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The Impact of Service Quality on University Students' Satisfaction with Islamic Banks

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ABSTRACT

Objective - The primary objective of the paper is to examine the impact of the CARTER model dimensions (Compliance, Assurance, Reliability, Tangibility, Empathy, and Responsiveness) on university students' satisfaction with Islamic banks. The study aims to identify the dimensions that are most influential in enhancing service quality within this specific demographic.
Methodology/Technique - The research employs a quantitative approach, utilizing primary data collected through a survey of 150 respondents aged 18 to 27 from Universiti Sains Islam Malaysia. The study employs various statistical analyses using SPSS, including descriptive analysis, factor analysis, reliability analysis, and multiple regression analysis, to assess the relationships between CARTER dimensions and customer satisfaction.
Findings – The findings reveal that empathy and assurance are the most significant factors influencing customer satisfaction among university students in relation to Islamic banks. Conversely, compliance, reliability, tangibility, and responsiveness were found to have an insignificant relationship with customer satisfaction. The study suggests that Islamic banks should prioritize effective communication and personalized services to enhance the banking experience for students. Additionally, it highlights the importance of integrating financial literacy programs within universities to better equip students in their interactions with banking services.
Novelty - The novelty of the research lies in its application of the CARTER model specifically to Islamic banking, with a focus on university students as a significant and underexplored demographic. By collecting empirical data from 150 respondents at Universiti Sains Islam Malaysia, the study offers unique insights into which dimensions of service quality, specifically empathy and assurance, most significantly influence student satisfaction. Additionally, it provides practical recommendations for Islamic banks to enhance their service delivery and highlights the role of universities in promoting financial literacy, thereby contributing to the broader discussion on improving customer relationships in the financial sector.
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1. Introduction

Based on Islamic law, Islamic banking is a banking system that provides Islamic banking services and products (Rahmi et al., 2020).

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The need for financial services based on Islamic principles, such as a banking system that abstains from usury (interest is equated with usury), gambling (maysir), speculation or uncertainty (gharar), and other actions that violate sharia (haram) principles, is what motivates the existence of Islamic banks. (Wandi et al., 2020). Malaysia's first Islamic bank was founded in 1983 and was called Bank Islam Malaysia Berhad (BIMB) (Razak et al., 2020). Over the past forty years, Islamic banks have grown, expanded globally, and gained widespread acceptance, transcending national and religious boundaries. (Alam & Al-Amri, 2020). One of the reasons for this expansion has been the increasing use of Shariah-compliant financial services among Muslim consumers. Beyond the Muslim consumers, young consumers and university students are among them.

The benefits of providing exceptional service quality include reducing customer attrition, increasing customer loyalty, creating opportunities for cross-selling, promoting word-of-mouth recommendations, and improving corporate appearances. (Haron et al., 2020). Islamic banks are required to meet their customers' needs in the area of financial transaction services, as they are one of the economic sectors that uphold the notion of centrality. (Andriyani & Sari, 2022). Therefore, in the current competitive business landscape, the quality of service is crucial for enhancing customer satisfaction. The satisfaction of university students with Islamic banks cannot be ignored. University students represent a significant and valuable customer segment for Islamic banks due to their substantial and growing population. Furthermore, providing high-quality service and building strong relationships with university students can enhance an Islamic bank's brand recognition and reputation. Positive word-of-mouth and referrals from satisfied student customers can help attract new clientele, both within the student population and beyond. University students' satisfaction is used as a proxy for the impact of service quality in Islamic banks.

2. Background of Study

Service quality refers to the extent to which the service customers receive matches their expectations and reality, as stated by (Hasyim, 2021). On the other hand, satisfaction can be described as the feelings of pleasure or disappointment that an individual experiences based on their expectations when comparing certain performances or products (Zukhrufani et al., 2022). Maintaining high levels of both service quality and customer satisfaction is crucial for business success. Hence, (Parasuraman, 1985) developed a multi-item scale known as SERVQUAL. The purpose of the SERVQUAL scale is to assess customer expectations and perceptions, as well as the discrepancies in the service quality framework. (Hasyim, 2021). According to (Priyo et al., 2019) SERVQUAL involves managing the quality level needed to satisfy customer expectations. By putting more focus on the terms of service, customer levels, and attributes, it is a collection of advantages that consumers receive either directly or indirectly, which facilitate the acquisition of goods and services. (Rashid et al., 2020). Hence, in exploring the relationship between service quality and university students' satisfaction with Islamic banks, the SERVQUAL model can be employed to identify the specific elements of service quality that influence their satisfaction.

Nonetheless, a study by Othman & Owen (2001) argues that Islamic banking differs from conventional banking; thus, the CARTER model is the most appropriate approach to assessing service quality in Islamic banks. Another researcher also argues that the SERVQUAL model, which encompasses assurance, reliability, tangibles, empathy, and responsiveness dimensions, does not adequately consider religious adherence (Cronin Jr. Hence, Othman and Owen enhanced the SERVQUAL model by introducing the CARTER model with an additional dimension: compliance. The new aspect involves how consumer attitudes towards religious beliefs may impact their choice to purchase a product or service (Afifah & Kurniawati, 2021). Adherence to Shariah principles in banking ensures that the operations and financial products of Islamic banks comply with Islamic law guidelines. The additional element in the CARTER model, in the context of Islamic banking, is compliance, which involves adhering to Islamic principles and regulations (Manual, 2023). Furthermore, Ahmed et al. (2021) emphasize in their study that there is a strong and meaningful connection between compliance in Islamic banks with Shariah principles and the quality of service, as well as customer satisfaction.

