The Effect of Reliability and Assurance on Customer Loyalty: The Mediating Role of Customer Satisfaction in the UAE Telecommunications Industry

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ABSTRACT:

The present study aimed to explore the relationship between reliability and assurance and customer loyalty in the UAE telecommunication sector, by using customer satisfaction as the mediating variable. The study was based on two theories: SERVQUAL and Expectation Disconfirmation Theory (EDT) to explore the impact of service quality dimensions on customer behavior in highly competitive telecommunications market. The quantitative research design was used and the data were gathered from 370 customers of the telecom company in Sharjah, UAE, through a structured questionnaire. To test the measurement and structural models as well as mediation effects, SmartPLS was used. Both reliability and assurance were found to have significant positive effect on customer loyalty and customer satisfaction. Moreover, customer satisfaction was found to be a significant factor in customer loyalty, and mediated the relationships between reliability, assurance and customer loyalty. The findings showed that in the UAE telecom industry, high levels of service consistency, trustworthy interactions, and professional handling of interactions are key factors in retaining and engaging customers. The study has both theoretical and practical significance as it expands SERVQUAL and EDT in telecom environment in UAE and provides practical implications to the telecom companies who want to attract customers by retaining them by improving their service quality and customer satisfaction.

Keywords: Service Quality, Reliability, Assurance, Customer Satisfaction, Customer Loyalty, Telecommunications Services, UAE Telecommunications Sector

Introduction

Telecommunications plays one of the most significant sectors for economic development, digitalization and social connectivity in today's economies. The UAE's telecommunications industry has been undergoing rapid growth and advancements in technology, helping to make the country a leading global player in digital infrastructure and

mobile connectivity. UAE market is dominated by two dominant players, Etisalat (e&) and du, who have been instrumental in shaping both the experiences of their customers and the innovation of their services in the market (Amiri, 2006).

The UAE telecom industry has been growing steadily in the past few years. The UAE telecom market is projected to increase from around USD 13.42 billion in 2025 to USD 16.42 billion by 2030, as the demand for sophisticated mobile, internet, and broadband services continues to rise, according to Mordor Intelligence (2024). The sector is also globally recognized in the field of digital governance and telecommunications infrastructure, securing the first place among all countries in the Telecommunications Infrastructure Index and Institutional Framework for Digital Government (WAM, 2024).

In spite of these successes, telecom companies are under an even greater pressure to ensure that customers are satisfied and loyal in a fiercely competitive and technologically advanced world. Today, customers are demanding value-added services, quick answers to their inquiries, clear and consistent communications and customized experiences. In the telecommunications industry, therefore, service quality has become a key factor in customer satisfaction and customer loyalty (Parasuraman et al., 1988; Zeithaml et al., 1996).

In the UAE telecommunications environment, service quality aspects like reliability and assurance are especially important as customers have high expectations for network stability, trust, security and professional service delivery. While some previous studies have considered the link between service quality and customer loyalty, few studies have focused on the intervening role of customer satisfaction in the telecommunications industry of the UAE. Therefore, the aim of this study is to assess the influence of reliability and assurance on customer loyalty considering customer satisfaction as an intervening variable.

The study is based on the Expectation Disconfirmation Theory (EDT) which defines customer satisfaction as the outcome of comparing the customer's expectations and service performance (Oliver, 2014). This study also utilizes SERVQUAL, a framework developed by Parasuraman et al. (1988) that lists reliability and assurance as two of the key dimensions of service quality that have a strong impact on perceptions and behaviors.

The telecommunications sector is an integral part of enabling countries to implement their national digital transformation agenda and economic development policies globally (Țurcan, Țurcanu, & Ciubuc, 2023; Saba, Ngepah, & Odhiambo, 2023). The telecommunications industry in the UAE has become one of the most technologically advanced industries, with high levels of consumer adoption, digital innovation strategies and strong government investment.

The UAE was the second country in the world in terms of the number of mobile cellular subscriptions per 100 people, reflecting the country's vast mobile connectivity and highly developed digital infrastructure (World Bank, n.d.). Moreover, the UAE is one of the first countries in the Middle East to introduce 5G commercial services, further solidifying its role as a telecommunications innovation leader in the region (Albalooshia et al., 2021).

It is also a key contributor to the UAE economy. The UAE's GDP increased by AED 53,354 million in the Information and Communication sector, with steady growth in 2023 compared to the previous years as per the report by the Federal Competitiveness and Statistics Center (n.d.). This is in line with the UAE's vision for a knowledge-based economy that will be built on digital transformation and enhanced communication technologies.

The UAE's telecom technology is impressive, and customer expectations are constantly on the rise. In addition to network reliability, modern telecommunications customers are also looking for professional support, transparency, empathy, responsiveness and trustworthy interactions. Customer satisfaction and service quality are playing a more important role in retaining customers and

maintaining long-term profitability and competitiveness in the market, especially in today's crowded market (Hadi et al., 2019).

Telecommunications providers have therefore placed service quality at a high priority on their strategic agenda. Based on the review of the literature, Parasuraman et al. (1988) concluded that reliability and assurance are among the key components of service quality, which influence the customer's assessment of service quality. Reliability is the ability of the service providers to deliver the agreed services in a reliable manner, with accuracy, and ensure that they are delivered in a dependable way. Assurance is the knowledge, courtesy and competence of employees and their ability to convince customers of their trust and confidence.

In the past, it was proved that the quality of service is a positive determinant of customer satisfaction and customer loyalty (Seth et al., 2005; Mahmood et al., 2018) in various industries and countries. This link between dimensions of service quality and loyalty might differ in various markets and markets depending on the customer expectations and the nature of the industry. Specifically, there is limited research in the telecommunications industry in the UAE that investigates the impact of reliability and assurance on customer loyalty via customer satisfaction.

Hence, in this study, the authors aim to fill this gap by exploring the mediating effect of customer satisfaction between reliability and assurance with customer loyalty in the context of the UAE telecommunications sector.

The UAE telecommunications sector has made significant technological advances and international acclaim in the fields of digital infrastructure, network performance, and telecommunications innovations. The nation has always been ranked as a leader in mobile connectivity and telecommunication infrastructure in the world, and major telecom operators like e& (Etisalat) and du have been continuously building digital capacities and services (WAM, 2024; Ogunmola, 2024).

Yet, there are still rising expectations from customers in the telecom industry. Consumers not only demand fast internet connections and an uninterrupted network experience but also want clear communication, trustworthy service and quick support, and tailored interactions. Even minor service failures or inconsistencies in technologically advanced markets can have a negative impact on the customer's perception, satisfaction and loyalty (KPMG, 2024).

Although the linkage between service quality and customer loyalty was explored in previous studies, the results of previous studies were conflicting about the mediating role of customer satisfaction. Akroush et al. (2015) and Jahangir et al. (2024) reported that customer satisfaction plays a significant mediating role between service quality and loyalty and it also plays a lesser or inconsistent mediating role based on industry and regional context.

