Journal of Humanities and Social Sciences Research
www.horizon-JHSSR.com

BP Services

Impact of Service Quality on Customer Satisfaction and Loyalty towards Flexible Management in the German Banking Sector

RESEARCH ARTICLE
Peer-reviewed | Open Access

Sara Ravan Ramzani[1]*, Behrooz Gharleghi[2], Alison Watson[3], Hugh Smith[3], Phungmayo Horam[2], Victor Cunha-Cruz, V.C.V.S.[2], Anjana Basnet[3]

[1]GISMA Business School, 14469 Potsdam, Brandenburg, Berlin, Germany
[2]Arden University, Berlin Campus, 10963, Berlin, Germany
[3]School of Leadership and Management, Arden University, London, UK

ARTICLE INFO

*Corresponding Author
Sara Ravan Ramzani
E-mail: sara.ramzani@gisma.com

Co-Author(s):
Author 2: Behrooz Gharleghi
E-mail: gharleghi.bn@gmail.com

Author 3: Alison Watson
E-mail: awatson@arden.ac.uk

Author 4: Huge Smith
E-mail: hsmith@arden.ac.uk

Author 5: Phungmayo Horam
E-mail: phoram@arden.ac.uk

Author 6: Cunha-Cruz, V.C.V.S.
E-mail: vvargas@arden.ac.uk

Author 7: Anjana Basnet
E-mail: abasnet@arden.ac.uk

ABSTRACT

Background: The introduction of advanced types of banking networks such as Online banking, Automated Teller Machines (ATM), telephone banking, as well as mature capital markets and global competition have prompted bankers to explore the value of consumer loyalty. Top companies know that the path to growth goes through their clients. Therefore, this research focuses on finding the impact of service quality, customer satisfaction and loyalty programs on customer's loyalty in banking sectors of Germany.

Methods: The questionnaire was developed and polled to gather data from 331 clients with bank accounts in various banks in Germany. The five-dimensional model of SERVQUAL (Parasuraman et al., 1988, Kasiri et al., 2017) is used in this paper. Additionally, customer satisfaction was utilized to mediate the influence of service quality on customer loyalty among banking customers in Germany.

Results: We suggested a new model that incorporates the direct impact of technology on consumer satisfaction. Analysis concluded that service quality, consumer retention and loyalty programs are essential aspects that can boost customer loyalty. So banks must concentrate on offering loyalty programs to their loyal consumers.

Conclusion: Analysis suggests that banks should concentrate on enhancing the efficiency of their offerings in order to increase consumer retention and customer loyalty.

Keywords: Service Quality, Customer Satisfaction, Loyalty Programs, Customer's Loyalty, Banking Sector, Germany

Introduction

Effectiveness of a service provider relies on a high-quality relationship with customers that drives customer retention and loyalty (Slack and Singh, 2020, Siddiqui and Sharma, 2010, Jones, 2002, Panda, 2003, & Lymperopoulos et al., 2006). In today's world, the economy is one of the main issues for the growth of every society, and thus the financial sector plays a crucial role as money is transferred further into the banking sectors (Raju, 2021). Banking is an evolutionary phenomenon that is continually expanding in terms of its diverse operations and roles.

Germany's financial structure consists of three main components – commercial banks, public sector banks and cooperative banks – differentiated by management and business emphasis.

In comparison to past years, there has been little change in the top group of German savings banks. Hamburger Sparkasse (Haspa) is on top, followed by Sparkasse KölnBonn, Stadtsparkasse München, Frankfurter Sparkasse, Sparkasse Hannover, Mittelbrandenburgische Sparkasse, Sparkasse Pforzheim Calw, Ostsächsische Sparkasse Dresden, and Nassauische Sparkasse (DSGV, 2021).

The classification of German savings banks is only marginally correlated with regional economic dynamics,

but it is highly correlated with the size of the population of the majority of metropolitan business districts (Kholiqov Firdavsi & Ramzani, 2017). If the list is expanded by three or four rankings, it almost precisely matches to the list of the biggest German cities (zeb.research 2019). Germany's number of banks has shrunk dramatically in recent years, falling by 52% since 1995. Consolidation has primarily occurred within the current pillars in order to obtain economies of scale. Consolidation has been the outcome of strain rather than proactive commercial reasons in the savings bank and cooperative sectors in contrast to mergers in the private sector (Torkayesh et. al. 2021).

The success of a service provider is dependent on a high-quality connection with consumers (Panda, 2003), which influences customer satisfaction and loyalty (Jones, 2002) as quoted by Lymperopoulos et al. (2006) and Kasiri et al. (2017). Service quality is an important component of service marketing (Kushwah and Bhargava, 2014). Due to the strong competition in the market, establishing long-term relationships has become a requirement, and customer loyalty has become a growing concern.

In 2018, Landesbanken performed a research to analyze customers' expectations and satisfaction with the quality of goods and services supplied by banking institutions, which was shared with the industry in order to enhance the sector's service quality. As a result, the objective of this study is to investigate the influence of service quality on customer relationship management and loyalty, to
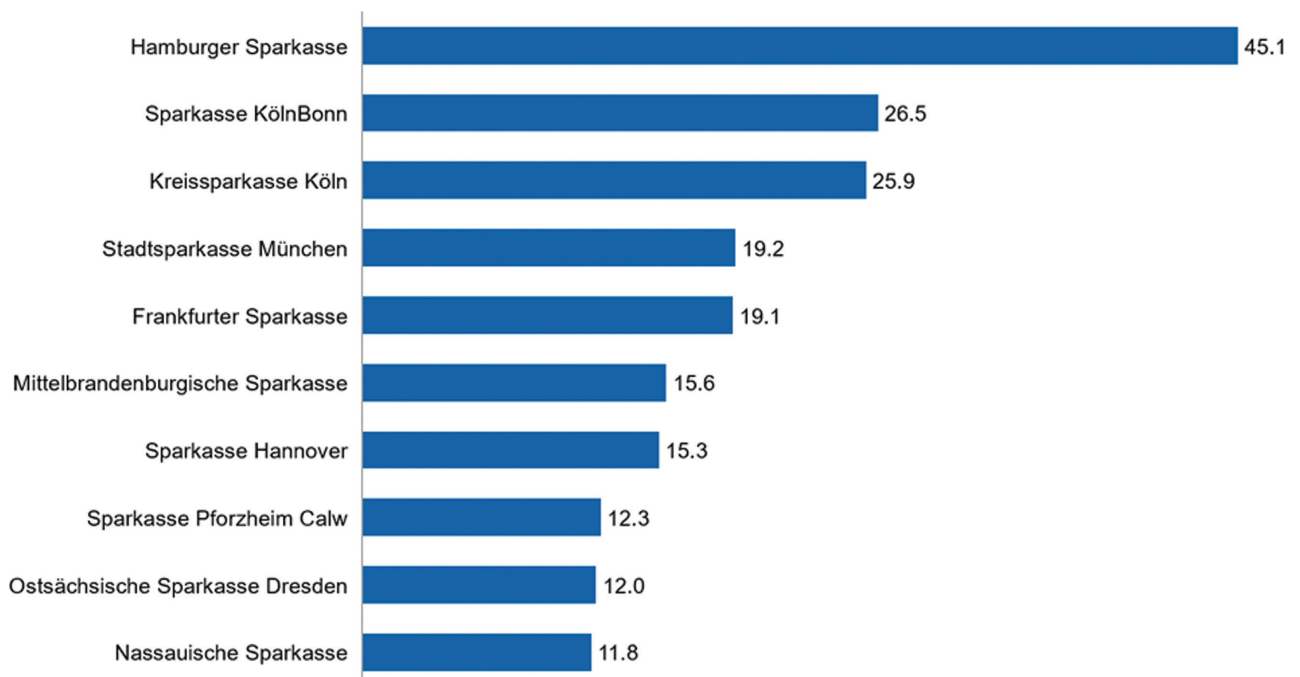