3. Problem Statements

The Islamic Banking Act of 1983 established Bank Islam Malaysia Berhad as Malaysia's first Islamic bank. Malaysia has since expanded its financial institutions to include commercial banks, Islamic banks, international Islamic banks, investment banks, and other financial institutions, with 17 active Islamic banks as of 2024. This study aims to investigate the key dimensions of service quality that significantly influence university students' satisfaction with Islamic banking services. It highlights the need for Islamic banks to address customer needs, maintain superior service quality, and win over customer loyalty to gain a competitive edge. Understanding the unique preferences and expectations of younger, tech-savvy consumers, such as university students, can help Islamic banks refine their offerings and cater to their needs.

4. Research Objectives

1) To examine the impact of compliance on university students’ satisfaction with Islamic banks.

2) To examine the impact of assurance on university students’ satisfaction with Islamic banks.

3) To examine the impact of reliability on university students’ satisfaction with Islamic banks.

4) To examine the impact of tangibility on university students’ satisfaction with Islamic banks.

5) To examine the impact of empathy on university students’ satisfaction with Islamic banks.

6) To examine the impact of responsiveness on university students’ satisfaction with Islamic banks.

5. Materials and Methods

Prior studies have been conducted to develop a standardized approach for evaluating the level of satisfaction clients have with the services offered by Islamic banks. In 2001, Othman and Owen created the CARTER model. After analyzing and evaluating the current model of service quality utilized by the banking sector generally, these researchers developed a new model suitable for the services provided by Islamic banks (Razak et al., 2020). With the inclusion of the Shariah-compliance component, the SERVQUAL model (Parasuraman, 1985) consists of the same five dimensions. By focusing on the six aspects of the CARTER model, derived from the SERVEQUAL model, Islamic banks can enhance service quality and offer a more satisfying experience for students seeking Islamic banking services. In financial services, direct communication with customers is essential for banks that offer services to build strong relationships while meeting client demands. (Syahrizal et al., 2022).

5.1. Conceptual Framework

A popular approach for evaluating service quality and its impact on customer satisfaction is the SERVQUAL model. There are five dimensions in SERVQUAL. According to (Lew et al., 2019). The first dimension is the tangibility of an object; the second is a staff member's dependability; the third is reactivity, which indicates standby service; the fourth and fifth are assurance (strong skill) and empathy, which provide individualized attention.

However, this study examines the impact of service quality dimensions in the CARTER model, which include compliance, assurance, reliability, tangibles, empathy, and responsiveness, as independent variables, and university students' satisfaction with Islamic banks as dependent variables. The interaction of variables in the model determines the effect of service quality on university students' satisfaction with Islamic banks. It consists of six (6) factors that impact customer contentment, including compliance, assurance, reliability, tangibles, empathy, and responsiveness, as shown in Figure 1 below.

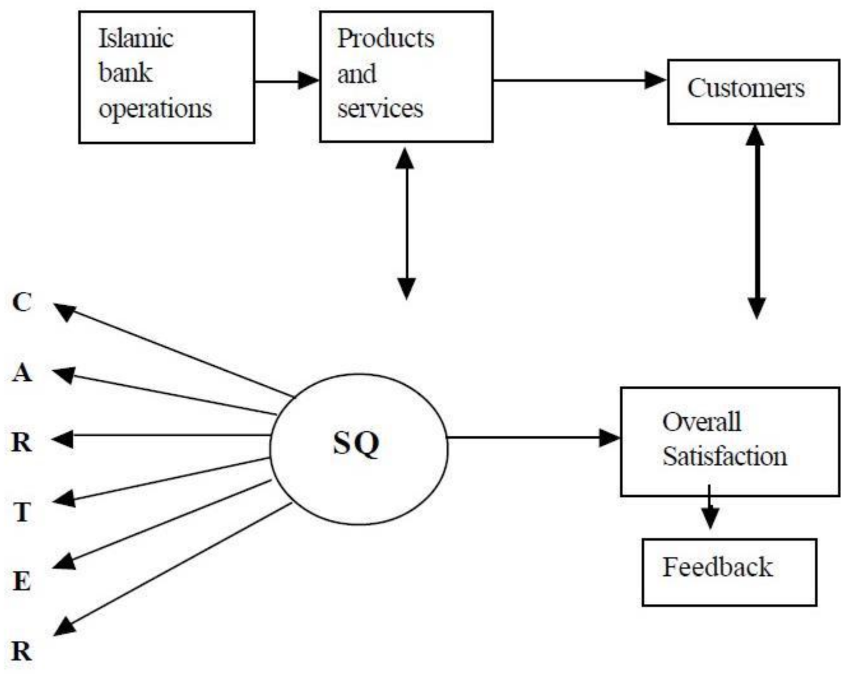

Figure 1: Adopted research framework (Othman & Owen, 2001)

