus companies (Hu & Jen, 2006) was found, and it was considered inadequate. In addition, the majority of the studies employed quantitative research, while only one employed qualitative research methods (Pareigis et al., 2011). The vast majority of studies (Duman et al., 2007; Hu & Jen, 2007; Mazzulla & Eboli, 2006; Pavlina, 2015; Shamsudin et al., 2020; Ubaidillah et al., 2022; Wen et al., 2005) have found that SQ has a significant impact on satisfaction, behavioral intention, and loyalty. In another study, Chang and Yeh (2017) investigated the relationships between corporate social responsibility (CSR), SQ, company image, customer satisfaction, and loyalty and found that SQ has an effect on company image, customer satisfaction, and loyalty.

Studies closely related to the subject are given in Table 1. Examining the literature reveals that passenger interactions, which are one of the important points of our study, were not addressed in previous studies. In their qualitative studies, only Pareigis et al. (2011) investigated the dimensions of the service environment using qualitative methods, and the “other customer” dimension emerged as one of these dimensions (customer processes, the physical environment, contact personnel, provider processes, and the wider environment). As a matter of fact, the study by Pareigis et al. (2011) reveals the necessity of considering passenger interaction in studies on SQ. This reveals the importance of this scale development study.

Table 1. *Bus companies service quality factors in bus studies*

Authors	Year	Dimension/sub-dimension	Transport variety
Watthanaklang et al.	2024	Reliability, empathy, responsiveness, convenience, comfort, extended of service, price	Public transport
Kelilba and Chaib de Ona	2024	Comfort, vehicle safety, vehicle cleanliness	Urban transport
	2022	Service hours, information, frequency, speed, cost, intermodality, individual space, temperature, cleanliness, safety, security, proximity, punctuality, accessibility	Public transport
Tuan et al.	2022	Availability, security & safety, cost, customer care, comfort, environmental friendliness, accessibility, passenger information, time,	Public transport
Deb et al.	2022	Vehicle condition and hygiene, information availability, safety, travel expenses, comfort, reliability and convenience,	City bus
Bakar et al.	2022	Convenience, reliability, comfort, safety & security, route & time travelled, Schedule, speed, service frequency, on time performance, service hours, headway, service coverage	Public transport
Ubaidillah et al.	2022	Tangibles, Reliability, Assurance, Empathy, Responsiveness	Public buses
Nguyen-Phuoc et al.	2021	Tangibility, Convenience, Personnel, Reliability	Public transport
Chauhan et al.	2021	Transfer environment and important facilities, transport modes and travel information, comfort, staff management and ticketing, safety and security, accessibility and signposting, convenience and quality of environment,	Bus, Train and Metro
Sukhov et al.	2021	Reliability, functionality, information, courtesy/simplicity, comfort, safety,	Public Transport
Mapunda	2021	Tangibility, Reliability, Receptivity, Assurance Empathy	Bus Rapid Transit
Shamsudin et al.	2020	Tangibility, Reliability, Receptivity, Assurance Empathy	Public Transport
Özdemir and Mısırlı	2020	Service, Service (transportation), Personnel, Responsiveness, Security	Intercity Bus Companies
Rehman et al.	2020	Affordability, bus stop availability, comfort, personal security, punctuality, board information services, environmental protection,	Intercity private bus service
Barabino et al.	2019	Availability, accessibility, information, time, customer care, comfort, environmental impact	Public Transport
de Aquino et al.	2019	Reliability, comfort, convenience, communication/information systems, technical security, accessibility, empathy	Public Transport Services
Zhang et al.	2019	Convenience, safety, operational service, comfort, Reliability,	Public transport service
Chang and Yeh	2017	Tangibles, Reliability, Responsiveness, Assurance, Empathy	Intercity Bus Companies
Mahmoud and Hine	2016	Access to service, Fare, Safety and security, Service design, Operation Information and facilities,	Public transport
Yaya et al.	2015	functional, convenience, physical environment quality	Public transport
Pavlina	2015	Service, Logistic parameters	Public Transport
Islam et al.	2014	Service provided, Access, Availability, Environment	Public transport
Grujičić et al.	2014	Enough place in the vehicle, passenger politeness, ventilation in the vehicle waiting time at stop, cleanliness in the vehicle, avoidance of traffic jam, punctuality, fellow traveler cleanliness, tickets price	Public transport
Freitas	2013	Attendance, Vehicle, Route, Security, Differential Services, Ticket Fare	Intercity road transportation
de Oña et al.	2013	Service, Comfort, Personnel	Public transport
Yılmaz	2012	Elements relating to office, elements relating to buses, the elements relating to reliability, elements relating to service cars and their officials, officials and the staff of the buses, elements relating to booking, buying ticket, and baggage, services offered during travel, elements relating to break,	Intercity bus service

Koçoğlu and Aksoy	2012	Tangibility, Reliability, Receptivity, Assurance, Empathy	Intercity Bus Companies
Pareigis et al. (Qualitative study)	2011	Other customers, physical environment, provider processes, customer processes, contact personnel, wider environment,	Public transport
Ardıç and Sadaklıoğlu	2009	Attitudes and behaviors of staff, Bus (physical characteristics), Punctuality, Accommodation and Break, Reservation, Service and Baggage Transactions, Office operations	Intercity Bus Companies
Lin et al.	2008	Tangible service equipment, Convenience of services, Operating management support, Interaction with passengers	Intercity bus Companies
Duman et al.	2007	Office-service-terminal, Travel, Break	Intercity Bus Companies
Sánchez Perez et al.	2007	Tangibility, Reliability, Receptivity, Assurance Empathy	Public transport
Eboli and Mazzulla	2007	Service planning and reliability, comfort and other factors, network design	Public Companies
Hu and Jen (Scale Development)	2006	Convenience of service, operating management support, tangible service equipment, interaction with passengers,	City bus
Wen et al.	2005	Onboard amenity, Crew's attitude, Station performance, Operational performance	Intercity bus service