Figure 1. The ten largest savings banks in Germany as of December 31, 2019 (by total assets in EUR billion).

draw practitioners' attention to the need of improving service quality in order to decrease customer attrition, and to provide recommendations for improving service quality. The study's findings aid in determining which aspects of service quality (empathy, reliability, assurance, tangibility, and responsiveness) should be prioritized when developing customer relationship management strategies that persuade consumers to stay longer. This may also aid in the formulation of tactics to keep satisfied consumers (Slack and Singh, 2020).

Review of Literature

Once it comes to a dynamic environment, banks need to plan their policies to differentiate them from other industries. This can be done by providing a better quality of service (Kungu, Desta, & Ngui, 2014).

Throughout the twentieth century, banks controlled Germany's financial system. Furthermore, a series of steps have recently been launched to boost the role of markets within this bank-based financial system, including changes to the law, enhancements in corporate governance, and a pension system transformation (Sigurt , 2019). The greatest for-profit banks, including Deutsche Bank and Dresdner Bank. Throughout the post war period, these banks made the majority of their earnings from the interest rate gap, or the difference between the interest they charged on deposits (mainly from consumers) and the interest they received on loans (most of these were made to the company sector).

Although it is often assumed that reducing the employee-customer contact reduces service quality (Rexha et al, 2003), Mols (1999) discovered that many users of electronic (online) banking have grown even more happy overall with their bank, presumably owing to the availability of a new service delivery alternative. Others (Uppal 2006) claim that fully computerized banks provide superior customer service than partially or non-computerized banks.

Munari, Ielasi, & Bajetta (2013) analysed the organizational and operative evolution of the activities that oversee the customer satisfaction in the banks in Italy. A questionnaire was developed, and 92 banks responded in which they represent 92 percent of total assets of Italian Banks. The findings revealed that customer satisfaction is no longer a staff activity but instead a management activity. It in fact involves top management to define the satisfaction within the staff incentives schemes.

Powers and Jack (2008) examined how healthcare organizations deploy flexible strategies to respond to the demand fluctuations using interviews with hospital administrators and academic medical centers in USA. The results reveal a positive relationship between use of internal flexible strategies, customer satisfaction, and organizational performance.

As previously stated, the deceleration of economic expansion in the 1980s and 1990s (resulting in lower demand for bank loans from businesses) and more competitive pressure among banks led in a shortening of this rate fluctuation. Fee-based revenues, such as investment banking and asset management, is a major alternative to interest-based income for banks. However because these activities, are essentially market-based, and so require expanding financial markets to enhance revenue. As a result, inside the German financial system, these banks became the primary proponents of strengthening markets.; Customer satisfaction has a significant impact on customer loyalty, as demonstrated by the history of improved service efficiency (Sowlati & Paradi, 2004; Carwana, 2002; Caruana et al., 2000). To analyze customer loyalty, the current study utilizes the SERVQUAL indicator. Parasuraman et al (1988) have proposed many criteria for assessing service quality. This scale has undergone a few modifications throughout time, and the measuring instrument is now known as SERVQUAL.

The following are the five components: 1) Tangibles — Physical items such as equipment and other elements of existence. 2) Reliability - Providing consistent services. 3) Responsiveness - An interest in the needs of customers and prompt service delivery. 4) Assurance - The perception of courteous, security, and competence assurance offered by personnel. 5) Empathy — How companies and their staff show that they understand their consumers' requirements.

Customer Loyalty

The effect of satisfaction on loyalty is discussed and evaluated in broad aspects. Many research suggests that, if there is satisfaction, clients are loyal and if clients are disappointed, their loyalty is not assured. in the literature loyalty is defined as a behavioural desire (Heskett et al., 1994). Management should also pay particular attention to the satisfaction of the customer and play a critical role in ensuring the consistency of the service (Akbar and Parvez et al., 2009). Customer Loyalty and satisfaction are greatly influenced by the cooperation of the brand

name, and customer loyalty and satisfaction are mutually related. If the client is satisfied, his loyalty will raise Colgate et al. (1996). Also, while Levesque and Mc Dougall (1993) suggested that "even if a problem is not solved, approximately half of the customers would remain with the firm". This might be due to switching costs, a lack of perceived distinction between options, location restrictions on choice, time or money constraints, habit or inertia, and other factors unrelated to loyalty (Bitner, 1990; Ennew & Binks, 1996; Slack and Singh, 2020; Tee, Gharleghi, Chan, 2013).

Service quality

As time progresses, Since the 1990s, many companies have incorporated quality concepts such as Total Quality Management (TQM) and New Public Management (NPM). The primary goal of NPM, for example, is to enhance service quality by using a customer-oriented approach (Yilmaz, Ari, & Gürbüz, 2018; Mwita, 2000). To investigate relative branch efficiency, Wu et al. (2006) uses a combination of data envelopment analysis (DEA) and neural networks (NNsThe DEA technique evolved from relative performance benchmarking in terms of transaction efficiency (service quality) and profitability to performance assessment of banking sector (Manandhar & Tang, 2002, Slack and Singh, 2020).

SERVQUAL, a well-known scale established by Parasuraman et al. (1985, 1988) is the most prominent model for evaluating service quality among general instruments. The following characteristics were mentioned by (Parasuraman et al., 1985; Murari 2018; Shams et al., 2020): "tangibles, reliability, responsiveness, competency, courtesy, assurance, credibility, security, access, and comprehension". Using a component analysis, Parasuraman et al. (1988) reduced these 10 dimensions to five. A 22-item survey instrument for assessing service quality has been designed based on the five aspects.

SERVQUAL's five dimensions are as follows:

Physical facilities, equipment and appearance of personnel are all tangibles.

Reliability - The capacity to deliver on a promise consistently and precisely.

Responsiveness - Ability to assist customers and offer fast service.

"**Assurance** (encompassing competence, courtesy, credibility, and security) - Employee **knowledge** and

courtesy, as well as their capacity to inspire trust and confidence."