5.1.1. Compliance

Compliance, or the ability to adhere to Islamic principles in Islamic banking operations, is the first dimension of the CARTER model. (Zukhrufani et al., 2022). Compliance is primarily aimed at ensuring that fairness and justice are upheld in the interactions between customers and banks. (Razak et al., 2020). Therefore, Islamic banking must ensure that all its products and services comply with Islamic law. (Othman & Owen, 2001). Research conducted by (Dandis & Wright, 2020) Recently demonstrated in all Jordanian indigenous Islamic banks, the main determinants of loyalty attitudes are empathy, certainty, and compliance. (Ghamry & Shamma, 2022) Additionally, it was demonstrated that the primary determinants of consumer behavior in Kuwaiti Islamic banks are convenience, dependability, technical sophistication, and adherence to Shariah principles. Hence, Islamic banking customers prioritize the idea of compliance (Al Thuwaini et al., 2022). (Ahmed et al., 2021) examines the impact of adhering to Islamic Shariah on customer satisfaction in Islamic banking services, with service quality as a moderating factor. Thus, the following will be the first hypothesis to be assessed:

H1: *There is a positive relationship between compliance and university students' satisfaction with Islamic banks.*

5.1.2. Assurance

The second dimension is assurance. Assurance in Islamic banking involves the knowledge, politeness, and communication abilities of staff in building trust and confidence among customers. (Othman & Owen, 2001). University students who adhere to Islamic principles and values are more likely to seek banking services that align with their religious beliefs. Islamic banking should instill confidence in students that their financial transactions are conducted in accordance with Islamic principles. This alignment fosters a sense of contentment among students by enabling them to engage in financial activities that align with their faith-based beliefs. Therefore, Islamic banking should recruit polite, skilled, competent, and responsible staff who can provide effective solutions to customers' financial problems, thereby delivering high service quality. (Zukhrufani et al., 2022) With the use of this information, they can schedule seminars and training sessions for staff members who are underqualified, providing customers with a sense of safety during transactions. (Dandis & Wright, 2020). Thus, the following will be the second hypothesis to be evaluated:

H2: *There is a positive relationship between assurance and university students' satisfaction with Islamic banks.*

5.1.3. Reliability

Reliability constitutes the third dimension. Delivering services that meet consumer expectations accurately and are worthy of their confidence is what it means by reliability. (Othman & Owen, 2001). In the context of banking services, reliability encompasses factors such as consistency, complaint management, customer communication, procedural adherence, and other key aspects. (Ramya et al., 2019). When it comes to Islamic banks, reliability is defined by their adherence to Shariah principles and their ability to provide services that align with Islamic values. Reliability consists of two main elements: consistently performing job tasks reliably and being trusted to deliver promised services effectively and precisely. (Rofiyanti et al., 2022). Students are more inclined to be happy when they see the bank as reliable in adhering to Shariah principles, offering Shariah-compliant products, and consistently meeting their service expectations. Thus, the following will be the third hypothesis to be assessed:

H3: *There is a positive relationship between reliability and university students' satisfaction with Islamic banks.*

5.1.4. Tangibility

Tangibility is the fourth dimension. Tangibility refers to the observable elements of a service, such as the appearance of the bank, its employees, and the equipment used, as well as tangible forms like credit cards or bank statements. (Parasuraman, 1985). The area surrounding the bank should reflect Islamic culture, featuring appropriate decor, Islamic art, and symbols that resonate with the students' religious beliefs and identity. Islamic banks typically mandate that their employees adhere to Islamic guidelines regarding attire, which includes modest dressing for male and female staff members. Personnel should adhere to Islamic principles in their visual appearance to foster a sense of professionalism, trust, and respect among students. Physical items in Islamic banking can also include educational materials that provide students with valuable information on the fundamentals of Islamic banking, the features of Shariah-compliant products, and the benefits of engaging in ethical financial practices. Thus, the following will be the fourth hypothesis to be evaluated:

H4: *There is a positive relationship between tangibles and university students' satisfaction towards Islamic banks.*

5.1.5. Empathy

The fifth dimension is empathy. Empathy involves the company acknowledging its customers' issues and responding in their favor, providing individualized attention, and convenient operating hours. (Rofiyanti et al., 2022). Within Islamic banks, empathy refers to the bank's understanding of its customers' religious beliefs and values. This may involve personalized offerings or products tailored to meet the specific needs of Islamic banking clients. When students believe that the bank respects and acknowledges their religious beliefs and offers customized assistance, it can enhance their level of satisfaction. Therefore, developing empathy in Islamic banks can be achieved by recognizing unique client demands, anticipating customer needs, and taking into account prior issues and preferences. (Dandis & Wright, 2020). This dimension focuses on Islamic bank staff who provide extra care to clients. (Zukhrufani et al., 2022). Thus, the following will be the fifth hypothesis to be assessed:

H5: *There is a positive relationship between empathy and university students' satisfaction with Islamic banks.*

