

**Development and Validation of Multi-Dimensional Wind Turbine
Service Quality Scale for Measuring Operations and Maintenance
Service Quality in Wind Energy Sector**

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Chapter 4: Analysis and Interpretation

4.1 Introduction

In the chapter, the researcher provides the results of the quantitative data. The data was first entered into an excel files and exported into SPSS 20.0 version. Thus, using SPSS software the present study results analyzed. Missing data, outliers, and logical checks performed at first level. Internal consistency of the data computed through reliability analysis using Cronbach's alpha value. Exploratory factor analysis and Confirmatory factor analysis were also used to ascertain whether the independent variables had any collinearity. Descriptive statistical measures were carried out in each and every item of factors. Paired sample t-test is used to find the difference in mean service quality dimensions between. Correlation is used to find the relationship between independent and dependent variables. Regression is used to find the association between independent variables on dependent variables. Structural Equation Modeling (SEM) represents the relationship between a dependent (unobserved) variable and independent (observed) variables using path diagrams.

Table 1: Return rate of the questionnaire

Description	Pilot Study	Main Study	Total
	N (%)		
Questionnaire handed over in person	56	552	608
Returned questionnaire	13	200	
Completely filled questionnaire and further taken for the analysis	43	352	
Response rate	76.8%	63.8%	

Table 1 presents the response rate for pilot and the main study. The questionnaire was distributed to five hundred and fifty-two full time employees in wind turbine organization. The above table shows that out of 552 questionnaires distributed only 352 responded for the study and the response rate obtained was 63.8%.

Table 2: Scale Development procedure

Stage	Study
1. Literature Review	Study 1: Reviewing the previous literature to identify preliminary items
2.Semi-structured Interview	Preliminary qualitative study Study 2: $n=25$ Context: Service providers Semi-structure interview was conducted with service employees in 1 wind turbine organization who was having good experience with other wind service providers & customers
3. Delphi Technique Expert evaluation for face and content validity	Preliminary validation study Study 3: $n=10$ Context: Wind turbine consultants, Service Providers, and Customers
4. Exploratory Factor Analysis (EFA) Pilot Study Item-to-total correlation statistics Exploratory factor analysis Reliability Scale Norms	Study 4: $n=43$ Context: Customers of Wind Turbine
5. Confirmatory Factor Analysis (CFA) Main Study Structural Equation Modeling Overall fit and comparative fit Reliability Validity Convergent validity Discriminant validity	Study 5: $n=352$ Context: Customers of Wind Turbine

Table 3: Items used in Service Quality Dimensions

S.No	Service Quality Dimensions		No. of items	
			Initial Development	Delphi Technique
1	Functional Quality	Tangibility	7	6
		Reliability	9	6
		Responsiveness	11	5
		Assurance	7	5
		Empathy	6	5
2	Technical Quality	Turbine Availability	5	5
		Operational Support	9	5
3	Corporate Quality	Reputation & Image	9	5
Total Items			63	42

Table 4: Refined dimensions of Wind Turbine service quality Scale [WTSQ]

Dimension	Item
Functional Quality	
Tangibility	TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc.
	TG2. Service Firm maintains all measuring equipment with proper inspections, check-ups & Calibration
	TG3. Service firm provides the maintenance of all Safety Equipment in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc.)
	TG4. The physical appearance of the Service Employees is more professional & safety conscious.
	TG5. Service firm provides a good house-keeping activity on Wind Turbines, Office & Storage Area
	TG7. Service Firm provides latest service technology
Reliability	RL1. Service Firm offers all Preventive (scheduled) & Corrective (unscheduled) maintenance services as promised in Contract
	RL2. Service Firm maintains their service records accurately
	RL3. Services deliveries are uniform at all times
	RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures.
	RL6. Service Firm fulfills warranty obligations
	RL8. Service Firm is committed to fulfilling the execution of turbine maintenance & operation support (promises) in a timely manner
Responsiveness	RE1. Service teams/persons provide prompt service to customers depends on the contract
	RE2. Service Employees give their customers shorter waiting for time or fast service turnaround
	RE4. Service teams/persons always respond to customer calls
	RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded
	RE6. Service Firm possesses effective complaint handling process
Assurance	AS1. Service Firm makes customer feel confident in Turbine operations & maintenance provided by the service employees
	AS3. Service Employees are efficient and quick in delivering service
	AS4. Service Employees possess good technical competencies & attitude in delivering the service

	AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees
	AS6. Service Firm understands & adhere to all National legislation of wind turbine operations
Empathy	EM1. Service Firm ensures individual attention to each customer
	EM3. Service Firm has convenient business hours
	EM4. Service Firm maintains strong customer relations
	EM5. Service Employees are always ready to help customer
	EM6. Service Employees are consistently polite and well-mannered
Technical Quality	
Turbine Availability	TA1. Service firm offers 24/7 turbine services facility
	TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime
	TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine physical Condition
	TA4. Service Firm monitors and analyses the performance of Wind Turbines at frequent intervals
	TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine
Operational Support	OS1. Service firm support Power Generation Monitoring & Reporting
	OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations
	OS5. Service Firm Replace spares only if repairing fails
	OS6. Service Firm support Component Failure Analysis & root cause Reporting
	OS7. Service Firm supports the customer for handling all legal & local legislation activities
Corporate Quality	
Reputation & Image	IM1. Service Firm is trustworthy
	IM2. Service Firm offers excellent service to customers
	IM3. Service Firm is successful in the market
	IM5. Service Firm possesses a superior wind turbine service technology
	IM7. Service Firm has a good esteem in the society

4.2 Pilot Study

4.2.1 Exploratory Factor Analysis (EFA)

Exploratory factor analysis (EFA) is a statistical technique used to reduce data to a smaller set of summary variables and to explore the theoretical structure of the phenomena. In order to determine underlying dimensions of multi-item measurement scales used in this study, principal components analysis with varimax rotation using SPSS 20.0 was performed for all constructs in the analysis: Tangibility, Assurance, Empathy, Reliability and Responsiveness. Minimum eigenvalues of 1.0 were used to determine the number of factors for each scale and with loading above 0.40 on a single factor was retained. Initially, the factorability of 27 items was examined.

Table 5: Rotated factor loadings for functional quality (n=43)

Functional quality items	Component				
	1	2	3	4	5
Tangibility					
TG5. Service firm provides a good house-keeping activities on Wind Turbines, Office & Storage Area [Experienced Quality]	.875				
TG4. Physical appearance of the Service Employees is more professional & safety conscious. [Experienced Quality]	.871				
TG2. Service Firm maintains all measuring equipment's with proper inspections, checkups & Calibration [Experienced Quality]	.848				
TG7. Service Firm provides latest service technology [Experienced Quality]	.838				
TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc. [Experienced Quality]	.833				
TG3. Service firm provides the maintenance of all Safety Equipment's in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc) [Experienced Quality]	.826				
Assurance					
AS1. Service Firm make customer feel confident in Turbine operations & maintenance provide the service employees [Experienced Quality]		.977			
AS4. Service Employees possess good technical competencies & attitude in delivering the service [Experienced Quality]		.975			
AS6. Service Firm understands & adhere to all National legal legislation of wind turbine operations [Experienced Quality]		.949			
AS3. Service Employees are efficient and quick in delivering service [Experienced Quality]		.946			
AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees [Experienced Quality]		.935			
Empathy					
EM6. Service Employees are consistently polite and well-mannered [Experienced Quality]			.819		
EM3. Service Firm have convenient business hours [Experienced Quality]			.774		
EM5. Service Employees are always ready to help customer [Experienced Quality]			.759		
EM4. Service Firm maintains strong customer relations [Experienced Quality]			.746		
EM1. Service Firm ensures individual attention to each customer [Experienced Quality]			.718		
Reliability					
RL6. Service Firm fulfills warranty obligations [Experienced Quality]				.745	

RL1. Service Firm offers all Preventive (scheduled) & Corrective (un-scheduled) maintenances services as promised in Contract [Experienced Quality]				.736	
RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures. [Experienced Quality]				.719	
RL3. Services deliveries are uniform at all times [Experienced Quality]				.718	
RL2. Service Firm maintains their service records accurately [Experienced Quality]				.709	
RL8. Service Firm is committed to fulfilling the execution of turbine maintenance & operation support (promises) in a timely manner [Experienced Quality]				.688	
Responsiveness					
RE4. Service teams/persons always respond to customer calls [Experienced Quality]				.756	
RE2. Service Employees give their customers shorter waiting time or fast service turnaround [Experienced Quality]				.755	
RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded [Experienced Quality]				.725	
RE1. Service teams/persons provide prompt service to customers depends on the contract [Experienced Quality]				.712	
RE6. Service Firm possesses effective complaint handling process [Experienced Quality]				.573	

Table 5 reveals the factor analysis related to functional quality questions. The twenty-seven items are taken into a factor analysis. The total twenty-seven questions are reduced into five factors. The five factors are Tangibility, Assurance, Empathy, Reliability and Responsiveness.

- ➔ Six items with inputs from customers were loaded under Factor one with loading ranging from 0.826 to 0.875. Hence it is named as “Tangibility” for functional quality.
- ➔ Five items were loaded under Factor Two with loading ranging from 0.935 to 0.977. Hence it is named as “Assurance” for functional quality.
- ➔ Five items were loaded under Factor Three with loading ranging from 0.718 to 0.819. Hence it is named as “Empathy” for functional quality.
- ➔ Six items were loaded under Factor Four with loading ranging from 0.688 to 0.745. Hence it is named as “Reliability” for functional quality.

→ Five items were loaded under Factor Five with loading ranging from 0.573 to 0.756. Hence it is named as “Responsiveness” for functional quality.

Table 6: Eigen values for functional quality (n=43)

Factors	Eigenvalues	% Total Variance	Cumulative Eigenvalues	Cumulative Percentage
1	9.244	64.248	9.244	64.248
2	5.129	17.710	14.373	81.958
3	4.685	5.911	19.058	87.869
4	3.822	3.518	22.880	91.387
5	2.426	2.716	25.306	94.103

Table 6 presents the Eigen values, in which five factors were, extracted which coincided with the number of conceptualized dimensions. The latent roots criterion was used for factor extraction. The latent roots criterion holds that the amount of variation explained by each factor must be greater than one. Thus factors with eigenvalues greater than one were retained for subsequent analysis. All the factors accounted for 64-94% of the variance.

Table 7: Factor analysis for Technical quality (n=43)

Technical Quality Items	Component		% variance explained
	1	2	
Operational Support			
OS6. Service Firm support Component Failure Analysis & root cause Reporting [Experienced Quality]	.870		69.76
OS7. Service Firm support the customer for handling all legal & local legislation activities [Experienced Quality]	.857		
OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations [Experienced Quality]	.836		
OS1. Service firm support Power Generation Monitoring & Reporting [Experienced Quality]	.814		
OS5. Service Firm Replace spares only if repairing fails [Experienced Quality]	.780		
Turbine Availability			
TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine [Experienced Quality]		.933	81.81
TA4. Service Firm monitors and analyzes the performance of Wind Turbines at frequent intervals [Experienced Quality]		.915	
TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime [Experienced Quality]		.910	
TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine physical Condition [Experienced Quality]		.631	
TA1. Service firm offers 24/7 turbine services facility [Experienced Quality]		.579	

Table 7 reveals the factor analysis related to technical quality questions. The ten items are taken into a factor analysis. The total ten questions are reduced into two factors. The two factors are Operational support and Turbine Availability.

- ➔ Five items with inputs from customers were loaded under Factor one with loading ranging from 0.780 to 0.870. Hence it is named as “Operational Support” for technical quality.
- ➔ Five items were loaded under Factor Two with loading ranging from 0.579 to 0.933. Hence it is named as “Turbine Availability” for technical quality.

Table 8: Eigen values for Technical quality (n=43)

Factors	Eigenvalues	% Total Variance	Cumulative Eigenvalues	Cumulative Percentage
1	5.880	69.757	5.880	69.757
2	3.754	12.053	9.634	81.810

Table 8 presents the Eigen values, in which two factors were, extracted which coincided with the number of conceptualized dimensions. The latent roots criterion was used for factor extraction. The latent roots criterion holds that the amount of variation explained by each factor must be greater than one. Thus factors with eigenvalues greater than one were retained for subsequent analysis. All the factors accounted for 70-82% of the variance.

