Investigating the effect of relationships among studies in the context of research methodology on predicting the results of hypotheses

Araştırma metodolojisi bağlamında çalışmalar arasındaki ilişkilerin hipotez sonuçlarını tahminine etkisinin araştırılması

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Abstract

This study aims to investigate the effect of relationships among 25 studies conducted in Türkiye based on research methodology on predicting the results of the hypothesis regarding the effect of service quality dimensions on satisfaction. In the selected studies, the effects of tangibility, reliability, responsiveness, assurance and empathy, which are the dimensions of service quality, on satisfaction and the effects of service quality dimensions together on satisfaction were examined. UCINET 6.0 program was used for analysis. Google Scholar database was used to access the studies. Twenty-five articles conducted in Türkiye were selected. A separate content analysis was conducted for each study accessed. It was determined that the studies considered had too many relationships with each other depending on the sample size, and this negatively affected the prediction of acceptance or rejection of the hypotheses regarding the effect of tangibility on satisfaction. Considering the analysis technique, it was seen that most studies had a high relationship with each other and that this high relationship positively affected the acceptance or rejection prediction of the study hypotheses addressing the effect of tangibility on satisfaction. Whether or not similar sample sizes, similar analyses, and similar scales were used did not affect predicting the results of the hypotheses addressing the effect of reliability, responsiveness, assurance, and empathy on satisfaction.

Keywords: Service Quality, Satisfaction, UCINET Social Network Analysis

Jel Codes: M30, M31

Öz

Bu çalışmanın amacı, araştırma metodolojisine dayalı olarak Türkiye'de yapılan 25 araştırma arasındaki ilişkilerin, hizmet kalitesi boyutlarının tatmin üzerindeki etkisine ilişkin hipotez sonuçlarını tahmin etme üzerindeki etkisini araştırmaktır. Seçilen çalışmalardaki, hizmet kalitesinin boyutları olan somutluk, güvenilirlik, yanıt verilebilirlik, güven ve empatinin tatmin üzerine etkilerine ve hizmet kalitesi boyutlarının birlikte tatmin üzerine olan etkilerine bakılmıştır. Analizler için UCINET 6.0 programı kullanılmıştır. Çalışmalara ulaşmak için Google Akademik veri tabanından yararlanılmıştır. Erişilen her çalışma için ayrı bir içerik analizi yapılmıştır. Ele alınan çalışmaların örneklem büyüklüğüne bağlı olarak birbirleriyle çok fazla ilişkiye sahip olduğu, bunun da somutluğun tatmin üzerindeki etkisine ilişkin hipotezlerin kabul veya ret tahminini olumsuz etkilediği saptanmıştır. Analiz tekniğine bakıldığında çoğu çalışmanın birbiriyle yüksek düzeyde ilişkiye sahip olduğu ve bu yüksek ilişkinin, somutluğun tatmin üzerindeki etkisini ele alan çalışma hipotezlerinin kabul veya ret tahminini olumlu yönde etkilediği görülmüştür. Benzer örneklem büyüklüklerinin, benzer analizlerin ve benzer ölçeklerin kullanılıp kullanılmamasının, güvenilirlik, yanıt verebilirlik, güven ve empatinin tatmin üzerindeki etkisini ele alan hipotezlerin sonuçlarını tahmin etmede hiçbir etkisi olmamıştır.

Anahtar Kelimeler: Hizmet Kalitesi, Tatmin, UCINET Sosyal Ağ Analizi

JEL Kodları: M30, M31

Introduction

A product or service's capacity to live up to customer expectations is defined as its service quality. Businesses that increase customers' satisfaction with their services may gain an advantage over their competitors. The concept of service quality is multifaceted, and consumer evaluations of it consider various factors, from the physical appearance and reliability of the company receiving the service to how employees treat customers. In order to fully understand and satisfy customer requirements and expectations regarding service quality, businesses have to develop strategies for developing their businesses by evaluating service quality.

Today, customer satisfaction is considered the fundamental element of the success of businesses. It is possible to briefly define customer satisfaction as the customer's positive opinion about the products and services he receives from the business. Customers who are satisfied with the products or services they receive from the business continue to receive service from the business and recommend the business to others (Şahin and Şen, 2017).