5.1.6. Responsiveness

The sixth dimension is responsiveness. Responsiveness involves employees being prepared and able to assist customers promptly, meet their needs, inform them about services, and provide prompt service, thereby demonstrating the company's effectiveness in promptly and effectively addressing customer needs. (Rofiyanti et al., 2022). Islamic banks must prioritize being responsive to enhance customer satisfaction levels. (Fauzi & Suryani, 2019). When it comes to the satisfaction of university students with Islamic banks, it is essential to address their questions, issues, or requests for details or assistance promptly. Islamic banks must ensure that their staff are readily available to meet the needs of students and have efficient communication channels, such as dedicated customer service hotlines or online support, to facilitate quick responses. Prompt assistance from the bank demonstrates its commitment to supporting students and contributes to their overall satisfaction. Thus, the following will be the sixth hypothesis to be evaluated:

H6: *There is a positive relationship between responsiveness and university students' satisfaction towards Islamic banks.*

5.2. Methodology

This section describes the research techniques used to investigate the relationship between service quality and university students' satisfaction with Islamic banks. The research design section describes the overall approach and structure of the study. The data collection process section outlines how the data for the study was gathered. In quantitative research, the data analysis section would detail the statistical methods employed for data analysis.

5.2.1. Research Design

Research design is a summary of how research is being conducted (Lew et al., 2019). There are two types of research designs: exploratory research design and confirmatory research design. Conclusive research design is a type of research that explains the causal relationship (cause-effect) between variables that influence it (Faizah & Sholahuddin, 2023). Conclusive research design is divided into two primary research designs: descriptive research and causal research. The research design for this study is causal. As causal research aims to investigate causal connections, it is essential to consider at least one independent variable and its relationship to one or more dependent variables (Oppewal, 2010). The cause-effect relationship in this study refers to the impact of service quality on university students' satisfaction with Islamic banks.

5.2.2. Data Collection Method

Quantitative research is a procedure that collects, analyses, and interprets numeric data (Hasan, 2024). The investigators employ quantitative research methodology to gather and examine data and information represented in numerical form. To describe and evaluate predetermined hypotheses, this study used quantitative research methods to explore a specific population or sample, utilizing data collection equipment and statistical data analysis.

The significant data used in this study were gathered through survey methods, which involved distributing questionnaires directly to respondents. First-hand information gathered by researchers is referred to as primary data. To explore the hypothesis and research questions, the data collection strategy employed in this study involves distributing questionnaires to respondents. Additionally, because it is less expensive and more efficient for researchers to obtain data online, questionnaires are also sent via the internet. The objective of a questionnaire is to gather information from respondents for scientific purposes. To gather data, researchers use Google Forms to create questionnaires and distribute them to respondents. This method helps researchers be more efficient in verifying summary information and extracting data for analysis. USIM students will be targeted all over the university, where the questionnaire will be issued to the respondents

5.2.3. Target Population

The participants in this study are students from Universiti Sains Islam Malaysia, ages 18 to 27, who have experienced services or used transactions on their behalf with Islamic banks. University students represent a significant and valuable customer segment for Islamic banks. This demographic is crucial for several key reasons. University students constitute a substantial and growing population, especially in countries with large Muslim majorities. As young, educated individuals, they are an attractive target market for financial institutions. Capturing this demographic can establish long-term relationships and loyalty, leading to future business opportunities as these students progress in their careers and have increasing financial needs and purchasing power. As such, their answers are crucial in identifying the factors that influence their level of satisfaction with Islamic banks.

5.2.4. Sampling Technique

Sampling techniques can be classified into two main categories: non-probability and probability sampling. One of the non-probability sampling techniques used in this study is convenience sampling. A convenience sample is one obtained from a readily available source for the researcher. (Andrade, 2021). Non-probability sampling methods are more subjective compared to probability methods. In this kind of sampling, participants are selected for the study either by the researcher directly, through referrals, or on their own (Stratton, 2021). The researcher will approach USIM students and invite them to participate in the study.

5.2.5. Sampling Size

The total number of USIM's students is 13,417 (USIM, 2021). According to (Gorsuch, 1983). The ratio should be at least 5-to-1. For example, a study with 30 items (questions) would require 150 respondents. (Memon et al., 2020). In this research project, a sample size of at least 375 sets of questionnaires will be employed, as a larger sample size can yield more reliable results.

5.2.6. Questionnaire Design

The questionnaire consists of two sections: Section A and Section B, each containing a total of 35 questions. Section A is designed to collect basic information from respondents who answer the questionnaire by asking five demographic questions: gender, age, level of education, year of study, and whether they have an Islamic bank account.

For section B, the constructs of this study questionnaire were adapted from (Othman & Owen, 2001) which was developed based on the CARTER model, tailored to USIM students' satisfaction towards Islamic banks. The five Likert scales used in this questionnaire ranged from 1 to 5, with ratings corresponding to "strongly dissatisfied," "dissatisfied," "neutral," "satisfied," and "very satisfied." The survey questionnaire that will be distributed to all students at USIM consists of 30 items, which collectively measure the six dimensions of service quality: tangibles, responsiveness, assurance, empathy, and compliance.

5.2.7. Statistical Data Analysis

The survey data will be analyzed using the SPSS statistical software package. The six CARTER service quality dimensions were treated as independent variables, with overall student satisfaction serving as the dependent variable. Table 1 below represents the statistical test that will be used in this study.