METHODOLOGY

Quantitative research method was used in the research. The research population consists of passengers traveling by intercity bus in Türkiye. The research sample consists of intercity passengers traveling within Türkiye who participated in the research and are representative of the universe. The reason why the research was conducted on intercity bus users in Türkiye is that it constitutes an important market. 95.2% of passenger transportation within Türkiye is done by road. A total of 573 companies operate in the field of intercity passenger transportation in Türkiye. The number of buses used for intercity passenger transportation within the country is 9,500. The seat capacity is more than 400,000 (Keçeci, 2024). As of the end of 2022, the length of Türkiye's road network (provincial roads, state roads, and highways) is 68,640 km. In Türkiye, the length of highway per 100,000 population is 88 km, and when evaluated in terms of surface area, the length of highway per 1000 km² in Türkiye is 81 km (CSB, 2024). Based on this, the sample size should be at least 384 according to the unlimited universe formula since the universe size is over 10 thousand (Sekaran & Bougie, 2016, p. 267). Therefore, the total number of passengers participating in the research (n=461) is sufficient.

The aim of this research is to develop a SQ scale for intercity bus companies. There are numerous recommendations concerning the scale development process. For instance, Churchill (1979) recommended an eight-step process (specifying the domain of the construct, generating a sample of items, collecting data, purifying measures, collecting data, assessing reliability, assessing validity, and developing the scale). Taheri et al. (2018) suggested a four-step process (defining the content domain and

generating items, purifying the items, validating the construct and assessing reliability, and replicating). Bagozzi et al. (1991), on the other hand, recommended four basic processes (conducting a literature review, an exploratory survey, a pilot survey, and a main survey) for scale development. In this study, for the scale development process, the steps suggested by Carpenter (2018) (conducting a literature review, conducting at least one type of qualitative research, receiving expert feedback, and conducting a pre-test for scale dimensions and items) were used, and scale development studies on the subject (Dedeoğlu et al., 2020; Mapunda, 2021; Mikhaylov et al., 2015) were examined. Figure 1 shows the scale development steps.

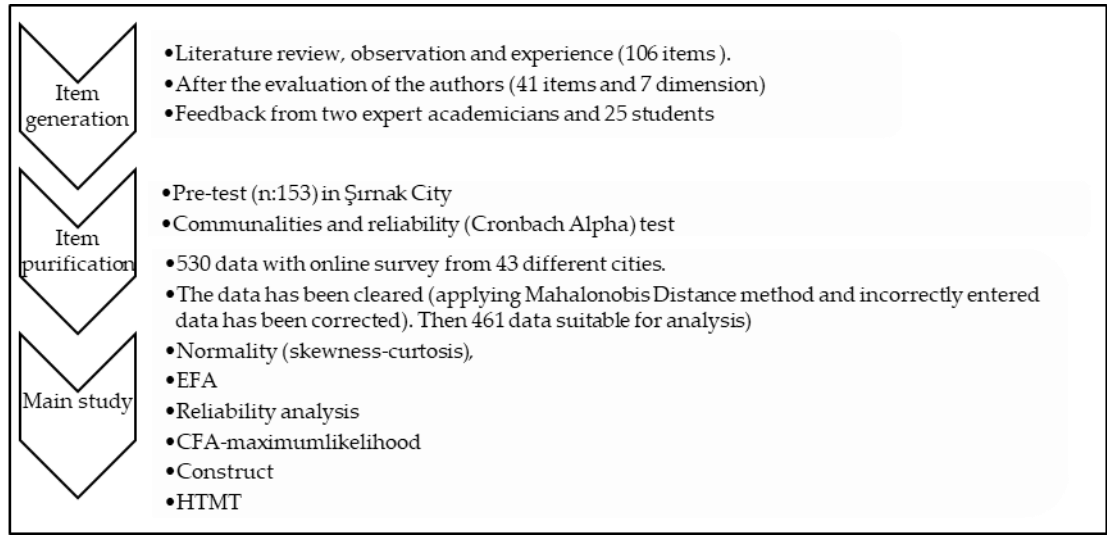


Figure 1. *Scale development process*

Phase 1: Item Generation, Construct, and Face Validity

For determining the scale items, the researchers started with a literature review of the bus experiences (Table 2) (Ardıç & Sadaklıoğlu, 2009; Duman et al., 2007; Govender & Pan, 2011; Mahmoud & Hine, 2016; Wen et al., 2005; Yilmaz, 2012). In addition, at this stage, the researchers traveled with bus companies in the provinces they were in, and questions about the missing subjects on other scales were added based on their observations. As a result of the literature review and observations, 106 questions were compiled into an itempool. After the pre-screening of the researchers (similar expression dimensions and incomprehensible questions were eliminated), the number of questions was reduced to 45. These statements were sent to two academic experts along with an expert opinion form. They recommended revising the four items. In addition, 25 people were asked to fill out a form for content and face validity. As a result of the expert opinions and the form filled out

by 25 participants, four questions were eliminated, and 41 questions were selected (Table 2). Phrases taken from other languages were translated from English into Turkish using the back translation method. Two linguists then assessed the expressions. The answer options for the questions were created using a 5-point Likert-type scale (ranging from *None* and 1 = *Very bad* to 5 = *Very good*) and a “0” option for “I have no idea.” The “I have no idea” option is used for services that the passenger has never encountered. For instance, if someone else purchased a passenger’s ticket, they may select “I have no idea” for the option “Ease of purchasing tickets and making reservations from the office.” Someone who has traveled for a short time may respond, “I have no idea,” to rest area factor questions, as they have never visited a rest area.