4.2.2 Reliability Analysis

Table 9: Reliability Analysis for pilot study (n=43)

Factors	No. of Items	Mean	SD*	Range (Max-Min)	Cronbach's alpha
Functional Quality					
Tangibility	6	3.35	1.12	4.00(5.00-1.00)	0.986
Reliability	6	3.47	1.00	3.50(4.83-1.33)	0.987
Responsiveness	5	3.36	0.96	3.60(4.60-1.00)	0.974
Assurance	5	2.70	1.10	4.00(5.00-1.00)	0.982
Empathy	5	3.44	0.99	3.80(5.00-1.20)	0.971
Technical Quality					
Turbine Availability	5	2.32	1.04	3.40(4.40-1.00)	0.931
Operational Support	5	2.20	1.02	3.40(4.40-1.00)	0.940
Corporate Quality					
Reputation & Image	5	2.89	1.11	3.40(4.40-1.00)	0.959

*Standard Deviation, Max- Maximum, Min- Minimum

The study used reliability analysis for each multi-item scale using Cronbach's alpha. The above table presents the results of the reliability analysis along with the descriptive statistics for each variable. Overall, the study reported strong reliability with coefficient alphas ranging from 0.931 to 0.987 which demonstrated that scale demonstrates good reliability.

4.3 Main Study

4.3.1 Overall Data Analysis (n=352)

4.3.1.1 Exploratory Factor Analysis (EFA)

Table 10: Eigen values in the Main Survey (n=352)

Factors	Eigenvalues	% Total Variance	Cumulative Eigenvalues	Cumulative Percentage
1	9.253	34.272	9.253	34.272
2	5.120	18.963	14.373	53.236
3	4.677	17.320	19.050	70.556
4	3.795	14.054	22.845	84.610
5	2.416	8.948	25.261	93.558

Table 10 presents the Eigen values, in which five factors were, extracted which coincided with the number of conceptualized dimensions. The latent roots criterion was used for factor extraction. The latent roots criterion holds that the amount of variation explained by each factor must be greater than one. Thus factors with eigenvalues greater than one were retained for subsequent analysis. All the factors accounted for 34-94% of the variance.

Table 11: Rotated Factor-loading: Main Survey (n=352)

Variables	Component				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
RL1. Service Firm offers all Preventive (scheduled) & Corrective (un-scheduled) maintenances services as promised in Contract [Experienced Quality]	0.953				
RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures. [Experienced Quality]	0.950				
RL6. Service Firm fulfills warranty obligations [Experienced Quality]	0.946				
RL8. Service Firm is committed to fulfill the execution of turbine maintenance & operation support (promises) in timely manner [Experienced Quality]	0.942				
RL2. Service Firm maintains their service records accurately [Experienced Quality]	0.934				
RL3. Services deliveries are uniform at all times [Experienced Quality]	0.934				
TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc. [Experienced Quality]		0.979			
TG7. Service Firm provides latest service technology [Experienced Quality]		0.940			
TG5. Service firm provides a good house-keeping activities on Wind Turbines, Office & Storage Area [Experienced Quality]		0.932			
TG4. Physical appearance of the Service Employees is more professional & safety conscious. [Experienced Quality]		0.931			
TG3. Service firm provides the maintenance of all Safety Equipment's in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc) [Experienced Quality]		0.846			
TG2. Service Firm maintains all measuring equipment's with proper inspections, checkups & Calibration [Experienced Quality]		0.805			
AS6. Service Firm understands & adhere to all National legal legislation of wind turbine operations [Experienced Quality]			0.978		
AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees [Experienced Quality]			0.976		

AS4. Service Employees possess good technical competencies & attitude in delivering the service [Experienced Quality]			0.974		
AS3. Service Employees are efficient and quick in delivering service [Experienced Quality]			0.967		
AS1. Service Firm make customer feel confident in Turbine operations & maintenance provide the service employees [Experienced Quality]			0.948		
EM4. Service Firm maintains strong customer relations [Experienced Quality]				0.976	
EM5. Service Employees are always ready to help customer [Experienced Quality]				0.972	
EM1. Service Firm ensures individual attention to each customer [Experienced Quality]				0.964	
EM6. Service Employees are consistently polite and well-mannered [Experienced Quality]				0.961	
EM3. Service Firm have convenient business hours [Experienced Quality]				0.947	
RE6. Service Firm possesses effective complaint handling process [Experienced Quality]					0.954
RE1. Service teams/persons provide prompt service to customers depends on the contract [Experienced Quality]					0.952
RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded [Experienced Quality]					0.942
RE4. Service teams/persons always respond to customer calls [Experienced Quality]					0.937
RE2. Service Employees give their customers shorter waiting time or fast service turnaround [Experienced Quality]					0.923

*Loading of 0.40 and more was considered significant.

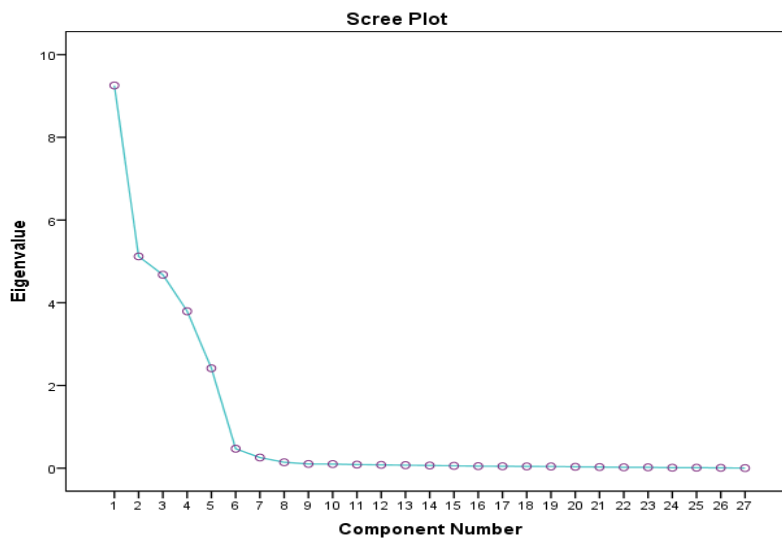
Table 11 reveals the factor analysis related to functional quality questions. The twenty-seven items are taken into a factor analysis. The total twenty-seven questions are reduced into five factors. The five factors are Reliability, Tangibility, Assurance, Empathy and Responsiveness.

- ➔ Six items with inputs from customers were loaded under Factor one with loading ranging from 0.934 to 0.953. Hence it is named as “Reliability” for functional quality.
- ➔ Six items were loaded under Factor Two with loading ranging from 0.805 to 0.979. Hence it is named as “Tangibility” for functional quality.

- ➔ Five items were loaded under Factor Three with loading ranging from 0.948 to 0.978. Hence it is named as “Assurance” for functional quality.
- ➔ Five items were loaded under Factor Four with loading ranging from 0.947 to 0.976. Hence it is named as “Empathy” for functional quality.
- ➔ Five items were loaded under Factor Five with loading ranging from 0.923 to 0.954. Hence it is named as “Responsiveness” for functional quality.

In addition, the number of factors to be extracted was also established by sketching the scree plot. The result of the scree plot is reflected in Figure 1. The scree plot graphs the eigenvalue against the factor number. From the fifth factor on, you can observe that the line is almost flat, meaning each successive factor is accounting for smaller and smaller amounts of the total variance.

Figure 1: Scree plot of Eigenvalues: Main Survey



Factor one, labeled reliability, comprised six variables and accounted for 34.27% of the variance. The eigenvalue for the factor was 9.25. This dimension includes firm offers preventive and corrective maintenances services as promised in the contract, quality of service is consistent with the technical specification, firm fulfills warranty obligations and execution of turbine maintenance and operation support in a timely manner, firms maintains their service records accurately, services deliveries are uniform at all times. The rotated factor loading for the reliability factor ranges from 0.934 to 0.953 is contained in Table 12.

Table 12: Rotated Factor Matrix: Reliability

Reliability	Factor 1
RL1. Service Firm offers all Preventive (scheduled) & Corrective (un-scheduled) maintenances services as promised in Contract [Experienced Quality]	0.953
RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures. [Experienced Quality]	0.950
RL6. Service Firm fulfills warranty obligations [Experienced Quality]	0.946
RL8. Service Firm is committed to fulfill the execution of turbine maintenance & operation support (promises) in timely manner [Experienced Quality]	0.942
RL2. Service Firm maintains their service records accurately [Experienced Quality]	0.934
RL3. Services deliveries are uniform at all times [Experienced Quality]	0.934

Factor two, labeled tangibility, comprised six variables and accounted for 18.96% of the variance. The eigenvalue for the factor was 5.12. This dimension includes firm is well equipped with required tools, fittings, personal protective equipment's, firm provides latest service technology, firm provides good house-keeping activities on wind turbines, and offices, physical appearance of the service employees is more professional, firm provides the maintenance of all safety equipment's in turbines, firm maintains all measuring equipment's' with proper inspections and checkups. The rotated factor loading for the tangibility factor ranges from 0.805 to 0.979 is contained in Table 13.

Table 13: Rotated Factor Matrix: Tangibility

Tangibility	Factor 2
TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc. [Experienced Quality]	0.979
TG7. Service Firm provides latest service technology [Experienced Quality]	0.940
TG5. Service firm provides a good house-keeping activities on Wind Turbines, Office & Storage Area [Experienced Quality]	0.932
TG4. Physical appearance of the Service Employees is more professional & safety conscious. [Experienced Quality]	0.931
TG3. Service firm provides the maintenance of all Safety Equipment's in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc) [Experienced Quality]	0.846
TG2. Service Firm maintains all measuring equipment's with proper inspections, checkups & Calibration [Experienced Quality]	0.805

Factor three, labeled assurance, comprised five variables and accounted for 17.32% of the variance. The eigenvalue for the factor was 4.68. This dimension includes firmly understands to all National legal legislation of wind turbine operations, the firm provides clear

work procedures and guidelines to their employees, employee possesses good technical competencies & attitudes in delivering the service, firmly makes the customer feel confident in Turbine operations & maintenance provides the service employees. The rotated factor loading for the assurance factor ranges from 0.948 to 0.978 is contained in Table 14.

Table 14: Rotated Factor Matrix: Assurance

Assurance	Factor 3
AS6. Service Firm understands & adhere to all National legal legislation of wind turbine operations [Experienced Quality]	0.978
AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees [Experienced Quality]	0.976
AS4. Service Employees possess good technical competencies & attitude in delivering the service [Experienced Quality]	0.974
AS3. Service Employees are efficient and quick in delivering service [Experienced Quality]	0.967
AS1. Service Firm make customer feel confident in Turbine operations & maintenance provide the service employees [Experienced Quality]	0.948

Factor four, labeled empathy, comprised five variables and accounted for 14.05% of the variance. The eigenvalue for the factor was 3.79. This dimension includes firm maintains strong customer relations, employees are always ready to help customer, firm ensures individual attention to each customer, employees are consistently polite and well-mannered, the firm has convenient business hours. The rotated factor loading for the empathy factor ranges from 0.947 to 0.976 is contained in Table 15.

Table 15: Rotated Factor Matrix: Empathy

Empathy	Factor 4
EM4. Service Firm maintains strong customer relations [Experienced Quality]	0.976
EM5. Service Employees are always ready to help customer [Experienced Quality]	0.972
EM1. Service Firm ensures individual attention to each customer [Experienced Quality]	0.964
EM6. Service Employees are consistently polite and well-mannered [Experienced Quality]	0.961
EM3. Service Firm have convenient business hours [Experienced Quality]	0.947

Factor five, labeled responsiveness, comprised five variables and accounted for 8.95% of the variance. The eigenvalue for the factor was 2.42. This dimension includes firm possesses effective complaint handling process, teams/persons provide prompt service to customers

depends on the contract, teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded, teams/persons always respond to customer calls, Employees give their customers shorter waiting time or fast service turnaround. The rotated factor loading for the empathy factor ranges from 0.923 to 0.954 is contained in Table 16.

Table 16: Rotated Factor Matrix: Responsiveness

Responsiveness	Factor 5
RE6. Service Firm possesses effective complaint handling process [Experienced Quality]	0.954
RE1. Service teams/persons provide prompt service to customers depends on the contract [Experienced Quality]	0.952
RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded [Experienced Quality]	0.942
RE4. Service teams/persons always respond to customer calls [Experienced Quality]	0.937
RE2. Service Employees give their customers shorter waiting time or fast service turnaround [Experienced Quality]	0.923

Table 17: Eigen values in the Main Survey (n=352)

Factors	Eigenvalues	% Total Variance	Cumulative Eigenvalues	Cumulative Percentage
1	5.882	58.816	5.882	58.816
2	3.755	37.554	9.637	96.369

Table 17 presents the Eigen values, in which two factors were, extracted which coincided with the number of conceptualized dimensions. The latent roots criterion was used for factor extraction. The latent roots criterion holds that the amount of variation explained by each factor must be greater than one. Thus factors with eigenvalues greater than one were retained for subsequent analysis. All the factors accounted for 59-96% of the variance.