The systematic, theoretical examination of approaches used in a field of study is known as methodology. It includes the theoretical examination of the collection of guidelines and practices related to a field of study. Usually, it covers ideas like stages, theoretical models, concepts, and quantitative or qualitative methods (Ishak and Alias, 2005). Research that examines the validity and accuracy of methods in making diagnoses and the differences in observers' use of diagnostic tools and evaluation of their results is called methodological research. The scope of methodological studies is quite broad and includes a variety of topics, such as formulation of the research question, reporting, approaches to study analysis, and investigation of the reliability of analyses (Mbuagbaw, Lawson, Puljak, Allison and Thabane, 2020). In this regard, the methodology helps understand both the final results and the scientific method (Patel and Patel, 2019).

Research methodology is expressed as a way of systematically solving the research problem and as a science that studies how research is conducted scientifically (Kothari, 2004). Therefore, the authors of this study think that the methodological originality of a scientific study and its theoretical originality are important. This study aims to analyze the relationships between studies on the effect of service quality dimensions on satisfaction based on research methodology. In this regard, the study seeks an answer to the following basic question: According to the research methodology, do the relationships among previous studies significantly affect the prediction of acceptance or rejection of hypotheses? In the context of this basic question, the sub-questions are as follows:

Q_1: Do relationships among studies based on whether they use the same data collection tool have a significant effect on predicting the results of acceptance or rejection of research hypotheses?

Q_2: Do relationships among studies based on whether they use the same sample size significantly predict the results of acceptance or rejection of research hypotheses?

Q_3: Do relationships among studies based on whether they use the same scale instrument (or number of items) significantly predict the results of acceptance or rejection of research hypotheses?

Q_4: Do the relationships among studies, based on whether they use the same analysis technique, significantly predict the results of acceptance or rejection of research hypotheses?

In addition, as a result of the analysis, it is thought that the fact that the study opens the following questions to discussion shows the importance of the study.

Q_5: Does conducting studies with the same or different research methodology question the reliability of the research results?

Q_6: Is it reasonable to expect similar or different results using the same or different methodology in studies?

A review of recent Turkish-language or English-language research completed in Türkiye was done to find answers to the above questions. The content analysis of the articles downloaded from the Google academic database was made, and the data obtained was analyzed using UCINET 6.0 software. The study integrated existing literature, analyzed previous studies, and highlighted basic research gaps. This study is believed to offer a methodological systematic review opportunity for future research.

Literature review

Considering the effect of customer satisfaction, when a satisfied customer needs a product or service that is important to him, he can meet this need by purchasing the same product or service or from the same company. However, a satisfied customer will likely give positive recommendations to other people about the product or service or the company (Gürler and Erturgut, 2019). Service quality is crucial for organisations in terms of the benefits it provides, such as maintaining current customers, attracting new customers, and increasing customer satisfaction. Businesses want to increase their service quality by meeting customer expectations. Because of this, businesses must build strategies for developing their companies by evaluating service quality to accurately understand and satisfy customer desires and expectations for service quality (Öztürk, 2019).

The relationship between service quality and customer satisfaction is discussed in several definitions and is seen as one of the key factors in assuring customer satisfaction. Many studies in the national literature mention the effect of service quality dimensions on satisfaction. When the studies conducted in this context are examined, it is seen that service quality and dimensions have an effect on satisfaction in thermal hotel businesses (Akşit Aşık, 2016; İlban, Bezirgan and Çolakoğlu, 2016), ready-made clothing industry (Güven, Yılmaz and Güven, 2018; Öztürk, 2019), health services (Beydoğan and Kalyoncuoğlu 2017; Semiz, Semiz and Güneş, 2023), public services (Demirbağ and Yozgat, 2016; Doğan, 2020), accommodation services (Doğan, 2023; Kazan and Güneş, 2022; Nalbant and Demiral, 2019; Onurlubaş and Öztürk, 2020), airline transportation (Gürler and Erturgut, 2019; Yangınlar and Tuna, 2020), banking services (Işık, Akbolat and Ünğan, 2013; Karadeniz and Gözüyukarı, 2016: Tan, İğde, Çelik and Buğan, 2016), food and beverage sector (Kocagöz and Eyitmiş, 2020), financial services (Kurnaz and Güner, 2019; Tosunoğlu, Cengiz and Dönmez, 2019), logistics services (Yıldız, Çiğdem and Aslan, 2018; Onurlubaş and Gümüş, 2020), retail sector (Yücekaya, Rençber and Sönmez, 2015) and maritime transportation (Yüksel and Önaçan, 2018).