Table 2. *Items and sources*

Dimensions	Items	Items code	Sources
Bus Comfort	Noise level of the bus*	Comfort1*	Wen et al. 2005
	Interior cleaning of the bus*	Comfort 2*	Wen et al. 2005 ; Ardiç and Sadaklıoğlu, 2009
	Air/climate of the bus (temperature, air, lighting etc.)*	Comfort 3*	Wen et al. 2005 ; Ardiç and Sadaklıoğlu, 2009
	Comfort and width of seats	Comfort 4	Wen et al. 2005 ; Ardiç and Sadaklıoğlu, 2009
	Entertainment systems (TV, media player etc.)	Comfort 5	Wen et al. 2005
	Availability of in-bus technology (Wi-fi, socket, etc.)	Comfort 6	Wen et al. 2005
	Food and beverage treats*	Comfort 7*	Wen et al. 2005 ; Ardiç and Sadaklıoğlu, 2009
	Placing luggage properly*	Comfort 8*	Wen et al. 2005 ; Ardiç and
Employee Behavior	Cleanliness of the employees (assistant personnel)	Empbeh1	Wen et al. 2005
	Friendliness of employees	Empbeh2	Wen et al. 2005 ; Ardiç and Sadaklıoğlu, 2009
	Employees assist passengers	Empbeh3	Wen et al. 2005
	Behavior of drivers	Empbehv4	Wen et al. 2005
	Safe driving of the driver	Empbeh5	Wen et al. 2005
	Behaviors of employees	Empbeh6	Wen et al. 2005 ; Ardiç and Sadaklıoğlu, 2009
	Consideration of complaints*	Empbeh7*	by authors
Rest Area	Equipment and maintenance of rest areas	Restarea1	Wen et al. 2005
	Cleanliness of rest areas	Restarea2	Wen et al. 2005
	Food and beverage quality in rest areas	Restarea3	by authors
	Prices in rest areas	Restarea4	by authors
	Displaying or announcing bus time on screens in rest areas*	Restarea5*	Wen et al. 2005
Promised Services	Clear and understandable departure and arrival time schedules	PromisServ1	Wen et al. 2005
	Break times	PromisServ2	Ardıç and Sadaklıoğlu, 2009
	Number of breaks	PromisServ3	Ardıç and Sadaklıoğlu, 2009
	Roundtrip route*	PromisServ4*	Mahmoud and Hine, 2016
	Departure at the time specified in the tariff*	PromisServ5*	Wen et al. 2005
	Arriving at the destination within the time specified in the tariff	PromisServ6	Ardıç and Sadaklıoğlu, 2009
	Availability of bus departure times*	PromisServ7*	Ardıç and Sadaklıoğlu, 2009
	Frequency of bus services	PromisServ8	by authors

Office Services	Ease of purchasing tickets and making reservations from the office*	OfficeServ1*	Govender and Pan, 2011
	The adequacy of the number of offices	OfficeServ2	Ardıç and Sadaklıoğlu, 2009
	Accessibility to the office (location, accessibility)	OfficeServ3	Ardıç and Sadaklıoğlu, 2009
	Behavior of office staff	OfficeServ4	Ardıç and Sadaklıoğlu, 2009
	Cleanliness of the office	OfficeServ5	by authors
	Useful customer waiting area in the office	OfficeServ6	Mahmoud and Hine, 2016
Free Shuttle Services	Frequency of free shuttle service of the bus company	FreeShuttle1	Mahmoud and Hine, 2016
	Free shuttle and bus arrival and departure time coordination	FreeShuttle2	by authors
	Free shuttle service of the bus company	FreeShuttle3	Ardıç and Sadaklıoğlu, 2009
Passenger Interaction	Noise of passengers	PI1	by authors
	Cleanliness of passengers	PI2	by authors
	Behavior of passengers to other passengers	PI3	by authors
	Delay status of passengers boarding the bus	PI4	by authors

* Eliminated as a result of factor analysis

The dimensions and items created by considering the literature review and the experiences of the researchers are mentioned above. Each of the dimensions, such as the comfort of the bus, the behavior of the employees, the fulfillment of the promised services, the services of the ticket sales office, the rest area and free shuttle services are elements of SQ mentioned in the literature before. Free shuttle service is provided from bus terminals to designated stops in the city. In addition, passengers are picked up from designated stops in the city and taken to the terminal free of charge. This practice is common in Türkiye. However, when they are not in other countries, they must select "0" as the answer option on the scale. Rest areas serve as places where travelers can stop by, even for a short time, to relieve the tiredness of the road, meet their needs, and perform the necessary maintenance for their vehicles. At rest facilities, passengers can purchase services such as food, souvenirs and toilets (Ballı, 2012). In these rest areas, intercity bus drivers are required to take at least 15-minute breaks in every 4.5 hours of driving time. In addition, drivers must have 11 hours of uninterrupted rest when they drive for 9 hours in 24 hours (Highway traffic regulations, 1997). Since customer/passenger interaction affects satisfaction and loyalty, it is necessary to evaluate passenger interaction as a quality factor. Passenger interaction emerges as an important issue that needs to be investigated, as passengers travel side-by-side, back-to-back, and in crowds on buses. At this point, the passenger interaction dimension is considered a dimension of SQ. On a bus, even if the passengers do not talk to each other, they are in silent communication. A passenger making noise (talking loudly on the phone, making noise while eating, etc.), not complying with general etiquette (being affected by the road and vomiting, constantly wanting to have a conversation with the person sitting next to him, smelling bad, etc.), or not arriving on time at the departure time of a stopover can cause

discomfort to other passengers. If this discomfort becomes permanent in a bus company, passengers may change their bus company preferences. The reasons for this are not only other passengers but also companies. In reality, companies can choose their own customers with their marketing and management strategies.