Table 18: Rotated Factor-loading: Main Survey (n=352)

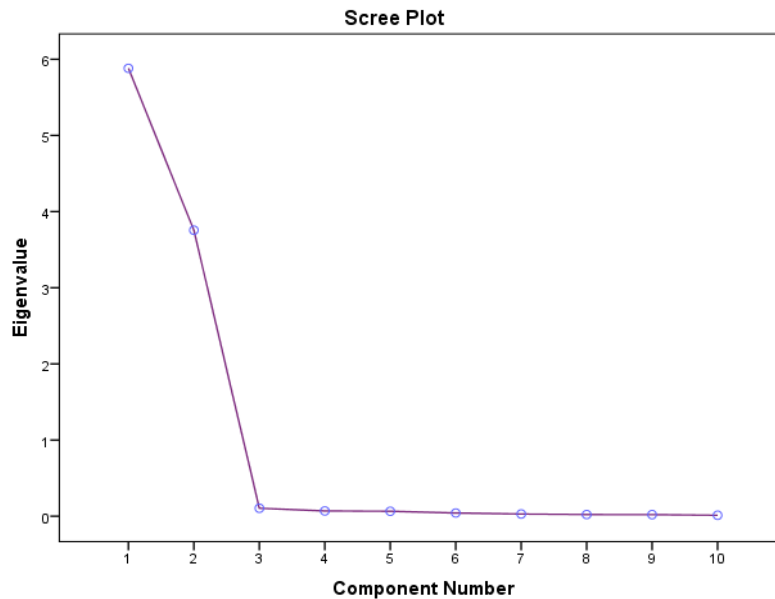
Variables	Component	
	Factor 1	Factor 2
OS7. Service Firm support the customer for handling all legal & local legislation activities [Experienced Quality]	.985	
OS6. Service Firm support Component Failure Analysis & root cause Reporting [Experienced Quality]	.984	
OS1. Service firm support Power Generation Monitoring & Reporting [Experienced Quality]	.982	
OS5. Service Firm Replace spares only if repairing fails [Experienced Quality]	.981	
OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations [Experienced Quality]	.949	
TA1. Service firm offers 24/7 turbine services facility [Experienced Quality]		.988
TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine [Experienced Quality]		.974
TA4. Service Firm monitors and analyzes the performance of Wind Turbines at frequent intervals [Experienced Quality]		.972
TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime [Experienced Quality]		.970
TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine physical Condition [Experienced Quality]		.969

Table 18 reveals the factor analysis related to technical quality questions. The ten items are taken into a factor analysis. The total ten questions are reduced into two factors. The two factors are Operational support and Turbine Availability.

- ➔ Five items with inputs from customers were loaded under Factor one with loading ranging from 0.949 to 0.985. Hence it is named as “Operational Support” for technical quality.
- ➔ Six items were loaded under Factor Two with loading ranging from 0.805 to 0.979. Hence it is named as “Turbine Availability” for technical quality.

In addition, the number of factors to be extracted was also established by sketching the scree plot. The result of the scree plot is reflected in Figure 2. The scree plot graphs the eigenvalue against the factor number. From the second factor on, you can observe that the line is almost flat, meaning each successive factor is accounting for smaller and smaller amounts of the total variance.

Figure 2: Scree plot of Eigenvalues: Main Survey



Factor one, labeled operational support, comprised five variables and accounted for 58.82% of the variance. The eigenvalue for the factor was 5.88. This dimension includes firm support the customer for handling all legal & local legislation activities, firm support Component Failure Analysis & root cause Reporting, firm support Power Generation Monitoring & Reporting, firm Replace spares only if repairing fails, firm support Maintenance recommendations & Technical advice for safe operations. The rotated factor loading for the operational support factor ranges from 0.949 to 0.985 is contained in Table 19.

Table 19: Rotated Factor-loading: Operational Support

Operational Support	Factor 1
OS7. Service Firm support the customer for handling all legal & local legislation activities [Experienced Quality]	.985
OS6. Service Firm support Component Failure Analysis & root cause Reporting [Experienced Quality]	.984
OS1. Service firm support Power Generation Monitoring & Reporting [Experienced Quality]	.982
OS5. Service Firm Replace spares only if repairing fails [Experienced Quality]	.981
OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations [Experienced Quality]	.949

Factor two, labeled turbine availability, comprised five variables and accounted for 37.55% of the variance. The eigenvalue for the factor was 3.75. This dimension includes firm offers 24/7 turbine services facility, Preventive maintenance aims to avert faults / failures to

critical components of a wind turbine, Firm monitors and analyzes the performance of Wind Turbines at frequent intervals, firmly maintains of adequate spares all times for ensuring minimum turbine downtime, firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine Physical Condition. The rotated factor loading for the turbine availability factor ranges from 0.969 to 0.988 is contained in Table 20.

Table 20: Rotated Factor-loading: Turbine availability

	Factor 2
TA1. Service firm offers 24/7 turbine services facility [Experienced Quality]	.988
TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine [Experienced Quality]	.974
TA4. Service Firm monitors and analyzes the performance of Wind Turbines at frequent intervals [Experienced Quality]	.972
TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime [Experienced Quality]	.970
TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine physical Condition [Experienced Quality]	.969

4.3.1.2 Reliability analysis (n=352)

Table 21: Reliability analysis

Variables	No. of items	Mean	Cronbach's alpha
Tangibility	6	4.69	0.958
Reliability	6	3.44	0.993
Assurance	5	4.26	0.994
Empathy	5	3.96	0.988
Responsiveness	5	3.57	0.988
Functional Quality	27	3.98	0.922
Turbine Availability	5	4.01	0.990
Operational Support	5	3.63	0.991
Technical Quality	10	3.82	0.922
Reputation & Image	5	3.55	0.708
Corporate Quality	5	3.55	0.708

The study used reliability analysis for each multi-item scale using Cronbach's alpha. Table 21 presents the results of the reliability analysis along with the descriptive statistics for

each variable. At the dimension level, the Cronbach alpha ranged from 0.708 to 0.994 thus indicating a high internal consistency amongst variables within each dimension.

Table 22: Descriptive statistics (n=352)

Variables	Experienced				Expected			
	Mean	SD	Max	Min	Mean	SD	Max	Min
Tangibility	4.69	0.59	5.00	1.00	4.59	0.72	5.00	1.00
Reliability	3.44	1.38	5.00	1.00	3.47	1.40	5.00	1.00
Responsiveness	3.57	1.37	5.00	1.00	3.92	1.28	5.00	1.00
Assurance	4.26	1.07	5.00	1.00	4.43	0.86	5.00	1.00
Empathy	3.96	1.25	5.00	1.00	4.33	0.94	5.00	1.00
Turbine Availability	4.01	1.18	5.00	1.00	4.34	0.85	5.00	1.00
Operational Support	3.63	1.37	5.00	1.00	4.36	0.82	5.00	1.00
Reputation & Image	3.55	0.64	5.00	1.40	4.09	0.70	5.00	1.00

SD- Standard Deviation, Max-Maximum, Min-Minimum

Table 22 shows the descriptive statistics for the sample in relation to the extracted dimensions. Tangibility obtained the high mean score for both experienced (4.69) and expected (4.59), while Reliability obtained the neutral mean score, in both experienced (3.44) and expected (3.47). Keeping in mind that the Likert scale categories 1.0 to 2.4 are regarded as low, 2.5 to 3.4 are regarded as average or neutral and 3.5 to 5 are regarded as high.

4.3.1.3 Hypotheses Testing

Null Hypothesis H_{01} : There is no significant relationship between functional quality dimensions and customer satisfaction

Alternative Hypothesis H_{11} : There is a significant relationship between functional quality dimensions and customer satisfaction

Table 23: Correlation between functional quality dimensions and customer satisfaction (n=352)

Variables		Tangibility	Reliability	Responsiveness	Assurance	Empathy	Customer Satisfaction
Tangibility	r-value	1	.161**	.102	.107*	.022	.993**
Reliability			1	.411**	.270**	.283**	.129*
Responsiveness				1	.303**	-.052	.090
Assurance					1	.112*	.095
Empathy						1	.017
Customer Satisfaction							1

**p<0.01, *p<0.05

Table 23 presents the Pearson correlation analysis. The correlation analysis shows the linearity between the variables not the strength of association between dependent and independent variables represented by r and p value, while r is a degree of correlation and p signifies significance level. It is evident from the table that tangibility does showed a significant positive linear relationship with reliability (r=0.161, p<0.01), assurance (r=0.107, p< 0.05) and customer satisfaction (r=0.993, p<0.01). Reliability shows a significant positive relationship with responsiveness (r=0.411, p<0.01), assurance (r=0.270, p<0.01), empathy (r=0.283, p<0.01) and customer satisfaction (r=0.129, p<0.05). Responsiveness shows a significant positive relationship with assurance (r=0.303, p<0.01). Assurance is positively related to empathy (r=0.112, p<0.05). The correlation value ranged from 0.107-0.993. The correlation values are positive, mean when functional quality increases customer satisfaction also increases. Therefore, the hypothesis

H₁₁: There is a significant relationship between functional quality dimensions and customer satisfaction is partially accepted.

Null Hypothesis H₀₂: There is no significant relationship between functional quality dimensions and customer loyalty

Alternative Hypothesis H₁₂: There is a significant relationship between functional quality dimensions and customer loyalty

Table 24: Correlation between functional quality dimensions and customer loyalty (n=352)

Variables		Tangibility	Reliability	Responsiveness	Assurance	Empathy	Customer loyalty
Tangibility	r-value	1	.161**	.102	.107*	.022	.235**
Reliability			1	.411**	.270**	.283**	.838**
Responsiveness				1	.303**	-.052	.426**
Assurance					1	.112*	.285**
Empathy						1	.278**
Customer loyalty							1

**p<0.01, *p<0.05

Table 24 presents the Pearson correlation analysis. It is evident from the table that Reliability does showed a highly significant positive linear relationship with customer loyalty (r=0.838, p<0.01) followed by Responsiveness is positively related with customer loyalty (r=0.426, p<0.01), assurance with customer loyalty (r=0.285, p<0.01), empathy with customer loyalty (r=0.278, p<0.01) and tangibility does show a significant positive linear relationship with customer loyalty (r=0.235, p<0.01). The correlation value ranged from 0.107-0.838. The correlation values are positive, mean when functional quality dimensions' increase customer loyalty also increases. Therefore, the hypothesis

H₁₂: There is a significant relationship between functional quality dimensions and customer loyalty is accepted.

Null Hypothesis H₀₃: There is no significant relationship between technical quality dimensions and customer satisfaction

Alternative Hypothesis H₁₃: There is a significant relationship between technical quality dimensions and customer satisfaction

Table 25: Correlation between technical quality dimensions and customer satisfaction (n=352)

Variables		Turbine Availability	Operational Support	Customer Satisfaction
Turbine Availability	r-value	1	.221**	.163**
Operational Support			1	.204**
Customer Satisfaction				1

**p<0.01

Table 25 presents the Pearson correlation analysis. It is evident from the table that turbine availability does show a significant positive linear relationship with operational support ($r=0.221$, $p<0.01$), customer satisfaction ($r=0.163$, $p<0.01$). Operational support is positively related to customer satisfaction ($r=0.204$, $p<0.01$). The correlation value ranged from 0.163-0.221. The correlation values are positive, mean when technical quality dimensions' increase customer satisfaction also increases. Therefore, the hypothesis

H_{13} : There is a significant relationship between technical quality dimensions and customer satisfaction is accepted.

Null Hypothesis H_{04} : There is no significant relationship between technical quality dimensions and customer loyalty

Alternative Hypothesis H_{14} : There is a significant relationship between technical quality dimensions and customer loyalty

Table 26: Correlation between technical quality dimensions and customer loyalty (n=352)

Variables		Turbine Availability	Operational Support	Customer loyalty
Turbine Availability	r-value	1	.221**	.226**
Operational Support			1	.998**
Customer loyalty				1

**p<0.01

Table 26 presents the Pearson correlation analysis. It is evident from the table that turbine availability does show a significant positive linear relationship with customer loyalty ($r=0.226$, $p<0.01$). Operational support is positively related to customer loyalty ($r=0.998$, $p<0.01$). The correlation value ranged from 0.221-0.998. The correlation values are positive,

mean when technical quality dimensions' increase customer loyalty also increases. Therefore, the hypothesis

H₁₄: There is a significant relationship between technical quality dimensions and customer loyalty is accepted.

Null Hypothesis H₀₅: There is no significant relationship between reputation & image and customer satisfaction

Alternative Hypothesis H₁₅: There is a significant relationship between reputation & image and customer satisfaction

Table 27: Correlation between corporate quality and customer satisfaction (n=352)

Variables		Reputation & Image	Customer Satisfaction
Reputation & Image	r-value	1	-.024
Customer Satisfaction			1

Table 27 presents the Pearson correlation analysis. It is evident from the table reputation & image is not correlated with customer satisfaction ($r = -0.024$, $p > 0.05$). Therefore, the hypothesis

H₀₅: There is no significant relationship between reputation & image and customer satisfaction is accepted.