Service quality

The conceptualization of service quality has been heavily emphasized in past literature regarding customers' overall evaluation and impression of the superiority or inferiority of services provided by a brand (Grönroos, 1984; Parasuraman, Zeithaml and Berry, 1985; Zeithaml, 1988). Consumer expectations are compared with actual service delivery to determine perceptions of service quality. Because of this, it is sometimes described as the outcome of an evaluation of the performance of the service as expected and as perceived (Khan, 2010: 165). A service's perceived quality is the difference between what customers expect and how they experience the service. This method provides the perceived level of service excellence (Grönroos, 1984: 37). The concept of service quality makes clear the requirement for a quality perspective based on customer needs. To put it more simply, the customer's perspective or perception, not the service provider's, determines how quality is perceived. Accordingly, service quality is seen as a thorough assessment of the service benefits consumers provide (Sanyal and Hisam, 2016). It has been stated that it is possible to discuss the following five service quality dimensions, which are generally valid in all businesses providing services (Parasuraman, Zeithaml and Berry, 1988). These: (1) *Tangibles include* the external appearance of a business's physical facilities, equipment, personnel and communication materials. Tangible elements are physical evidence of the service. The conditions that make up the physical environment are considered concrete evidence of the service provider's care and attention to detail (Beydoğan and Kalyoncuoğlu, 2017: 67). (2) *Security:* Customers have no doubts about the service offered and do not think it is risky. It is also a dimension that includes customers' financial and physical security (Yücekaya et al., 2015: 88). (3) *Responsiveness:* Employee excitement expresses readiness, like, and desire to serve. According to Parasuraman et al. (1985: 43–45), the responsiveness dimension comprises actions like assisting the customer, offering prompt service, and being on time. (4) *Trust:* Employees' knowledge about the service they provide and their ability to inspire trust in customers with their polite attitude during the presentation (Parasuraman et al., 1988). (5) *Empathy* includes understanding the customer's needs and wishes, interest in the customer, and high interaction with the customer. The important thing here is to constantly notice the customer (Ghobadian, Speller and Jones, 1994).

Satisfaction

In their conceptual definition of satisfaction, Churchill and Surpenant (1982: 493) say that it is the consequence of a consumer comparing the benefits and expenses of a transaction against the expected results. This process starts before purchasing a product or service and includes after-sales services, and it shows to what extent the events in this process and the gains obtained by the customer meet their expectations (Zeithaml and Bitner, 2003). Kotler and Keller (2006) defined the concept of customer satisfaction as the customer's reaction to the difference between his expectations before the purchase and his perceived performance after the purchase. Customer satisfaction depends on the perceived performance of the good or service relative to the customer's expectations. Customers will get dissatisfied if the performance of the good or service falls short of their expectations. If performance meets expectations, customer satisfaction will occur. The consumer will be extremely happy if the performance meets and surpasses their expectations (Kotler and Armstrong, 2006: 13).

Methodology

Cultural factors may effectively accept or reject the hypothesis in the studies conducted. For this reason, the relevant literature was reviewed to access current Turkish or English studies conducted in only Türkiye since the 2000s. As secondary data obtained through content analysis of previous studies were used in this study, the approval of the ethics committee is not required for this study. Google Scholar database was used to access previous studies. The selected studies examine the effect of all five service quality dimensions on satisfaction. In other words, studies that did not examine the effect of the five dimensions of service quality on satisfaction separately were not selected for evaluation in this study. Therefore, the number of studies selected for this study is limited. A separate content analysis was conducted for each study accessed. Twenty-five studies examining the effect of service quality dimensions on satisfaction were selected and evaluated for this study. The 25 studies selected (i.e., 25x25 matrices) are acceptable sample sizes for performing multiple regression analysis with UCINET Social Network Analysis (Güzeller, Eser and Aksu, 2016). The data matrix used in this study, which is based on secondary data sources obtained from previous studies, is shown in Table 1.