"**Empathy** (including access, communication, understanding the customer) - Caring and individualized attention that the firm provides to its customers. Although there has been criticism from some other researchers to SERVQUAL instrument (Johnston, 1995)", However, SERVQUAL is the most commonly used tool for its confirmatory factor analyses. As a result, SERVQUAL has shown to be a cost-effective model that has been used to assess service quality in a variety of service organizations and sectors, including financial institutions (Mc Alexander et al., 1994; Cowling & Newman, 1996; Levesque & Mc Dougall, 1996; Caruana et al., 2000; Caruana, 2002; Sureshchandar et al., 2002; Paswan et al., 2004; Seth et al., 2005; Lymperopoulos et al., 2006; Samadi, Gharleghi, & Syrymbetova, 2015).

Mediation of Customers' Satisfaction

When customers give priority to areas that encompass the fulfilment of their demands, such as responsiveness, and are less driven to tangible areas, they have a certain sort of action in numerous ways. Bank managers should establish lines of work on which the quality of service is improved to improve customer satisfaction in order to achieve a better rate of service quality (Islam et al., 2021 &Khalid et al., 2011). Perceived service quality is a global decision or mindset surrounding the superiority of the service, whereas satisfaction is linked to a particular transaction (Parasuraman et al., 1988). Customer satisfaction has repeatedly been proposed as the primary factor of loyalty (Lam & Burton, 2006). According to Ehigie (2006), consumer satisfaction and customer loyalty/retention have a substantial positive connection. As a result, in this study, customer pleasure serves as a mediator between service quality and customer loyalty.

Research theoretical model

The theoretical model directing the research is represented in the figure below, which was modified from Agus et al. (2007) and Caruana (2007). This study will look at five aspects of service quality, which were modified from Agus *et al.* (2007): tangibles, reliability, responsiveness, assurance, and courtesy. This study's theoretical framework was developed from a number of previous research (Parasuraman *et al.*, 1988; Agus *et al.*,
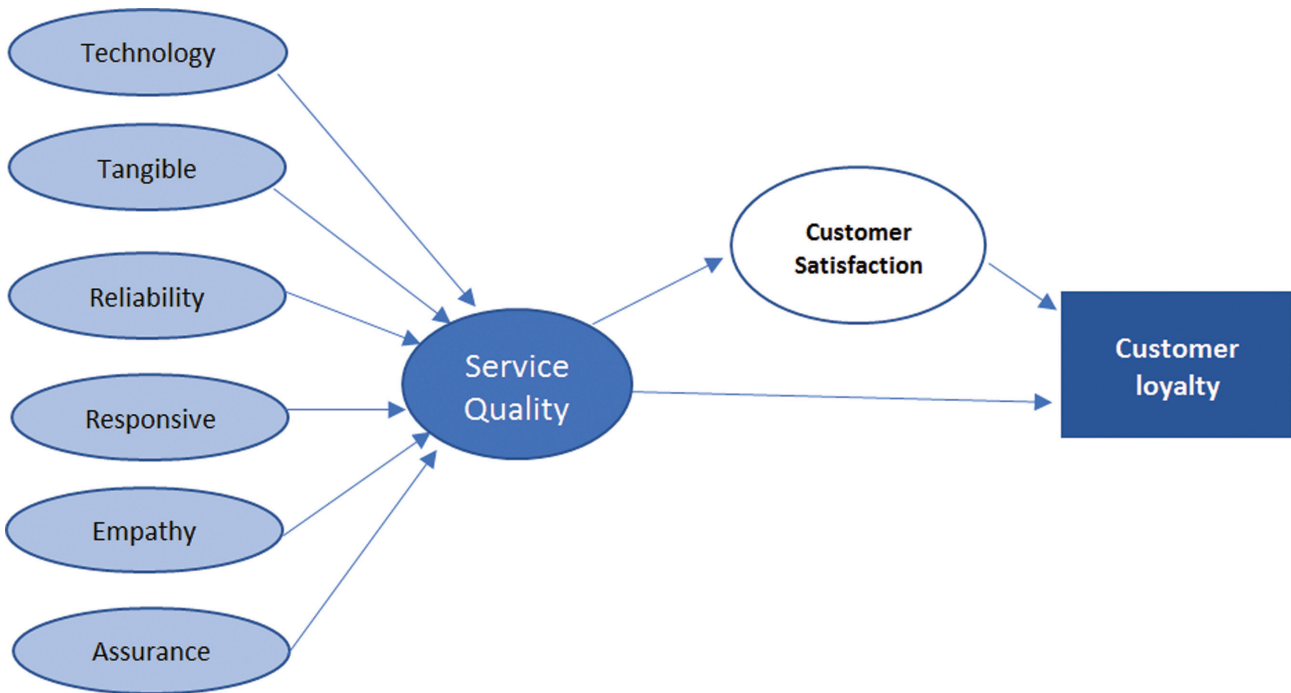
Figure 2. Theoretical model of the Impact of service quality on customer satisfaction and customer loyalty.

2007; Harridge March et al., 2008; Ganguli & Roy, 2011, Kasiri *et al.*, 2017, Agrawal *et al.* ,2020). It is presented in Figure 2.

Hypotheses development

Tangibles have been defined as physical facilities, equipment and appearance of personnel (Parasuraman et al., 1988). Issues related to the branches such as access to the facilities, safety and convenience are on tangible basis (Castro, 1997 as cited by Bellini et al., 2005, Pakurár et al., 2019). Thus, the following hypotheses are proposed:

H1: Tangibility is positively associated with customer satisfaction.

H2: Tangibility is positively linked to customer loyalty.

H3: Reliability is positively associated with customer satisfaction

H4: Reliability is positively linked to customer loyalty.

H5: Responsiveness is positively associated with customer satisfaction.

H6: Responsiveness is positively linked to customer loyalty

H7: Assurance is positively associated with customer satisfaction.

H8: Assurance is positively linked to customer loyalty.

H9: Empathy is positively related with customer satisfaction.

H10: Empathy is positively associated with customer loyalty.

H11: Technology is positively related with customer satisfaction.

H12: Technology is positively related with customer loyalty.

H13: Customer satisfaction predicts customer loyalty positively.

Research Methodology

The purpose of the study was to consider the impact of service quality on customer loyalty development, as well as the mediating role of customer satisfaction in this connection. To do so, convenience sampling was used, in which data was obtained from a variety of banks using self-administered questionnaires. In this research we use the convenience sampling in situations where additional

inputs are not necessary for the principal research, that involves the participants being drawn from a close population group.

The questionnaire was developed and polled to gather data from 331 clients with the ten largest savings banks in Germany accounts in various branches in Germany. The banks were including; Hamburger Sparkasse (Haspa) leads the field, followed by Sparkasse KölnBonn, Stadtsparkasse München,Frankfurter Sparkasse, Sparkasse Hannover, Mittelbrandenburgische Sparkasse, Sparkasse Pforzheim Calw, Ostsächsische Sparkasse Dresden, and Nassauische Sparkasse. A survey was conducted to test the hypotheses generated for this research. The population frame is customers of various local banks in Germany. sample of 331 customers of different banks completed the questionnaires concerning the customer satisfaction and loyalty in banks in Germany. By doing so, this research methodology ensures that the objectives of the research is met and can be assessed.

