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IMPROVING CUSTOMER LOYALTY THROUGH SERVICE QUALITY: THE MEDIATING ROLE OF CUSTOMER SATISFACTION IN THE UNITED ARAB EMIRATES TELECOMMUNICATION INDUSTRY

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Abstract

This paper discussed the correlation between service quality, customer satisfaction, and customer loyalty in the telecommunication sector in the United Arab Emirates (UAE). Quantitative approach and SEM-PLS were used to gather data from (384) customers in Sharjah. The results showed that the general service quality has a considerable direct impact on customer loyalty. Although service quality also has a positive impact on the customer satisfaction, customer satisfaction does not mediate the relationship between all dimensions of service quality and customer loyalty. The assurance and tangibles are the only ones mediated with, and reliability, responsiveness, and empathy do not have significant indirect effects. This study added to the theory by expanding the use of EDT to a highly regulated, duopolistic telecommunication environment and provides practical implications to the telecommunication providers in the UAE who are aiming to increase customer loyalty by improving the quality of service offering to their customers in ways that are targeted and specific

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INTRODUCTION

Customer satisfaction is greatly connected to customer loyalty. It is common knowledge that satisfaction is one of the major antecedents of loyalty. Satisfied customers become more loyal to the brand in case they are constantly satisfied with a product or service [1-3]. Satisfaction, however, is not enough to be loyal. Research has revealed that though satisfaction can give rise to repurchase intentions, it does not necessarily maintain customers in the long term especially in industries that are very competitive [4, 5]. Customer satisfaction is therefore a necessary but not a sufficient condition towards loyalty. Loyalty, contrary, is a higher emotional level of customer devotion that results in long-term, continuous patronage [6, 7].

The telecommunications industry has shown that satisfaction as one of the factors affecting customer loyalty can be affected by external forces such as competition, technological changes, and switching costs [8-10]. The customers are offered with a wide range of possibilities to change the provider or test new services with the introduction of mobile number portability and the growing number of alternative communication platforms such as WhatsApp and Skype [11, 12]. The customer loyalty in this case is not only a question of satisfaction but a strategic necessity of companies trying to minimize the churn and maximize customer retention. In their articles, Agu, et al. [13], Arslan [14], Strenitzerová and Gaňa [15] note that customer loyalty is a crucial aspect to promote successful company performance, profitability, and long-term sustainability.

The UAE's telecommunications sector is integral to the nation's infrastructure, contributing significantly to economic development and social connectivity [16]. The country has also positioned itself as a regional leader in technological advancements, such as launching the first 5G networks in the Middle East [17]. This leadership is a testament to the UAE's innovation and highlights the importance of technological expansion and brand equity in shaping the global competitiveness of its telecommunications industry.

Given the increasing importance of customer loyalty in the UAE telecommunications sector, this study will contribute to both theoretical and practical knowledge by investigating the role of customer satisfaction as a mediator in the service quality-loyalty relationship.

Service quality—defined through dimensions such as reliability, assurance, responsiveness, empathy, and tangibility [18]—plays a pivotal role in shaping customer satisfaction, which, in turn, fosters customer loyalty [19]. As consumer expectations rise, service quality has become increasingly critical, with research indicating that telecommunications services that meet or exceed customer expectations can significantly boost satisfaction and loyalty [20, 21].

However, while the connection between service quality and customer satisfaction has been extensively studied, there remains a gap in understanding how these factors interact, particularly in the context of the UAE's telecommunications market. Specifically, the mediating role of customer satisfaction in the relationship between service quality and customer loyalty has not been fully explored. Few studies have tested this mediating effect in the UAE, where the consumer landscape and regulatory environment differ from other global markets [22, 23].

The practical issue will focus on major problems in the UAE telecommunications industry, where Etisalat and du are the leading players. Although there has been consistent effort to improve services, customers are quite dissatisfied, which is reflected in the high number of complaints (6,759 in Q1 2021) and the low levels of customer satisfaction (only 64.03% mentioned satisfaction, Emirates Today, 2021). Major triggers of this discontent are the issues with the quality of service, particularly the difficulties in reliability (high costs and low coverage, Gulf News, 2020), the time lag in responding to complaints, and the absence of assurance and transparency in billing practices (Gulf News, 2023). These problems break the expectations of the customers, a difference that can in most cases be attributed to the Expectancy Disconfirmation Theory (EDT) that results in loss of trust and unwillingness to demonstrate devotion.

Economic and structural barriers also make the problem more complex. The competition is restrained by the duopolistic order, and the motivation to improve the services is low, which adds to one of the highest mobile data prices in the world. This is a costly service, and the quality of services is not always high, which leads to a low ratio of costs to satisfaction [24], which prevents loyal intentions. Complaint handling plays a vital role in reducing these aspects since studies indicate that it has the potential to translate satisfaction into a more solid loyalty [25, 26]. Although the number of complaints has declined over time (2.4 million in 2017 to 945,905 in 2023, M. Lari, personal communication, May 28, 2024), the fact that there are still persistent problems with the resolution time and transparency reduces its potential to establish long-term relationships.

Although the UAE has a well-developed telecommunications infrastructure and is among the first to implement modern technologies, it is still possible to talk about customer dissatisfaction as the issue that is difficult to eliminate in the industry. Even though the connections between service quality, customer satisfaction and customer loyalty have been well researched, the available literature has mainly proceeded on the assumption that customer satisfaction always mediates the relationship between service quality and customer loyalty. Empirical studies have not adequately investigated the existence of this mediating mechanism in the consistent processes of individual dimensions of service quality especially in regulated service sectors. In addition, not many studies have been conducted to empirically verify the mediating effect of customer satisfaction in the UAE telecommunications industry, in which cultural practices, regulatory conditions, and a duopoly competitive environment vary significantly compared to market liberalization. Therefore, little is known about the degree to which certain dimensions of service quality are converted into loyalty both directly and indirectly via customer satisfaction.