Table 1: Data Matrix

Studies	Data Collection Tool	Sample Size	Service Quality Scale	Satisfaction Scale	Analysis Technique	Tangibility Satisfaction	Reliability Satisfaction	Responsiveness Satisfaction	Assurance Satisfaction	Empathy Satisfaction	Total Number of Dimensions of Service Quality Satisfaction
Study1	Survey	432	SERVPERF	3 Items	Regression	Accept	Accept	Accept	Accept	Accept	5 Dimensions Accepted
Study2	Survey	404	SERVPERF	3 Items	Regression	Accept	Accept	Reject	Accept	Accept	4 Dimensions Accepted
Study3	Survey	395	SERVPERF	3 Items	Regression	Accept	Accept	Reject	Accept	Accept	4 Dimensions Accepted
Study4	Survey	381	SERVQUAL	4 Items	Regression	Accept	Accept	Accept	Accept	Accept	5 Dimensions Accepted
Study5	Survey	203	SERVQUAL	4 Items	Regression	Accept	Accept	Accept	Accept	Accept	5 Dimensions Accepted
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
Study21	Survey	205	SERVQUAL	5 Items	SEM	Accept	Accept	Accept	Accept	Accept	5 Dimensions Accepted
Study22	Survey	260	SERVQUAL	8 Items	Regression	Accept	Accept	Reject	Reject	Accept	3 Dimensions Accepted
Study23	Survey	701	SERVQUAL	3 Items	SEM	Reject	Accept	Accept	Accept	Accept	4 Dimensions Accepted
Study24	Survey	405	SERVPERF	4 Items	Regression	Accept	Accept	Accept	Accept	Accept	5 Dimensions Accepted
Study25	Survey	317	SERVQUAL	4 Items	SEM	Accept	Accept	Accept	Accept	Accept	5 Dimensions Accepted

Data analysis and results

Frequency analyses were conducted for secondary data sources obtained from the content analysis of previous studies. According to Table 2, data was collected through surveys in 25 of 25 studies. However, only 18 studies had a sample size of ≥384. In addition, the SERVQUAL service quality scale was used in 25 studies, a satisfaction scale consisting of 4 items was used in 11 studies, and a regression analysis technique was used in 17 studies. Twenty-two studies supported the effect of tangibility and empathy on satisfaction, 21 studies supported the effect of reliability and assurance on satisfaction, and the effect of responsiveness on satisfaction was supported by 15 studies. Finally, the effect of all five dimensions of service quality on satisfaction was supported by the 11 studies.

Table 2: Frequency Analysis Results

Variables		F	%	Variables		F	%
Data collection tool	Survey	25	100	Tangibility-Satisfaction	Accept	22	0.88
Sample size	<384	7	0.28		Reject	3	0.12
	≥384	18	0.72	Reliability-Satisfaction	Accept	21	0.84
Service quality scale	SERVQUAL	16	0.64		Reject	4	0.16
	SERVPERF	8	0.32	Responsiveness-Satisfaction	Accept	15	0.60
	DINESERV	1	0.04		Reject	10	0.40
Satisfaction scale	1 Items	1	0.04	Assurance-Satisfaction	Accept	21	0.88
	2 Items	0	0.00		Reject	4	0.12
	3 Items	8	0.32	Empathy-Satisfaction	Accept	22	0.88
	4 Items	11	0.44		Reject	3	0.12
	5 Items	2	0.08	Total Number of Dimensions of Service Quality-Satisfaction	5 Dimensions Rejected	0	0.00
	6 Items	1	0.04		1 Dimension Accepted	0	0.00
	7 Items	1	0.04		2 Dimensions Accepted	2	0.08
	8 Items	1	0.04		3 Dimensions Accepted	6	0.24
Analysis technique	Regression	17	0.68		4 Dimensions Accepted	6	0.24
	SEM	8	0.32		5 Dimensions Accepted	11	0.44

It should be noted that no scale was used in this study, and therefore, factor (validity) and reliability analysis were not performed. On the other hand, multiple regression analysis was performed by running the 25x25 matrices created through the UCINET Network Analysis program. 25x25 matrices were created on the data set obtained by running the UCINET program. After the 25x25 matrices were created, the UCINET program was run, and multiple regression analyses were performed using the quadratic assignment method. The results of the analysis are given in the tables below.