Table 1: Statistical data analysis

Statistical Test	**Justification**
Descriptive Statistics	By characterizing the relationship between variables in a sample or population, descriptive statistics are used to describe data (such as mean, median, standard deviation, and frequency) in an organized manner (Kaur et al., 2018).
Reliability Analysis	Reliability analysis is a well-developed statistical tool for predicting system performance in many industries (Khare et al., 2018).
Factor Analysis	The primary objective of factor analysis is to explain correlations between observed variables in terms of a few unobservable variables, commonly referred to as factors or latent variables (Knoke, 2005).

6. Analysis and Results

This section presents a comprehensive analysis of the data collected, focusing on descriptive statistics, factor analysis, reliability analysis, and multiple regression analysis. This chapter begins with demographic profiles of the respondents. It then explores factor analysis to identify underlying relationships among variables, followed by reliability analysis to assess the consistency and stability of the measurement instruments used. Finally, multiple regression analysis is employed to examine the predictive relationships between independent and dependent variables.

6.1. Descriptive analysis

By characterizing the connection between variables in a sample or population, descriptive statistics are used to describe data (mean, median, standard deviation, frequency, etc.) in an ordered manner (Kaur et al., 2018). Tests of normality were conducted to satisfy the criterion of multivariate normality, namely, skewness and kurtosis.

6.2. Respondent Demographic Profile

The demographic profiles of the respondents are extracted from the questionnaires and then analyzed and summarized in a table. The first four items in Section B explain the demographics of the respondents, which include gender, age, current level of education, and current academic program enrolled. The gender distribution among the student population at USIM shows that males constitute 108 students (60%), while females account for 72 students (40%). This suggests a male-dominated environment within the university, which may reflect broader trends in specific fields of study or cultural factors influencing enrollment. The age demographics reveal that all surveyed students, totaling 150, fall within the 18-27 age range (100%), indicating that USIM primarily attracts younger individuals, such as those entering higher education directly after secondary school. This youthful profile may contribute to a vibrant campus culture, but also indicates that there are currently no older students (aged 28 and above) enrolled. In terms of educational levels, the data highlights that a substantial majority of students are enrolled in the Tamhid (foundation) program, with 121 students (80.7%), while 19 students (12.7%) are pursuing bachelor's degrees and 10 students (6.7%) are enrolled in master's degrees. The absence of Ph.D. students suggests that USIM may be more focused on undergraduate and foundational education rather than advanced postgraduate studies, which could impact the university's academic offerings and research activities. Faculty representation within the student body shows that the Faculty of Economics and Muamalat has the highest enrolment, comprising 67 students (44.7%) of the total. This is followed by the Faculty of Quranic and Sunnah Studies with 19 students (12.7%), the Faculty of Science and Technology with 16 students (10.7%), and other faculties with significantly fewer students. This variation indicates differing levels of interest and enrolment across various academic areas, as shown in Table 2.

Factor	Item	Frequency	(%)
Gender	Male Female	42 108	28 72
Age	18-27 28-37 Above 37	150	100
Current level of education	Tamhidi Bachelor’s degree Master’s degree Ph.D.	19 121 10	12.7 80.7 6.7
Faculty	Tamhidi FPQS FKP FSU FEM FST FPSK FPBU FPg FKAB	19 9 5 16 67 7 9 14 4	12.7 6 3.3 10.7 44.7 4.7 6 9.3 2.7

Table 2: Respondents’ Demographic Profiles

6.3. Dependent variable: Customer satisfaction

Table 3 presents the results of the respondents regarding their satisfaction with service quality. The respondents rated “I am very pleased with what the bank does for me” as the highest (mean = 3.39). Then respondents gave preference to “My choice to use this bank was a wise one” (mean=3.37). Finally, response gave the least preference on “Based on all of my experience with this bank, I am very satisfied with the banking services it provides” (mean=3.35), followed by “If I had to do it all over again, I would still choose to use this bank” (mean=3.33).

Table 3: Customer satisfaction

Customer satisfaction	Response Scale (%)					Mean	Skewness	Kurtosis
	1	2	3	4	5			
I am very pleased With what the bank does for me	4.7	11.3	24.7	59.3	0	3.39	-1.282	0.719
If I had to do it all over again, I would still choose to use this bank	4.7	13.3	26.7	55.3	0	3.33	-1.113	0.277
My choice to use this the bank was a wise one	8.0	8.0	22.7	61.3	0	3.37	-1.406	0.895
Based on all my experience with this bank, I am delighted with the banking services it offers. provides	6.7	8.7	27.3	57.3	0	3.35	-1.323	0.863

6.4. Independent variable: Compliance

Table 4 shows the results of respondents regarding the compliance dimensions of service quality. The respondents rated “The bank provides Islamic products and services” the highest mean (mean=3.49), followed by “The bank runs on Islamic law and principles” (mean=3.46). Then, respondents gave preference to “The bank provides profit-sharing investment accounts” (mean = 3.42). Finally, response gave the least preference to “No interest paid nor taken on savings and loans in this bank” (mean=3.26).