The telecommunications sector is a theoretically and empirically unique environment in the UAE since it is both highly regulated and duopolistic, possesses a sophisticated technological backbone, the services are expensive and customer feedback regarding reliability, responsiveness, and transparency in billing remains high. Competitive loyalty might be manifested in a low switching cost, as opposed to satisfaction, in such an environment, which is challenging to the traditional expectations based on the Expectation-Disconfirmation Theory. These real-life issues in the industry present important questions on what dimensions of service quality led to satisfaction-based loyalty and what have direct effects without satisfaction. To fill this gap, the current paper empirically investigates the influence of the dimensions of individual service quality on customer satisfaction and customer loyalty and directly tests the mediating impact of customer satisfaction and thereby refines the existing theory and offers practical implications of service delivery and customer retention in the telecommunication industry in the UAE.

Thus, the present study aims at establishing the major and correlations between the dimensions of service quality, including reliability, responsiveness, assurance, empathy, and tangibles, and customer loyalty, and specifically analysing the mediating position of customer satisfaction in the context of the telecommunication sector in the UAE. The study makes a meaningful empirical contribution as it tries to test these impacts with regards to the Expectation-Disconfirmation Theory (EDT) in a special highly regulated duopolistic market. Theoretically, the research questions the universal mediation assumption by defining that satisfaction is not a homogenous mediator; rather findings show that only assurance and tangibles have pronounced indirect influences, which requires the revision of current service quality models used in regulated environments. The application of SEM-PLS methodologically enables simultaneous testing of both direct and indirect relationship with strong evidence of context-specific evidence of a market characterized by high penetration and low switching potentials. In practical terms, the findings provide practical recommendations to UAE telecom operators to improve service provision, complain handling and transparent pricing policies to encourage long-term customer retention in a highly regulated market.

LITERATURE REVIEW

SERVICE QUALITY, SATISFACTION, AND LOYALTY

Service quality is also a major antecedent of customer satisfaction and loyalty and is normally conceptualized in the SERVQUAL framework which incorporates reliability, responsiveness, assurance, empathy, and tangibles [27]. Although many studies confirm that service quality has a significant impact on long-term relationships [28], there is contradictory empirical evidence on the relative significance of individual dimensions. Also, reliability and responsiveness can be especially important in high-tech services, and assurance and empathy are more important in high-risk industries [29]. It is important to note that a great number of the available research does not consider the impact of regulatory frameworks and low competition rates, which are prevalent in markets such as the UAE, on customer ratings. This paper provides an argument to the effect that in these constrained market situations, disaggregation of service quality is prerequisite to confirm dimension-specific effects, because certain aspects might directly influence loyalty without necessarily raising satisfaction. The Expectation-Disconfirmation Theory (EDT) puts customer satisfaction in the centre of the quality-loyalty relationship of services [30] that indicates that positive disconfirmation would increase retention and repeat utilization [31, 32]. Nevertheless, the mediation effect of satisfaction is not universal, recent studies show that some studies have found non-significant or partial mediation, indicating that satisfaction is not always the most important mechanism that leads to loyalty [33, 34]. In regulated markets or duopolistic markets, the

behavioural loyalty might be maintained in the average level of satisfaction because of the high switching cost, or the absence of alternatives. Moreover, the notion of loyalty has changed into the repeat purchasing behaviour [35] to the attitudinal concept such as psychological commitment [36]. More recent schools of thought, including that of Oliver [37] four-stage model, put more emphasis on loyalty, as a dynamic process, and not a fixed outcome. Regardless of these advances, empirical evidence has not been consistent especially in regulated service markets where the market structure may distort traditional systems of creating loyalty. Although the research on telecommunications confirms that satisfaction is an important mediator, there are other studies that show its low explanatory capacity when other factors such as fairness of pricing and regulatory restrictions are more dominant. To fill this gap, the current research empirically examines the mediating role of customer satisfaction at the individual service quality dimensions in the highly regulated and duopolistic market in the UAE.

THEORETICAL FRAMEWORK (EXPECTATION-DISCONFIRMATION THEORY).

This paper uses Expectation-Disconfirmation Theory (EDT) and SERVQUAL model to provide insights on how the quality-of-service influences customer satisfaction, which influences customer loyalty. Although no one theory can be used to fully explain customer loyalty, a combination of these theories offers a robust basis upon which the dynamics between quality of service, customer satisfaction, and customer loyalty can be explained.

ETD was proposed by Oliver [38], and it explains satisfaction as comparing pre-consumption expectations to post-consumption performance. Positive disconfirmation (performance is higher than expectations) is associated with satisfaction, and negative disconfirmation (performance is lower than expectations) is associated with dissatisfaction; confirmation happens when performance is equal to what was expected [39]. EDT is widely applied in service industries, including telecommunications, where reliability and responsiveness strongly influence satisfaction [40, 41].

A central contribution of EDT is its recognition of satisfaction as a dynamic process. Expectations evolve with past experiences, marketing, and word-of-mouth [42]. making the theory especially relevant for industries where customer loyalty is highly competitive. It consists of the following:

- **Customer Expectations**: Pre-consumption beliefs shaped by prior experiences, marketing, and social influence [43]. In telecommunications, customers expect reliable coverage and prompt problem resolution.
- **Perceived Performance**: Customers' experience with the service. Performance exceeding expectations leads to satisfaction, while underperformance causes dissatisfaction [44].
- **Disconfirmation**: The cognitive comparison of expectations and performance. Positive disconfirmation enhances satisfaction, negative disconfirmation reduces it, and confirmation maintains stable satisfaction [45, 46].

EDT helps explain how service quality dimensions (reliability, responsiveness, assurance, empathy, tangibles) shape perceptions and influence loyalty [47, 48]. Despite its widespread application, EDT has its limitations. One key criticism is that the theory tends to treat expectations as a static construct, while expectations are dynamic and context dependent. Expectations evolve as customers gain new experiences and encounter updated information [49].