Table 3: First Multiple Regression Analysis Results

Independent Variable	Dependent Variable	Un-Stdized Coef	Stdized Coef	P-Value	As Large	As Small	Std Err
Relationships among previous studies based on survey technique (use or non-use)	Predicting the result of the acceptance or rejection effect of tangibility on satisfaction	0.38462	0.00000	1.00000	1.00000	1.00000	0.00000
Relationships among previous studies based on sample size (<384 or ≥384)	Predicting the result of the acceptance or rejection effect of tangibility on satisfaction	-0.09493	-0.11408	**0.01699**	0.98351	0.01699	0.07883
Relationships among previous studies based on service quality scale (similar scale or different scale)	Predicting the result of the acceptance or rejection effect of tangibility on satisfaction	-0.04695	-0.05666	0.31384	0.68666	0.31384	0.08048
Relationships among previous studies depending on satisfaction scale (similar number of items or different number of items)	Predicting the result of the acceptance or rejection effect of tangibility on satisfaction	0.07625	0.08265	0.19490	0.19490	0.80560	0.09268
Relationships among previous studies based on analysis technique (regression or SEM)	Predicting the result of the acceptance or rejection effect of tangibility on satisfaction	0.11794	0.14174	**0.03748**	0.03748	0.96302	0.07905
Model Fit	**R-Square**		**Adj R-Sqr**		**P-Value**	**Obs**	**Perms**
	0.037		0.029		0.030	600	2000

Table 3 gives the results of the first multiple-regression analysis. Relationships among the 25 previous studies in the context of sample size (<384 or ≥384) significantly negatively affect predicting the results of acceptance or rejection effect of tangibility on satisfaction (Stdized Coef=-0.11408; p<0.05). On the other hand, relationships among the 25 previous studies in the context of analysis technique (regression or SEM) significantly positively affect predicting the results of acceptance or rejection effect of tangibility on satisfaction (Stdized Coef=0.14174; p<0.05). However, the relationships among the 25 previous studies in the context of survey technique, service quality scale and satisfaction scale do not significantly predict the acceptance or rejection effect of tangibility on satisfaction (p>0.05).

Table 4: Second Multiple Regression Analysis Results

Independent Variable	Dependent Variable	Un-Stdized Coef	Stdized Coef	P-Value	As Large	As Small	Std Err
Relationships among previous studies based on survey technique (use or non-use)	Predicting the result of the acceptance or rejection effect of reliability on satisfaction	0.37514	0.00000	1.00000	1.00000	1.00000	0.00000
Relationships among previous studies based on sample size (<384 or ≥384)	Predicting the result of the acceptance or rejection effect of reliability on satisfaction	-0.08098	-0.08978	0.06497	0.93553	0.06497	0.07899
Relationships among previous studies based on service quality scale (similar scale or different scale)	Predicting the result of the acceptance or rejection effect of reliability on satisfaction	0.01093	0.01217	0.43078	0.43078	0.56972	0.08698
Relationships among previous studies depend on the satisfaction scale (similar number of items or a different number of items)	Predicting the result of the acceptance or rejection effect of reliability on satisfaction	0.09031	0.09031	0.19240	0.19240	0.80810	0.09579
Relationships among previous studies based on analysis technique (regression or SEM)	Predicting the result of the acceptance or rejection effect of reliability on satisfaction	-0.03054	-0.03386	0.55972	0.44078	0.55972	0.07866
Model Fit	R-Square	Adj R-Sqr		P-Value	Obs	Perms	
	0.018	0.010		0.062	600	2000	

Table 4 shows the results of the second multiple-regression analysis. The relationships among the 25 previous studies in the context of survey technique (use or non-use), sample size (<384 or ≥384), service quality scale (similar scale or different scale), satisfaction scale (similar number of items or different number of items) and analysis technique (regression or SEM) do not have a significant effect on predicting the results of acceptance or rejection effect of reliability on satisfaction (p>0.05).