Measurements

In this study, the unit of analysis was the individual, as a customer of the ten banks. SERVQUAL, developed by Parasuraman et al. (1988), was modified as the instrument for measuring service quality, and Caruana's method for measuring customer loyalty is being used (2002). All questionnaire items were graded using a five-point Likert scale ranging from 1 = "Strongly disagree" to 5 = "Strongly agree." The survey questionnaire consisted of 33 items split into four sections. The first section contained six quality of service dimensions, of which five were derived according to prior research (Parasuraman et al., 1988; Wong et al., 2008, Hapsari et al., 2017), as well as an additional component, technologies, introduced to the underpinning theory (Ganguli and Roy, 2011, Pakurár et al., 2019).

The surveys were pre-tested with 10 chosen bank customers having branch banking experience. The participants were asked to comment on the questions' vagueness and organization. The original questions were improved and certain adjustments were made with the support of the pre-test. The questionnaire's second and third parts, adapted from Mohsan et al. (2011), Customer satisfaction and loyalty were both on the priorities (Vasiljeva, 2021   Grigoroudis *et al*., 2013). The final section of the questionnaire asked respondents for demographic information. Data was collected from various bank clients using a self-administered questionnaire. At the conclusion of the data gathering procedure, 331 answers were received.

Results

The data was verified for, multi-collinearity, autocorrelation, linearity, heteroskedasticity, outliers and normality, before hypothesis testing. The data were found to be linear, normally distributed, and devoid of multi-collinearity, heteroskedasticity, and outliers, all of which might affect the regression findings. Cronbach's alpha coefficients were calculated for consistency reliability of all variables utilized in the research questionnaire, and the questionnaire was then evaluated for validity and reliability.

The following are the Cronbach's alpha values: reliability (.85), tangibility (.82), empathy (.81), responsiveness (.81), technology (.89), assurance (.87), customer satisfaction (.87), and customer loyalty (.83). These values were determined to be acceptable, given the Cronbach's alpha lower limit is .70 (DeVellis, 2003; 2012, Pakurár et al., 2019). All values in our analysis exceeded this criterion, indicating that all items had strong internal consistency.

The regression tests were performed out from the technique indicated by Baron & Kenny (1986), with four different phases of analysis: Step 1: Use customer loyalty as a dependent variable and service quality characteristics as independent variables. Step 2: Using customer satisfaction as a dependent variable and service quality characteristics as independent variables, Steps 3 & 4: Customer loyalty is a dependent variable, whereas customer satisfaction and service quality dimensions are independent variables.

Respondents Profile

The questionnaire's final section gathered demographic data (age, gender, qualification, and occupation). Table 1 shows the demographic characteristics of the respondents. The majority of the sampled individual bank customers are male undergraduate students aged 17 to 26 years old, according to respondent data.

Descriptive Analysis

Descriptive statistics are presented in Table 2.

Table 4.1. Respondents Profile

Variables		Frequency (N=331)	Percentage (N=331)
Gender	Male	186.0	56.19
	Female	145.0	43.8
Age	17-26	174.0	52.56
	27-38	61.0	18.42
	39-50	31.0	9.37
	51-60	38.0	11.48
	More than 60	27.0	8.15
Education	Undergraduate	185.0	55.89
	Graduate	88.0	26.58
	Post graduate	48.0	14.50
	Others	10.0	3.02
occupation	Salaried	195.0	58.91
	Self employed	41.0	12.38
	Student	87.0	26.28
	Others	8.0	2.41

Table 4.2. Descriptive statistics

Variable	Mean	St Deviation	Variance
Tangibility	3.5321	0.78151	0.502
Reliability	3.6021	0.693542	0.514
Responsiveness	3.5644	0. 79352	0.622
Assurance	3.6872	0.80352	0.613
Empathy	3.7086	0.6986	0.538
Technology	3.8339	0.74428	0.588
Customer satisfaction	3.7899	0.66449	0. 453
Customer loyalty	3.73098	0. 78873	0. 663

N=331

Hypotheses Testing

Impact of service quality on customer satisfaction and loyalty

The theoretical framework's hypothesized direct links were examined using regression analysis, and the findings of all suggested correlations are presented in Table 3. Overall, the regression data show that all service quality characteristics have a substantial positive and moderate to strong influence on customer satisfaction and loyalty. These findings give strong support for H1 through H13. Empathy, for example, has been proven to have a significant beneficial impact on customer satisfaction (pearson r value =0.61, p = .05). Customer satisfaction (r= 0.538, p = .05) and loyalty (r=.48, p.05) are both moderately influenced by technology. Customer loyalty is not influenced more by reliability than by quality. This is perhaps because the German banking system is itself reliable and therefore reliability is not the concern of customers.

According to the tested hypotheses, if a bank's workers in Germany provide high-quality service in each category, consumer satisfaction with that bank would be high. Customers are more loyal when the quality of service given by bank staff is improved. As a result, hypotheses H1, H2,H4,H5,H6,H7,H8,H9,H10,H11,H12 & H13 are statistically significant (p<.00).

Effect of satisfaction of customers on loyalty of customers

We examined the direct influence of customer satisfaction on customer loyalty before evaluating the data for a mediating effect of customer satisfaction. Table 4.3

Table 4. 3. Direct effects

	Step 1	Step 2	Step3 +Step 4
Dependent variable	Loyalty	Satisfaction	Loyalty
In dependent Variable	Standardized	coefficients - b	
Tangible	0.26**	0.28**	0.11**
Reliability	0.23**	-0.02	0.25**
Responsiveness	0.01	0.11**	-0.09
Empathy	0.27**	0.23**	0.12* Partially mediated
Assurance	0.31**	0.48**	0.02 Fully mediated
Satisfaction			0.57**
Step summary	Step 1	Step 2	Step 3+ Step 4
R²	0.689	0.727	0.843
Adjusted R²	0.692	0.728	0.532
Durbin Watson	2.01	1.16	1.31
F value	174.35**	184.42**	189.41**

**p < 0.01, *p < 0.05

shows the regression findings, which demonstrate that customer service satisfaction is a significant predictor of customer loyalty (r =.78, p=.01). It may be concluded that customers who find banking services pleasant are more likely to use them again. Repeated involvement is most often attributable to a customer's loyalty to a certain product or service. As a result, H13 (customer satisfaction has a positive and large impact on customer loyalty) is approved (Table 4.4).