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HYPOTHESES OF THE STUDY

Based on the theoretical framework and existing literature, this study develops four main hypotheses about the relationships between service quality, customer satisfaction, and customer loyalty in the UAE telecommunications industry. The foundation for these hypotheses is the Expectancy Disconfirmation Theory, which suggests that when service quality exceeds customer expectations, it positively influences satisfaction and, in turn, loyalty.

- **H1**: There is a positive relationship between service quality dimensions (reliability, responsiveness, assurance, empathy, tangibles) and customer loyalty.
- **H2**: There is a positive relationship between service quality dimensions (reliability, responsiveness, assurance, empathy, tangibles) and customer satisfaction.
- **H3**: There is a positive relationship between customer satisfaction and customer loyalty.
- **H4**: Customer satisfaction mediates the relationship between service quality (reliability, responsiveness, assurance, empathy, tangibles) and customer loyalty.

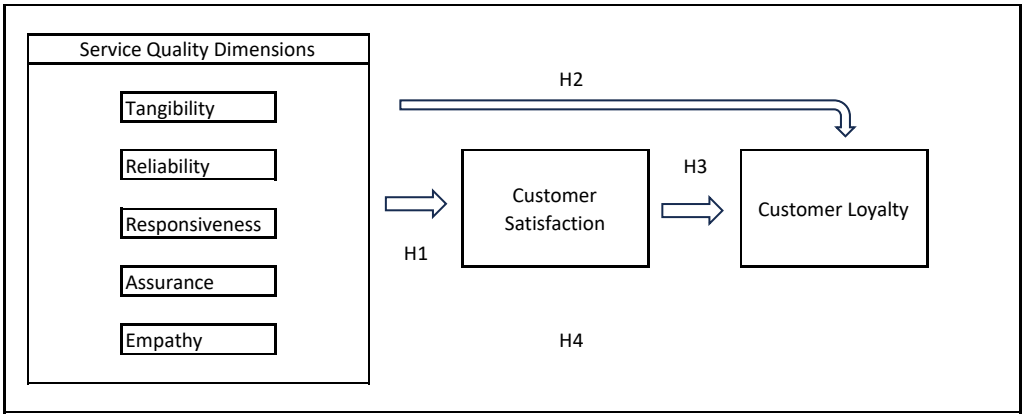

Figure 1: Research Framework

RESEARCH METHODOLOGY

The research design used in this study is a quantitative research design based on the Research Onion framework of Saunders, which has a positivist philosophy and a deductive method applied to verify a pre-defined set of hypotheses. To study the relationships between service quality, customer satisfaction and loyalty in the UAE telecommunications industry, a cross-sectional time horizon was chosen to obtain a snapshot of the relationships. The target group will include Etisalat and du subscribers in Sharjah, a place with a large telecommunication penetration rate and demographic diversity that can be considered a representative micro-context of the whole UAE market. Whereas the study has narrowed down to one emirate, a stratified random sampling method was used to make sure that the sample was representative of different age, gender and type of user, and thus a statistically dependable sample of 384 respondents was achieved.

Structured questionnaires were used to gather primary data with the use of 5-point Likert scale to measure the perceptions of customers. To reduce the risks of Common Method Bias (CMB), several procedural remedies were introduced in addition to statistical testing. Complete anonymity and confidentiality of the respondents were ensured to minimize social desirability bias, and the survey instruments were based on well-established and clear scales to minimize ambiguity. More so, the single factor test by Harman ensured that there was no single factor that explained most of the variance; this indicates that CMB should not be a major issue when it comes to validity of the findings.

Variables measurement was operationalized by the means of modified SERVQUAL model, which incorporated reliability, responsiveness, assurance, empathy, and tangibles as multi-dimensional independent constructs. The 11 items were used to measure customer satisfaction as a mediator and customer loyalty was measured using behavioural and attitudinal items. Validity and reliability of these instruments were checked by Cronbach alpha, composite reliability (CR), and average variance extracted (AVE) and all these were better than the required levels.

Structural Equation Modelling (SEM-PLS) was performed on the data through the Partial Least Squares technique (PLS) by means of SmartPLS software. The choice of SEM-PLS is explained by its better capability of operating complex models with multiple mediation and its predictive research capability without demanding strict data normality. The precision and stability of the estimates on the indirect effects were carefully tested through a bootstrapping method with 5,000 resamples to be able to test the mediation effects. Lastly, every ethical consideration was done, and attendance was fully voluntary and informed.

RESULTS

DEMOGRAPHIC DATA OF RESPONDENTS

In order to get acquainted with the background of the research participants, Table I has summarized the personal attributes of the 384 respondents, such as their gender, qualification, age, and the use of service providers.

Table I: Personal characteristics of the study sample

Variable	Category	Number	Percentage (%)
Gender	(Male)	185	50%
	(Female)	185	50%
Qualification	(Less than a bachelor's degree)	74	20%
	(Bachelor's degree)	148	40%
	(Master's degree)	111	30%
	(PhD degree)	37	10%
Age	(Less than 20 years)	37	10%
	(From 20 years to less than 24 years)	111	30%
	(From 24 years to less than 28 years)	148	40%
	(28 years and above)	74	20%
(Which telecommunications services do you use)	(Etisalat)	222	60%
	(du)	148	40%
(Number of years of dealing with the telecommunications company currently)	(Less than 5 years)	185	50%
	(From 5 to less than 10 years)	111	30%
	(From 10 years to less than 15 years)	34	9.19%
	(15 years or more)	40	10.81%
(Are you currently working with Etisalat or Du?)	(Yes)	74	20%
	(No)	296	80%
(Have you ever worked with Etisalat or Du ?)	(Yes)	37	10%
	(No)	333	90%

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DESCRIPTIVE STATISTICS FOR STUDY VARIABLES

The means and standard deviations of the responses of the subjects towards the main axes of the study were computed. Table II shows the arithmetic means and standard deviations of the five dimensions of service quality in descending order to determine the most important factors by the customer perceptions:

Table II: Arithmetic Means and Standard Deviations of the Sample Members' Responses to the First Axis: Service quality

No.	Dimensions	Means	SD	Response score	Rank
1	First Dimension: Tangibility	4.33	1.014	Very High	2
2	Second Dimension: Reliability	3.97	.684	High	3
3	Third dimension: responsiveness	3.83	.665	High	4
4	Fourth dimension: Assurance	3.74	.805	High	5
5	Fifth Dimension: Empathy	4.56	.597	Very High	1
Overall average		4.09	.386	High	

Figure 2: The arithmetic means of sample members' responses to the first axis: Service quality

After the assessment of the quality of services, customer satisfaction levels were measured. Table III elaborates the mean scores of statements pertaining to the second axis which gives an idea of the general level of satisfaction within the UAE telecom industry:

Table III: The arithmetic means and standard deviations of sample members' responses to the second axis: Customer satisfaction

No.	Second axis statements	Means	SD	Response score	Rank
1	The company always meets my needs and desires.	4.42	Very High	Very High	9
2	The company is constantly striving to improve the quality of its services.	4.42	Very High	Very High	10
3	The company interacts with me on an ongoing basis.	4.49	Very High	Very High	2
4	I get services from the company that exceed my expectations.	4.47	Very High	Very High	4
5	I have a good relationship with the staff of the institution.	4.43	Very High	Very High	6
6	You can deal with the telecommunications company easily.	4.44	Very High	Very High	5

7	Feel satisfied with the service provided by the telecommunications company.	4.43	Very High	Very High	7
8	Telecommunications company employees deal with their customers in a distinguished manner.	4.44	Very High	Very High	5
9	There is ease of dealing with the communication technology used in the company.	4.51	Very High	Very High	1
10	The telecommunications company is worth trusting.	4.48	Very High	Very High	3
11	Any mistakes that reduce customer satisfaction are avoided.	4.43	Very High	Very High	9
Overall average		4.45	.774	Very High	

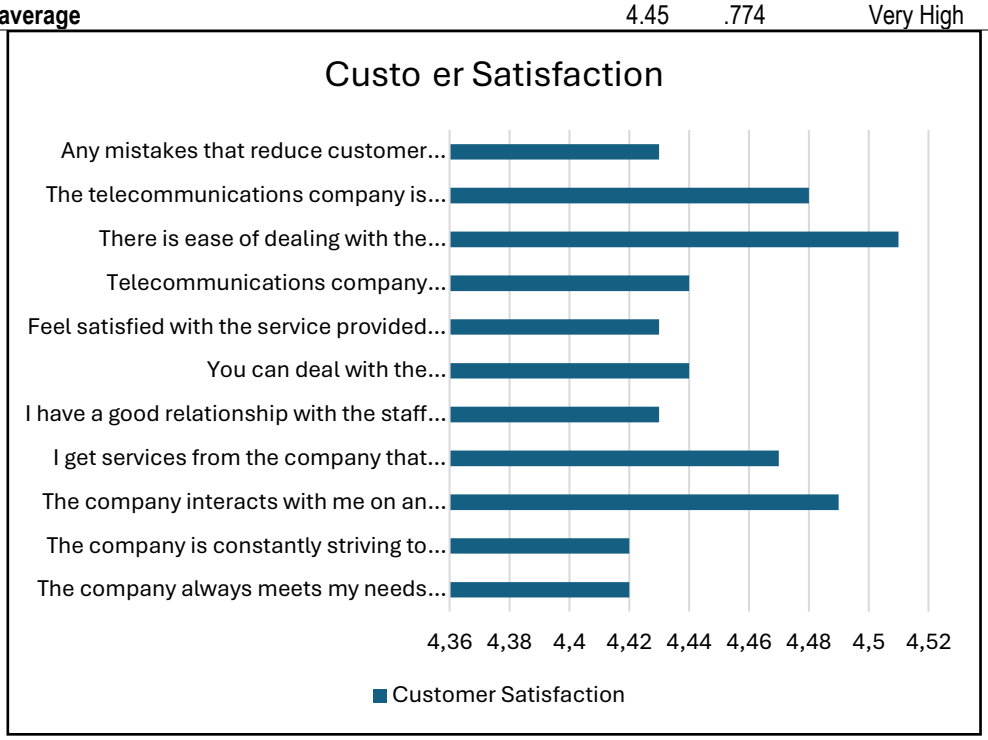

Figure 3: The arithmetic means of the sample members' responses to the second axis: Customer Satisfaction

Also, the arithmetic means and standard deviations were determined for the statements of the third axis: Customer Loyalty. These statements were then arranged in descending order according to the arithmetic mean for each statement. This is shown in the following table:

Table IV: The arithmetic means and standard deviations of the sample members' responses to the third axis: Customer Loyalty

No.	Third axis statements	Means	SD	Response score	Rank
1	It is better to deal with your current telecommunications company on an ongoing basis.	3.62	.905	High	6
2	I speak positively about my current telecommunications company.	3.65	.922	High	3
3	I advise others to deal with the same telecommunications company I deal with.	3.65	.914	High	2
4	I refuse to change my telecommunications company to a competing company.	3.53	1.126	High	8
5	I refuse to change my current telecommunications company even if the quality is lower than other companies.	3.68	.936	High	1

6	I refuse to change my current telecommunications company even if there is a misunderstanding.	3.64	.916	High	5
7	Other telecommunications companies' offers don't make me switch to dealing with them.	3.64	.909	High	4
8	I do not think in the future about switching to dealing with other telecommunications companies.	3.51	1.122	High	9
9	I feel proud to deal with the current telecommunications company.	3.57	1.148	High	7
Overall average		3.61	.910	**High**	