Table 5 presents the results of the third multiple-regression analysis. The relationships among the 25 previous studies in the context of survey technique (use or non-use), sample size (<384 or ≥384), service quality scale (similar scale or different scale), satisfaction scale (similar number of items or different number of items) and analysis technique (regression or SEM) do not have a significant effect on predicting the results of acceptance or rejection effect of responsiveness on satisfaction (p>0.05).

Table 5: Third Multiple Regression Analysis Results

Independent Variable	Dependent Variable	Un-Stdized Coef	Stdized Coef	P-Value	As Large	As Small	Std Err
Relationships among previous studies based on survey technique (use or non-use)	Predicting the result of the acceptance or rejection effect of responsiveness on satisfaction	0.24655	0.00000	1.00000	1.00000	1.00000	0.00000
Relationships among previous studies based on sample size (<384 or ≥384)	Predicting the result of the acceptance or rejection effect of responsiveness on satisfaction	0.04079	0.04061	0.15742	0.15742	0.84308	0.05527
Relationships among previous studies based on service quality scale (similar scale or different scale)	Predicting the result of the acceptance or rejection effect of responsiveness on satisfaction	-0.01749	-0.01749	0.49975	0.50075	0.49975	0.05969
Relationships among previous studies depending on satisfaction scale (similar number of items or different number of items)	Predicting the result of the acceptance or rejection effect of responsiveness on satisfaction	0.03386	0.03041	0.23688	0.23688	0.76362	0.06742
Relationships among previous studies based on analysis technique (regression or SEM)	Predicting the result of the acceptance or rejection effect of responsiveness on satisfaction	-0.02974	-0.02961	0.39130	0.60920	0.39130	0.05946
Model Fit	**R-Square**	**Adj R-Sqr**		**P-Value**	**Obs**	**Perms**	
	0.004	-0.005		0.155	600	2000	

Table 6 gives the results of the fourth multiple-regression analysis. The relationships among the 25 previous studies in the context of survey technique (use or non-use), sample size (<384 or ≥384), service quality scale (similar scale or different scale), satisfaction scale (similar number of items or different number of items) and analysis technique (regression or SEM) do not have a significant effect on predicting the results of acceptance or rejection effect of assurance on satisfaction ($p>0.05$).

Table 6: Fourth Multiple Regression Analysis Results

Independent Variable	Dependent Variable	Un-Stdized Coef	Stdized Coef	P-Value	As Large	As Small	Std Err
Relationships among previous studies based on survey technique (use or non-use)	Predicting the result of the acceptance or rejection effect of assurance on satisfaction	0.39722	0.00000	1.00000	1.00000	1.00000	0.00000
Relationships among previous studies based on sample size (<384 or ≥384)	Predicting the result of the acceptance or rejection effect of assurance on satisfaction	-0.04412	-0.04892	0.35732	0.64318	0.35732	0.07823
Relationships among previous studies based on service quality scale (similar scale or different scale)	Predicting the result of the acceptance or rejection effect of assurance on satisfaction	-0.08740	-0.09732	0.08696	0.91354	0.08696	0.08839
Relationships among previous studies depend on the satisfaction scale (similar number of items or a different number of items)	Predicting the result of the acceptance or rejection effect of assurance on satisfaction	0.12377	0.12377	0.08146	0.08146	0.91904	0.09410
Relationships among previous studies based on analysis technique (regression or SEM)	Predicting the result of the acceptance or rejection effect of assurance on satisfaction	-0.07657	-0.08489	0.07996	0.92054	0.07996	0.08042
Model Fit	**R-Square**	**Adj R-Sqr**		**P-Value**	**Obs**	**Perms**	
	0.030	0.022		0.025	600	2000	

Table 7 presents the results of the fifth multiple-regression analysis. The relationships among the 25 previous studies in the context of survey technique (use or non-use), sample size (<384 or ≥384), service quality scale (similar scale or different scale), satisfaction scale (similar number of items or different number of items) and analysis technique (regression or SEM) do not have a significant effect on predicting the results of acceptance or rejection effect of empathy on satisfaction ($p>0.05$).