Mediation of Customer Satisfaction

Following that, we investigated if consumer satisfaction with a product or service can have a mediating impact, which we assessed using Hayes' PROCESS method (2012;

Table 4.4. Summary of Hypothesis Analysis

Relationship (Direct effects)	Coefficient (done)	S.E (Done)	Hypotheses support
H1:Tangibility→customer satisfaction	0.586	0.127	Yes
H2:Tangibility →customer loyalty	0.473	0.022	Yes
H3:Reliability→customer satisfaction	0.541	0.029	Not Supported
H4:Reliability →customer loyalty	0.541	0.028	Supported
H5:Responsiveness→customer satisfaction	0.526	0.020	Yes
H6:Responsiveness→customer loyalty	0.508	0.026	Yes
H7:Assurance→customer satisfaction	0.593	0.019	Yes
H8:Assurance →customer loyalty	0.553	0.028	Yes
H9:Empathy →customer satisfaction	0.618	0.015	Yes
H10:Empathy →customer loyalty	0.510	0.028	Yes
H11:Technology→customer satisfaction	0.538	0.018	Yes
H12:Technology →customer loyalty	0.482	0.028	Yes
H13:Customer satisfaction → customer loyalty	0.673	0.026	Yes

2013). The findings (Table 4.4) show that customer satisfaction has a moderating impact on the connection between tangibility and loyalty (r =.10). Customer satisfaction was also shown to have a mediating impact on the connections between dependability and loyalty (r =.08), assurance and loyalty (r =.10), empathy and loyalty (r =.15), and technology and loyalty (r =.09). Reliability is positively linked to customer satisfaction has been rejected through these research.

Discussion

The findings of this study demonstrate that all components of service quality boost customer loyalty significantly. That is, the procedures of the service quality model enhance customer retention through tangibility, consistency, responsiveness, assurance, engagement, and technology (Sureshchandar et al, 2003, Pakurár et al., 2019, Zhuo , 2019). This inspired businesses (particularly banks) to focus on these characteristics in order to build loyalty. Additionally, customer satisfaction influences loyalty through the five aspects of service quality (tangibility, reliability, assurance, empathy, and technology). These findings are similar with earlier research findings (Glaveli et al., 2006; Ndubisi, 2006, Indimas & Fachira, 2017), which claimed that when these service quality attributes are adopted by employees, they immediately increase consumer loyalty and satisfaction, which leads to their loyalty towards a certain banks. In this research we proposed six dimensions effect on customer loyalty and we discovered customers with higher levels of satisfaction with various level of technology report higher levels of satisfaction with the banking sectors in Germany. These findings indicate that those dimensions

continue to be important tools in terms of achieving and maintaining higher levels of customer satisfaction.

When bank employees provide customers with assurance, reliability, and tangibility of service, their experience and engagement with the bank improves, and exceptional experiences lead to customer satisfaction and loyalty. In addition, in line with prior research, this study found a substantial relationship between empathy, customer loyalty, and customer satisfaction (Ndubisi, 2006, Thai, 2016, Indimas & Fachira, 2017). Similarly, technological advancements have an impact on consumer satisfaction and loyalty. These findings are in line with previous research (Ganguli and Roy, 2011; Ehigie, 2006, Pakurár et al., 2019). Customer satisfaction does not mediate the link between responsiveness and customer loyalty, despite the fact that responsiveness directly promotes customer loyalty. When responding to consumer inquiries about goods or procedures, providing immediate responses and superior problem-solving solutions can enhance customer loyalty. Customer satisfaction, on the other hand, has no impact on their loyalty. This conclusion is in direct contradiction to Glaveli et al findings' (2006). It is critical that banks place a high priority on the establishment of service policies and procedures that respond to consumer demands for high-quality service (Ndikubwimana & Berndt 2016). This might result in better levels of consumer satisfaction and loyalty.

Conclusions

According to previous studies, service quality has a direct impact on consumer loyalty. However, there is still a

lack in the research that examines various mediation processes in this interaction. Although customer service has been examined for a long time, banks must continue to undertake research in order to keep up with improvements in the banking sector. The goal of this study, which was based on expectation disconfirmation theory, was to see if customer satisfaction mediates the link between service quality and customer loyalty.

The search has highlighted the positive relationship between customer loyalty and the five service quality characteristics of tangibility, reliability, assurance, empathy, and technology in the banking operations of Germany. We had discovered the new model related to technology as a main component in evaluating service quality. We also discovered that Reliability is not positively associated with customer satisfaction (Hypothesis 3 has been rejected). Meanwhile the reliability is positively linked to customer loyalty (Hypothesis 4 has been accepted).

A deeper knowledge of the link between service quality, customer satisfaction, and customer loyalty can help to assure better customer targeting with limited marketing resources. Future studies must include new technology as a component in evaluating service quality. According to this study, Customer satisfaction significantly mediates the relationship between customer loyalty and the five service quality characteristics of tangibility, reliability, assurance, empathy, and technology in the banking operations of Germany. We discovered that responsiveness had a direct impact on customer loyalty, rather than being mediated through customer satisfaction.

Limitations

The authors tried to minimise the limitations of the study; however, it should be noted that this study is only bound to the scope of Germany and only in the banking sector. One should be careful in interpreting and generalising these findings to other countries in the region or other sectors. This is because the characteristics of each context is unique and different.

Acknowledgments

Funding

Declaration of Conflicting Interests

References

Agrawal, V., Seth, N., & Dixit, J. K. (2020). A combined AHP–TOPSIS–DEMATEL approach for evaluating success factors of e-service quality: an experience from Indian banking industry. *Electronic Commerce Research*, 1-33. DOI: https://doi.org/10.1007/s10660-020-09430-3

Agus, A., Barker, S., & Kandampully, J. (2007). An exploratory study of service quality in the Malaysian public service sector. International Journal of Quality & Reliability Management, 24(2), 177-190. Doi: https://doi.org/10.1108/02656710710722284

Akbar, M. M., & Parvez, N. (2009). Impact of service quality, trust, and customer satisfaction on customers loyalty. ABAC Journal, 29(1).

Al-Eisa, A. S., & Alhemoud, A. M. (2009). Using a multiple-attribute approach for measuring customer satisfaction with retail banking services in Kuwait. International Journal of Bank Marketing, 27(4), 294-314. Doi: https://doi.org/10.1108/02652320910968368

Al-Marri, K., Moneim M. Baheeg Ahmed, A., & Zairi, M. (2007). Excellence in service: An empirical study of the UAE banking sector. International Journal of Quality & Reliability Management, 24(2), 164-176. Doi: https://doi.org/10.1108/02656710710722275

Anderson, E. W., & Mittal, V. (2000). Strengthening the satisfaction-profit chain. Journal of Service Research, 3(2), 107-120. https://doi.org/10.1177/109467050032001

Bitner, M. J. (1990). Evaluating service encounters: The effects of physical surroundings and employee responses. The Journal of Marketing, 69-82. https://doi.org/10.1177/002224299005400206

Bloemer, J., & De Ruyter, K. (1999). Customer loyalty in high and low involvement service settings: The moderating impact of positive emotions. Journal of Marketing Management, 15(4), 315-330. https://doi.org/10.1362/026725799784870388

Brimpong, M. A. (2008). The effect of customer satisfaction on loyalty: A case study of First Allied Savings and Loans Ltd

(Doctoral Dissertation). Retrieved from http://ir.knust.edu.gh/bitstream/123456789/683/1/MALCOLM A. BRIMPONG.pdf

Brown, K. A., & Mitchell, T. R. (1993). Organizational obstacles: Links with financial performance, customer satisfaction, and job satisfaction in a service environment. Human Relations, 46(6), 725-757. https://doi.org/10.1177/001872679304600603

Caruana, A. (2002). Service loyalty: The effects of service quality and the mediating role of customer satisfaction. European Journal of Marketing, 36(7/8), 811-828. https://doi.org/10.1108/03090560210430818

Cronin, J. J., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. Journal of Retailing, 76(2), 193-218. https://doi.org/10.1016/S0022-4359(00)00028-2

DeVellis, R. F. (2003). Scale development: Theory and applications (2nd ed.): Thousand Oaks, CA: Sage Publications, Inc.