Null Hypothesis H₀₆: There is no significant relationship between reputation & image and customer loyalty

Alternative Hypothesis H₁₆: There is a significant relationship between reputation & image and customer loyalty

Table 28: Correlation between corporate quality and customer loyalty (n=352)

Variables		Reputation & Image	Customer loyalty
Reputation & Image	r-value	1	-.047
Customer loyalty			1

Table 28 presents the Pearson correlation analysis. It is evident from the table reputation & image is not correlated with customer loyalty ($r = -0.047$, $p > 0.05$). Therefore, the hypothesis

H_{06} : There is no significant relationship between reputation & image and customer loyalty is accepted.

Null Hypothesis H_{07} : There is no significant impact of functional quality dimensions on customer satisfaction

Alternative Hypothesis H_{17} : There is a significant impact of functional quality dimensions on customer satisfaction

Table 29: Association between functional quality dimensions on customer satisfaction (n=352)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	0.090	0.033	0.986	2.723	0.007
Tangibility	0.987	0.006		157.681	0.000**
Reliability	-0.014	0.003		-4.451	0.000**
Responsiveness	0.001	0.003		0.339	0.735
Assurance	-0.002	0.004		-0.651	0.515
Empathy	0.002	0.003		0.706	0.481

Dependent Variable: Customer Satisfaction, ** $p < 0.01$

The association between functional quality dimensions and customer satisfaction is presented in the table 29. In the regression model, functional quality dimensions are considered as independent variable while customer satisfaction is considered as a dependent variable. The significance value ($p\text{-value} < 0.05$) clearly unveils that Tangibility ($\beta = 0.987$, $t = 157.681$, $p < 0.001$) is positively and Reliability ($\beta = -0.014$, $t = -4.451$, $p < 0.001$) is negatively impact on customer satisfaction. In addition, 99 percent of the variation in customer satisfaction is dependent on functional quality dimensions (Adjusted R-square=0.986). Hence conclude that

H_{17} : There is a significant impact of functional quality dimensions on customer satisfaction is partially accepted.

Null Hypothesis H₀₈: There is no significant impact of functional quality dimensions on customer loyalty

Alternative Hypothesis H₁₈: There is a significant impact of functional quality dimensions on customer loyalty

Table 30: Association between functional quality dimensions on customer loyalty (n=352)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	-0.791	0.350	0.721	-2.264	0.024
Tangibility	0.226	0.066		3.433	0.001**
Reliability	0.744	0.033		22.596	0.000**
Responsiveness	0.098	0.032		3.059	0.002**
Assurance	0.044	0.039		1.138	0.256
Empathy	0.070	0.033		2.122	0.035*

Dependent Variable: Customer loyalty, **p<0.01, *p<0.05

The association between functional quality dimensions and customer loyalty is presented in the table 30. In the regression model, functional quality dimensions are considered as independent variable while customer loyalty is considered as a dependent variable. The significance value (p-value<0.05) clearly unveils that Tangibility ($\beta=0.226$, $t=3.433$, $p<0.001$), Reliability ($\beta=0.744$, $t=22.596$, $p<0.001$), Responsiveness ($\beta=0.098$, $t=3.059$, $p<0.001$) and Empathy ($\beta=0.070$, $t=2.122$, $p<0.05$) are positively impact on customer loyalty. In addition, 72 percent of the variation in customer loyalty is dependent on functional quality dimensions (Adjusted R-square=0.721). Hence conclude that

H₁₈: There is a significant impact of functional quality dimensions on customer loyalty is partially accepted.

Null Hypothesis H₀₉: There is no significant impact of technical quality dimensions on customer satisfaction

Alternative Hypothesis H₁₉: There is a significant impact of technical quality dimensions on customer satisfaction

Table 31: Association between technical quality dimensions on customer satisfaction (n=352)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	4.152	0.123	0.051	33.650	0.000
Turbine Availability	0.062	0.027		2.324	0.021*
Operational Support	0.075	0.023		3.304	0.001**

Dependent Variable: Customer Satisfaction, **p<0.01, *p<0.05

The association between technical quality dimensions and customer satisfaction is presented in the table 31. In the regression model, technical quality dimensions are considered as independent variable while customer satisfaction is considered as a dependent variable. The significance value (p-value<0.05) clearly unveils that Turbine Availability ($\beta=0.062$, $t=2.324$, $p<0.05$) and Operational Support ($\beta=0.075$, $t=3.304$, $p<0.001$) are positively impact on customer satisfaction. In addition, 5 percent of the variation in customer satisfaction is dependent on technical quality dimensions (Adjusted R-square=0.051). Hence conclude that

H₁₉: There is a significant impact of technical quality dimensions on customer satisfaction is accepted.

Null Hypothesis H₀₁₀: There is no significant impact of technical quality dimensions on customer loyalty

Alternative Hypothesis H₁₁₀: There is a significant impact of technical quality dimensions on customer loyalty

Table 32: Association between technical quality dimensions on customer loyalty (n=352)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	0.020	0.019	0.996	1.027	0.305
Turbine Availability	0.007	0.004		1.658	0.098
Operational Support	0.989	0.004		278.171	0.000**

Dependent Variable: Customer loyalty, **p<0.01

The association between technical quality dimensions and customer loyalty is presented in the table 32. In the regression model, technical quality dimensions are considered as independent variable while customer loyalty is considered as a dependent variable. The significance value (p-value<0.05) clearly unveils that Operational Support ($\beta=0.989$, $t=278.171$, $p<0.001$) is positively impact on customer loyalty. In addition, 100 percent of the variation in customer loyalty is dependent on technical quality dimensions (Adjusted R-square=0.996). Hence conclude that

H_{110} : There is a significant impact of technical quality dimensions on customer loyalty is partially accepted.

Null Hypothesis H_{011} : There is no significant impact of reputation & image on customer satisfaction

Alternative Hypothesis H_{111} : There is a significant impact of reputation & image on customer satisfaction

Table 33: Association between corporate quality on customer satisfaction (n=352)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	4.750	0.177	-0.002	26.887	0.000
Reputation & Image	-0.022	0.049		-0.447	0.655

Dependent Variable: Customer Satisfaction

The association between reputation & image and customer satisfaction is presented in the table 33. In the regression model, reputation & image is considered as independent variable while customer satisfaction is considered as a dependent variable. The significance value (p-value>0.05) clearly unveils that Reputation & Image ($\beta=-0.022$, $t=-0.447$, $p>0.05$) does not have an impact on customer satisfaction. Hence conclude that

H_{011} : There is no significant impact of reputation & image on customer satisfaction is accepted.

Null Hypothesis H₀₁₂: There is no significant impact of reputation & image on customer loyalty

Alternative Hypothesis H₁₁₂: There is a significant impact of reputation & image on customer loyalty

Table 34: Association between corporate quality on customer loyalty (n=352)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	3.996	0.410	-0.001	9.739	0.000
Reputation & Image	-0.100	0.114		-0.876	0.381

Dependent Variable: Customer loyalty

The association between reputation & image and customer loyalty is presented in the table 34. In the regression model, reputation & image is considered as independent variable while customer loyalty is considered as a dependent variable. The significance value (p-value>0.05) clearly unveils that Reputation & Image ($\beta=-0.100$, $t=-0.876$, $p>0.05$) does not have an impact on customer loyalty. Hence conclude that

H₀₁₂: There is no significant impact of reputation & image on customer loyalty is accepted.

4.3.2 Gap Analysis

Null Hypothesis H₀₁₃: There is no significant difference between experienced and expected tangibility.

Alternative Hypothesis H₁₁₃: There is a significant difference between experienced and expected tangibility.

Table 35: Gap analysis for Tangibility factor (n=352)

Tangibility	Mean	SD	P-value
TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc. [Experienced Quality] – TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc. [Expected Quality]	.10227	.99903	0.056
TG2. Service Firm maintains all measuring equipment with proper inspections, checkups & Calibration [Experienced Quality] – TG2. Service Firm maintains all measuring equipment's with proper inspections, checkups & Calibration [Expected Quality]	.08807	1.02152	0.107
TG3. Service firm provides the maintenance of all Safety Equipment's in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc.) [Experienced Quality] – TG3. Service firm provides the maintenance of all Safety Equipment's in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc.) [Expected Quality]	.08807	1.04904	0.116
TG4. Physical appearance of the Service Employees is more professional & safety conscious. [Experienced Quality] – TG4. Physical appearance of the Service Employees is more professional & safety conscious. [Expected Quality]	.09375	1.05397	0.096
TG5. Service firm provides a good house-keeping activities on Wind Turbines, Office & Storage Area [Experienced Quality] – TG5. Service firm provides a good house-keeping activities on Wind Turbines, Office & Storage Area [Expected Quality]	.10511	1.06098	0.064
TG7. Service Firm provides latest service technology [Experienced Quality] – TG7. Service Firm provides latest service technology [Expected Quality]	.09659	1.06313	0.089

Table 35 presents the Paired-t test for tangibility dimension, if p value (significance value) is greater than 0.05, there is no significant difference between experienced and expected score. From the mean analysis and hypothesis testing, tangibility gap is positive and insignificant with respect to all the six items. Hence conclude that

H₀₁₃: There is no significant difference between experienced and expected tangibility is accepted.

Null Hypothesis H₀₁₄: There is no significant difference between experienced and expected reliability.

Alternative Hypothesis H₁₁₄: There is a significant difference between experienced and expected reliability.

Table 36: Gap analysis for Reliability factor (n=352)

Reliability	Mean	SD	P-value
RL1. Service Firm offers all Preventive (scheduled) & Corrective (un-scheduled) maintenances services as promised in Contract [Experienced Quality] – RL1. Service Firm offers all Preventive (scheduled) & Corrective (un-scheduled) maintenances services as promised in Contract [Expected Quality]	-.03693	1.91598	0.718
RL2. Service Firm maintains their service records accurately [Experienced Quality] - RL2. Service Firm maintains their service records accurately [Expected Quality]	-.03693	1.89806	0.715
RL3. Services deliveries are uniform at all times [Experienced Quality] – RL3. Services deliveries are uniform at all times [Expected Quality]	-.03693	1.81990	0.704
RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures. [Experienced Quality] – RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures. [Expected Quality]	-.03125	1.85412	0.752
RL6. Service Firm fulfills warranty obligations [Experienced Quality] – RL6. Service Firm fulfills warranty obligations [Expected Quality]	-.03125	1.88006	0.755
RL8. Service Firm is committed to fulfill the execution of turbine maintenance & operation support (promises) in timely manner [Experienced Quality] – RL8. Service Firm is committed to fulfill the execution of turbine maintenance & operation support (promises) in timely manner [Expected Quality]	-.00568	1.85361	0.954

Table 36 presents the Paired-t test for reliability dimension, if p value (significance value) is greater than 0.05, there is no significant difference between experienced and expected score. From the mean analysis and hypothesis testing, reliability gap is negative and insignificant with respect to all the six items. Hence conclude that

H₀₁₄: There is no significant difference between experienced and expected reliability is accepted.

Null Hypothesis H₀₁₅: There is no significant difference between experienced and expected responsiveness.

Alternative Hypothesis H₁₁₅: There is a significant difference between experienced and expected responsiveness.

Table 37: Gap analysis for Responsiveness factor (n=352)

Responsiveness	Mean	SD	p-value
RE1. Service teams/persons provide prompt service to customers depends on the contract [Experienced Quality] – RE1. Service teams/persons provide prompt service to customers depends on the contract [Expected Quality]	-.33523	1.94690	0.001**
RE2. Service Employees give their customers shorter waiting time or fast service turnaround [Experienced Quality] – RE2. Service Employees give their customers shorter waiting time or fast service turnaround [Expected Quality]	-.34375	2.02365	0.002**
RE4. Service teams/persons always respond to customer calls [Experienced Quality] – RE4. Service teams/persons always respond to customer calls [Expected Quality]	-.34375	2.04048	0.002**
RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded [Experienced Quality] – RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded [Expected Quality]	-.35511	2.03012	0.001**
RE6. Service Firm possesses effective complaint handling process [Experienced Quality] – RE6. Service Firm possesses effective complaint handling process [Expected Quality]	-.35511	2.04550	0.001**

**p<0.01

Table 37 presents the Paired-t test for responsiveness dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In responsiveness items, p value for all the items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant responsiveness gap for all the items. From the mean analysis and hypothesis testing, responsiveness gap for individual items is negative and significant with respect to all

the five items. The responsiveness items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₅: There is a significant difference between experienced and expected responsiveness is accepted.

Null Hypothesis H₀₁₆: There is no significant difference between experienced and expected assurance.

Alternative Hypothesis H₁₁₆: There is a significant difference between experienced and expected assurance.