Table 4: Compliance

Compliance	Response Scale (%)					Mean	Skewness	Kurtosis
	1	2	3	4	5			
The bank runs on Islamic law and principles	6.0	9.3	17.3	67.3	0	3.46	-1.560	1.334
No interest paid nor taken on savings and loans in this bank	8.7	10.0	28.0	53.3	0	3.26	-1.147	0.261
The bank provides Islamic products and service	4.0	10.7	17.3	68.0	0	3.49	-1.554	1.395

The bank provides free interest loans	5.3	13.3	21.3	60.0	0	3.36	-1.216	0.370
The bank provides profit-sharing investment accounts	6.0	10.7	18.7	64.7	0	3.42	-1.427	0.922

6.5 Independent variable: Assurance

Table 5 shows the results of respondents regarding the compliance dimensions of service quality. The respondents rated "The behavior of employees in the bank instills confidence in me" as having the highest mean (mean = 3.45). Then, respondents gave preference to "I feel safe in transactions with the bank" (mean = 3.42). Finally, the response showed the least preference to "Employees in the bank have the knowledge to answer my questions" (mean = 3.36), followed by "Employees in the bank are consistently courteous with me" (mean = 3.35).

Table 5: Assurance

Assurance	**Response Scale (%)**					**Mean**	**Skewness**	**Kurtosis**
	1	2	3	4	5			
Employees in the bank are consistently courteous with me	6.0	8.0	30.7	55.3	0	3.35	-1.317	1.018
I feel safe in transactions with bank	6.0	10.0	20.0	64.0	0	3.42	-1.440	1.011
The behavior of employees in the bank instils confidence in me	4.0	9.3	24.7	62.0	0	3.45	-1.434	1.289
Employees in the bank have the knowledge to answer my questions	6.0	13.3	19.3	61.3	0	3.36	-1.238	0.351

6.6 Independent variable: Reliability

Table 6 shows the results of respondents regarding the compliance dimensions of service quality. The respondents rated "When the bank promises to do something by a certain time, it does so" as having the highest mean (mean = 3.38), followed by "The bank performs the service right the first time" (mean = 3.36). Then respondents gave preference to "The bank provides its service at the time it promises to do so" (mean=3.29), followed by "When I have a problem, the bank shows a sincere interest in solving it" (mean=3.27). Finally, the response gave the least preference to “Employees on the bank insist on error-free records” (mean = 3.20).

Table 6: Reliability

Reliability	Response Scale (%)					Mean	Skewness	Kurtosis
	1	2	3	4	5			
When the bank promises to do something by a specific time, it does so	5.3	12.0	22.0	60.7	0	3.38	-1.284	0.599
When I have a problem, the bank shows a sincere interest in solving it	5.3	14.7	27.3	52.7	0	3.27	-1.012	0.011
The bank performs the service right the first time	6.0	11.3	23.3	59.3	0	3.36	-1.271	0.583
The bank provides its service at the time it promises to do so	5.3	11.3	32.7	50.7	0	3.29	-1.091	0.425
The bank insists on error free records	6.0	15.3	31.3	47.3	0	3.20	-0.892	-0.159

6.7. Independent variable: Tangibility

Table 7 shows the results of respondents regarding the compliance dimensions of service quality. The respondents rated “Materials such as pamphlets or statements are visually appealing at the bank” as having the highest mean (mean = 3.50). Then, respondents gave preference to “The bank’s physical facilities are visually appealing” (mean = 3.46). Finally, the response showed the least preference to “The bank’s employees are well-dressed and neat appearing” (mean = 3.43), followed by “The bank has modern-looking equipment” (mean = 3.41).

Table 7: Tangibility

Tangibility	Response Scale (%)					Mean	Skewness	Kurtosis
	1	2	3	4	5			
The bank has modern looking equipment	5.3	11.3	20.7	62.7	0	3.41	-1.360	0.797

The bank's physical facilities are visually appealing	5.3	6.7	24.7	63.3	0	3.46	-1.591	1.813
The bank's employees are well neat appearing	4.7	8.0	26.7	60.7	0	3.43	-1.458	1.440
Materials such as pamphlets or statements are visually appealing at the bank	6.0	6.0	20.0	68.0	0	3.50	-1.749	2.183

6.8. Independent variable: Empathy

Table 8 shows the results of respondents regarding the compliance dimensions of service quality. The respondents rated "Employees of the bank understand my specific needs" as having the highest mean (mean = 3.41). Then, respondents gave preference to "The bank gives me individual attention" (mean = 3.37). Finally, respondents gave the least preference to "The bank has employees give their personal attention to customers" (mean = 3.35), followed by "The bank has my best interest at heart" (mean = 3.33).

Table 8: Empathy

Empathy	Response Scale (%)					Mean	Skewness	Kurtosis
	1	2	3	4	5			
The bank gives me individual attention	4.7	9.3	30.0	56.0	0	3.37	-1.280	0.952
The bank has my best interest at heart	2.7	15.3	28.7	53.3	0	3.33	-0.961	-0.058
The bank has employees give their personal attention to customers	5.3	11.3	26.7	56.7	0	3.35	-1.217	0.567
The employees of the bank understand my specific needs	4.7	11.3	22.7	61.3	0	3.41	-1.332	0.805

6.9. Independent variable: Responsiveness

Table 9 shows the results of respondents regarding the compliance dimensions of service quality. The respondents rated "The employees of the bank are always willing to help me" as having the highest mean

(mean = 3.42). Then, respondents gave preference to "Employees of the bank respond to my request promptly" (mean = 3.34). Finally, respondents gave the least preference to "Employees in the bank tell me exactly when the services will be performed" (mean = 3.29), followed by "Employees are never too busy to respond to my requests" (mean = 3.13).