Phase 2: Item Purification

After it was decided that the scale form was comprehensible, data were obtained from 153 people from the province of Şırnak by face-to-face survey method to test its reliability. The Cronbach's alpha value of these collected data was found to be 0.98, with high reliability. The convenience sampling technique was preferred in sample selection after the pre-test. Data were collected from 43 different cities using the online questionnaire (Google Forms) prepared between January 1 and June 30, 2021, and shared on social media (Facebook). A total of 530 responses were obtained. Outliers (Byrne, 2016) and erroneous surveys were eliminated, resulting in 461 surveys used for analysis. 384 individuals must be surveyed to account for a 5% error rate in sample selection (Altunışık et al., 2007). In addition, Tabachnick and Fidell (2006) stated at least 300 data should be available. In this instance, the sample size is appropriate to reveal the purpose of the research statistically. Also, to avoid common method bias, data were collected from different provinces over a long period of time (between 1 January and 30 June 2021).

Looking at the profile of the participants (Table 3), 58.6% were male, 40.1% were female, 34.1% were married, and 63.6% were single. The average age of the participants was 28 (most of them were in the 18–25 age group). Considering their educational status, 61.6% were university graduates, 8.9% were primary school and high school graduates, and 28.2% had a master's or doctoral degree. In addition, 36% of participants had a monthly income between 3,001 and 6,000 TL, and the average monthly income was 3.573 TL.

After this stage, the normal distribution was examined. The skewness-kurtosis values were considered to see if the items were multi-normally distributed (Appendix 1). According to the recommendations of George and Mallery (2010) (+2/–2), skewness (0.64 to 0.37) and kurtosis (–0.03 to 1.04) values showed the normal distribution. Using exploratory factor analysis (EFA), the distribution (structure) of the items was then examined using the principle component analysis (PCA) technique. Kaiser-Meyer-Olkin (KMO) test value was greater than 0.50 for data adequacy and that the Bartlett's test value was less than 0.05 for examining the multiple

normal distributions of the data. In addition, varimax, one of the rotation methods, was used. Factor loadings below 0.50 were excluded (Comrey, 1988), and Kaiser's criterion was kept above 0.60 for communalities (Field, 2013).

Table 3. *Demographic profile*

Variables	Categories	Frequency	Valid Percent (%)
Education	Primary Education	6	1.3
	High School	33	7.3
	University	284	61.6
	Master	90	19.5
	Doctorate	40	8.7
Marital status	Married	157	34,1
	Single	293	63,6
Gender	Male	270	58,6
	Female	185	40,1
Monthly Income (Turkish Lira) (Mean-3.573 TL)	No income	63	13,7
	1-3.000	157	34,3
	3.001-6.000	167	36
	6.001 and higher	74	16
Age (Mean: 28)	18-25	47,1	217
	26-33	23,0	106
	34-41	21,3	98
	42 and older	6,9	32

Exploratory Factor Analysis

Exploratory factor analysis, a fundamental tool in the development and validation of psychological theories and measurements, is a multivariate statistical method that attempts to identify the minimum number of hypothetical structures (Watkins, 2018). As a result of the EFA, it was revealed that bus SQ can be measured with 30 items and seven dimensions (employee behavior (EB), office services (OS), promised service (PS), rest area (BRA), passenger interactions (PI), free shuttle services (FSS), and bus comfort (BC)) (KMO: 0.95, $p < 0.05$). Eleven items (Comfort1, Comfort2, Comfort3, Comfort7, Comfort8, Empbeh7, OfficeServ1, Restorea5, PromisServ4, PromisServ5, PromisServ7) were excluded since the load remained below 0.50, overlapping and reducing reliability. The expressions and dimensions account for 77.92% of the total variance. Communality values range from 0.61 to 0.84, whereas factor loadings range from 0.54 to 0.80. While the EB dimension (16.86%) best explains the structure, the BC dimension explains it the least, with 7.99%. In addition, it is observed that the mean of the expressions (\bar{x}) is between 1.27 and 2.83, and the standard deviations are between 1.16 and 1.48 (Table 4).

For the reliability of the scale items, Cronbach's alpha value for all the items was found to be 0.96. Cronbach's alpha values were then re-

evaluated using the split-half method. The Cronbach's alpha value for the first and second groups was determined to be 0.94. These results reveal that the reliability level of the scale items is high. In addition, Cronbach's alpha value for each dimension was examined separately for internal reliability, and it was determined that each dimension was reliable (Cronbach's alpha > 0.70) (Büyüköztürk, 2005), indicating that internal reliability was achieved (Table 4).