Furthermore, there are a limited number of studies conducted on the telecommunications industry in the UAE and most previous research is conducted on other countries like Malaysia, Pakistan, Ghana, and Nigeria. This establishes a contextual gap in relation to how the service quality dimensions relate to service quality towards customer loyalty in the UAE, in its advanced and competitive Telecommunication Sector.

Given the various dimensions of service quality, reliability and assurance are especially critical in telecommunications services given that network consistency, customer trust, data security and interactions with professionals are of critical importance. Users demand continuous services, correct billing, prompt service and trust in telecom companies. If these expectations are not met, it can lead to discontent and lower loyalty.

Therefore, this study contributes to the missing link in the previous literature as it explores the influence of reliability and assurance on customer loyalty, alongside the UAE telecom sector as a case study.

Significance of the Study

There are several practical and theoretical contributions from this study to the telecom industry and the academic research.

In a practical sense, the results will help e& (Etisalat) and du telecommunications companies to better understand the relationship between reliability and assurance and customer satisfaction and loyalty. The outcomes can be used to help with service enhancement, customer management and retention strategies. The research can also help regulators and policymakers in UAE telecom sector to find a consumer-focused solution that will improve the quality of telecom services.

Theoretically, the study will add to the literature as it will extend the Expectation Disconfirmation Theory (EDT) and SERVQUAL models to the UAE telecommunications context. The study also helps in understanding the mediating role of customer satisfaction between the dimensions of service quality and customer loyalty especially in technologically advanced service markets.

Scope of the Study

The current research study aims at studying the UAE telecom industry with reference to customers of major telecom service providers in the UAE. The study examines how reliability, assurance contribute to customer satisfaction and customer loyalty.

The study only includes individual telecommunications customers and focuses on service experiences of telecommunications and internet services. The research is conducted with structured questionnaires and the research method is quantitative research method in which data are obtained from the respondents.

The study is theoretically anchored on Expectation Disconfirmation Theory (EDT) and SERVQUAL framework with emphasis on the dimension of service quality which is reliability and assurance.

Literature Review

In today's competitive market, where technology is advancing and switching is easy, customers' loyalty is becoming a competitive concern for telecom companies. In extremely competitive service markets, companies can no longer maintain customers by being technologically superior; it is now the need to provide service of very high quality to improve customer satisfaction and loyalty that propels companies to success over the long term. Reliability and assurance, two of the dimensions of service quality, have been found to be especially important factors in determining customers' perceptions of telecommunications services, because customers are sensitive to service consistency, trust in service, credibility, and problem resolution (Parasuraman et al., 1988).

Studies in recent times have shown that customer satisfaction, which is a direct result of the perception of service performance, plays an important role in customer loyalty (Rahim et al., 2021; Ahmed et al., 2023; Holloway, 2024). Previous studies, however, have shown mixed results on the degree of mediation between service quality and customer loyalty for customer satisfaction, especially in technologically intensive and well-regulated markets like telecommunications in the UAE. This section therefore provides a critical review of the literature related to reliability, assurance, customer satisfaction and customer loyalty and the theoretical and empirical gaps which warrant the current study.

Customer loyalty is a customer's willingness and intention to purchase a company's products or services when they see alternatives in the availability. Repeat purchase behaviour, brand loyalty, switching aversion, word-of-mouth and emotional bond with the service provider are common measures of loyalty (Oliver, 1999). The literature has been evolving and more and more it is being understood as a multi-dimensional concept combining behavioural and attitudinal aspects of loyalty (Ghorbanzadeh, 2021; Yang et al., 2022).

Loyalty is especially vital in the service sector like telecommunications because it can be more cost effective to keep current customers than to attract new ones (Agu et al., 2024). The

telecommunications industry, however, is distinguished by the speed of technological development, the level of competition, and the low rate of switching, which makes it difficult to keep the customer (Kar, 2021; Kirgiz et al., 2024). This has led businesses to invest more in enhancing their customer experience and service quality to boost their customer retention.

Although there is consensus on the significance of loyalty, researchers have struggled to come to a consensus about what constitutes the key determinants of loyal behaviour. However, some researchers indicate that satisfaction and service quality play the major roles in affecting loyalty, other researchers indicate that trust, perceived value, and switching costs also play a role in affecting loyalty outcomes (Chikazhe et al., 2021; Harahap & Ramli, 2023). This means that loyalty is a multi-factorial variable that can be affected by functional and emotional assessments.

A service provider's ability to deliver the promised services consistently, accurately, and dependably (Parasuraman et al., 1988) is called reliability. In other words, reliability in the telecommunications field covers uninterrupted network operation, correct billing systems, stable Internet connection and prompt solving of problems. This reliability is especially critical because telecommunications services are highly reliant on continuous operations.

The correlation between reliability and customer loyalty has been supported by many studies into both the real and virtual worlds. Research across banking, hospitality and telecommunications sectors revealed that reliability is the key factor that increases customer trust and long-term loyalty intentions (Mahendrayana et al., 2018; Palladan & Ahmad, 2019; Temory, 2024). Likewise, Sarah et al. (2023) found that with a reliable service delivery, customers' perception of risk decreases, and they do not hesitate to form long-term relationships with service providers.

Reliability is of paramount importance in the telecom world because loss of service impacts customers' communication and business interactions. According to Jónás and Kövesi (2010) one of the most influential predictors of telecommunications service retention is network reliability and service performance. Similarly, Setiawan and Patricia (2022) stated that customers tend to stay loyal if the service providers are able to consistently meet the service standards they have promised.

But recent research has indicated that this may not be the case in highly competitive digital markets. While reliability is no longer a differentiator for customers, but rather a expectation, other experiential factors may play a role in determining their loyalty (KPMG, 2024; Holloway, 2024). This in turn gives rise to the need to consider the indirect contribution of reliability to customer satisfaction, and the importance of customer satisfaction to customer loyalty.

Assurance is the employees' knowledge, professionalism, courtesy and capacity to gain trust and confidence from customers (Parasuraman et al., 1988). In telecommunications services, assurance means customers' trust that the service provider has the knowledge, security, transparency, and is able to handle technical or billing problems well.

Earlier research offers a consistent finding of positive customer loyalty effects of assurance in various services. The findings of Akpan et al. (2022) showed that assurance had a significant effect on the customers' perception of service credibility and trustworthiness, hence affecting the customers' intentions of loyalty.

In a telecom context, assurance is critical since the first point of contact is often tasked with resolving technical issues, billing complaints and service-related issues for customers. In the context of telecom services, Izogo (2017) showed that customer retention is strongly impacted by knowledgeable and trusted service agents. Additionally, the findings from Palladan and Ahmad (2019) highlighted that assurance also has a positive impact on customer loyalty by enhancing customers' trust and confidence in the process.

However, recent published studies suggest that the impact of assurance can differ from context to context. Some retail

environments, however, did not show statistically significant significant differences in regard to the role of assurance in customer loyalty, as reported by Putra (2024). The inconsistent results indicate that there is a need for more research in the telecommunications industry in the UAE.