Table 9: Responsiveness

Responsiveness	Response Scale (%)					Mean	Skewness	Kurtosis
	1	2	3	4	5			
Employees in the bank tell me exactly when the services will be performed	6.7	13.3	24.0	56.0	0	3.29	-1.114	0.132
Employees of the bank are always willing to help me	4.7	11.3	21.3	62.7	0	3.42	-1.367	0.868
Employees of the bank responded to my request promptly	6.7	9.3	27.3	56.7	0	3.34	-1.282	0.729
Employees are never too busy to respond to my requests	9.3	13.3	32.0	45.3	0	3.13	-0.890	-0.255

6.10. Factor Analysis

Principal component analysis was used with VARIMAX rotation on 30 items. This resulted in the elimination of one item (depicted low commonality, i.e., 0.5), and the remaining scale items were again subjected to factor analysis. According to (Cheung et al., 2024). All standardized factor loadings should be at least 0.5 and, ideally, at least 0.7. As shown in Table 10, the range of factor loadings was 0.648-0.810 for all items.

Table 10: Factor analysis

Variable	No. of items	Factor loadings
Compliance	1	0.810
	2	0.780
	3	0.718
	4	0.699
	5	0.685

Assurance	1	0.804
	2	0.803
	3	0.762
	4	0.671
Reliability	1	0.717
	2	0.702
	3	0.687
	4	0.680
	5	0.648
Tangibility	1	0.729
	2	0.711
	3	0.680
	4	0.648
Empathy	1	0.743
	2	0.741
	3	0.738
	4	0.690
Responsiveness	1	0.777
	2	0.769
	3	0.751
	4	0.710
Customer satisfaction	1	0.764
	2	0.748
	3	0.726
	4	0.720

6.11. Reliability Analysis

Table 111 explained the Cronbach's alpha value. (Izah et al., 2023) stated that the most common alpha values are the rule of thumbs: Excellent ($\alpha \geq 0.9$), Good ($0.9 > \alpha \geq 0.8$), Acceptable $0.8 > \alpha \geq 0.7$), Questionable ($0.7 > \alpha \geq 0.6$), Poor ($0.6 > \alpha \geq 0.5$) and Unacceptable ($0.5 > \alpha$). Generally, an alpha of more than 0.7 is usually ideal for an assessment. Compliance (0.790) represents good internal consistency. It indicates that the items measuring compliance are likely assessing the same underlying construct effectively. Assurance (0.755) also reflects good reliability. The items related to assurance are consistent with one another. Reliability (0.720) indicates that the value is acceptable, suggesting the items exhibit a reasonable level of consistency. Tangibility (0.637) is below the acceptable threshold of 0.7, suggesting poor internal consistency. Research by (Muhammad & Sari, 2024) On the same topic, the alpha value also resulted in a value below 0.7. The authors argue that measuring tangibility can be challenging due to the subjective nature of physical attributes. They suggest that poorly constructed items can lead to lower reliability scores, as respondents may interpret tangible aspects differently. Empathy (0.705) is considered acceptable reliability, indicating that the items measuring empathy are consistent. Responsiveness (0.743) indicates good reliability, suggesting that items related to responsiveness effectively measure the same construct. Customer satisfaction (0.724) is acceptable, indicating a reasonable level of consistency among the items measuring customer satisfaction.

Table 11: Reliability analysis

Variable	**Cronbach's Alpha**
Compliance	0.790
Assurance	0.755
Reliability	0.720
Tangibility	0.637
Empathy	0.705
Responsiveness	0.743
Customer satisfaction	0.724

6.12. Hypothesis Testing

To assess the hypothesis links between the components in the research model, the measurement model was looked at after the measurement model evaluation demonstrated validity and reliability. (Dandis & Wright, 2020). Customer satisfaction was the dependent variable, while the CARTER dimensions served as the independent variables in the study, which employed multiple regression tests and hierarchical multiple regressions. The findings can be applied to the study's hypotheses based on the data analysis conducted. From the results obtained, out of the six hypotheses presented in this study, four cannot be accepted because their P-values are greater than 0.05, while only two can be accepted since the impact shown has a P-value less than 0.05.

Table 12: Summary of the results of hypothesis testing

Hypothesis	**Beta**	**Sig. value**	**Results**
H1: Compliance has a positive impact on University Students' Satisfaction with Islamic Banks	0.076	0.397	Rejected
H2: Assurance has a positive impact on University Students' Satisfaction with Islamic Banks	0.208	0.028	Accepted

H3: Reliability has a positive impact on university students' satisfaction with Islamic banks.	0.092	0.287	Rejected
H4: Tangibility has a positive impact on University Students' Satisfaction with Islamic Banks	0.024	0.800	Rejected
H5: Empathy has a positive impact on university students' satisfaction with Islamic banks.	0.246	0.007	Accepted
H6: Responsiveness has a positive impact on university students' satisfaction with Islamic banks.	0.128	0.200	Rejected

7. Discussions

7.1. Impact of Compliance on Customer Satisfaction

According to the survey, consumer happiness was not considerably impacted by compliance. This is in line with research (Manual, 2023) This demonstrates that compliance has no discernible impact on customer satisfaction or the quality of services provided by Qatar's Islamic banks. It is also supported by (Faizah & Sholahuddin, 2023) A study conducted in Islamic banks in Indonesia found a complex variation in understanding the relationship between Shariah compliance and customer satisfaction. For university students, who may be more focused on immediate service experiences and relationships with bank staff, compliance may seem secondary. This finding is consistent with (Afifah & Kurniawati, 2021), who noted that younger customers often focus more on the quality of service delivery than on regulatory compliance. This suggests that students may prioritize perceived service quality over Shariah compliance.