Table 4. *Exploring factor analysis and reliability analysis results*

Dimensions	Items	Communalities	Mean	Sd.	Factor Loadings	Variance Explained (%)	Cronbach's Alpha
Employee Behavior (EB) (\bar{x} : 2.51)	Empbeh2	.84	2.76	1.29	.800	16.86	.94
	Empbeh6	.82	2.76	1.30	.800		
	Empbeh3	.82	1.27	1.27	.783		
	Empbeh4	.71	2.71	1.37	.731		
	Empbeh1	.76	2.78	1.29	.718		
	Empbeh5	.73	2.83	1.35	.701		
Office Services (OS) (\bar{x} : 2.64)	OfficeServ3	.79	2.77	1.34	.766	13.80	.92
	OfficeServ4	.78	2.76	1.33	.741		
	OfficeServ5	.82	2.58	1.34	.739		
	OfficeServ2	.80	2.72	1.42	.719		
	OfficeServ6	.75	2.38	1.37	.644		
Promised Service (PS) (\bar{x} : 2.63)	PromisServ3	.81	2.68	1.27	.758	11.57	.90
	PromisServ2	.84	2.74	1.30	.740		
	PromisServ6	.71	2.56	1.48	.632		
	PromisServ8	.72	2.57	1.39	.627		
	PromisServ1	.68	2.60	1.34	.571		
Rest Area (RA) (\bar{x} : 2.24)	Restarea3	.84	2.35	1.29	.796	11.18	.90
	Restarea2	.84	2.41	1.27	.779		
	Restarea1	.83	2.42	1.28	.754		
	Restarea4	.67	1.81	1.17	.715		
Passenger Interactions (PI) (\bar{x} : 2.45)	PI3	.80	2.44	1.24	.795	8.34	.85
	PI4	.81	2.29	1.25	.747		
	PI1	.70	2.46	1.29	.544		
	PI2	.69	2.63	1.31	.543		
Free Shuttle Services (FSS) (\bar{x} : 2.13)	FreeShuttle1	.84	2.22	1.31	.772	8.16	.86
	FreeShuttle2	.82	2.15	1.29	.760		
	FreeShuttle3	.70	2.08	1.38	.619		
Bus Comfort (BC) (\bar{x} : 2.23)	Confort5	.84	2.07	1.18	.787	7.99	.85
	Confort6	.77	2.17	1.24	.713		
	Confort4	.71	2.46	1.16	.673		

KMO: 0.95. Barlett's test of Sphericity: Approx. Chi-Square: 12362.175, df: 435, sig.: 0.00, Total Explained Variance: 77.92.

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is the testing of a previously determined hypothesis or theory about the relationship between variables (Büyüköztürk, 2019, p. 133). In the next step, CFA was performed to test the accuracy of the EFA results. Convergent and discriminant validity were demonstrated with CFA. The CFA results obtained with the maximum-likelihood method with the AMOS 24 program confirm the EFA results. In

the resulting structure, factor loadings >0.60 (0.65–0.92) are seen to be above the recommended >0.50 value (Hair et al., 2019). In addition, the fit indices (χ^2/df : 3.42, TLI: 0.91, CFI: 0.92, RMSEA:0.07) shown in Table 5 indicate that the model is acceptable according to the recommendations in the literature (Anderson & Gerbing, 1988; Schumacker & Lomax, 2004). The model has been improved by connecting e9-e11 and ea3-e15 (Figure 2).