Consistency and dependability of services are also known as one of the best predictors of customer satisfaction, as customers assess services primarily through these attributes. Expectation Disconfirmation Theory (EDT) by Oliver (1980, 2014) states that satisfaction is experienced when the customer's expectation is met or exceeded. Thus, service delivery is directly related to positive disconfirmation and higher satisfaction.

There are also several studies that indicate that reliability has a positive effect on customer satisfaction. Mahendrayana et al. (2018) reported that reliability has a significant contribution to increase the satisfaction of the customers in service industries. Likewise, Flores et al. (2020) found that consistent performance leads to customer satisfaction with service quality and service experience.

Reliability is crucial in telecommunications services, where customers rely on consistent and uninterrupted communication channels, especially for internet connectivity. When reliability fails, it can create dissatisfaction and switching intentions right away. According to Wahid et al. (2017), customers consider reliable telecommunications services to be professional and competent, which greatly promotes customers' satisfaction.

While the relationship between reliability and satisfaction has been consistently shown to be positive, recent studies indicate that the relationship between the two could be hindered by an increase in customer expectations. The sophistication of telecommunications' infrastructure is increasing, and customers increasingly feel that reliability is a given and not a differentiator (KPMG 2025). Hence, it is essential to study reliability in the context of UAE telecom industry.

Assurance also has a great influence on customer satisfaction as it helps to alleviate the uncertainty and perceived risk of customers during service interactions. Employees who are competent, professional and credible are likely to have a positive impact on customers' perceptions of service quality (Lenka et al., 2010).

Findings from the empirical studies support the correlation between assurance and customer satisfaction. According to Chege (2022), assurance has a positive impact on customer satisfaction through building customer confidence and minimizes uncertainty. Similarly, Khan and Fasih (2014) discovered that assurance plays a significant role in the customers' perception of the service quality and satisfaction.

In telecommunications services, assurance is particularly significant as a result of the complexity of telecommunications services systems and the dependency of customers on technical support. Service reps are expected to clarify pricing models, address technical issues and deliver correct information to customers. Hence, job satisfaction ratings are significantly influenced by the confidence in the employees' competence.

But recent studies yield conflicting results about the impact of assurance. In certain retail environments, Putra (2024) illustrated that assurance did not significantly impact satisfaction, implying that assurance is not as powerful when interpersonal relationships are low. Thus, it is important to continue its study in the field of telecommunications services.

Customer satisfaction has been recognized as one of the key antecedents of customer loyalty. Positive disconfirmation is likely to lead to positive attitudes and long-term behavioral intentions toward SPs (Oliver, 2014).

There is good empirical evidence for a positive correlation between satisfaction and loyalty. Caruana (2002) discovered that pleased consumers are more likely to be loyal, make repeat purchases and recommend providers. In the same way, Rahmatulloh and Melinda (2021) found that satisfaction has a positive impact on

customer retention and customer loyalty intentions.

As the telecommunications sector becomes saturated and highly competitive, customer satisfaction has become a greater priority. According to Kusumawati and Sri Rahayu (2020), satisfied customers of the telecom industry are more likely to have a positive intention of loyalty and less likely to exhibit switching behaviour. Additionally, Narteh (2018) found that satisfaction has a significant impact on customer retention in telecommunication markets.

Notwithstanding, the satisfaction level could not be a sufficient indicator of loyalty, especially if the loyalty situation is within a very competitive industry, where other providers are readily available (Flores et al., 2020). This indicates that there are more relational and emotional elements that can reinforce or weaken the satisfaction–loyalty link.

The mediating effect of customer satisfaction between service quality and customer loyalty has been receiving growing attention in recent literature. Instead of directly affecting loyalty, the service quality dimensions can affect the satisfaction, and this then can impact the loyalty outcomes.

There are a number of empirical studies that support this mediating relationship. Customer satisfaction is found to partially mediate between service quality and customer loyalty (Caruana, 2002). Likewise, Akbar and Parvez (2009) found that satisfaction is an important mediator between service quality and customer retention.

Iqbal and Khan (2021) verified that customer satisfaction plays a significant role as a mediator between service quality and customer loyalty within the context of the telecommunications industry. Similarly, Kusumawati and Sri Rahayu (2020) have determined that if customers of telecommunication companies feel they receive better service, they are more satisfied, and this satisfaction leads to higher customer loyalty expectations.

The mediation effect has been, however, found differently in previous studies in terms of its strength and significance. Partially mediated, full mediated, and insignificant indirect effects were reported in some studies, depending upon contextual and industry-specific factors (Tee et al., 2018; Flores et al., 2020). Furthermore, there is a lack of specific research that has focused on this mediation in the UAE telecommunication industry.

Theoretical Foundation: Expectation Disconfirmation Theory (EDT)

This study is based on Oliver's (1980) Expectation Disconfirmation Theory (EDT). According to EDT, customer satisfaction is a result of a comparison between the customer's pre-consumption expectations and the actual service that has been delivered. Positive disconfirmation is when performance is greater than expectations, and therefore satisfaction is experienced; negative disconfirmation is when the performance is less than expectations and therefore dissatisfaction is experienced.

Given that it helps explain how customers experience, assess and make behavioural intentions about service, the theory is well developed and has been widely used in the study of service quality and customer loyalty (Hien et al., 2024; Schiebler et al., 2025). EDT is especially pertinent in telecommunications services, as users are constantly evaluating the degree of reliability, assurance, and performance that these services deliver, as they evaluate the expectation versus actual experience.

In this present research, reliability and assurance are the dimensions of service performance, and customer satisfaction is the disconfirmation outcome which then affects customer loyalty.

Research Gap

There are a number of important gaps which have not yet been addressed in previous studies in the areas of service quality, customer satisfaction and customer loyalty.

Although reliability and assurance are important dimensions in telecommunications

services, much of the existing literature research service quality as a multidimensional construct without focusing specifically on the dimensions of reliability and assurance. Second, previous research has yielded inconclusive results about the relationship between customer satisfaction and customer loyalty as an intervening variable in the relationship between service quality and customer loyalty. Third, empirical studies have been mostly carried out in countries like Malaysia, Pakistan, Indonesia, and Ghana, with few studies focusing on the relationships between these within the UAE telecommunications industry.

Moreover, the UAE telecommunications market has a number of distinct characteristics that make it appropriate for research purposes, including its state-of-the-art digital infrastructure, high expectations from customers and the comparatively concentrated market structure. However, little is known about the impact of reliability/assurance on customer loyalty through customer satisfaction in this context.

Hence, the study seeks to fill these gaps by investigating the impact of reliability and assurance on customer loyalty in the context of the UAE telecom industry and by exploring the impact of customer satisfaction as a mediator.