7.2. Impact of Assurance on Customer Satisfaction

The study reveals that assurance has a significant impact on customer satisfaction. This result is consistent with earlier research that found Islamic banks satisfy their clients, and that their patronage can boost their confidence while conducting business in accordance with Shariah (Dandis et al., 2021). For university students, the confidence they feel in their banking transactions is crucial, especially given the importance of trust in financial dealings. Effective communication and strong relationships fostered through training are likely to resonate well with this demographic, enhancing their loyalty to the bank.

7.3. Impact of Reliability on Customer Satisfaction

According to the testing, reliability has no significant impact on customer satisfaction. The non-significant relationship between reliability and customer satisfaction may suggest that students do not consider reliability to be a critical factor, as they consider it to be a given in banking services (Razak et al., 2020). This is consistent with studies by (Afifah & Kurniawati, 2021) and (Fida et al., 2020). (Manual, 2023) interpret that the respondents may believe that reliability is simply a part of current banking services and that they do not contribute to customer satisfaction, but rather are what people expect from banks. Thus, university students may assume that all banks will provide reliable services, therefore diminishing their importance in their satisfaction levels.

7.4. Impact of Tangible on Customer Satisfaction

The study's testing results indicate that tangibility does not significantly impact customer satisfaction. The results of this study support (Arslan, 2022) Research conducted in Indonesia found that tangible variables do not have a significant effect on customer satisfaction, as customers generally exhibit high religiosity, which means their satisfaction is not influenced by factors such as the luxury of the building or interior, employee appearance, or transaction facilities. The varying interpretations of tangibility suggest that this demographic may be less concerned with aesthetics and more focused on the effectiveness of service delivery. This outcome indicates that students may prioritize service quality and personal interactions over the physical attributes of the bank. Additionally, the low reliability score for tangibility (0.637) suggests that respondents may have differing interpretations of physical attributes, such as branch appearance and marketing materials.

7.5. Impact of Empathy on Customer Satisfaction

The results of this study show that empathy has a significant impact on customer satisfaction. This dimension involves understanding customers' specific needs and providing personalized attention. For university students, who often seek customized attention and understanding of their unique needs, empathy is crucial. These results demonstrate the importance of empathy in Islamic banking in affecting client satisfaction with the quality of services provided (Osman, 2021). According to (Dandis et al., 2021), who also considered empathy to be vital, Islamic banks should pay close attention to each of their clients and understand their specific needs in order to make them feel even more valued and appreciated. When bank employees demonstrate empathy by recognizing individual concerns and providing customized advice or support, it fosters a sense of belonging and appreciation among young customers. This personalized attention can significantly increase their satisfaction.

7.6. Impact of Responsiveness on Customer Satisfaction

The results of the testing in this study indicate that responsiveness does not significantly influence customer satisfaction. Research conducted by (Rahma & Sofyani, 2024) Also found to be insignificant in terms of responsiveness in the context of Islamic banks. (Rahma & Sofyani, 2024) Suspect customers might not focus on how quickly a problem is responded to, but on how effectively the resolution is carried out. For instance, among university students, those who primarily engage with banks through digital platforms (such as mobile banking apps) may not perceive traditional measures of responsiveness, like face-to-face interactions, as necessary. Their satisfaction may hinge more on the functionality and efficiency of digital services rather than the speed of personal service.

7.7. Implications for Islamic Banks

Islamic banks should prioritize enhancing overall service quality rather than concentrating primarily on compliance with regulatory standards. The study suggests that compliance has a minimal impact on customer satisfaction, particularly among university students, who often prioritize immediate service experiences. Banks can achieve this by investing in staff training programs that emphasize customer service skills, including effective communication, problem-solving, and relationship-building. By creating a customer-centric culture where employees feel empowered to go beyond in their service delivery, banks can foster a more satisfying experience. This approach not only enhances customer interactions but also builds long-term loyalty, as customers are likely to return to institutions that provide exceptional service, regardless of compliance metrics.

8. Conclusions

The study reveals that customer satisfaction among university students regarding Islamic banks is influenced by assurance and empathy. While regulatory standards have a minor impact, these elements improve satisfaction. Islamic banks should prioritize building trust and loyalty with students by ensuring strong communication and providing practical employee training to cater to their unique needs. The research highlights the importance of quality service for students, emphasizing the provision of prompt and efficient service over physical banking features. By enhancing online banking services and collaborating with universities, banks can better cater to the needs of tech-savvy students and promote financial literacy. This collaboration streamlines banking procedures and fosters a nurturing environment for students, enabling Islamic banks to thrive in a competitive landscape and meet the evolving needs of a new generation of clients.

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