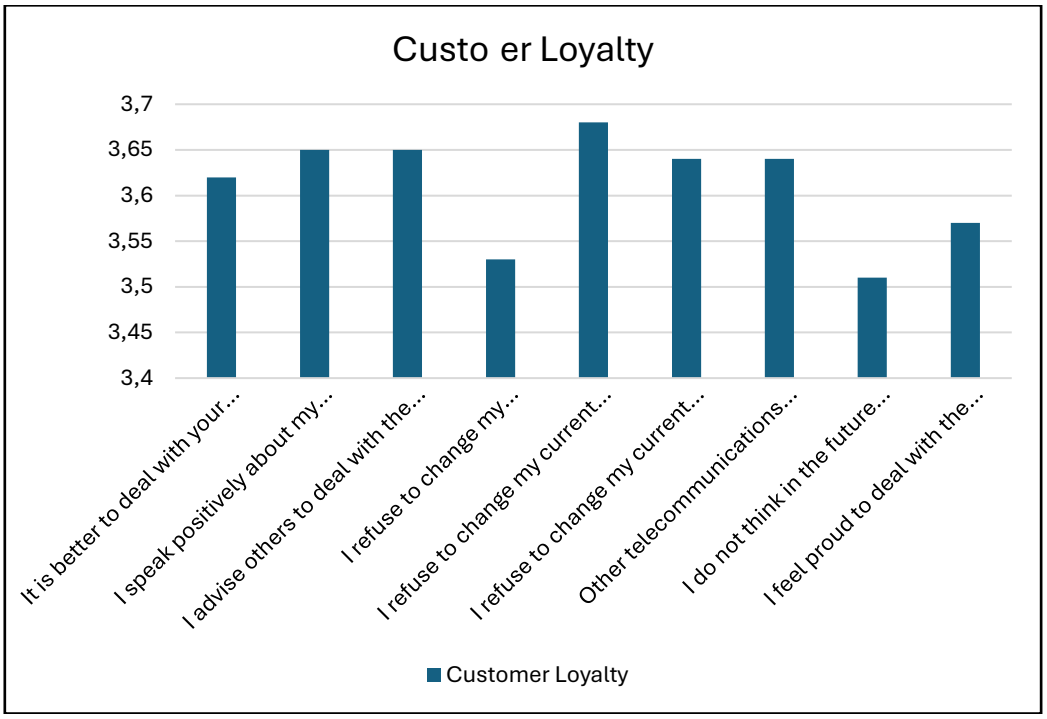

Figure 4: Arithmetic means of sample responses for the third axis: Customer

VALIDITY AND RELIABILITY ASSESSMENT

Prior to hypothesis testing, the measurement model was evaluated for internal consistency and validity. Table V presents the results of the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests, which confirm the adequacy of the data for factor analysis.

Table V: Results of the KMO test and the Bartlett test for the variables (Service quality)

Construct	KMO Measure	Bartlett's Test (Sig.)
Service Quality	0.872	.000
Customer Satisfaction	0.929	.000
Customer Loyalty	0.855	.000

Confirmatory Factor Analysis (CFA) was used to measure the structural integrity of the research variables. Table VI shows the fit indices, which show that the measurement models are very suitable.

Table VI: Confirmatory Factor Analysis (CFA) Fit Indices

Indicator	Service Quality	Satisfaction	Loyalty
SRMR	0.023	0.039	0.047
NFI	0.976	0.959	0.916
TLI	0.981	0.953	0.937
CFI	0.988	0.968	0.944

The internal consistency and convergent validity were verified in Table VII, where all constructs surpassed the recommended thresholds for Cronbach's alpha and Composite Reliability.

Table VII: Reliability and Convergent Validity

Construct	Cronbach's Alpha	CR (pc)	AVE
Service Quality	0.895	0.919	0.656
Satisfaction	0.869	0.831	0.643
Loyalty	0.833	0.818	0.747

Structural Model and Hypothesis Testing

SmartPLS was used to test the structural model to examine the overall research framework and hypotheses. Table VIII shows the model fit indices, and it is noted that the indicators, which are SRMR, d ULS, d G and Chi-square are within acceptable ranges thus indicating that the model is well fitted.

Table VIII: Model Fit Indices

Quality indicators	Saturated model	Estimated model
SRMR	0.197	0.197
d_ULS	31.826	31.826
d_G	16.233	16.233
Chi-square	9705.150	9705.150
NFI	0.277	0.277

IMPACT OF SERVICE QUALITY DIMENSIONS ON CUSTOMER LOYALTY (H1)

Path analysis to measure the relationship between service quality dimensions and customer loyalty was carried out to test the first hypothesis (H1). The structural paths are graphically represented in Figure 5 and Figure 6, whereas Table IX shows the path coefficients and significance levels of the structural paths.

Table IX: Results of Path Analysis (Direct Impact on Loyalty)

Parameter	Path coefficients	Se	R-square	T-value	Significance	Results
Reliability -> customer loyalty	-0.219	0.034	0.330	6.376	0.000	Supported
Responsiveness -> customer loyalty	0.058	0.033		1.764	0.078	Rejected
Assurance -> customer loyalty	0.222	0.052		4.273	0.000	Supported
Empathy -> customer loyalty	0.296	0.043		6.888	0.000	Supported
Tangibles -> customer loyalty	0.088	0.040		2.203	0.028	Supported
Service quality -> customer loyalty	0.569		0.324		0.000	Supported

The results indicate that service quality explains 32.4% of the variance in customer loyalty (R^2 = 0.324), with a statistically significant overall effect (p < 0.000)