Methodology

The research design used in this study is quantitative research design to investigate the relationships between reliability, assurance, customer satisfaction and customer loyalty in the telecommunications industry in the United Arab Emirates (UAE). The main data collection tool was a structured questionnaire that targeted customers of home fixed-line services in Sharjah city. The research design is cross-sectional that is undertaken at one time to obtain the perception of the respondents at that time. The analysis was carried out by SmartPLS which was used for measuring model and structural model analysis. This method allows direct and indirect effects of variables to be assessed and will help gain solid understanding of the mediation effect of customer satisfaction.

Population and Sample

This study's population is the customers of telecommunication providers in the United Arab Emirates (UAE), and in particular, the home fixed-line customers in Sharjah city. Accordingly, 370 respondents were sampled to achieve an adequate number of sample size for conducting structural equation analysis with SmartPLS on this population. The sample size is satisfactory for identifying relationships among the study variables and for validating the hypotheses.

Questionnaire Description

- **The questionnaire was designed in two main sections:**

Part One: Demographic Data

- Gender (Male / Female)
- Age (Less than 20, 20–<24, 24–<28, 28 and above)
- Qualification (Less than Bachelor's, Bachelor's, Master's, PhD)

Part Two: Study Constructs (5-point Likert Scale)

- Reliability (IV1): Items 1–5
- Assurance (IV2): Items 6–10
- Customer Satisfaction (MV): Items 11–20
- Customer Loyalty (DV): Items 21–30
- Respondents rated all items using a five-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree."

Validity and Reliability

Reliability

- The correlation coefficients of the Reliability construct ranged between 0.757 and 0.799, indicating strong internal consistency among the items.
- In addition, the Cronbach's Alpha value reached 0.836, which exceeds the acceptable threshold of 0.70.
- These results confirm that the Reliability construct demonstrates satisfactory validity and a high level of reliability.

Assurance

- The correlation coefficients for the Assurance construct ranged from 0.770 to 0.867, reflecting strong relationships between the items and the overall construct.
- The Cronbach's Alpha coefficient was 0.875, indicating excellent internal consistency reliability.
- Therefore, the Assurance construct can be considered both valid and reliable for the purposes of this study.

Customer Satisfaction

- The Customer Satisfaction construct showed correlation coefficients ranging between 0.697 and 0.817, demonstrating acceptable to strong item consistency.
- Furthermore, the Cronbach's Alpha value reached 0.926, which indicates a very high degree of reliability.
- Accordingly, the construct possesses strong validity and reliability and is appropriate for further statistical analysis.

Customer Loyalty

- The correlation coefficients of the Customer Loyalty construct ranged from 0.801 to 0.847, indicating very strong consistency among the measurement items.
- The Cronbach's Alpha coefficient was 0.939, reflecting excellent reliability and internal consistency.
- These findings confirm that the Customer Loyalty construct achieves a high level of validity and reliability.

Descriptive Statistics

Demographic characteristics of the respondents were analysed by frequencies and percentages. These statistical measures helped to describe clearly the nature of the sample, in terms of gender, age and educational qualification, to enable a profile of the respondents in the study to be developed.

Table 1: Demographic Characteristics of Respondents (n = 370)

Variable	Category	Frequency	Percentage
Gender	Male	214	57.8%
	Female	156	42.2%
Age	Less than 20 years	38	10.3%
	From 20 to less than 24 years	121	32.7%
	From 24 to less than 28 years	136	36.8%
	28 years and above	75	20.3%
Qualification	Less than a Bachelor's degree	44	11.9%
	Bachelor's degree	211	57.0%
	Master's degree	83	22.4%
	PhD degree	32	8.7%
Overall		370	100%

Table shows that the males accounted for 57.8% of the respondents, and females accounted for 42.2% of the respondents based on gender. As to age, 36.8% of the respondents were between the ages of 24 and less than 28 years, 32.7% were between 20 and less than 24 years, 20.3% were 28 years and above and 10.3% were less than 20 years. By the level of education, the largest percentage (57.0%) were respondents with a Bachelor's degree, while the next largest group was those with a Master's degree (22.4%), those with less than a Bachelor's degree (11.9%) and those with a PhD (8.7%).

Means and Standard Deviations

The respondents' perception of the study variables were measured using means and standard deviations. The mean values were used to provide an overall level of agreement for each construct and the standard deviations to provide an indication of the variation in the answers given by the respondents. These measures give a clear idea of the consistency and distribution of responses regarding reliability, assurance, customer satisfaction and customer loyalty.

Table 2: Means and Standard Deviations of Reliability

No.	Statement	Mean	Standard Deviation	Rank	Response Rate
1	Customers rely on the company to meet their needs.	3.65	.754	4	High
2	The company's management is committed to providing all advertised services.	3.73	.635	3	High
3	The services provided by the company meet the requirements of the beneficiaries.	3.99	.640	2	High
4	The company attracts the best cadres to work on providing the best possible service to customers.	3.42	.691	5	High
5	The company keeps its appointments with its clients.	4.10	.649	1	High
Overall		**3.78**	**.525**	**High**	

As shown in the table, the overall mean score of the Reliability construct was 3.78 with a standard deviation of .525, which gives us a high degree of agreement between the respondents on the reliability of telecommunications companies. The company keeps its appointments with its clients received the best average rating of 4.10, meaning that respondents strongly see the appointment keeping as one of the company's strengths. The opposite of this was recorded with the lowest mean score of 3.42, but with a very high response level of the statement The company attracts the best cadres to work on providing the best possible service to customers. In general, all items in the Reliability construct had high degrees of response rate, indicating positive customer perceptions of the reliability construct.

Table 3: Means and Standard Deviations of Assurance

No.	Statement	Mean	Standard Deviation	Rank	Response Rate
1	The company has safety precautions (emergency exits, fire extinguishers, alarms, etc.)	3.41	.795	5	High
2	The company provides emergency numbers to call in case of problems.	3.76	.741	3	High
3	The company has an emergency plan that is followed in times of emergencies and crises.	3.83	.776	1	High

4	The company prints safety instructions on the back of contracts and receipts it provides to customers.	3.71	.782	4	High
5	The company maintains the confidentiality of its customers' information.	3.82	.750	2	High
Overall		**3.71**	**.628**	**High**	

The overall mean of the Assurance construct for this study was 3.71 and the standard deviation was .628, suggesting a high level of agreement among the respondents in relation to assurance practices in telecommunications companies. The statement "The company has an emergency plan that is followed in times of emergencies and crises" got a mean score of 3.83, followed closely by the statement related to maintaining the confidentiality of customers' information which got a mean score of 3.82. The other statement about the availability of safety precautions had the lowest mean score (3.41); however, it showed a high level of responses. Overall, the response rates for all statements were high, demonstrating a positive perception of the customers towards assurance in the telecom industry.