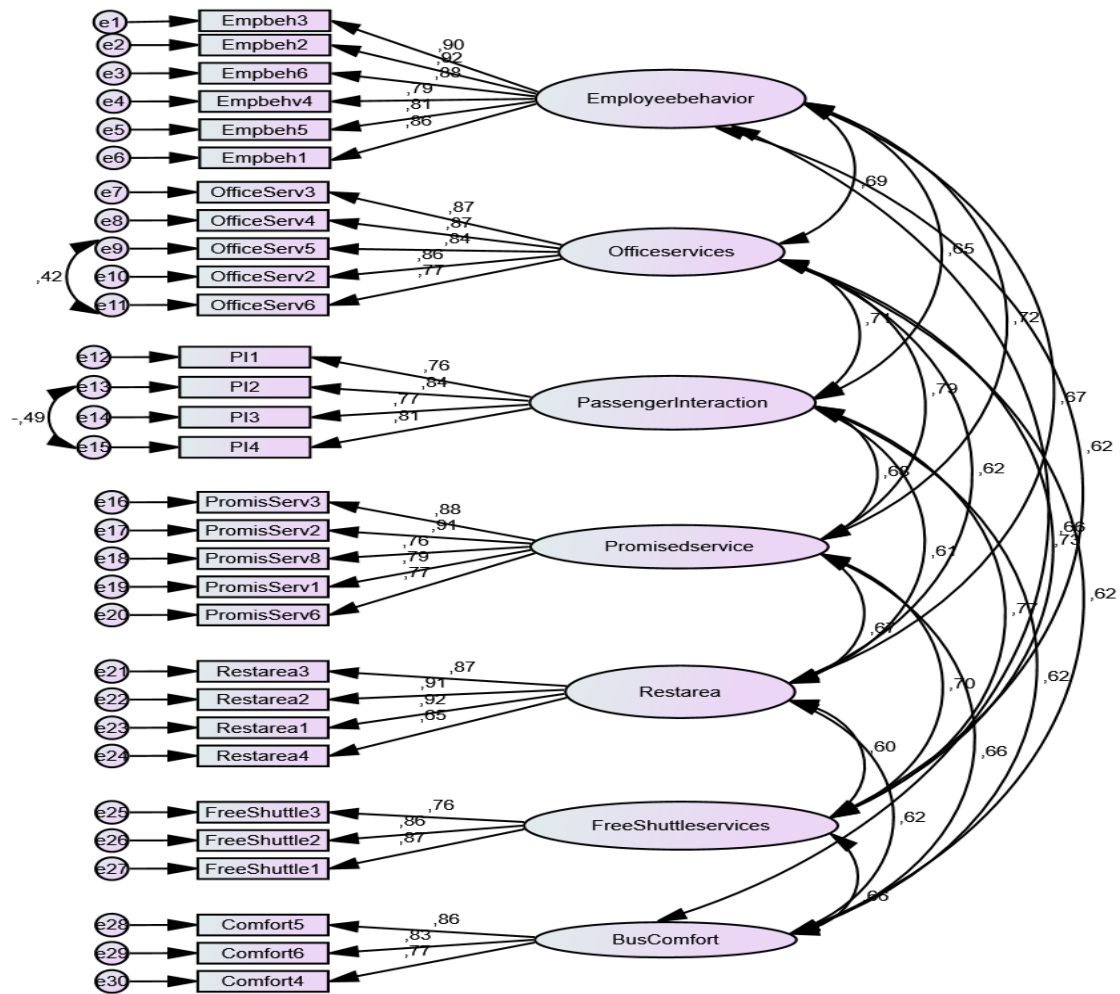


Figure 2. *Confirmatory factor analysis*

The composite reliability (CR), which indicates the internal reliability of each factor, was found to be higher than the recommended value of 0.60 (Hair et al., 2009). In addition, the average variance extracted (AVE) value of >0.50 , recommended by Fornell and Larcker (1981), was used to measure convergent validity. Since the AVE values (0.63–0.94) for all dimensions were above 0.50, convergent validity was achieved (Table 6).

Table 5. *Confirmatory factor analysis and index*

Dimensions	Items	Std. Factor Loadings	t-value	C.R.	AVE
Employee Behavior	Empbeh3	.90	fixed		
	Empbeh2	.92	30.98		
	Empbeh6	.88	28.20	.94	.74
	Empbeh4	.79	22.72		
	Empbeh5	.81	23.94		
	Empbeh1	.86	26.68		
Office Services	OfficeServ3	.87	fixed		
	OfficeServ4	.87	25.08		
	OfficeServ5	.84	23.66	.92	.71
	OfficeServ2	.86	24.37		
	OfficeServ6	.77	20.10		
Passenger Interactions	PI1	.76	fixed		
	PI2	.84	17.95	.87	.63
	PI3	.77	17.24		
	PI4	.81	17.20		
Promised Service	PromisServ3	.88	fixed		
	PromisServ2	.91	28.02		
	PromisServ8	.76	20.30	.91	.67
	PromisServ1	.79	21.40		
	PromisServ6	.77	20.73		
Rest Area	Restarea3	.87	fixed		
	Restarea2	.91	28.34	.90	.71
	Restarea1	.92	28.81		
	Restarea4	.65	16.02		
Free Shuttle services	FreeShuttle3	.76	fixed		
	FreeShuttle2	.86	19.01	.87	.69
	FreeShuttle1	.87	19.09		
Bus Comfort	Comfort5	.86	fixed		
	Comfort6	.83	20.58	.86	.67
	Comfort4	.77	18.66		

Table 6. *Validity analysis*

Factors	CR	AVE	MSV	MaxR (H)	Employee Behavior	Office Services	Passenger Interactions	Promised Service	Rest area	Free Shuttle Services	Bus Comfort
Employee Behavior	0.94	0.74	0.53	0.95	0.861						
Office Services	0.92	0.71	0.63	0.92	0.687***	0.843					
Passenger Interactions	0.87	0.63	0.59	0.87	0.647***	0.707***	0.796				
Promised Service	0.91	0.67	0.63	0.92	0.725***	0.794***	0.675***	0.824			
Rest Area	0.90	0.71	0.45	0.93	0.671***	0.620***	0.611***	0.674***	0.847		

Free Shuttle Services	0.87	0.69	0.59	0.88	0.623***	0.658***	0.768***	0.703***	0.598***	0.832
Bus Comfort	0.86	0.67	0.53	0.86	0.729***	0.617***	0.618***	0.661***	0.623***	0.657*** 0.819

In addition, the heterotrait-monotrait (HTMT) analysis was used to examine the discriminant validity of the structure (Table 7). When the HTMT ratios are examined, it is seen that the model has discriminant validity since all values are less than Henseler et al.'s (2015) recommendation of < 0.85 .

Table 7. *HTMT Analysis*

Factors	Employee Behavior	Office Services	Passenger Interactions	Promised Service	Rest area	Free Shuttle services	Bus Comfort
Employee behavior							
Office Services	0.711						
Passenger Interactions	0.680	0.762					
Promised Service	0.743	0.825	0.720				
Rest area	0.669	0.641	0.661	0.695			
Free Shuttle services	0.648	0.704	0.791	0.737	0.642		
Bus Comfort	0.752	0.646	0.637	0.707	0.650	0.676	

DISCUSSION AND CONCLUSION

In this study, a scale was developed to measure perceived SQ in intercity bus companies. Scales for measuring SQ in bus companies are limited (Paregis et al., 2011) and passenger interaction has not been considered in empirical studies (Hu & Jen, 2006; de Ona, 2021; Freitas, 2013; Yılmaz, 2012). However, the service environment is evaluated not only in terms of physical features, but also other design features perceived by passengers, the prevailing climate and social structure of the environment (Çelik, 2009, p. 159). Bus companies are businesses that have a greater obligation than other service businesses to remain physically close to their customers. This situation reveals the necessity of investigating the interaction between passengers. So, a scale is developed to address this literature gap.