Table 7: Fifth Multiple Regression Analysis Results

Independent Variable	Dependent Variable	Un-Stdized Coef	Stdized Coef	P-Value	As Large	As Small	Std Err
Relationships among previous studies based on survey technique (use or non-use)	Predicting the result of the acceptance or rejection effect of empathy on satisfaction	0.44525	0.00000	1.00000	1.00000	1.00000	0.00000
Relationships among previous studies based on sample size (<384 or ≥384)	Predicting the result of the acceptance or rejection effect of empathy on satisfaction	-0.08188	-0.09840	0.07996	0.92054	0.07996	0.07906
Relationships among previous studies based on service quality scale (similar scale or different scale)	Predicting the result of the acceptance or rejection effect of empathy on satisfaction	-0.07954	-0.09600	0.15592	0.84458	0.15592	0.08224
Relationships among previous studies depending on satisfaction scale (similar number of items or different number of items)	Predicting the result of the acceptance or rejection effect of empathy on satisfaction	-0.07248	-0.07856	0.30435	0.69615	0.30435	0.09182
Relationships among previous studies based on analysis technique (regression or SEM)	Predicting the result of the acceptance or rejection effect of empathy on satisfaction	-0.01134	-0.01363	0.55922	0.44128	0.55922	0.07710

Model Fit	R-Square	Adj R-Sqr	P-Value	Obs	Perms	
	0.027	0.019	0.008	600	2000	

Table 8: Sixth Multiple Regression Analysis Results

Independent Variable	Dependent Variable	Un-Stdized Coef	Stdized Coef	P-Value	As Large	As Small	Std Err
Relationships among previous studies based on survey technique (use or non-use)	Predicting the results of acceptance or rejection of the total number of dimensions of service quality on satisfaction	0.12753	0.00000	1.00000	1.00000	1.00000	0.00000
Relationships among previous studies based on sample size (<384 or ≥384)	Predicting the results of acceptance or rejection of the total number of dimensions of service quality on satisfaction	0.08214	0.09042	0.08896	0.08896	0.91154	0.05747
Relationships among previous studies based on service quality scale (similar scale or different scale)	Predicting the results of acceptance or rejection of the total number of dimensions of service quality on satisfaction	-0.00640	-0.00708	0.51524	0.48526	0.51524	0.06107
Relationships among previous studies depend on the satisfaction scale (similar number of items or a different number of items)	Predicting the results of acceptance or rejection of the total number of dimensions of service quality on satisfaction	0.02865	0.02844	0.28136	0.28136	0.71914	0.06909
Relationships among previous studies based on analysis technique (regression or SEM)	Predicting the results of acceptance or rejection of the total number of dimensions of service quality on satisfaction	-0.03322	-0.03657	0.35132	0.64918	0.35132	0.05834

Model Fit	R-Square	Adj R-Sqr	P-Value	Obs	Perms	
	0.010	0.002	0.069	600	2000	

Table 8 shows the results of the sixth multiple-regression analysis. It is seen that the relationships among the previous 25 studies in the context of survey technique (use or non-use), sample size (<384 or ≥384), service quality scale (similar scale or different scale), satisfaction scale (similar number of items or different number of items) and analysis technique (regression or SEM) do not have a significant effect on predicting the results of acceptance or rejection the total number of dimensions of service quality on satisfaction (p>0.05).