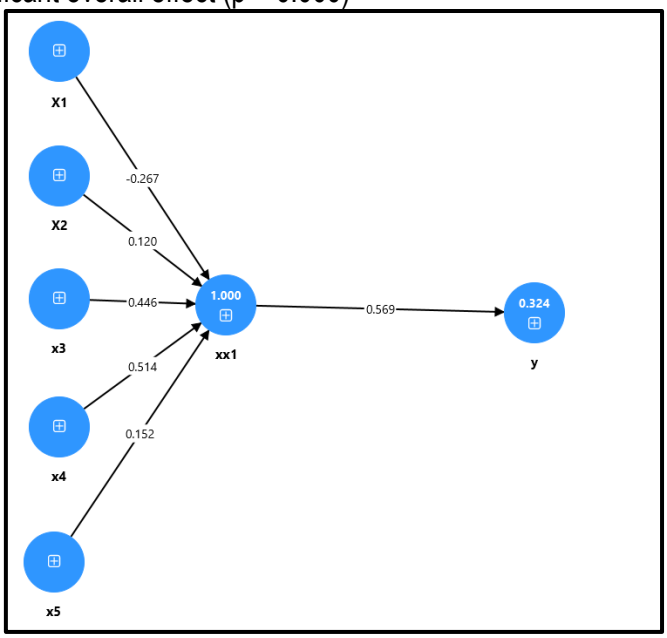

Figure 5: Model of the impact of service quality on customer loyalty

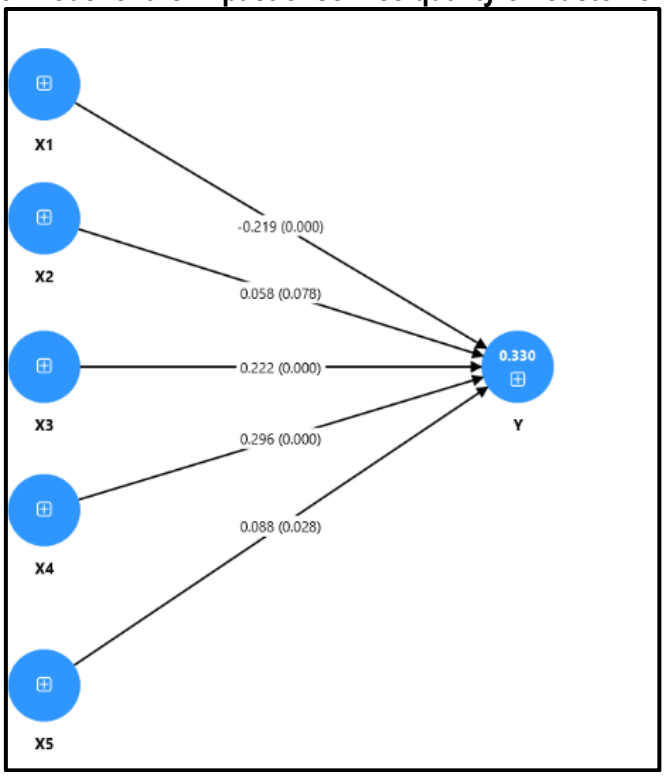

Figure 6: Model of the impact of service quality dimensions on customer loyalty

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IMPACT OF SERVICE QUALITY DIMENSIONS ON CUSTOMER SATISFACTION (H2)

The second hypothesis (H2) was a test of the relationship between service quality dimension and customer satisfaction. Figure 7 and Figure 8 show the model paths and Table X gives the regression output of the relationships.

Table X: Results of Path Analysis (Impact on Satisfaction)

Parameter	Path coefficients	Se	R-square	T-value	Significance	Results
Reliability -> customer satisfaction	-0.054	0.045	0.185	1.199	0.230	Rejected
Responsiveness -> customer satisfaction	-0.007	0.041		0.181	0.857	Rejected
Assurance -> customer satisfaction	0.077	0.062		1.239	0.216	Rejected
Empathy -> customer satisfaction	0.131	0.058		2.244	0.025	Supported
Tangibles -> customer satisfaction	0.349	0.045		7.730	0.000	Supported
Service quality -> customer satisfaction	0.320	0.047	0.103	6.819	0.000	Supported

Service quality was found to explain 10.3% of the changes in customer satisfaction (R^2 = 0.103).

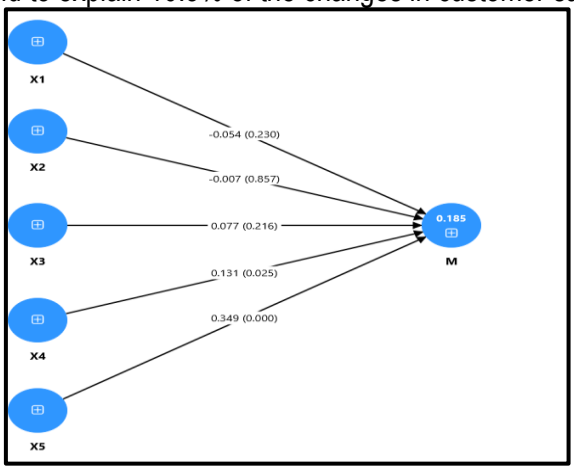

Figure 7: Model of the impact of service quality dimensions on customer satisfaction

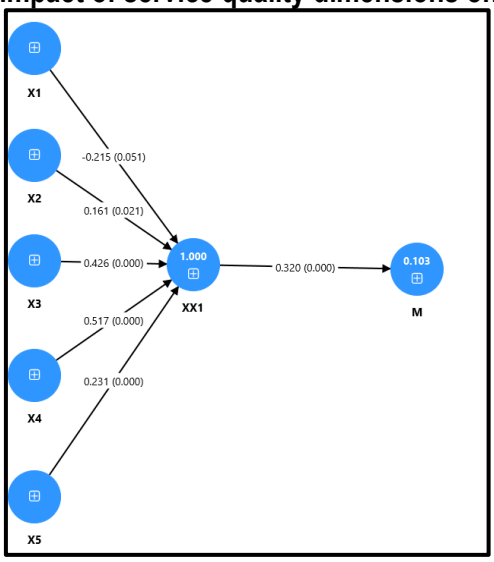

Figure 8: Model of the impact of service quality on customer satisfaction

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IMPACT OF CUSTOMER SATISFACTION ON CUSTOMER LOYALTY (H3)