Most of the studies (Özdemir & Mısırlı, 2020; Shamsudin et al., 2020; Sukhov et al., 2021) are based on the SERVQUAL scale. Like studies conducted in other sectors, scales for intercity bus companies do not include customer or passenger interaction (Paregis et al., 2011). Although there were important studies to measure the service quality of bus companies (Eboli & Mazzulla, 2007; Freitas, 2013; Hu & Jen, 2007; Lin et al., 2008), they

remained short in considering social interactions. In this regard, the development of a scale in this study, taking into account passenger interaction, will contribute to the literature. Another significant contribution is to the sector. It will raise awareness that all service companies, in general, and intercity bus companies, in particular, should consider customer interaction in their perceived SQ research. As a matter of fact, CtoC interaction is a variable that can affect customers' perceptions of satisfaction and repeat behavior (Huang, 2008).

As a result of the research, the IBUSQUAL scale, consisting of 30 items and seven dimensions (Employee behavior (EB), Office services (OS), promised service (PS), rest area (BRA), Passenger encounter (PE), Free shuttle services (FSS) and Bus comfort (BC)s was developed. The total variance explained by the dimensions in the scale is 77.92%. The contribution rates for each dimension are 16.86% for EB, 13.80% for OS, 11.57% for PS, 11.18% for RA, 8.34% for PI, 8.16% for FSS, and 7.99% for BC. Among these factors, EB contributes the most to the model and BC contributes the least, and each dimension has a significant contribution to the total explained variance. In this context, companies need to improve their SQ across all dimensions. Considering the answers given by the participants to the items, it was determined that the average of each dimension was below 3. This demonstrates the poor SQ of the intercity bus companies perceived by the participants. In this case, companies can increase their SQ by paying attention to employee behavior, office services, promised services, rest areas, passenger characteristics, and bus comfort.

Although the aim of this study is not to reveal SQ level, the complaints of the participants about several issues come to the fore (see Appendix). One of the issues that reduce the quality is the in-bus technology (Wi-fi, socket etc.) and entertainment system (TV, Media player etc.). In the light of this finding, it is revealed that the companies should equip the buses with the latest technology and give importance to technological entertainment system. Another critical issue is the problem of high price in resting areas. This situation is also in line with the experiences of the researchers. Food and beverage prices in resting facilities are much higher than the expected level. The companies should discuss this problem with the resting facilities and find a solution. In fact, at this point, bus companies may even choose to put their own resting facilities into operation. The companies that will do this can provide a significant competitive advantage over the others. Additionally, other important problem in the findings of this study is the frequency and timing of the free shuttle services. The free shuttle services are not coordinated with the

arrival time of the bus, and passengers may have to wait for hours as one free shuttle service waits for the arrival of several buses. In this case, companies should increase the number of free shuttle services, ensure coordination, or reduce the number of people requesting free shuttle services by putting pressure on the municipality or other decision makers for the development of urban transport infrastructure.

Since the profile of passengers in the transportation market is heterogeneous, it should be acknowledged that they may respond differently to different policies and strategies (Fu, 2022). At this point, although it is difficult for transportation companies to manage passenger-to-passenger interaction, this difficulty can be overcome with marketing strategies. With the pricing strategies, advertising, and positioning they will implement, the companies will be able to attract their target customer segment. Indeed, “positioning strategy is the choice of target market segments, which determines where the business competes, and the choice of differential advantage, which dictates how it competes” (Doyle & Stern, 2006, p. 84). According to Doyle and Stern (2006), companies can be positioned as “economy,” “mass market,” “premium,” or “luxury” based on the relationship between price and product quality. For example, when a transportation company wants to attract wealthy and educated customers, it can do so by maintaining its prices above the market average. It is commonly believed that the wealthy are individuals with high social status and a high level of education (there may be minor differences, of course). In addition, Fu (2022) classified passengers according to their satisfaction and expectations into three groups: 1) those who are satisfied with the service (rarely complain), 2) those who complain a lot, and 3) those who are neutral, stating that different marketing strategies should be created for each group due to their unique characteristics. Although it is necessary to plan strategies to increase the corporate image and customer loyalty for those who are satisfied with the service, it is also necessary to plan strategies and practices for improving the operational dimensions of SQ for those who complain a lot. Neutral individuals may occasionally behave differently. At this point, passenger complaints should be thoroughly examined (Fu, 2022).

Practical Implications

Intercity bus companies can determine a strategy according to their market structure and capabilities. Determining these strategies will provide an important competitive advantage for businesses. At this point, it is useful to pay attention to Porter’s (1985) competition strategies (focus, overall cost

leadership, and differentiation). Choosing the right competitive strategies in terms of both market positioning and management will contribute to the faster growth of businesses. In addition to their positioning strategies, intercity bus companies can bring together customers who share certain characteristics (income level, education level, similar motivation, etc.), thereby decreasing the disparity between customers and increasing their similarity. This prevents negative interactions or conflicts between customers; thus, an increase in customer satisfaction is achieved. Customer satisfaction can also enable the passenger to choose the company again and recommend it to others. In this way, it provides a competitive advantage over other companies by reducing the advertising and promotion expenses of the company, increasing sales, and making the business more profitable and expandable.

There are various practices to direct customer behavior. For example, drivers who direct passengers with verbal commands engage in some regulatory activities, such as warning those who talk loudly. Passengers, who are aware that drivers are watching them, regulate their actions accordingly and engage in non-compliant behavior, such as throwing garbage on the ground, when the driver is busy on the road. Control inside the bus is not limited to just the drivers. Cameras inside the bus and warnings scattered throughout the bus environment advise passengers on the behaviors they should avoid and comply with (Mirza Girgin, 2022, p. 100). As another example, disruptions in service quality can be eliminated with the following general passenger obligation included in the transportation contract of Kamil Koç, an important bus company in Türkiye (Kamil Koç, 2023).