Table 38: Gap analysis for Assurance factor (n=352)

Assurance	Mean	SD	p-value
AS1. Service Firm make customer to feel confident in Turbine operations & maintenance provide by the service employees [Experienced Quality] – AS1. Service Firm make customer to feel confident in Turbine operations & maintenance provide by the service employees [Expected Quality]	-.17614	1.36613	0.016*
AS3. Service Employees are efficient and quick in delivering service [Experienced Quality] – AS3. Service Employees are efficient and quick in delivering service [Expected Quality]	-.17045	1.41801	0.025*
AS4. Service Employees possess good technical competencies & attitude in delivering the service [Experienced Quality] – AS4. Service Employees possess good technical competencies & attitude in delivering the service [Expected Quality]	-.17045	1.40995	0.024*
AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees [Experienced Quality] – AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees [Expected Quality]	-.17045	1.42202	0.025*
AS6. Service Firm understands & adhere to all National legal legislation of wind turbine operations [Experienced Quality] – AS6. Service Firm understands & adhere to all National legal legislation of wind turbine operations [Expected Quality]	-.17045	1.41398	0.024*

*p<0.05

Table 38 presents the Paired-t test for assurance dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In assurance items, p value for all the items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant assurance gap for all the items. From the mean analysis and hypothesis testing,

assurance gap for individual items is negative and significant with respect to all the five items. The assurance items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₆: There is a significant difference between experienced and expected assurance is accepted.

Null Hypothesis H₀₁₇: There is no significant difference between experienced and expected empathy.

Alternative Hypothesis H₁₁₇: There is a significant difference between experienced and expected empathy.

Table 39: Gap analysis for Empathy factor (n=352)

Empathy	Mean	SD	p-value
EM1. Service Firm ensures individual attention to each customer [Experienced Quality] – EM1. Service Firm ensures individual attention to each customer [Expected Quality]	-.37500	1.60173	0.000**
EM3. Service Firm have convenient business hours [Experienced Quality] – EM3. Service Firm have convenient business hours [Expected Quality]	-.35511	1.54755	0.000**
EM4. Service Firm maintains strong customer relations [Experienced Quality] – EM4. Service Firm maintains strong customer relations [Expected Quality]	-.37500	1.57301	0.000**
EM5. Service Employees are always ready to help customer [Experienced Quality] – EM5. Service Employees are always ready to help customer [Expected Quality]	-.37500	1.56575	0.000**
EM6. Service Employees are consistently polite and well-mannered [Experienced Quality] – EM6. Service Employees are consistently polite and well-mannered [Expected Quality]	-.37216	1.53612	0.000**

**p<0.01

Table 39 presents the Paired-t test for empathy dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In empathy items, p value for all the items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant empathy gap for all the items. From the mean analysis and hypothesis testing, empathy gap for individual items is negative and significant with respect to all the five items.

The empathy items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₇: There is a significant difference between experienced and expected empathy is accepted.

Null Hypothesis H₀₁₈: There is no significant difference between experienced and expected turbine availability.

Alternative Hypothesis H₁₁₈: There is a significant difference between experienced and expected turbine availability.

Table 40: Gap analysis for Turbine availability factor (n=352)

Turbine Availability	Mean	SD	p-value
TA1. Service firm offers 24/7 turbine services facility [Experienced Quality] – TA1. Service firm offers 24/7 turbine services facility [Expected Quality]	-.34659	1.63797	0.000**
TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime [Experienced Quality] – TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime [Expected Quality]	-.25000	1.59236	0.003**
TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine Physical Condition [Experienced Quality] – TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine physical Condition [Expected Quality]	-.35795	1.64594	0.000**
TA4. Service Firm monitors and analyzes the performance of Wind Turbines at frequent intervals [Experienced Quality] – TA4. Service Firm monitors and analyzes the performance of Wind Turbines at frequent intervals [Expected Quality]	-.35795	1.64421	0.000**
TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine [Experienced Quality] – TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine [Expected Quality]	-.34659	1.61873	0.000**

**p<0.01

Table 40 presents the Paired-t test for turbine availability dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In turbine availability items, p value for all the items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant turbine availability gap for all the items. From the mean

analysis and hypothesis testing, turbine availability gap for individual items is negative and significant with respect to all the five items. The turbine availability items have a negative score that is experienced score is less than the expected score. Hence accept the hypothesis and conclude that

H₁₁₈: There is a significant difference between experienced and expected turbine availability is accepted.

Null Hypothesis H₀₁₉: There is no significant difference between experienced and expected operational support.

Alternative Hypothesis H₁₁₉: There is a significant difference between experienced and expected operational support.

Table 41: Gap analysis for Operational Support factor (n=352)

Operational Support	Mean	SD	p-value
OS1. Service firm support Power Generation Monitoring & Reporting [Experienced Quality] – OS1. Service firm support Power Generation Monitoring & Reporting [Expected Quality]	-.78125	1.64876	0.000**
OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations [Experienced Quality] – OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations [Expected Quality]	-.52841	1.59211	0.000**
OS5. Service Firm Replace spares only if repairing fails [Experienced Quality] – OS5. Service Firm Replace spares only if repairing fails [Expected Quality]	-.76989	1.66270	0.000**
OS6. Service Firm Support Component Failure Analysis & root cause Reporting [Experienced Quality] – OS6. Service Firm support Component Failure Analysis & root cause Reporting [Expected Quality]	-.77557	1.65833	0.000**
OS7. Service Firm support the customer for handling all legal & local legislation activities [Experienced Quality] – OS7. Service Firm support the customer for handling all legal & local legislation activities [Expected Quality]	-.78409	1.69261	0.000**

**p<0.01

Table 41 presents the Paired-t test for operational support dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In operational support items, p value for all the items are less than 0.05, so the alternate hypothesis is accepted

for all the items, i.e. there is significant operational support gap for all the items. From the mean analysis and hypothesis testing, operational support gap for individual items is negative and significant with respect to all the five items. The operational support items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₉: There is a significant difference between experienced and expected operational support is accepted.

Null Hypothesis H₀₂₀: There is no significant difference between experienced and expected reputation & image.

Alternative Hypothesis H₁₂₀: There is a significant difference between experienced and expected reputation & image.

Table 42: Gap analysis for Reputation and Image factor (n=352)

Reputation and Image	Mean	SD	p-value
IM1. Service Firm is trustworthy [Experienced Quality] – IM1. Service Firm is trustworthy [Expected Quality]	-.79830	1.48945	0.000**
IM2. Service Firm offers excellent service to customers [Experienced Quality] – IM2. Service Firm offers excellent service to customers [Expected Quality]	-.05966	1.20274	0.353
IM3. Service Firm is a successful in the market [Experienced Quality] – IM3. Service Firm is a successful in the market [Expected Quality]	-.50284	1.18393	0.000**
IM5. Service Firm possess a superior wind turbine service technology [Experienced Quality] – IM5. Service Firm possess a superior wind turbine service technology [Expected Quality]	-.71875	1.58981	0.000**
IM7. Service Firm has a good esteem in the society [Experienced Quality] – IM7. Service Firm has a good esteem in the society [Expected Quality]	-.59375	1.13090	0.000**

**p<0.01

Table 42 presents the Paired-t test for reputation and image dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In reputation and image items, p values for four items are less than 0.05, so the alternate hypothesis is partially accepted for all the items, i.e. there is significant reputation and image gap for four items. From

the mean analysis and hypothesis testing, reputation and image gap for individual items is negative and significant with respect to four items. The reputation and image items have a negative score that is experienced score is less than the expected score. In reputation & image item 2 has p-value greater than 0.05 i.e. there is no significant difference between experienced and expected reputation and image. Hence conclude that

H₁₂₀: There is a significant difference between experienced and expected reputation & image is partially accepted.

Null Hypothesis H₀₂₁: There is no significant difference between experienced and expected service quality dimensions.

Alternative Hypothesis H₁₂₁: There is a significant difference between experienced and expected service quality dimensions.

Table 43: Gap analysis for Service quality dimensions (n=352)

Service Quality dimensions	Mean	SD	p-value
Tangibility-Experienced - Tangibility-Expected	.09564	.96562	0.064
Reliability-Experienced - Reliability-Expected	-.02983	1.83326	0.760
Responsiveness-Experienced - Responsiveness-Expected	-.34659	1.97410	0.001**
Assurance-Experienced - Assurance-Expected	-.17102	1.38727	0.021*
Empathy-Experienced - Empathy-Expected	-.37045	1.52189	0.000**
Turbine Availability-Experienced - Turbine Availability-Expected	-.33182	1.58946	0.000**
Operational Support-Experienced - Operational Support-Expected	-.72784	1.60246	0.000**
Reputation & Image-Experienced - Reputation & Image-Expected	-.53466	.96747	0.000**

**p<0.01, *p<0.05

Table 43 presents the Paired-t test for service quality dimension. For responsiveness, assurance, empathy, turbine availability, operational support, reputation & image, p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In for responsiveness, assurance, empathy, turbine availability, operational support, reputation & image dimensions, p value are less than 0.05, so the alternate hypothesis is partially accepted for six dimensions, i.e. there is a significant gap for responsiveness, assurance, empathy, turbine availability, operational support and reputation & image dimensions. From the mean analysis and hypothesis testing, responsiveness, assurance, empathy, turbine availability, operational

support, reputation & image dimensions have a negative score and significant with respect to six dimensions, that is experienced score is less than the expected score. For Tangibility and reliability p-value is greater than 0.05, there is no significant gap for tangibility and reliability between experienced and expected score. Hence conclude that

H₁₂₀: There is a significant difference between experienced and expected reputation & image is partially accepted.

4.3.3 Confirmatory Factor Analysis

4.3.3.1 First order model

In contrast to a first-order CFA model, which comprises only a measurement component, and a second-order CFA model for which the higher order level is represented by a reduced form of the structural model, hence the full structural equation model comprises of both a measurement and structural model. In the full SEM model, certain latent variables are connected by one way arrows, the directionality of which reflects hypotheses in the study bearing on the causal structure of variables in the model.

In the first order model, if the modification Indices is higher in independent variables, then the error terms (ϵ_i) should be intercorrelated.

Figure 3: First-order model for functional quality, technical quality and corporate quality

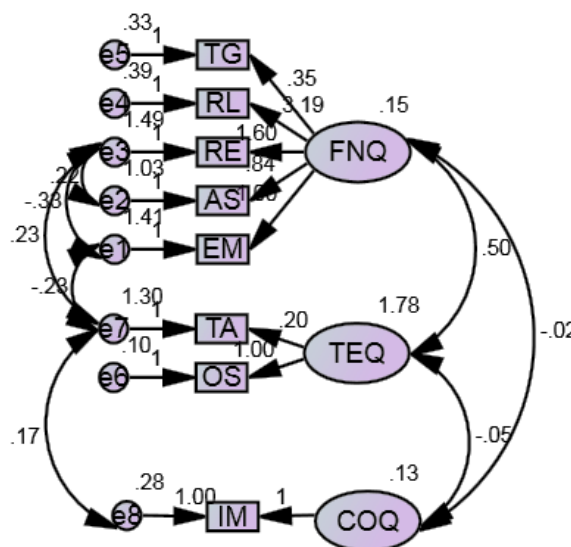


Table 44: CFA for First-order Model for dimensions of functional quality, technical quality and corporate quality

			Unstandardized coefficients	S.E.	Standardized coefficients	P value
EM	<---	FNQ	1.000		0.310	
AS	<---	FNQ	0.837	0.205	0.303	<0.001**
RE	<---	FNQ	1.597	0.358	0.451	<0.001**
RL	<---	FNQ	3.190	0.556	0.893	<0.001**
TG	<---	FNQ	0.346	0.102	0.226	<0.001**
OS	<---	TEQ	1.000		0.972	
TA	<---	TEQ	0.200	0.053	0.228	<0.001**
IM	<---	e8	1.000		0.822	

Note: 1. ** Denotes significant at 1% level

To examine the theoretical interdependence between three factors (Functional quality, Technical quality and corporate quality) structural equation modelling was used. This analysis allows to test all the relevant paths and measurements errors and feedbacks are included directly into the model. The fit indices show a model is a good fit as the factors are found to be significant at the $p < 0.05$ (Table 45). The model fit, which was assessed using global fit (seven different fit indices) and 'r' to identify the degree to which the hypothesized model is consistent with the data in hand. In other words, the degree to which the implicit matrix of co variances, (based on the hypothesized model), and the sample covariance matrix, based on data it seems to fit (Bollen, 1989). The structural model, the quality of fit was acceptable representation of the sample data ($\chi^2(13) = 24.744$, GFI (Goodness of Fit Index) = 0.982; AGFI (Adjusted Goodness of Fit Index) = 0.951 which is much larger than the 0.90 criteria as suggested by Hu and Bentler (1999) and Joreskog and Sorbom (1981). Similarly, CFI = 0.982, RMSEA (Root Mean Square Error of Approximation) = 0.051 and RMR (Root Mean Square Residuals) = 0.039, values are lower the 0.08 critical value (Steiger, 1989).