DeVellis, R. F. (2012). Scale development: Theory and applications (Vol. 26): Sage publications.

DSGV, 2021 report, Rating Report Sparkassen-Finanzgruppe, accessed June 2021.

Duffy, D. L. (2003). Internal and external factors which affect customer loyalty. Journal of Consumer Marketing, 20(5), 480-485. https://doi.org/10.1108/07363760310489715

Duncan, E., & Elliott, G. (2002). Customer service quality and financial performance among Australian retail financial institutions. Journal of Financial Services Marketing, 7(1), 25-41. https://doi.org/10.1057/palgrave.fsm.4770070

Fisher, A. (2001). Winning the battle for customers. Journal of Financial Services Marketing, 6(1), 77-83. https://doi.org/10.1057/palgrave.fsm.4770042

Ford, J. B., Malhotra, N. K., Ulgado, F. M., Agarwal, J., Shainesh, G., & Wu, L. (2005). Dimensions of service quality in developed and developing economies: Multi-country cross-cultural comparisons. International Marketing Review, 22(3), 256-278.

Ganguli, S., & Roy, S. K. (2011). Generic technology-based service quality dimensions in banking: Impact on customer satisfaction and loyalty. International Journal of Bank Marketing, 29(2), 168-189. https://doi.org/10.1108/02652321111107648

Gitomer, J. (1998). Customer satisfaction is worthless, customer loyalty is priceless: How to make them love you, keep you coming back, and tell everyone they know. Texas: Bard Press.

Grigoroudis, E., Tsitsiridi, E., & Zopounidis, C. (2013). Linking customer satisfaction, employee appraisal, and business performance: an evaluation methodology in the banking sector. *Annals of Operations Research*, *205*(1), 5-27. https://doi.org/10.1007/s10479-012-1206-2

Harridge-March, S., Wong, D. H., Rexha, N., & Phau, I. (2008). Reexamining traditional service quality in an e-banking era. International Journal of Bank Marketing, 26(7), 526-545. https://doi.org/10.1108/02652320810913873

Hayes, B. E. (2008). The true test of loyalty. Quality Progress, 41(6), 20-26.

Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis:A regression-based approach. New York, NY: Guilford.

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from http://www.personal.psu.edu/jxb14/M554/articles/process2012.pdf, January, 2014.

Hapsari, R., Clemes, M. D., & Dean, D. (2017). The impact of service quality, customer engagement and selected marketing constructs on airline passenger loyalty. International Journal of Quality and Service Sciences, 9(1), 21–40. https://doi.org/10.1108/IJQSS-07-2016-0048

Heskett, J. L., & Schlesinger, L. (1994). Putting the service-profit chain to work. Harvard Business Review, 72(2), 164-174.

Ibáñez, V. A., Hartmann, P., & Calvo, P. Z. (2006). Antecedents of customer loyalty in residential energy markets: Service quality, satisfaction, trust, and switching costs. The Service Industries Journal, 26(6), 633-650. https://doi.org/10.1080/02642060600850717

Islam, R., Ahmed, S., Rahman, M. and Al Asheq, A. (2021), "Determinants of service quality and its effect on customer satisfaction and loyalty: an empirical study of private banking sector", The TQM Journal, Vol. 33 No. 6, pp. 1163-1182. https://doi.org/10.1108/TQM-05-2020-0119

Ismail, I., Haron, H., Nasir Ibrahim, D., & Mohd Isa, S. (2006). Service quality, client satisfaction, and loyalty towards audit firms: Perceptions of Malaysian public listed companies. Managerial Auditing Journal, 21(7), 738-756. https://doi.org/10.1108/02686900610680521

Jabnoun, N., & Hassan Al-Tamimi, H. A. (2003). Measuring perceived service quality at UAE commercial banks. International Journal of Quality & Reliability Management, 20(4), 458-472. https://doi.org/10.1108/02656710310468614

Joseph, M., Sekhon, Y., Stone, G., & Tinson, J. (2005). An exploratory study on the use of banking technology in the UK: A ranking of importance of selected technology on consumer perception of service delivery performance. International Journal of Bank Marketing, 23(5), 397-413. https://doi.org/10.1108/02652320510612474

Kasiri, L. A., Guan Cheng, K. T., Sambasivan, M., & Sidin, S. M. (2017). Integration of standardization and customization: Impact on service quality, customer satisfaction, and loyalty. Journal of Retailing and Consumer Services, 35, 91–97. https://doi.org/10.1016/j.jretconser.2016.11.007

Khalid, S., & Irshad, M. (2010). Job satisfaction among bank employees in Punjab, Pakistan: A comparative study. European Journal of Social Sciences, 17(4), 570-577.

Kheng, L. L., Mahamad, O., Ramayah, T., & Mosahab, R. (2010). The impact of service quality on customer loyalty: A study of banks in Penang, Malaysia. International Journal of Marketing Studies, 2(2), p57.

Kholiqov Firdavsi & Ramzani, S. A. N. D. R. V. (2017) 'Effect of Comparative Study of Payment System between Malaysia and Republic of Tajikistan'. Available at: http://www. publishing.globalcsrc.org/ojs/index.php/jafee/article/view/88.

Kotler, P., & Keller, K. (2006). Marketing Management (pp. 402): New Delhi, India: Prentice-Hall.

Kotler, P., Keller, K. L., Koshy, A., & Jha, M. (2009). Marketing management: A SouthAsian perspective (13th ed.): New Delhi, DL: Pearson Prentice Hall.

Kumar, V., Aksoy, L., Donkers, B., Venkatesan, R., Wiesel, T., & Tillmanns, S. (2010). Undervalued or overvalued customers: Capturing total customer engagement value. Journal of Service Research, 13(3), 297-310. https://doi.org/10.1177/1094670510375602

Kungu, G., Desta, I., & Ngui, T. (2014). An assessment of the effectiveness of competitive strategies by commercial banks: A Case of Equity Bank. International Journal of Education and Research, 2(12), 333-346.