Table 4: Means and Standard Deviations of Customer Satisfaction

No.	Statement	Mean	Standard Deviation	Rank	Response Rate
1	The company always meets my needs and desires.	3.60	.704	8	High
2	The company is constantly striving to improve the quality of its services.	4.17	.699	1	High
3	The company interacts with me on an ongoing basis.	3.85	.783	6	High
4	I get services from the company that exceed my expectations.	3.94	.682	5	High
5	I have a good relationship with the staff of the institution.	4.12	.646	3	High
6	You can deal with the telecommunications company easily.	3.57	.660	10	High
7	Feel satisfied with the service provided by the telecommunications company.	3.59	.713	9	High
8	Telecommunications company employees deal with their customers in a distinguished manner.	4.15	.694	2	High
9	There is ease of dealing with the communication technology used in the company.	4.05	.656	4	High
10	The telecommunications company is worth trusting.	3.48	.634	11	High
11	Any mistakes that reduce customer satisfaction are avoided.	3.65	.722	7	High
Overall		**3.83**	**.524**	**High**	

As reflected in the results shown in the table, the overall mean of Customer Satisfaction construct was 3.83 with a standard deviation of .524, which showed that customers' satisfaction level with telecommunications companies was at a high level. The most superior mean score was for the statement The company continues to strive to enhance the quality of its services" with a mean score of 4.17, followed by the statement regarding employees' behaviour in a distinguished way with customers" with a mean score of 4.15. The statement, The

telecommunications company is worth trusting had the lowest mean score of 3.48 but it still had a high response level. Overall, all statements had high response rates, reflecting the positive customer perception of satisfaction with telecommunications services.

Table 5: Means and Standard Deviations of Customer Loyalty

No.	Statement	Mean	Standard Deviation	Rank	Response Rate
1	It is better to deal with your current telecommunications company on an ongoing basis.	3.89	.723	4	High
2	I speak positively about my current telecommunications company.	4.02	.787	2	High
3	I advise others to deal with the same telecommunications company I deal with.	3.82	.686	7	High
4	I refuse to change my telecommunications company to a competing company.	3.49	.730	9	High
5	I refuse to change my current telecommunications company even if the quality is lower than other companies.	3.51	.737	8	High
6	I refuse to change my current telecommunications company even if there is a misunderstanding.	3.86	.754	5	High
7	Other telecommunications companies' offers don't make me switch to deal with them.	4.03	.650	1	High
8	I do not think in the future about switching to dealing with other telecommunications companies.	3.54	.710	6	High
9	I feel proud to deal with the current telecommunications company.	3.99	.704	3	High
Overall		**3.79**	**.591**	**High**	

Overall, the mean for the Customer Loyalty construct was 3.79 with a standard deviation of .591, which signified high customer loyalty towards telecom companies. Two items, Other telecommunications company offers do not make me switch to deal with them (mean = 4.03) and I speak positively about my company" (mean = 4.02) had the highest mean scores. The lowest mean score was achieved with the statement, I refuse to change my telecommunications company to a competing company (3.49); this was still a high rating. Overall, the response rates were high for all items which suggests high customer loyalty within the study sample.

Hypotheses Test

H1: Assurance has a significant positive effect on Customer Loyalty.

H2: Reliability has a significant positive effect on Customer Loyalty.

H3: Assurance has a significant positive effect on Customer Satisfaction.

H4: Reliability has a significant positive effect on Customer Satisfaction.

H5: Customer Satisfaction has a significant positive effect on Customer Loyalty.

H6: Customer Satisfaction mediates the effect of Assurance on Customer Loyalty.

H7: Customer Satisfaction mediates the effect of Reliability on Customer Loyalty.

The statistical techniques used in this study are SmartPLS (Partial Least Squares Structural Equation Modeling) because it is used to analyze the relationship between the research constructs. The current study is an example of a complex predictive model, including a mediating variable, dependent variable, and multiple

independent variables, making SmartPLS a suitable solution. It is used to test the measurement model and the structural model at the same time, giving overall understanding of the reliability and validity of the constructs, strength and significance of hypothesized relationship(s). Furthermore, SmartPLS has been widely applied because of its capacity to deal with non-normal data distribution and a relatively small to medium sample size; therefore, SmartPLS also becomes an appropriate application in analyzing the data collected in this research.

Table 6: Construct Reliability and Convergent Validity Assessment

Construct	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Assurance	0.875	0.886	0.909	0.668
Customer Loyalty	0.940	0.940	0.949	0.675
Reliability	0.838	0.839	0.885	0.606

The results in Table 6 show that all constructs have satisfactory reliability and convergent validity based on the recommended values in SmartPLS analysis. Cronbach's Alpha values were between 0.838 to 0.940 and higher than the minimum acceptable value of 0.70 indicating high internal consistency among the measurement items. The reliability coefficients (rho_a and rho_c) of all constructs also were > 0.80, showing good construct reliability and stability.

In addition, the Average Variance Extracted (AVE) ranged from 0.606 to 0.675, which is higher than the recommended threshold of 0.50. This means that the constructs account for over 50% of the variance in each of their indicators, thus supporting the convergent validity of the constructs. In general, these results confirm that the measuring model has high reliability and convergent validity, which means that they can be used for the further assessment of the structural model and hypothesis testing.

Table 7: Fornell–Larcker Criterion for Discriminant Validity

Construct	Assurance	Customer Loyalty	Reliability
Assurance	0.817	-	-
Customer Loyalty	0.590	0.822	-
Reliability	0.050	0.539	0.779

Based on the Fornell–Larcker criterion, which is a criterion test for the discriminant validity of the measurement model, the analysis conducted by SmartPLS showed that the measurement model obtained satisfactory results. In addition, the Average Variance Extracted (AVE) for each construct on the diagonal of the table was higher than the correlations among the constructs in the model.

Specifically, the square root of the AVE values was higher than the inter-construct correlations for Assurance (AVE = 0.817), Customer Loyalty (AVE = 0.822), and Reliability (AVE = 0.779). These results demonstrate that all the constructs are empirically different from one another and that they are a good measure of the concept they were designed to measure. The results thus offer robust support to the discriminant validity of the measurement model.

Table 8: Heterotrait–Monotrait Ratio (HTMT) Assessment

Construct	Assurance	Customer Loyalty	Reliability
Assurance	-	-	-
Customer Loyalty	0.644	-	-
Reliability	0.074	0.605	-

The findings in Table 8 further showed that the measurement model was able to meet the criterion of discriminant validity according to the Heterotrait–Monotrait Ratio (HTMT) criterion in SmartPLS analysis. The values of all the HTMT were lower than the recommended value of 0.90, which is an indicator that the constructs are sufficiently different from each other.

Specifically, the value of HTMT between Assurance and Customer Loyalty was 0.644, and the value of HTMT between Reliability and Assurance was 0.074, between Reliability and Customer Loyalty was 0.605. The results do not indicate any discriminant validity problems between the constructs as all reported values are well below the critical value. So, the measurement model has good discriminant validity and is appropriate for further evaluation and test of the structural model.