The third hypothesis (H3) was on the direct impact of customer satisfaction on loyalty. Table XI affirms that there is a strong positive correlation where satisfaction predicts 5.2% of customer loyalty:

Table XI: The regression analysis results to measure the impact of customer satisfaction on customer loyalty

Parameter	Path coefficients	SE	R-square	T-value	Significance	Results
customer satisfaction -> customer loyalty	0.229	0.051	0.052	4.494	0.000	Supported

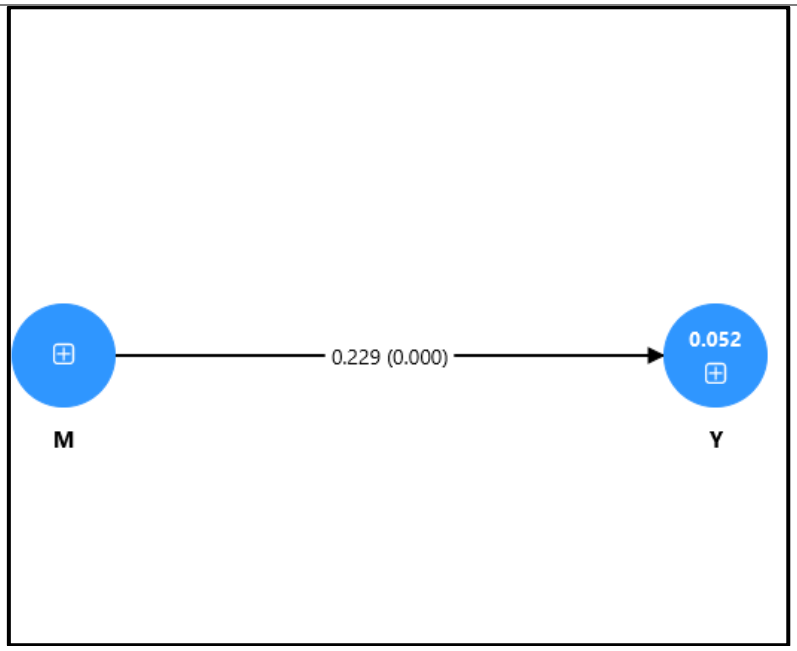

Figure 9: Model of the effect of service quality on customer satisfaction

MEDIATION EFFECT OF CUSTOMER SATISFACTION (H4)

Bootstrapping Structural modelling was used to test the hypothesis of mediation by customer satisfaction (H4). The mediation model is represented in Figure 10; Table XII is the summary of the indirect effects of each dimension.

Table XII: Indirect Effects and Mediation Results

Parameter	Path coefficients	Se	T-value	Significance	Results
Service quality -> Customer satisfaction -> customer Loyalty	0.035	0.224	2.535	0.498	Rejected
Reliability -> Customer satisfaction -> customer Loyalty	-0.020	0.014	1.361	0.174	Rejected
Responsiveness-> Customer satisfaction -> customer Loyalty	0.012	0.012	0.955	0.339	Rejected
Assurance -> Customer satisfaction -> customer Loyalty	0.029	0.013	2.145	0.032	Supported
Empathy -> Customer satisfaction -> customer Loyalty	0.030	0.015	1.797	0.072	Rejected
Tangibles -> Customer satisfaction -> customer Loyalty	0.069	0.025	2.668	0.008	Supported

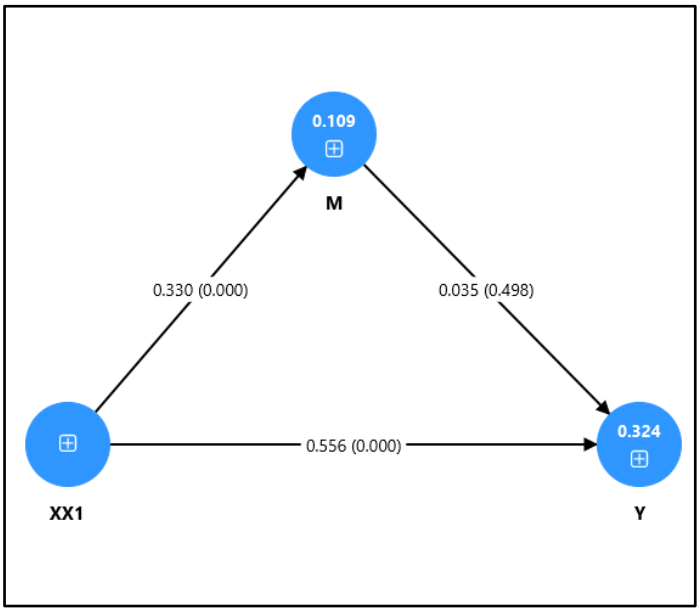

Figure 10: Model of the impact of service quality on customer satisfaction

The statistical analysis of the indirect paths between quality dimensions of service and customer loyalty through customer satisfaction showed that there were major changes in the strength and significance of these relationships. Regarding the overall relationship, the influence coefficient was 0.035 with a significance level of 0.498, which is greater than the standard alpha of 0.05. Thus, it rejects the hypothesis that customer satisfaction is a universal mediator of the whole quality of service construct.

A more detailed insight into the mediation mechanism was gained through further research on each dimension in particular:

- Reliability & Responsiveness: The indirect influence coefficient of reliability was negative (-0.020, p=0.174), whereas the impact of responsiveness was weak (0.012, p=0.339). Therefore, customer satisfaction fails to mediate the connection between the two dimensions and customer loyalty in the telecommunications market in the UAE.
- Assurance: Contrarily, the assurance dimension displayed a statistically significant indirect effect (β = 0.029, t = 2.145, p = 0.032). This confirms the hypothesis that assurance will affect customer loyalty by mediating customer satisfaction, and it is effective in developing customer loyalty based on trust.
- Empathy: The dimension of empathy had a coefficient of impact of 0.030 (p = 0.072). Even though it is near the threshold, it is not at a statistically significant level and thus the specific mediation hypothesis is rejected.
- Tangibles: The last dimension (tangibles) also showed a strong indirect effect (β= 0.069, t = 2.668, p = 0.008). This demonstrates that physical and electronic service ecosystems have a great effect of increasing loyalty through the initial increase of customer satisfaction rates.