Ladhari, R., Ladhari, I., & Morales, M. (2011). Bank service quality: Comparing Canadian and Tunisian customer perceptions. International Journal of Bank Marketing, 29(3), 224-246. https://doi.org/10.1108/02652321111117502

Lee, G.-G., & Lin, H.-F. (2005). Customer perceptions of e-service quality in online shopping. International Journal of Retail & Distribution Management, 33(2), 161-176. https://doi.org/10.1108/09590550510581485

Mohsan, F., Nawaz, M. M., Khan, M. S., Shaukat, Z., & Aslam, N. (2011). Impact of customer satisfaction on customer loyalty and intentions to switch: Evidence from banking sector of Pakistan. International Journal of Business and Social Science, 2(16), 230-245.

Mosahab, R., Mahamad, O., & Ramayah, T. (2010). Service quality, customer satisfaction and loyalty: A test of mediation. International Business Research, 3(4), 72-80.

Mols, Niels P., "The Internet and the Banks' Strategic Distribution Channel Decisions", International Journal of Bank Marketing, Volume 17 Number 6, Pages 295-307, 1999. https://doi.org/10.1108/10662249810231087

Munari, L., Ielasi, F., & Bajetta, L. (2013). Customer satisfaction management in Italian banks. Qualitative research in financial markets. 5(2), 139-160. https://doi.org/10.1108/QRFM-11-2011-0028

Murari, K. (2018). Financial service quality and its impact on customer satisfaction: Evidence from Indian banking sector. Drishtikon: A Management Journal, 9(2), 36–5.

Muyeed, M. A. (2012). Customer perception on service quality in retail banking in developing countries: A case study. International Journal of Marketing Studies, 4(1), 116. doi:10.5539/ijms.v4n1p116

Ndikubwimana P, Berndt A (2016) Service quality and customer satisfaction among bank clients in Rwanda. Bri J Econ, Manag Trade 13(4):1–11. 10.9734/BJEMT/2016/26149

Ndubisi, N. O. (2006). A structural equation modelling of the antecedents of relationship quality in the Malaysia banking sector. Journal of Financial Services Marketing, 11(2), 131-141. https://doi.org/10.1057/palgrave.fsm.4760033

Uppal R.K., Indian Banking Industry and Information Technology, New Century Publications, New Delhi. 2006

Ograjenšek, I. (2008). Service quality. Statistical Practice in Business and Industry, 117-136.

Oliva, T. A., Oliver, R. L., & MacMillan, I. C. (1992). A catastrophe model for developing service satisfaction strategies. Journal of marketing, 56(3), 83-95. https://doi.org/10.1177/002224299205600306

Oliver, R. L., (1977), Effect of expectation and disconfirmation on post exposure product evaluation: An alternative interpretation, Journal of Applied Psychology, 62 (4), 480-486. https://doi.org/10.1037/0021-9010.62.4.480

Oliver, R. L., (1980), A cognitive model of the antecedents and consequences of satisfaction decisions. Journal of Marketing Research, 17(4), 460-469. https://doi.org/10.1177/002224378001700405

Osayawe Ehigie, B. (2006). Correlates of customer loyalty to their bank: Acase study in Nigeria. International Journal of Bank Marketing, 24(7), 494-508. https://doi.org/10.1108/02652320610712102

Osman, Z., Sentosa, I., (2014), Influence of customer satisfaction on service quality and customer loyalty relationship in Malaysian commercial banking industry. International Journal of Economics, Finance, and Management, 3(2), 115-120

Ostrom, A. L., Bitner, M. J., Brown, S. W., Burkhard, K. A., Goul, M., Smith-Daniels, V., ... & Rabinovich, E. (2010). Moving forward and making a difference: research priorities for the science of service. Journal of service research, 13(1), 4-36. https://doi.org/10.1177/1094670509357611

Panda, T. K. (2003). Creating customer life time value through effective CRM in financial services industry. Journal of Services Research, 2(2), 157-171.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL- a multiple-item scale for measuring consumer perceptions of service quality. Journal of Retailing, 64(1), 12-40.

Pakurár, M., Haddad, H., Nagy, J., Popp, J., & Oláh, J. (2019). The service quality dimensions that affect customer satisfaction in the Jordanian banking sector. Sustainability (Switzerland), 11(4), 1113. https://doi.org/10.3390/su11041113

Pedraja Iglesias, M., & Jesus Yagüe Guillén, M. (2004). Perceived quality and price: Their impact on the satisfaction of restaurant customers. International Journal of Contemporary Hospitality Management, 16(6), 373-379. https://doi.org/10.1108/09596110410550824

Portela, M. C. A. S., & Thanassoulis, E. (2005). Profitability of a sample of Portuguese bank branches and its decomposition into technical and allocative components. European Journal of Operational Research, 162(3), 850-866. https://doi.org/10.1016/j.ejor.2003.10.018

Powers, T. L., & Jack, E. P. (2008). Using volume flexible strategies to improve customer satisfaction and performance in health care services. *Journal of Services Marketing.* 22(3), 188-197. https://doi.org/10.1108/08876040810871156

Rafaeli, A., Ziklik, L., & Doucet, L. (2008). The impact of call center employees' customer orientation behaviors on service quality. Journal of Service Research, 10(3), 239-255. https://doi.org/10.1177/1094670507306685

Raju, V. (2021) 'Implementing Flexible Systems in Doctoral Viva Defense Through Virtual Mechanism', *Global Journal of Flexible Systems Management*, 22(2), pp. 127–139. doi: 10.1007/s40171-021-00264-y.

Rexha, N., Kingshott, R. P. J., & Aw, A. S. S. (2003). The impact of the relational plan on adoption of electronic banking. *Journal of services marketing*. Vol. 17 No. 1, pp. 53-67. https://doi.org/10.1108/08876040310461273

Samadi, B., Gharleghi, B., & Syrymbetova, M. (2015). An analysis of consumers' trust, logistic infrastructure and brand awareness towards e-commerce implementation in Kazakhstan. International Journal of Business and Management, 10(10), 96-107. doi:10.5539/ijbm.v10n10p96

Shams, G., Rehman, M.A., Samad, S. et al (2020). The impact of the magnitude of service failure and complaint handling on satisfaction and brand credibility in the banking industry. J Financ Serv Mark 25, 25–34 . https://doi.org/10.1057/s41264-020-00070-0

Siddiqui, M., Sharma, T. Analyzing customer satisfaction with service quality in life insurance services. Springer. J Target Meas Anal Mark 18, 221–238 (2010). https://doi.org/10.1057/jt.2010.17.