Table 45: Model fit summary

Variable	Value	Suggested value
Chi-square value	24.744	
Degrees of freedom (df)	13	
P value	0.025	P-value >0.05 (Hair et al., 2006)
GFI	0.982	>0.90 (Hair et al., 2006)
AGFI	0.951	> 0.90 (Daire et al., 2008)
CFI	0.982	>0.90 (Hu and Bentler, 1999)
RMR	0.039	< 0.08 (Hair et al., 2006)
RMSEA	0.051	< 0.08 (Hair et al., 2006)

4.3.3.2 Second order model

Figure 4: Second-order model for functional quality, technical quality and corporate quality with customer satisfaction

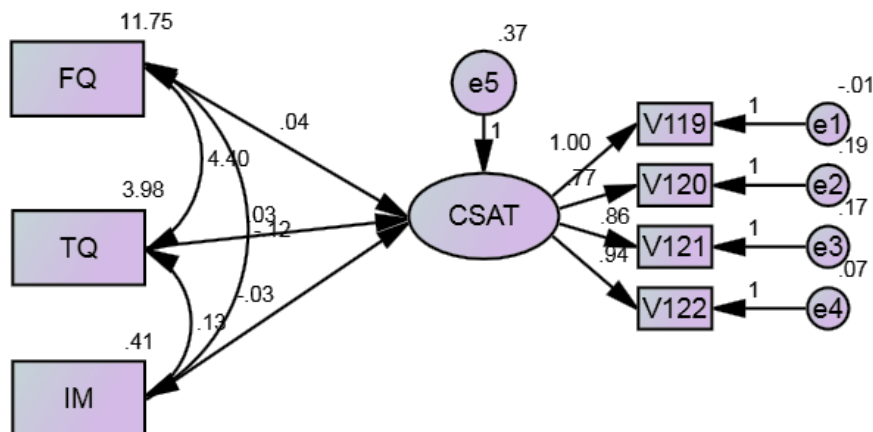


Table 46: Second-order Model for dimensions of functional quality, technical quality and corporate quality with customer satisfaction

			Unstandardized coefficients	S.E.	Standardized coefficients	P value
CSAT	<---	FQ	0.039	0.012	0.208	0.002
CSAT	<---	TQ	0.031	0.021	0.096	0.151
CSAT	<---	IM	-0.033	0.051	-0.033	0.515
V119	<---	CSAT	1.000		1.013	
V120	<---	CSAT	0.770	0.037	0.750	<0.001**
V121	<---	CSAT	0.864	0.035	0.801	<0.001**
V122	<---	CSAT	0.938	0.023	0.913	<0.001**

Note: 1. ** Denotes significant at 1% level

To examine the theoretical interdependence between three factors (Functional quality, Technical quality and corporate quality) with Customer satisfaction as a dependent variable, structural equation modelling was used. This analysis allows to test all the relevant paths and measurements errors and feedbacks are included directly into the model. The fit indices show a model is a good fit as the factors are found to be significant at the $p < 0.05$ (Table 47). The model fit, which was assessed using global fit (seven different fit indices) and 'r' to identify the degree to which the hypothesized model is consistent with the data in hand. In other words, the degree to which the implicit matrix of co variances, (based on the hypothesized model), and the sample covariance matrix, based on data it seems to fit (Bollen, 1989). The structural model, the quality of fit was acceptable representation of the sample data ($\chi^2(11) = 38.516$, GFI (Goodness of Fit Index) = 0.970; AGFI (Adjusted Goodness of Fit Index) = 0.923 which is much larger than the 0.90 criteria as suggested by Hu and Bentler (1999) and Joreskog and Sorbom (1981). Similarly, CFI = 0.983, RMSEA (Root Mean Square Error of Approximation) = 0.084 and RMR (Root Mean Square Residuals) = 0.043, values are lower the 0.08 critical value (Steiger, 1989).

Table 47: Model fit summary

Variable	Value	Suggested value
Chi-square value	38.516	
Degrees of freedom (df)	11	
P value	0.000	P-value > 0.05 (Hair et al., 2006)
GFI	0.970	> 0.90 (Hair et al., 2006)
AGFI	0.923	> 0.90 (Daire et al., 2008)
CFI	0.983	> 0.90 (Hu and Bentler, 1999)
RMR	0.043	< 0.08 (Hair et al., 2006)
RMSEA	0.084	< 0.08 (Hair et al., 2006)

Figure 5: Second-order model for functional quality, technical quality and corporate quality with customer loyalty

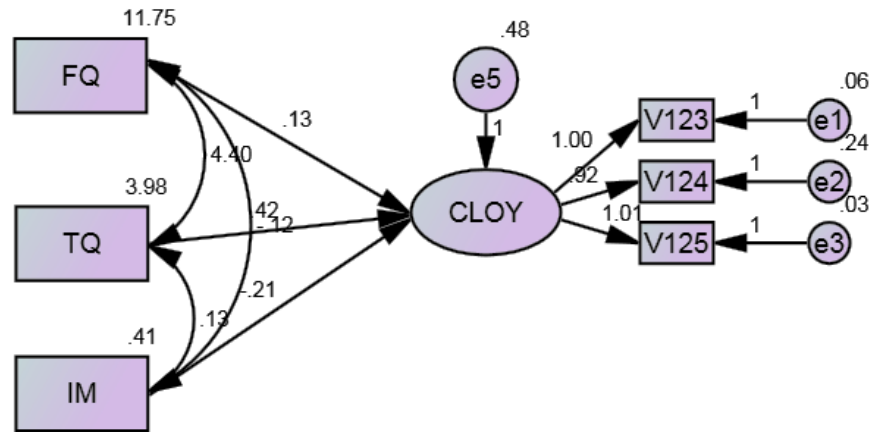


Table 48: Second-order Model for dimensions of functional quality, technical quality and corporate quality with customer loyalty

			Unstandardized coefficients	S.E.	Standardized coefficients	P value
CLOY	<---	FQ	0.134	0.015	0.332	<0.001**
CLOY	<---	TQ	0.424	0.025	0.613	<0.001**
CLOY	<---	IM	-0.213	0.060	-0.099	<0.001**
V123	<---	CLOY	1.000		0.984	
V124	<---	CLOY	0.920	0.021	0.933	<0.001**
V125	<---	CLOY	1.013	0.013	0.992	<0.001**

Note: 1. ** Denotes significant at 1% level

To examine the theoretical interdependence between three factors (Functional quality, Technical quality and Corporate quality) with Customer loyalty as a dependent variable, structural equation modelling was used. This analysis allows to test all the relevant paths and measurements errors and feedbacks are included directly into the model. The fit indices show a model is a good fit as the factors are found to be significant at the $p < 0.05$ (Table 49). The model fit, which was assessed using global fit (seven different fit indices) and 'r' to identify the degree to which the hypothesized model is consistent with the data in hand. In other words, the degree to which the implicit matrix of co variances, (based on the hypothesized model), and the sample covariance matrix, based on data it seems to fit (Bollen, 1989).The structural

model, the quality of fit was acceptable representation of the sample data ($\chi^2(6) = 24.991$, GFI (Goodness of Fit Index)=0.977; AGFI (Adjusted Goodness of Fit Index) = 0.920 which is much larger than the 0.90 criteria as suggested by Hu and Bentler (1999) and Joreskog and Sorbom (1981). Similarly, CFI=0.992, RMSEA (Root Mean Square Error of Approximation) =0.095 and RMR (Root Mean Square Residuals) =0.049, values are lower the 0.08 critical value (Steiger, 1989).

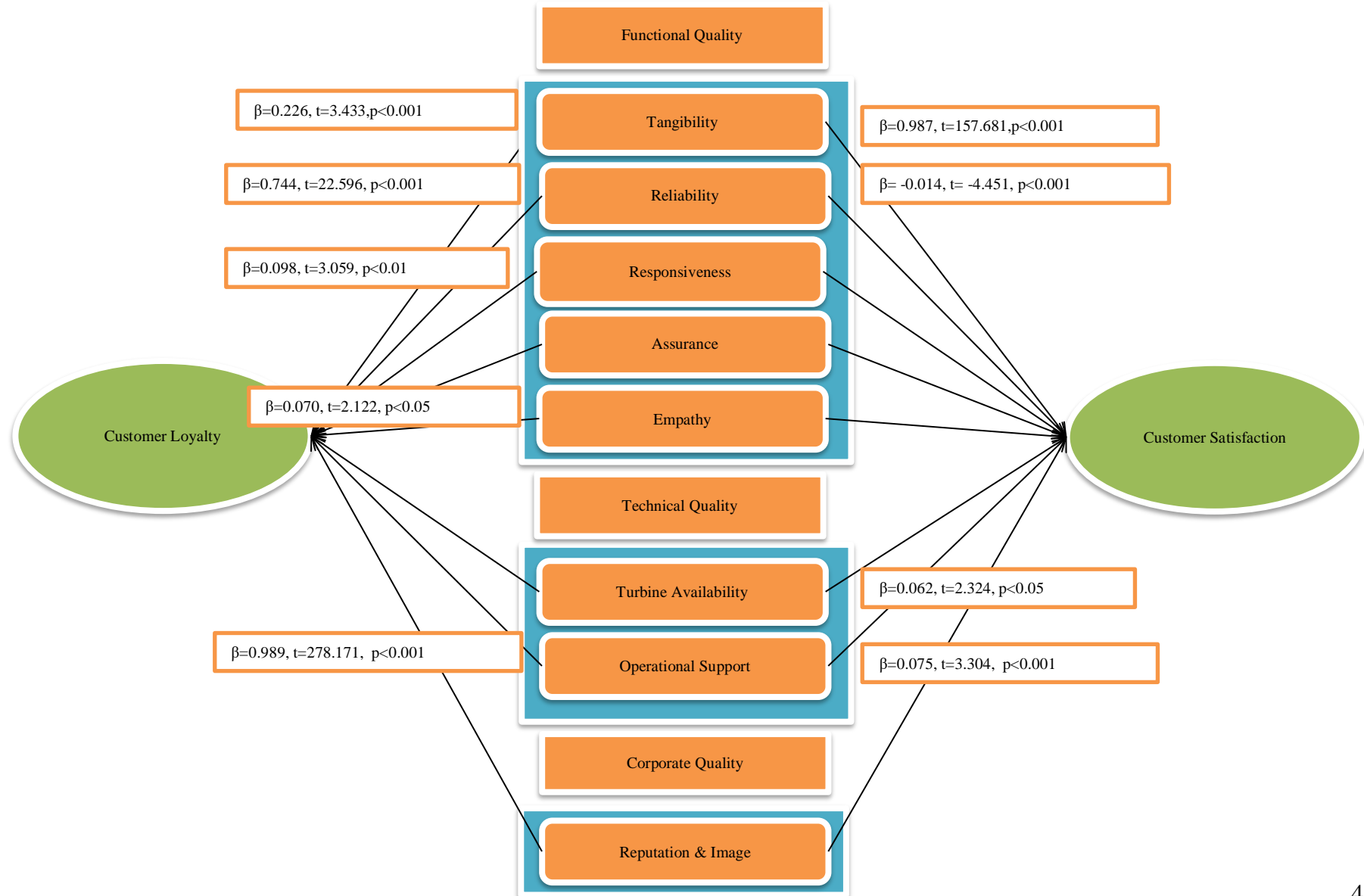
Table 49: Model fit summary

Variable	Value	Suggested value
Chi-square value	24.991	
Degrees of freedom (df)	6	
P value	0.000	P-value >0.05 (Hair et al., 2006)
GFI	0.977	>0.90 (Hair et al., 2006)
AGFI	0.920	> 0.90 (Daire et al., 2008)
CFI	0.992	>0.90 (Hu and Bentler, 1999)
RMR	0.049	< 0.08 (Hair et al., 2006)
RMSEA	0.095	< 0.08 (Hair et al., 2006)

4.3.4 Summary table (Overall)

Hypotheses	Type of Statistical test used	Accept/Reject
There is a significant relationship between functional quality dimensions and customer satisfaction	Correlation	Partially accepted
There is a significant relationship between functional quality dimensions and customer loyalty	Correlation	Accepted
There is a significant relationship between technical quality dimensions and customer satisfaction	Correlation	Accepted
There is a significant relationship between technical quality dimensions and customer loyalty	Correlation	Accepted
There is no significant relationship between reputation & image and customer satisfaction	Correlation	Accepted
There is no significant relationship between reputation & image and customer loyalty	Correlation	Accepted
There is a significant impact of functional quality dimensions on customer satisfaction	Multiple Regression	Partially accepted
There is a significant impact of functional quality dimensions on customer loyalty	Multiple Regression	Partially accepted
There is a significant impact of technical quality dimensions on customer satisfaction	Multiple Regression	Accepted
There is a significant impact of technical quality dimensions on customer loyalty is partially accepted	Multiple Regression	Partially accepted
There is no significant impact of reputation & image on customer satisfaction	Linear Regression	Accepted
There is no significant impact of reputation & image on customer loyalty	Linear Regression	Accepted
There is no significant difference between experienced and expected tangibility	Paired t-test	Accepted
There is no significant difference between experienced and expected reliability	Paired t-test	Accepted
There is a significant difference between experienced and expected responsiveness	Paired t-test	Accepted
There is a significant difference between experienced and expected assurance	Paired t-test	Accepted
There is a significant difference between experienced and expected empathy	Paired t-test	Accepted
There is a significant difference between experienced and expected turbine availability	Paired t-test	Accepted
There is a significant difference between experienced and expected operational support	Paired t-test	Accepted
There is a significant difference between experienced and expected reputation & image	Paired t-test	Partially accepted
There is a significant difference between experienced and expected service quality	Paired t-test	Partially accepted