Table 9: Model Fit Indices

Fit Index	Saturated Model	Estimated Model
SRMR	0.047	0.047
d_ULS	0.416	0.416
d_G	0.146	0.146
Chi-square	306.817	306.817
NFI	0.930	0.930

According to the criteria recommended in the SmartPLS analysis, the result of structural modeling in the form of a table shows that the model has an acceptable level of model fit, as can be seen from the results in Table 9. The Standardized Root Mean Square Residual (SRMR) value was 0.047, a value lower than the general rule of 0.08, suggesting a good fit between the data and the proposed model.

Moreover, the Normed Fit Index (NFI) value was 0.930, higher than the minimum threshold of 0.90, indicating a good fit of the model. The d_ULS and d_G values were quite small, indicating the small difference between the empirical covariance matrix and the model-implied covariance matrix. Moreover, the value of Chi-square was calculated as 306.817, which indicates an overall difference between the observed and the estimated matrix.

In general, these results indicate that the proposed model has a good and acceptable fit with the collected data, thus it can be considered appropriate to test the hypotheses and analyze them further.

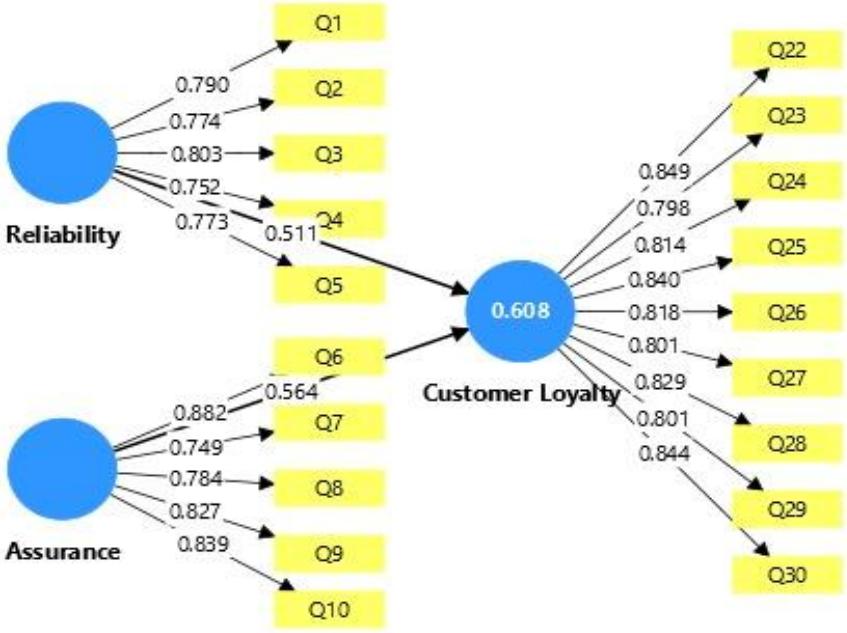

Figure 1: Structural Model Using SmartPLS

Table 10: Structural Model Assessment and Hypotheses Testing

Path coefficients	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	f-square	P values	VIF
Assurance -> Customer Loyalty	0.564	0.565	0.032	17.477	0.810	0.000	1.002
Reliability -> Customer Loyalty	0.511	0.512	0.032	16.020	0.665	0.000	1.002
R-square (Customer Loyalty**) =** 0.608							

As shown in Table 10, the findings reveal that the UAE telecom industry has positive and significant effects of Assurance and Reliability on Customer Loyalty, as confirmed by SmartPLS analysis. The path coefficient between Assurance and Customer Loyalty was 0.564, the t-statistic value was 17.477, and the P-value was 0.000, which indicated that there is a significant positive relationship between these two factors. These results indicate that more assurance practices—including information on safe practices, emergency, and customer privacy—have a significant impact on customer loyalty.

Likewise, the relationship between reliability and customer loyalty was positive and statistically significant with path coefficient of 0.511, the T-statistic value of 16.020 and P value 0.000. This means that the level of service reliability, fulfilment of promises and level of customer expectation contribute to improving customer loyalty for telecommunications companies.

Moreover, the f-square values of the Assurance (0.810) and Reliability (0.665) constructs showed large effect sizes, which indicate that both constructs have significant influence on the Customer Loyalty construct. The VIF values for both the relationships were below the critical value of 5.0, indicating no multicollinearity problem in the structural model.

Further, the R-square value for Customer Loyalty was obtained as 0.608,

implying that the model was representing 60.8% of the variance of Customer Loyalty. This indicates that the proposed model has a significant explanatory power and that it can predict customer loyalty in the telecommunications sector.

Table 11: Reliability and Convergent Validity for the Extended Measurement Model

Construct	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Assurance	0.875	0.882	0.910	0.669
Customer Loyalty	0.940	0.940	0.949	0.675
Customer Satisfaction	0.926	0.929	0.937	0.577
Reliability	0.838	0.839	0.885	0.606

As shown in Table 11, all the constructs of the extended measurement model meet the satisfactory reliability and convergent validity level based on SmartPLS analysis. Cronbach's alpha reliability value for all constructs is greater than 0.70, the minimum value recommended, indicating good internal consistency among measurement items.

The same is true for the Composite Reliability values (rho_a and rho_c) for all constructs which exceed 0.80, indicating high construct reliability and stability. In addition, the Average Variance Extracted (AVE) values range from 0.577 to 0.675, all of which are above the minimum acceptable level of 0.50. The results show that the indicators of each construct account for over 50%, of its variance indicating good convergent validity.

Overall, these findings indicate that the measurement model is reliable and valid, and can be used for further analysis of the structural model, such as mediation analysis of the Customer Satisfaction as a mediating variable.

Table 12: Fornell–Larcker Criterion for Discriminant Validity (Extended Model)

Construct	Assurance	Customer Loyalty	Customer Satisfaction	Reliability
Assurance	0.818	-	-	-
Customer Loyalty	0.588	0.822	-	-
Customer Satisfaction	0.524	0.792	0.760	-
Reliability	0.051	0.539	0.504	0.779

According to the Fornell–Larcker criterion in the SmartPLS analysis, the measurement model has acceptable discriminant validity results based on the data in Table 12. The diagonal values (the square root of the Average Variance Extracted (AVE)) are all greater than the inter-construct correlations.

In particular, the diagonal values for Assurance (0.818), Customer Loyalty (0.822), Customer Satisfaction (0.760) and Reliability (0.779) were higher than those of other constructs. This indicates that each construct correlates more with its indicators than with the other constructs in the model.

The results thus indicate that the constructs are empirically separate and that the measurement model satisfies the acceptable level of discriminant validity, which justifies further analysis of the structural model and undertaking mediation tests.

Table 13: Heterotrait–Monotrait Ratio (HTMT) for Discriminant Validity (Extended Model)

Construct	Assurance	Customer Loyalty	Customer Satisfaction	Reliability
Assurance	-	-	-	-
Customer Loyalty	0.644	-	-	-
Customer Satisfaction	0.579	0.847	-	-
Reliability	0.074	0.605	0.568	-

As demonstrated in the results of Table 13, the measurement model has satisfactory discriminant validity as measured by the HTMT criterion when tested in SmartPLS analysis. As far as HTMT is concerned, all the values are lower than 0.90, thus there are no issues with multicollinearity at the construct level.