Sigala, M., Christou, E., Glaveli, N., Petridou, E., Liassides, C., & Spathis, C. (2006). Bank service quality: Evidence from five Balkan countries. Managing Service Quality: An International Journal, 16(4), 380-394. https://doi.org/10.1108/09604520610675711

Sowlati, T., & Paradi, J. C. (2004). Establishing the "practical frontier" in data envelopment analysis. Omega, 32(4), 261–272. https://doi.org/10.1016/j.omega.2003.11.005

Sureshchandar, G., Rajendran, C., & Anantharaman, R. (2003). Customer perceptions of service quality in the banking sector of a developing economy: Acritical analysis. International Journal of Bank Marketing, 21(5), 233-242. https://doi.org/10.1108/02652320310488411

Slack, N.J. and Singh, G. (2020), "The effect of service quality on customer satisfaction and loyalty and the mediating role of customer satisfaction : Supermarkets in Fiji", The TQM Journal, Vol. 32 No. 3, pp. 543-558. https://doi.org/10.1108/TQM-07-2019-0187

Surjadjaja, H., Ghosh, S., & Antony, J. (2003). Determining and assessing the determinants of e-service operations. Managing Service Quality: An International Journal, 13(1), 39-53. https://doi.org/10.1108/09604520310456708

Swar, B. N., & Sahoo, P. K. (2012). Public, private, and foreign banks. Journal of Indian Management, 9(3), 43-51.

Tee, P. K., Gharleghi, B., & Chan, B. Y. F. (2013). Malaysian young consumer preferences in choosing international fashion brand. Journal of Human and Social Science Research, 1(1), 31-38.

Thai, V. The impact of port service quality on customer satisfaction: The case of Singapore. Springer, Marit Econ Logist 18, 458–475 (2016). https://doi.org/10.1057/mel.2015.19

Torkayesh, A. E., Pamucar, D., Ecer, F., & Chatterjee, P. (2021). An integrated BWM-LBWA-CoCoSo framework for evaluation of healthcare sectors in Eastern Europe. *Socio-Economic Planning Sciences*, *78*, 101052. https://doi.org/10.1016/j.seps.2021.101052

Vasiljeva T., Kreituss G., Kreituss I. (2021) The Implications of Customer Behaviour for Banking Service Management: Evidence from Latvia. In: Kabashkin I., Yatskiv I., Prentkovskis O. (eds) Reliability and Statistics in Transportation and Communication. RelStat 2020. Lecture Notes in Networks and Systems, vol 195. Springer, Cham.

Woodruff, R. B. (1997). Customer value: The next source for competitive advantage. Journal of the Academy of Marketing Science, 25(2), 139-153. https://doi.org/10.1007/BF02894350

Yilmaz, V., Ari, E., & Gürbüz, H. (2018). Investigating the relationship between service quality dimensions, customer satisfaction and loyalty in Turkish banking sector: An application of structural equation model. *International journal of bank marketing*.

Zhuo, Z. (2019). Research on using Six Sigma management to improve bank customer satisfaction. *International Journal of Quality Innovation*, *5*(1), 1-14. https://doi.org/10.1186/s40887-019-0028-6

Zineldin, M. (2005). Quality and customer relationship management (CRM) as competitive strategy in the Swedish banking industry. The TQM Magazine, 17(4), 329-344. https://doi.org/10.1108/09544780310487749

Biographical Statement of Author(s)

Dr. Sara Ravan Ramzani is a Senior Business Lecturer & Program team leader, exerts primarily as a principal supervisor for Master and PhD researchers in management and business accounting stream.

She was educated at University Putra Malaysia, where she received her PhD in Economics and information systems in 2015. Sara has published 84 papers to date, and received the "best innovative paper award" from the Sydney International Business Research Conference in 2018. Sara is also the Chief Executive Editor of the Journal of Development Economics, Springer, and sits on Horizon journals editorial board from 2019 -2022. She is the main author for SDG9 and SGD 16.

Sara has several years of experience as a senior lecturer, programme leader and postgraduate director at international universities in Malaysia and Singapore, and has supervised 24 PhD students, primarily in the fields of Project Management, Business, and Finance.

Dr. Sara R Ramzani
GISMA Business School
14469 Potsdam
Brandenburg, Berlin
Germany
E-mail: sara.ramzani@gisma.com

Dr Behrooz Gharleghi has several years of teaching, research, and practical experiences in various capacities in Malaysia, Peru, and Ger many.

He has published several articles in the area of financial economics, monetary economics, and business management and currently is the Associate Editor of the Jurnal Ekonomi Malaysia. He has led on and collaborated in various international research projects from the United Nations, F.A.O, Volkswagen Foundation, and the Malaysian Ministry of Higher Education.

Dr. Behrooz Gharleghi
Arden University
10963 Berlin
Germany
E-mail: gharleghi.bn@gmail.com

Dr. Alison Watson is the Head of School of Leadership and Management. Having taught at Arden for 15 years, she has supported many students on various management courses at all levels of study.

Prior to this, Alison was an operations and project manager for a number of large retailers, and therefore has a wealth of experience in the field of business and management.

Dr. Alison Watson
Arden University
London
U.K.
E-mail: awatson@arden.ac.uk

Hugh Smith joined Arden University in April 2020 as a Deputy Programme Team Leader for undergraduate Accounting and Business. He has extensive experience in the banking sector; a diverse range of roles from customer services to sales management.

But business and finance is not where Hugh's experience ends, as he has also previously taught students in tourism, travel and hospitality in the UK, Spain and Switzerland.

Hugh's qualifications include Professional Banking Qualifications, a BA (Hons) in Tourism Management, a PgC in Learning and Teaching in Higher Education, a Masters in Research (Business and Management) and qualifications in Project Management. He is also a Fellow of the Higher Education Academy.

Hugh Smith
Arden University
London
U.K.
E-mail: hsmith@arden.ac.uk

Dr Phungmayo Horam is Academic Lead at Arden Berlin and advisor to Steinbeis Renewable Energy Centre, India. He is a Resource Economist with a PhD from Humboldt University, and has over four years' experience in project implementation under the Sustainable Future-Megacities project sponsored by the German Ministry of Education and Research (BMBF).

Horam specialises in Project Management and the application of Economics and legal frameworks for evaluating policy design and transaction risks in the renewable energy sector.

Dr. Phungmayo Horam
Arden University
10963 Berlin
Germany
E-mail: phoram@arden.ac.uk

Dr Victor Vargas is a senior lecturer at Arden university. He has a substantial experience in the industry in Germany and Brazil, with missions around Europe, North America and Asia. His last position in the industry was at Deutsche Bahn, addressing IT systems for trains. In Brazil, he was responsible for the implementation and strategy of one of SENAI Innovation Institutes, addressing the RD&I of national industry, in cooperation with Fraunhofer Institute (Germany).

He holds different degrees in different levels of Academia in Electronics, Mechanical Engineering, Biomedical Engineering, Business & Finance, Innovation, Project Management and Corporate development from different institutions like COPPE (Brazil), Get úlio Vargas Foundation (Brazil), RWTH Aachen (Germany), and TU Berlin (Germany).

Dr Cunha-Cruz, V.C.V.S
Arden University
10963 Berlin
Germany
E-mail: vvargas@arden.ac.uk

Anja Basnet is a business lecturer at Arden University Manchester campus. She teaches various business and management modules including finance, management accounting, strategy and sustainability modules for bachelor and master's programs. She is also a module leader for Master Dissertation and research methods.

Anja Basnet
Arden University
Manchester campus
U.K.
E-mail: abasnet@arden.ac.uk