4.3.5 Overall Model



4.4 Turbine-Wise Analysis

Table 50: Descriptive statistics (n=55)

Variables	Experienced				Expected			
	Mean	SD	Max	Min	Mean	SD	Max	Min
Tangibility	4.70	0.57	5.00	2.00	4.57	0.72	5.00	2.00
Reliability	3.85	1.21	5.00	1.00	3.89	1.21	5.00	1.00
Responsiveness	3.74	1.24	5.00	1.00	3.98	1.12	5.00	1.00
Assurance	4.44	0.98	5.00	1.00	4.57	0.79	5.00	1.00
Empathy	3.98	1.18	5.00	1.20	4.34	0.90	5.00	1.20
Turbine Availability	4.31	0.88	5.00	1.00	4.50	0.60	5.00	2.00
Operational Support	4.02	1.22	5.00	1.00	4.50	0.63	5.00	1.60
Reputation & Image	3.39	0.60	4.20	2.00	3.94	0.69	4.80	2.00

SD- Standard Deviation, Max-Maximum, Min-Minimum

Table 50 shows the descriptive statistics for the sample in relation to the extracted dimensions. Tangibility obtained the high mean score for both experienced (4.70) and expected (4.57), while Reputation & Image obtained the neutral mean score, in both experienced (3.39) and expected (3.94). Keeping in mind that the Likert scale categories 1.0 to 2.4 are regarded as low, 2.5 to 3.4 are regarded as average or neutral and 3.5 to 5 are regarded as high.

4.4.1 Hypothesis

Null Hypothesis H_{01} : There is no significant relationship between functional quality dimensions and customer satisfaction

Alternative Hypothesis H_{11} : There is a significant relationship between functional quality dimensions and customer satisfaction

Table 51: Correlation between functional quality dimensions and customer satisfaction (n=55)

Variables	Tangibility	Reliability	Responsiveness	Assurance	Empathy	Customer Satisfaction
Tangibility	1	.371**	.162	.274*	.083	.993**
Reliability		1	.426**	.483**	.259	.333*
Responsiveness			1	.482**	.024	.136
Assurance				1	.042	.231
Empathy					1	.092
Customer Satisfaction						1

**p<0.01, *p<0.05

Table 51 presents the Pearson correlation analysis. The correlation analysis shows the linearity between the variables not the strength of association between dependent and independent variables represented by r and p value, while r is a degree of correlation and p signifies significance level. It is evident from the table that tangibility does showed a significant positive linear relationship with reliability (r=0.371, p<0.01), assurance (r=0.274, p< 0.05) and customer satisfaction (r=0.993, p<0.01). Reliability shows a significant positive relationship with responsiveness (r=0.426, p<0.01), assurance (r=0.483, p<0.01) and customer satisfaction (r=0.333, p<0.05). Responsiveness shows a significant positive relationship with assurance (r=0.482, p<0.01). The correlation value ranged from 0.274-0.993. The correlation values are positive, mean when functional quality increases customer satisfaction also increases. Therefore, the hypothesis

H₁₁: There is a significant relationship between functional quality dimensions and customer satisfaction is partially accepted.

Null Hypothesis H₀₂: There is no significant relationship between functional quality dimensions and customer loyalty

Alternative Hypothesis H₁₂: There is a significant relationship between functional quality dimensions and customer loyalty

Table 52: Correlation between functional quality dimensions and customer loyalty (n=55)

Variables	Tangibility	Reliability	Responsiveness	Assurance	Empathy	Customer Loyalty
Tangibility	1	.371**	.162	.274*	.083	.423**
Reliability		1	.426**	.483**	.259	.773**
Responsiveness			1	.482**	.024	.362**
Assurance				1	.042	.546**
Empathy					1	.209
Customer Loyalty						1

**p<0.01, *p<0.05

Table 52 presents the Pearson correlation analysis. It is evident from the table that Reliability does showed a highly significant positive linear relationship with customer loyalty ($r=0.773$, $p<0.01$) followed by Responsiveness is positively related with customer loyalty ($r=0.362$, $p<0.01$), assurance with customer loyalty ($r=0.546$, $p<0.01$) and tangibility does show a significant positive linear relationship with customer loyalty ($r=0.423$, $p<0.01$). The correlation value ranged from 0.274-0.773. The correlation values are positive, mean when functional quality dimensions' increase customer loyalty also increases. Therefore, the hypothesis

H₁₂: There is a significant relationship between functional quality dimensions and customer loyalty is accepted.

Null Hypothesis H₀₃: There is no significant relationship between technical quality dimensions and customer satisfaction

Alternative Hypothesis H₁₃: There is a significant relationship between technical quality dimensions and customer satisfaction

Table 53: Correlation between technical quality dimensions and customer satisfaction (n=55)

Variables	Turbine Availability	Operational Support	Customer Satisfaction
Turbine Availability	1	.406**	.125
Operational Support		1	.386**
Customer Satisfaction			1

**p<0.01

Table 53 presents the Pearson correlation analysis. It is evident from the table that turbine availability does show a significant positive linear relationship with operational support ($r=0.406$, $p<0.01$). Operational support is positively related to customer satisfaction ($r=0.386$, $p<0.01$). The correlation value ranged from 0.386-0.406. The correlation values are positive, mean when technical quality dimensions' increase customer satisfaction also increases. Therefore, the hypothesis

H₁₃: There is a significant relationship between technical quality dimensions and customer satisfaction is partially accepted.

Null Hypothesis H₀₄: There is no significant relationship between technical quality dimensions and customer loyalty

Alternative Hypothesis H₁₄: There is a significant relationship between technical quality dimensions and customer loyalty

Table 54: Correlation between technical quality dimensions and customer loyalty (n=55)

Variables	Turbine Availability	Operational Support	Customer Loyalty
Turbine Availability	1	.406**	.405**
Operational Support		1	.997**
Customer Loyalty			1

** $p<0.01$

Table 54 presents the Pearson correlation analysis. It is evident from the table that turbine availability does show a significant positive linear relationship with customer loyalty ($r=0.405$, $p<0.01$). Operational support is positively related to customer loyalty ($r=0.997$, $p<0.01$). The correlation value ranged from 0.405-0.997. The correlation values are positive, mean when technical quality dimensions increase customer loyalty also increases. Therefore, the hypothesis

H₁₄: There is a significant relationship between technical quality dimensions and customer loyalty is accepted.

Null Hypothesis H₀₅: There is no significant relationship between reputation & image and customer satisfaction

Alternative Hypothesis H₁₅: There is a significant relationship between reputation & image and customer satisfaction

Table 55: Correlation between corporate quality and customer satisfaction (n=55)

Variables	Reputation & Image	Customer Satisfaction
Reputation & Image	1	-.051
Customer Satisfaction		1

Table 55 presents the Pearson correlation analysis. It is evident from the table reputation & image is not correlated with customer satisfaction ($r=-0.051$, $p>0.05$). Therefore the hypothesis

H₀₅: There is no significant relationship between reputation & image and customer satisfaction is accepted.

Null Hypothesis H₀₆: There is no significant relationship between reputation & image and customer loyalty

Alternative Hypothesis H₁₆: There is a significant relationship between reputation & image and customer loyalty

Table 56: Correlation between corporate quality and customer loyalty (n=55)

Variables	Reputation & Image	Customer Loyalty
Reputation & Image	1	.108
Customer Loyalty		1

Table 56 presents the Pearson correlation analysis. It is evident from the table reputation & image is not correlated with customer loyalty ($r= -0.108$, $p>0.05$). Therefore, the hypothesis

H₀₆: There is no significant relationship between reputation & image and customer loyalty is accepted.

Null Hypothesis H₀₇: There is no significant impact of functional quality dimensions on customer satisfaction

Alternative Hypothesis H₁₇: There is a significant impact of functional quality dimensions on customer satisfaction

Table 57: Association between functional quality dimensions on customer satisfaction (n=55)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	0.067	0.080	0.987	0.839	0.406
Tangibility	1.006	0.016		61.128	0.000**
Reliability	-0.016	0.009		-1.717	0.092
Responsiveness	0.001	0.008		0.090	0.928
Assurance	-0.018	0.011		-1.678	0.100
Empathy	0.009	0.008		1.158	0.253

Dependent Variable: Customer Satisfaction, **p<0.01

The association between functional quality dimensions and customer satisfaction is presented in the table 57. In the regression model, functional quality dimensions are considered as independent variable while customer satisfaction is considered as a dependent variable. The significance value (p-value<0.05) clearly unveils that Tangibility ($\beta=1.006$, $t=61.128$, $p<0.001$) is positively significant impact on customer satisfaction. In addition, 99 percent of the variation in customer satisfaction is dependent on functional quality dimensions (Adjusted R-square=0.987). Hence conclude that

H₁₇: There is a significant impact of functional quality dimensions on customer satisfaction is partially accepted.

Null Hypothesis H₀₈: There is no significant impact of functional quality dimensions on customer loyalty

Alternative Hypothesis H₁₈: There is a significant impact of functional quality dimensions on customer loyalty

Table 58: Association between functional quality dimensions on customer loyalty (n=55)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	-0.927	0.946	0.618	-0.980	0.332
Tangibility	0.285	0.194		1.464	0.150
Reliability	0.623	0.108		5.781	0.000**
Responsiveness	-0.031	0.097		-0.323	0.748
Assurance	0.276	0.128		2.149	0.037*
Empathy	0.028	0.090		0.312	0.756

Dependent Variable: Customer Loyalty, **p<0.01, *p<0.05

The association between functional quality dimensions and customer loyalty is presented in the table 58. In the regression model, functional quality dimensions are considered as independent variable while customer loyalty is considered as a dependent variable. The significance value (p-value<0.05) clearly unveils that Reliability ($\beta=0.623$, $t=5.781$, $p<0.001$), and Assurance ($\beta=0.276$, $t=2.149$, $p<0.05$) are positively impact on customer loyalty. In addition, 62 percent of the variation in customer loyalty is dependent on functional quality dimensions (Adjusted R-square=0.618). Hence conclude that

H₁₈: There is a significant impact of functional quality dimensions on customer loyalty is partially accepted.

Null Hypothesis H₀₉: There is no significant impact of technical quality dimensions on customer satisfaction

Alternative Hypothesis H₁₉: There is a significant impact of technical quality dimensions on customer satisfaction

Table 59: Association between technical quality dimensions on customer satisfaction (n=55)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	4.049	0.375	0.117	10.791	0.000
Turbine Availability	-0.024	0.090		-0.268	0.790
Operational Support	0.185	0.065		2.865	0.006**

Dependent Variable: Customer Satisfaction, **p<0.01

The association between technical quality dimensions and customer satisfaction is presented in the table 59. In the regression model, technical quality dimensions are considered as independent variable while customer satisfaction is considered as a dependent variable. The significance value (p-value<0.05) clearly unveils that Operational Support ($\beta=0.185$, $t=2.865$, $p<0.001$) is positive significant impact on customer satisfaction. In addition, 12 percent of the variation in customer satisfaction is dependent on technical quality dimensions (Adjusted R-square=0.117). Hence conclude that

H₁₉: There is a significant impact of technical quality dimensions on customer satisfaction is partially accepted

Null Hypothesis H₀₁₀: There is no significant impact of technical quality dimensions on customer loyalty

Alternative Hypothesis H₁₁₀: There is a significant impact of technical quality dimensions on customer loyalty

Table 60: Association between technical quality dimensions on customer loyalty (n=55)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	0.051	0.065	0.994	0.795	0.430
Turbine Availability	0.001	0.015		0.047	0.963
Operational Support	0.989	0.011		88.681	0.000**

Dependent Variable: Customer Loyalty, **p<0.01

The association between technical quality dimensions and customer loyalty is presented in the table 60. In the regression model, technical quality dimensions are considered as independent variable while customer loyalty is considered as a dependent variable. The significance value (p-value<0.05) clearly unveils that Operational Support ($\beta=0.989$, $t=88.681$, $p<0.001$) is positively impact on customer loyalty. In addition, 99 percent of the variation in customer loyalty is dependent on technical quality dimensions (Adjusted R-square=0.994). Hence conclude that

H₁₁₀: There is a significant impact of technical quality dimensions on customer loyalty is partially accepted.