“The driver and staff have the authority to prevent passengers who are clearly under the influence of alcohol or drugs from traveling. The same rule applies to passengers who, for other reasons, endanger the safety of other passengers in the vehicle or significantly impair the health and well-being of other passengers. In this case, the passenger’s alternative transportation request will not be accepted.”

Considering the averages of the items used in the study (Table 4), we can conclude that the service quality is below average. In this situation, it is necessary to provide bus companies with suggestions for improving their service quality. Regarding security, drivers and assistant drivers can be trained for in-bus security, and X-ray search devices or metal detectors can be utilized at bus terminals entrances. Drivers must change shifts and adhere to speed regulations. To encourage employees to engage in positive behaviors, training and internal and external motivational tools (wages, promotions, etc.) should be implemented. Ticket sales offices must be able

to meet the needs of waiting passengers, such as by offering charging stations for mobile phones or providing a space to work on a personal computer. Bus companies should also conduct inspections of recreational facilities and prohibit any practices that degrade quality. The coordination of ticket issuance and free city shuttles is crucial. For this, a robust technological infrastructure and comprehensive coordination are required. Passengers' waiting time during the transfer should be minimized. The interior comfort of the bus should be ergonomic, and the technology infrastructure should be developed. Times of departure should be posted at bus stops, and these times should be adhered to. All promises made to the passenger during ticket sales must be kept. All of these require an investment, but it should not be forgotten that the cost of dissatisfaction exceeds the cost of investment.

Theoretical Implications

The main claim of this study is that customer interaction was not considered as a component of quality or satisfaction in the previously used scales. In addition, reliable scales are not sufficient in research on intercity bus companies. Thus, the present study will contribute to both the literature and the sector in terms of measuring the service quality provided by bus companies. Another contribution of the study was the inclusion of the "0" option in the survey's answer options, considering that the service recipients did not encounter some of the items included in the scale. If this option was not provided, the participant would have been required to rate a service they did not receive on a scale of 1 to 5. In future studies, it is important to use the "0" ("I have no idea") option for situations that are not encountered in the survey statement.

Limitations

As with all studies, this study also has its limitations. First, the developed scale is only intended to measure the SQ of intercity bus companies in the private sector. City bus companies and those operated by organizations such as government agencies or municipalities are excluded. In future studies, research can be conducted on bus companies in the public sector. From the perspective of sample representativeness, a sufficient sample size was sought to conduct statistical factor analysis with the convenience sampling method from different cities but the sample for each city was not taken into account. At this point, the primary purpose of the sample is to represent those who benefit from intercity passenger bus services. Another significant limitation is that the data were collected only in Türkiye. The

most important reason for this is that transportation and bus companies are governed by different laws in different countries. For this reason, it is recommended that the scale be adapted and used in different countries.

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Appendix

Descriptive statistics (Answer Options: 0-No Idea, 1-Very Bad, 2-Bad, 3-Middle/Average, 4-Good, 5-Very Good)					
Items	Variable	Mean	SD.	Skewness	Kurtosis
Comfort and width of seats	Comfort4	2.47	1.168	.14	-.70
Availability of in-bus technology (Wi-fi, socket, etc.)	Comfort6	2.18	1.245	.55	-.48
Entertainment systems (TV, media player etc.)	Comfort5	2.08	1.189	.57	-.29
Frequency of free shuttle service of the bus company	FreeShuttle1	2.22	1.317	.22	-.70
Free shuttle and bus arrival and departure time	FreeShuttle2	2.15	1.295	.29	-.61
Free shuttle service of the bus company	FreeShuttle3	2.08	1.380	.40	-.79
Prices in rest areas	Restarea4	1.81	1.174	.64	-.03
Equipment and maintenance of rest areas	Restarea1	2.42	1.283	.05	-.73
Cleaning of rest areas	Restarea2	2.42	1.271	.01	-.56
Food and beverage quality in rest areas	Restarea3	2.36	1.290	.06	-.69
Arriving at the destination within the time specified in the tariff	PromisServ6	2.56	1.485	.04	-1.04
Clear and understandable departure and arrival time schedules	PromisServ1	2.60	1.348	-.06	-.80
Frequency of bus services	PromisServ8	2.57	1.392	-.05	-.77
Break times	PromisServ2	2.74	1.307	-.21	-.71
Number of breaks	PromisServ3	2.68	1.279	-.22	-.67
Delay status of passengers boarding the bus	PI4	2.30	1.256	.10	-.67
Behavior of passengers to other passengers	PI3	2.45	1.245	-.09	-.68
Cleanliness of passengers	PI2	2.64	1.314	-.12	-.63
Noise of passengers	PI1	2.47	1.294	-.01	-.74
Useful customer waiting area in the office	OfficeServ6	2.38	1.372	.06	-.83
The adequacy of the number of offices	OfficeServ2	2.72	1.421	-.25	-.75
Cleaning the office	OfficeServ5	2.58	1.344	-.17	-.65
Behavior of office staff	OfficeServ4	2.76	1.33653	-.33	-.51
Accessibility to the office (location, accessibility)	OfficeServ3	2.77	1.34564	-.37	-.51
Cleanliness of the employees (assistant personnel)	Empbeh1	2.79	1.29142	-.31	-.62
Safe driving of the driver	Empbeh5	2.83	1.35036	-.33	-.60
Behavior of drivers	Empbeh4	2.72	1.37665	-.33	-.71
Behaviors of employees	Empbeh6	2.77	1.30513	-.29	-.65
Friendliness of employees	Empbeh2	2.76	1.29850	-.16	-.71
Employees assist passengers	Empbeh3	2.86	1.27565	-.33	-.56