Conclusion and recommendations

Service quality is a concept that varies from person to person, place to place, time to time and other factors. Even in tangible goods, the concept of quality is a phenomenon that varies from person to person. Due to the characteristic features of services, the concept of service quality has become more complex. In order to understand the concept of service quality more concretely and the effect of service quality on other variables, researchers have developed scales and conducted statistical analyses with the data they obtained. Since service quality is very important in the literature, many studies have been conducted on the concept of service quality for many years. In this study, selected studies on service quality were analyzed from various perspectives, and answers to questions that are considered important for the literature and the business world were sought. This study did not investigate whether there was any difference between the variables. For example, it has not been investigated which of the analysis techniques used, regression and structural equation model, is more effective in accepting hypotheses. The effect of the relationships among the studies discussed in the context of the methodological method on predicting the acceptance or rejection results of the hypotheses regarding the effect of service quality dimensions on satisfaction was examined.

According to the results obtained from the study, a significant effect was found in 22 studies on the effect of tangibility and empathy, which are dimensions of service quality, on satisfaction. However, a significant effect was found in the effect of responsiveness on satisfaction in only 15 studies. When service dimensions are considered differently, they positively affect satisfaction in tangibility and empathy in 88% of the studies, assurance and reliability in 84% and responsiveness dimensions in 60% of the studies. It is understood from these results that the dimensions of service quality positively affect satisfaction in the studies discussed, with very high rates between 60% and 88%. Customer satisfaction reflects positively on many marketing objectives, such as the survival of businesses and long-term profitability. It is also very important for marketing literature. The concept of customer satisfaction appears in all modern marketing books and numerous other scientific publications. Considering the importance of customer satisfaction in business, businesses need to address each dimension of service quality and improve these dimensions. Acting to customer expectations while providing service will increase customers' satisfaction levels. Physical elements that the target audience will like and make it easier to provide the service will also positively effect satisfaction.

When the sample size of the studies considered was examined, it was seen that most of the studies were highly interrelated and that the number of samples in most studies was 384 or larger. The fact that the studies have too many relationships with each other according to the sample size negatively affects the prediction of acceptance or rejection of the hypotheses regarding the effect of tangibility on satisfaction. Based on this, it can be stated that whether previous studies have similar sample sizes or not has an effect on predicting the results of the hypotheses.

When we look at the analysis technique, it is seen that most studies are highly interrelated, and regression analysis is mostly used in the studies. The fact that studies are highly related to each other according to the analysis technique used has a positive effect on predicting the acceptance or rejection of study hypotheses that address the effect of tangibility on satisfaction accordingly, whether similar analysis techniques used in previous studies are effective in predicting the hypothesis results of studies examining the effect of tangibility on satisfaction.

When we look at the different scales used in the studies, it is seen that most of the studies are highly related to each other, and the SERVQUAL service quality scale is used the most. On the other hand, the satisfaction scale consisting of 4 items was used the most. The fact that the studies are highly related to each other according to the scale used does not significantly predict the acceptance or rejection of the study hypotheses addressing the effect of tangibility on satisfaction. Therefore, using similar scales in

studies examining the effect of tangibility on satisfaction does not affect the prediction of hypothesis results.

Whether or not similar sample sizes, similar analyses, and similar scales were used did not affect predicting the results of hypotheses addressing the effect of assurance, responsiveness, reliability, and empathy on satisfaction. Moreover, whether or not similar sample sizes, similar analyses and similar scales are used does not affect the prediction of the results of the hypothesis that considers the effect of all service quality dimensions on satisfaction.

Within the framework of the results obtained from the study, conducting research with the same or different research methodology did not affect the prediction of hypothesis results for almost any variable. Therefore, it has been understood that using the same or different research methodology does not question the reliability of the research results, and different results should not be expected.

In studies, researchers develop hypotheses due to the literature research they conduct for the study and the information they obtain from other sources before collecting data and performing analysis with this data. Researchers are curious about the hypothesis results before conducting analyses. Researchers investigating the effect of tangibility, one of the dimensions of service quality, on satisfaction can use whether previous studies investigating similar effects had similar sample sizes and whether similar analysis techniques were used as a reference in estimating their results.

With a similar methodology, studies can be written on different topics such as brand equity, purchase intention, and perceived ease of use. Studies on service quality can be carried out through bibliometric or meta-analysis analysis. Only studies conducted in Türkiye were discussed in the study. Studies can be conducted in other countries, or the same study can be conducted in more than one country to look at intercultural differences.

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