Specifically, the highest value of HTMT was found between Customer Satisfaction and Customer Loyalty (0.847), which is still lower than the critical value, indicating that even if the constructs are closely related, they are conceptually and statistically distinct. Discriminant validity was further supported with all other HTMT values between 0.074 and 0.644.

Overall, the results showed strong support for the measurement model and the validity of the constructs used in the model, thus allowing for a reliable interpretation of the structural relationship and mediation analysis.

Table 14: Model Fit Indices (Extended Structural Model)

Fit Index	Saturated Model	Estimated Model
SRMR	0.040	0.040
d_ULS	0.748	0.748
d_G	0.283	0.283
Chi-square	582.246	582.246
NFI	0.919	0.919

The overall model fit as presented in Table 14 reveals that the extended structural model has a good overall fit as indicated by the fit indices generated by SmartPLS. The Standardized Root Mean Square Residual (SRMR) is 0.040, a good fit of the observed data to the proposed model, below the recommended level of 0.08.

Further, the value of the Normed Fit Index (NFI) is 0.919, higher than the acceptable value of 0.90, and this also shows the model to be adequate. The values of d_ULS and d_G are quite small, indicating little difference between the empirical and model-implied covariance matrices. The overall model discrepancy indicated by the Chi-square value of 582.246 is consistent with the complexity of the extended model, which contains the mediating variable.

Overall, it can be concluded that the extended model with the inclusion of Customer Satisfaction as a mediating variables is able to provide a satisfactory model fit and acceptable level of model acceptability which makes it suitable for structural path analysis and mediation testing.

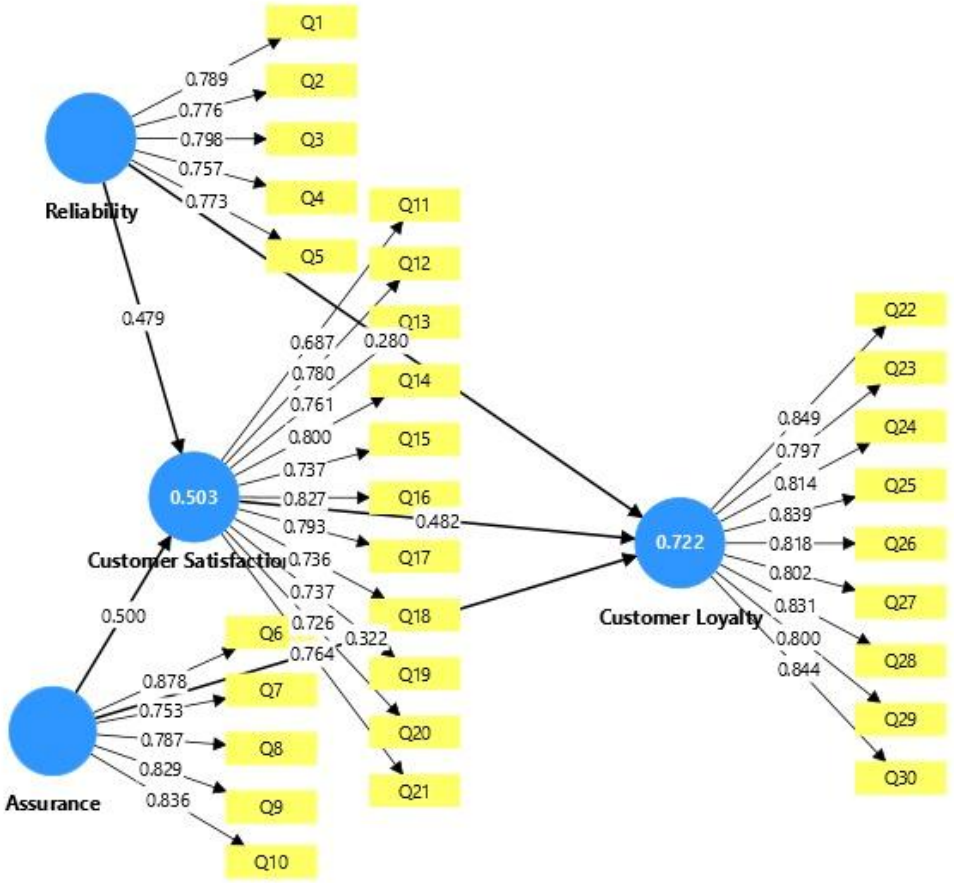

Figure 2: Structural Model with Mediating Effect of Customer Satisfaction (Using SmartPLS)

Path coefficients	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	f-square	P values	VIF
Assurance -> Customer Loyalty	0.322	0.322	0.037	8.742	0.247	0.000	1.505
Assurance -> Customer Satisfaction	0.500	0.500	0.034	14.720	0.501	0.000	1.003
Customer Satisfaction -> Customer Loyalty	0.482	0.482	0.040	12.005	0.415	0.000	2.012
Reliability -> Customer Loyalty	0.280	0.280	0.035	7.941	0.192	0.000	1.463
Reliability -> Customer Satisfaction	0.479	0.480	0.035	13.847	0.460	0.000	1.003
R-square (Customer Loyalty**) =** 0.722 **R-square (**Customer Satisfaction**) =** 0.503							

The findings in Table 15, derived from the structural model analysis procedure (SmartPLS) show that all the hypothesized relationships are positive, statistically significant.

In the case of direct effects, Assurance has a significant positive influence on Customer Loyalty ($\beta = 0.322$, $t = 8.742$, $p < 0.001$) and the same applies for the direct effect of Reliability on Customer Loyalty ($\beta = 0.280$, $t = 7.941$, $p < 0.001$). The results support the conclusion that both constructs have a direct link to the improvements in customer loyalty in the telecom industry.

Regarding the mediating model, Assurance has a significant positive impact on Customer Satisfaction ($\beta = 0.500$, $t = 14.720$, $p < 0.001$) while Reliability also has a significant positive impact on Customer Satisfaction ($\beta = 0.479$, $t = 13.847$, $p < 0.001$). In addition, Customer Satisfaction is an important mediator variable in the study because it is also an important variable that affects Customer Loyalty ($\beta = 0.482$, $t = 12.005$, $p < 0.001$).

The f-square values reveal that the relationships have a small to significant influence with some particularly strong values being seen for both Assurance and Customer Satisfaction (0.501) and also for Reliability and Customer Satisfaction (0.460), reflecting the significant contribution of these relations.

Further, none of the VIF values exceed the critical value of 5, suggesting that there are no multicollinearity problems in the structural model.

Lastly, the R-square values indicate good explanatory power with the model explaining 72.2% of the variance in Customer Loyalty and 50.3% of the variance in Customer Satisfaction. This shows a high level of predictive strength in the proposed model and serves as evidence of its strength in understanding customer behavior in the telecommunications sector.