To conclude, the findings indicate that of the five dimensions that were examined, assurance and tangibles have a significant indirect effect on customer loyalty based on customer satisfaction. This implies that the mediating effect of satisfaction in the duopolistic market in the UAE is dimension-specific, as opposed to universal.

DISCUSSION

The results of the current research give a subtle insight into the quality-loyalty relationship of the service in the telecommunications industry of the UAE. Although the findings prove that there is statistically significant positive contribution of service quality to customer loyalty ($R^2 = 0.324$, $p = 0.000$), the most important piece of information is that there is no universal mediating role of customer satisfaction ($p = 0.498$). This implies that in regulated markets with high levels of penetrations, the journey towards loyalty is more straight forward and not so reliant on the emotional gratification as it has been historically viewed in liberalized markets.

DIRECT IMPACT VS. SPURIOUS LOYALTY

The close direct correlation between the quality of the services and the loyalty, despite the weak mediation by the satisfaction, can be explained by the duopolistic nature of the UAE market (Etisalat and du). The customers can also be characterized by calculative loyalty or spurious loyalty based on the quality of the technological base (e.g., 5G leadership and network stability) instead of the pure emotional satisfaction. When individual services experience falls short of expectations; reducing immediate satisfaction, the perceived overall competence and the absence of similar alternatives assure repeat business. This is in line with the notion of the Associative Memory whose long-term infrastructure stability takes precedence over short-term service friction in the head of the consumer.

DIMENSION-SPECIFIC MEDIATION (ASSURANCE AND TANGIBLES)

The findings indicate that customer satisfaction is a discriminative mediator, in this case, the Assurance and Tangibles dimensions. This suggests a two-step loyalty formation in the UAE:

- **Technical Dimensions (Reliability/Responsiveness):** Affect loyalty directly based on the functional need and infrastructure reliance.
- **Perceptual Dimensions (Assurance/Tangibles):** Modifies the loyalty by first uplifting the emotional state of the customer (satisfaction). As an example, the knowledge of workers (Assurance) and the quality of digital interfaces (Tangibles) are soft factors that contribute to the mental connection required to be satisfied to create loyalty, and network uptime (Reliability) is a hard factor that determines loyalty despite the emotional condition.

IMPLICATIONS FOR PRACTICE (UAE TELECOM SECTOR)

According to these results, telecommunications companies in the UAE are advised to use a multi-layered retention strategy:

- Infrastructure as Loyalty: As reliability is the direct cause of loyalty, operators must focus on network resilience and billing transparency as the mandatory preconditions.
- Trust-Based Satisfaction: Assurance via specialized employee training, clarity of money-back policies is to be emphasized to increase the satisfaction-based loyalty since they were identified as the effective "bridges" in the mediation model.
- The Digital UX as the New Tangible: Within a digital first economy the aesthetic and functional quality of mobile apps is the dominant touch point. The UX/UI design is important in creating satisfaction that results in long-term advocacy.
- Active Complaint Management: Providers can proactively reduce the number of complaints instead of waiting until their satisfaction level drops by utilizing AI-based diagnostics to fix the problem before it can affect the customer experience, so that even when service quality changes, technical quality will be high.

CONCLUSION

This paper examined the dynamic relationship of service quality and customer loyalty in the context of a peculiar duopolistic telecommunication market in the UAE. The study has fulfilled a significant gap in the knowledge of the role of individual service dimension in determining loyalty in a highly regulated environment by integrating the Expectation-Disconfirmation Theory (EDT) and the SERVQUAL model. These results indicate that service quality is a strong direct indicator of customer loyalty, although the mediating power of customer satisfaction is selective and not universal. In particular, the findings indicate that the technical aspects, including Reliability and Responsiveness, directly influence the loyalty, probably because of the necessity of functions and high infrastructure requirements of the UAE market. Soft dimensions such as Assurance and Tangibles on the other hand need mediation of customer satisfaction to promote a psychological attachment to the brand. This undermines the conventional belief of universal mediation and implies that in the Etisalat and du duopoly, consumer loyalty is frequently motivated by perceived technical skill and infrastructure superiority as opposed to the emotional satisfaction in isolation.

RECOMMENDATIONS

In order to increase customer retention in the long run in the telecommunication sector in the UAE, the following are the strategic measures that service providers must adopt:

- Infrastructure Reliability: Focus on the ongoing investment in 5G and fibre-optic resilience to reduce the number of outages, as the technical reliability is the most powerful direct loyalty driver.
- Billing Transparency: Resolve the negative disconfirmation gap with transparent, itemized billing and value-based pricing packages to counter dissatisfaction with high prices.
- Specific Staff Training: Pay attention to the Assurance aspect and enable frontline workers with the ability to solve problems and empathy as these issues are highly likely to increase the level of satisfaction-based loyalty.
- Digital Experience (UX/UI): Improve the physicality of services using mobile applications and websites that are attractive and user-driven which is a key touch point of the contemporary consumer.

SUGGESTIONS FOR FUTURE RESEARCH

Future studies of the telecommunications sector in the UAE may examine some of the following areas. This should be extended in future studies by examining the following areas:

- Cross-Market Comparisons: Compared to the UAE duopoly, more liberalize telecom markets to find out whether the direct route to loyalty is market structure or culture-based.
- Longitudinal Effect of 5G/6G: Monitoring the dynamic changes in the technological standards and their effects on customer demands and disconfirmation experience over time.
- The Reluctant Loyalty Phenomenon: A qualitative study of the customers, who will not switch to a different provider because switching costs are too high or there is no other option and defining how to turn them into actual brand supporters.
- Brand Equity and CSR: Exploring the influence of corporate social responsibility in developing loyalty where consumers have a low degree of choice.

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