Table 16: Specific Indirect Effects (Mediation Analysis)

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Reliability -> Customer Satisfaction -> Customer Loyalty	0.231	0.231	0.026	9.022	0.000
Assurance -> Customer Satisfaction -> Customer Loyalty	0.241	0.241	0.026	9.217	0.000

This mediation analysis was performed by SmartPLS to explore the indirect effects between variables: Assurance, Reliability, and Customer Loyalty via Customer Satisfaction. As shown in Table 16, all the indirect relationships are positive and statistically significant.

In particular, the indirect effect of Reliability on Customer Loyalty via Customer Satisfaction is significant ($\beta = 0.231$, $t = 9.022$, $p < 0.001$), suggesting that the effect of Reliability on Customer Loyalty is significantly mediated by Customer Satisfaction. In the same way, the indirect effect of Assurance on Customer Loyalty via Customer Satisfaction is significant ($\beta = 0.241$, $t = 9.217$, $p < 0.001$), which further supports the mediating role of Customer Satisfaction in this relationship.

After the mediator phenomenon of this study, it is observed that both the dimensions of Assurance ($\beta = 0.322$, $p < 0.001$) and Reliability ($\beta = 0.280$, $p < 0.001$) still have a significant direct influence on Customer Loyalty.

Thus, the relationships between Assurance and Customer Satisfaction, and Customer Satisfaction and Customer Loyalty are partially mediated, and the relationship between Reliability and Customer Satisfaction is partially mediated. It shows that the influence of Assurance and Reliability on Customer Loyalty is direct and indirect through Customer Satisfaction, where it means that the relationships between Assurance and Reliability and Customer Loyalty are strengthened by Customer Satisfaction but not fully replaced.

The results presented above overall support the central role of Customer Satisfaction as a determinant of the dimension of service quality to Customer Loyalty in the telecommunication industry.

Table 17: Hypotheses Testing Results

Hypothesis	Relationship	Decision
H1	Assurance → Customer Loyalty	Supported (Accepted)
H2	Reliability → Customer Loyalty	Supported (Accepted)
H3	Assurance → Customer Satisfaction	Supported (Accepted)
H4	Reliability → Customer Satisfaction	Supported (Accepted)
H5	Customer Satisfaction → Customer Loyalty	Supported (Accepted)
H6	Assurance → Customer Satisfaction → Customer Loyalty	Supported (Partial Mediation)
H7	Reliability → Customer Satisfaction → Customer Loyalty	Supported (Partial Mediation)

The findings of the structural model analysis with SmartPLS show that all hypotheses are supported. Direct and indirect effects of both have been found to be statistically significant at $p < 0.001$. Moreover the relationship between Assurance and Customer Loyalty and between Reliability and Customer Loyalty were partly mediated by Customer Satisfaction, which is a partial mediation model.

Discussion

The results of the current study proved that reliability and assurance are significant both directly and indirectly through customer satisfaction in improving customer loyalty in UAE telecom industry. The descriptive results showed that the customers' perceptions of the telecommunications companies were positive with high levels of perceived reliability, perceived assurance, perceived customer satisfaction and perceived customer loyalty. The results of this study suggest that the dimensions of service quality are gaining significance in the process of building lasting relationships with customers in highly competitive service environments.

The results of the structural model showed that assurance has a positive and significant effect on customer loyalty, which is consistent with the study conducted by Akpan et al. (2022), Izogo (2017), and Palladan and Ahmad (2019) that showed that trust, professionalism and competence of employees increase the confidence of customers and strengthen their intentions to remain loyal to the company. Assurance is important in the telecommunications industry as customers often involve service representatives to address technical and billing problems, shaping customer perception. The results of the study indicate the high importance of transparency, security, and how a company handles service-related issues for customers in the UAE telecommunications market.

The same, it was found that reliability has a significant and positive relationship with customer loyalty. The finding is consistent with the findings of Mahendrayana et al. (2018), Jónás and Kövesi (2010) and Setiawan and Patricia (2022), who found that reliable and regular service delivery increases customer retention and customer's loyalty intentions. Customers are more likely to stick around if the promises made by a company are consistently met and services are reliable, as telecommunications services rely on consistent and reliable network performance and communication. Recent literature indicated that reliability may now be seen as a basic expectation rather than a competitive advantage (KPMG, 2024; Holloway, 2024), yet the present results showed that reliability still has a strong influence on the level of loyalty in the case of telecom service in the UAE.

The results also showed that both assurance and reliability have positive significant effects on customer satisfaction. The results are

consistent with Expectation Disconfirmation Theory (Oliver, 1980, 2014) which states that customers are satisfied when the service performance meets or surpasses their expectations. These findings agree with Mahendrayana et al. (2018), Wahid et al. (2017), Chege (2022), and Khan and Fasih (2014) who highlighted the significance of service interactions that are reliable and trustworthy in the increase of customer satisfaction levels.

Moreover, customer satisfaction was discovered to have a significant effect on customer loyalty, which resonates with the results of Caruana (2002), Rahmatulloh and Melinda (2021) and Narteh (2018). The mediation analysis also found that customer satisfaction is a partial mediating variable in the relationships between assurance and customer loyalty, and reliability and customer loyalty. The findings concur with that of Caruana (2002), Akbar and Parvez (2009) and Iqbal and Khan (2021) which validated the hypothesized mechanisms of satisfaction as a mediator between service quality and loyalty. In the UAE telecom sector, the partial mediation result shows that reliability and assurance have a direct and indirect effect on loyalty, mediated by customer satisfaction, which suggests that customer satisfaction needs to be improved, as well as service quality, to increase customer loyalty.

Recommendations

1. The telecommunications sector must constantly enhance the reliability of their services, so that communication services are reliable and continuous.
2. Strengthen the quality of the professionalism, transparency, and technical supports of employees in assurance practices in companies.
3. Customer service departments should be responsive and proactive to customers' complaints and technical issues.
4. Companies in the telecommunications sector should be investing in new technologies to enhance the quality of services and customer experience.
5. Companies need to conduct a periodic assessment of customer satisfaction to pinpoint the areas that need improvement and how to enhance the performance of their services.
6. Telecommunications companies need to create more trust with customers by protecting data and information security.
7. Loyalty schemes and individualised offers should be designed to enhance customer commitment to the company in the longer term.

Suggestions for Future Research

1. Research on the other dimensions of service quality could include Responsiveness, Empathy and Tangibility.
2. Trust can be explored as a mediating/moderating variable in telecommunications services.
3. Moving on, future studies can be conducted to compare the customer loyalty among the different telecommunications companies in the UAE.
4. Repeat studies can be carried out in other countries in the Gulf region to see how customers act in other areas.
5. Future studies could investigate the role of digital transformation on the satisfaction and loyalty of customers.
6. To assess changes in customer loyalty over time, longitudinal studies can be undertaken.
7. Future research could be qualitative, using interviews to elicit deeper insights into perceptions of customers.

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