Null Hypothesis H₀₁₁: There is no significant impact of reputation & image on customer satisfaction

Alternative Hypothesis H₁₁₁: There is a significant impact of reputation & image on customer satisfaction

Table 61: Association between corporate quality on customer satisfaction (n=55)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	4.853	0.446	-0.016	10.881	0.000
Reputation & Image	-0.048	0.129		-0.368	0.714

Dependent Variable: Customer Satisfaction

The association between reputation & image and customer satisfaction is presented in the table 61. In the regression model, reputation & image is considered as independent variable while customer satisfaction is considered as a dependent variable. The significance value (p-value>0.05) clearly unveils that Reputation & Image ($\beta=-0.048$, $t=-0.368$, $p>0.05$) does not have an impact on customer satisfaction. Hence conclude that

H₀₁₁: There is no significant impact of reputation & image on customer satisfaction is accepted.

Null Hypothesis H₀₁₂: There is no significant impact of reputation & image on customer loyalty

Alternative Hypothesis H₁₁₂: There is a significant impact of reputation & image on customer loyalty

Table 62: Association between corporate quality on customer loyalty (n=55)

	Unstandardized Coefficients		Adjusted R-square	t-value	p-value
	Beta	SE			
(Constant)	3.292	0.951	-0.007	3.461	0.001
Reputation & Image	0.218	0.276		0.788	0.434

Dependent Variable: Customer Loyalty

The association between reputation & image and customer loyalty is presented in the table 62. In the regression model, reputation & image is considered as independent variable

while customer loyalty is considered as a dependent variable. The significance value (p -value >0.05) clearly unveils that Reputation & Image ($\beta=0.218$, $t=0.788$, $p>0.05$) does not have an impact on customer loyalty. Hence conclude that

H_{012} : There is no significant impact of reputation & image on customer loyalty is accepted.

4.4.2 Gap Analysis

Null Hypothesis H_{013} : There is no significant difference between experienced and expected tangibility.

Alternative Hypothesis H_{113} : There is a significant difference between experienced and expected tangibility.

Table 63: Gap analysis for Tangibility factor (n=55)

Tangibility	Mean	SD	p-value
TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc. [Experienced Quality] – TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc. [Expected Quality]	.145	.524	0.044*
TG2. Service Firm maintains all measuring equipments with proper inspections, checkups & Calibration [Experienced Quality] – TG2. Service Firm maintains all measuring equipment's with proper inspections, checkups & Calibration [Expected Quality]	.109	.416	0.057
TG3. Service firm provides the maintenance of all Safety Equipment's in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc.) [Experienced Quality] – TG3. Service firm provides the maintenance of all Safety Equipment's in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc.) [Expected Quality]	.127	.474	0.051*
TG4. Physical appearance of the Service Employees is more professional & safety conscious. [Experienced Quality] – TG4. Physical appearance of the Service Employees is more professional & safety conscious. [Expected Quality]	.109	.416	0.057
TG5. Service firm provides a good house-keeping activities on Wind Turbines, Office & Storage Area [Experienced Quality] – TG5. Service firm provides a good house-keeping activities on Wind Turbines, Office & Storage Area [Expected Quality]	.145	.524	0.044*
TG7. Service Firm provides latest service technology [Experienced Quality] – TG7. Service Firm provides latest service technology [Expected Quality]	.127	.474	0.051*

* $p<0.05$

Table 63 presents the Paired-t test for tangibility dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In tangibility items, p values for four items are less than 0.05, so the alternate hypothesis is accepted for four items, i.e. there is significant tangibility gap for four items. From the mean analysis and hypothesis testing, tangibility gap for individual items is positive and significant with respect to four items. The tangibility items have a positive score that is experienced score is more than the expected score. Hence conclude that

H_{113} : There is a significant difference between experienced and expected tangibility is partially accepted.

Null Hypothesis H_{014} : There is no significant difference between experienced and expected reliability.

Alternative Hypothesis H_{114} : There is a significant difference between experienced and expected reliability.

Table 64: Gap analysis for Reliability factor (n=55)

Reliability	Mean	SD	P-value
RL1. Service Firm offers all Preventive (scheduled) & Corrective (un-scheduled) maintenances services as promised in Contract [Experienced Quality] – RL1. Service Firm offers all Preventive (scheduled) & Corrective (un-scheduled) maintenances services as promised in Contract [Expected Quality]	-.036	.270	0.322
RL2. Service Firm maintains their service records accurately [Experienced Quality] – RL2. Service Firm maintains their service records accurately [Expected Quality]	-.036	.270	0.322
RL3. Services deliveries are uniform at all times [Experienced Quality] – RL3. Services deliveries are uniform at all times [Expected Quality]	-.036	.270	0.322
RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures. [Experienced Quality] – RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures. [Expected Quality]	-.036	.270	0.322
RL6. Service Firm fulfills warranty obligations [Experienced Quality] – RL6. Service Firm fulfills warranty obligations [Expected Quality]	-.036	.270	0.322
RL8. Service Firm is committed to fulfill the execution of turbine maintenance & operation support (promises) in timely manner [Experienced Quality] – RL8. Service Firm is committed to fulfill the execution of turbine maintenance & operation support (promises) in timely manner [Expected Quality]	-.018	.135	0.322

Table 64 presents the Paired-t test for reliability dimension, if p value (significance value) is greater than 0.05, the null hypothesis is accepted. In reliability items, p values for all items are greater than 0.05, so null hypothesis is accepted, i.e. there is no significant reliability gap for all items. From the mean analysis and hypothesis testing, reliability gap for individual items is negative and insignificant with respect to all items. The reliability items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₀₁₄: There is no significant difference between experienced and expected reliability is accepted.

Null Hypothesis H₀₁₅: There is no significant difference between experienced and expected responsiveness.

Alternative Hypothesis H₁₁₅: There is a significant difference between experienced and expected responsiveness.

Table 65: Gap analysis for Responsiveness factor (n=55)

Responsiveness	Mean	SD	p-value
RE1. Service teams/persons provide prompt service to customers depends on the contract [Experienced Quality] – RE1. Service teams/persons provide prompt service to customers depends on the contract [Expected Quality]	-.236	.860	0.046*
RE2. Service Employees give their customers shorter waiting time or fast service turnaround [Experienced Quality] – RE2. Service Employees give their customers shorter waiting time or fast service turnaround [Expected Quality]	-.236	.860	0.046*
RE4. Service teams/persons always respond to customer calls [Experienced Quality] – RE4. Service teams/persons always respond to customer calls [Expected Quality]	-.255	.927	0.047*
RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded [Experienced Quality] – RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded [Expected Quality]	-.236	.860	0.046*
RE6. Service Firm possesses effective complaint handling process [Experienced Quality] – RE6. Service Firm possesses effective complaint handling process [Expected Quality]	-.255	.927	0.047*

Table 65 presents the Paired-t test for responsiveness dimension, if p value (significance value) is less than 0.05, an alternative hypothesis is accepted. In responsiveness items, p values for all items are less than 0.05, so the alternative hypothesis is accepted, i.e. there is a significant responsiveness gap for all items. From the mean analysis and hypothesis testing, responsiveness gap for individual items is negative and significant with respect to all items. The responsiveness items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₅: There is a significant difference between experienced and expected responsiveness is accepted.

Null Hypothesis H₀₁₆: There is no significant difference between experienced and expected assurance.

Alternative Hypothesis H₁₁₆: There is a significant difference between experienced and expected assurance.

Table 66: Gap analysis for Assurance factor (n=55)

Assurance	Mean	SD	p-value
AS1. Service Firm make customer to feel confident in Turbine operations & maintenance provide by the service employees [Experienced Quality] – AS1. Service Firm make customer to feel confident in Turbine operations & maintenance provide by the service employees [Expected Quality]	-.127	.668	0.164
AS3. Service Employees are efficient and quick in delivering service [Experienced Quality] – AS3. Service Employees are efficient and quick in delivering service [Expected Quality]	-.127	.668	0.164
AS4. Service Employees possess good technical competencies & attitude in delivering the service [Experienced Quality] – AS4. Service Employees possess good technical competencies & attitude in delivering the service [Expected Quality]	-.127	.668	0.164
AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees [Experienced Quality] – AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees [Expected Quality]	-.127	.668	0.164
AS6. Service Firm understands & adhere to all National legal legislation of wind turbine operations [Experienced Quality] – AS6. Service Firm understands & adhere to all National legal legislation of wind turbine operations [Expected Quality]	-.127	.668	0.164

Table 66 presents the Paired-t test for assurance dimension, if p value (significance value) is greater than 0.05, the null hypothesis is accepted. In assurance items, p values for all items are greater than 0.05, so null hypothesis is accepted, i.e. there is no significant assurance gap for all items. From the mean analysis and hypothesis testing, assurance gap for individual items is negative and significant with respect to all items. The assurance items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₀₁₆: There is no significant difference between experienced and expected assurance is accepted.

Null Hypothesis H₀₁₇: There is no significant difference between experienced and expected empathy.

Alternative Hypothesis H₁₁₇: There is a significant difference between experienced and expected empathy.

Table 67: Gap analysis for Empathy factor (n=55)

Empathy	Mean	SD	p-value
EM1. Service Firm ensures individual attention to each customer [Experienced Quality] – EM1. Service Firm ensures individual attention to each customer [Expected Quality]	-.382	1.114	0.014**
EM3. Service Firm have convenient business hours [Experienced Quality] – EM3. Service Firm have convenient business hours [Expected Quality]	-.327	.944	0.013**
EM4. Service Firm maintains strong customer relations [Experienced Quality] – EM4. Service Firm maintains strong customer relations [Expected Quality]	-.364	1.060	0.014**
EM5. Service Employees are always ready to help customer [Experienced Quality] - EM5. Service Employees are always ready to help customer [Expected Quality]	-.364	1.060	0.014**
EM6. Service Employees are consistently polite and well-mannered [Experienced Quality] – EM6. Service Employees are consistently polite and well-mannered [Expected Quality]	-.364	1.060	0.014**

**p<0.01

Table 67 presents the Paired-t test for empathy dimension, if p value (significance value) is less than 0.05, an alternative hypothesis is accepted. In empathy items, p values for all items are less than 0.05, so the alternative hypothesis is accepted, i.e. there is a significant empathy gap for all items. From the mean analysis and hypothesis testing, empathy gap for individual items is negative and significant with respect to all items. The empathy items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₇: There is a significant difference between experienced and expected empathy is accepted.

Null Hypothesis H₀₁₈: There is no significant difference between experienced and expected turbine availability.

Alternative Hypothesis H₁₁₈: There is a significant difference between experienced and expected turbine availability.

Table 68: Gap analysis for Turbine availability factor (n=55)

Turbine Availability	Mean	SD	p-value
TA1. Service firm offers 24/7 turbine services facility [Experienced Quality] – TA1. Service firm offers 24/7 turbine services facility [Expected Quality]	-.200	.779	0.062
TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime [Experienced Quality] – TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime [Expected Quality]	-.164	.631	0.060
TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine Physical Condition [Experienced Quality] – TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine physical Condition [Expected Quality]	-.200	.779	0.062
TA4. Service Firm monitors and analyzes the performance of Wind Turbines at frequent intervals [Experienced Quality] – TA4. Service Firm monitors and analyzes the performance of Wind Turbines at frequent intervals [Expected Quality]	-.200	.779	0.062
TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine [Experienced Quality] – TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine [Expected Quality]	-.182	.722	0.067

Table 68 presents the Paired-t test for turbine availability dimension, if p value (significance value) is greater than 0.05, the null hypothesis is accepted. In turbine availability items, p values for all items are greater than 0.05, so null hypothesis is accepted, i.e. there is no significant turbine availability gap for all items. From the mean analysis and hypothesis testing, turbine availability gap for individual items is negative and significant with respect to all items. The turbine availability items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₀₁₈: There is no significant difference between experienced and expected turbine availability is accepted.

Null Hypothesis H₀₁₉: There is no significant difference between experienced and expected operational support.

Alternative Hypothesis H₁₁₉: There is a significant difference between experienced and expected operational support.

Table 69: Gap analysis for operational support factor (n=55)

Operational Support	Mean	SD	p-value
OS1. Service firm support Power Generation Monitoring & Reporting [Experienced Quality] – OS1. Service firm support Power Generation Monitoring & Reporting [Expected Quality]	-.527	1.303	0.004**
OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations [Experienced Quality] – OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations [Expected Quality]	-.327	.818	0.004**
OS5. Service Firm Replace spares only if repairing fails [Experienced Quality] – OS5. Service Firm Replace spares only if repairing fails [Expected Quality]	-.509	1.260	0.004**
OS6. Service Firm Support Component Failure Analysis & root cause Reporting [Experienced Quality] – OS6. Service Firm support Component Failure Analysis & root cause Reporting [Expected Quality]	-.509	1.260	0.004**
OS7. Service Firm support the customer for handling all legal & local legislation activities [Experienced Quality] – OS7. Service Firm support the customer for handling all legal & local legislation activities [Expected Quality]	-.509	1.260	0.004**

Table 69 presents the Paired-t test for operational support dimension, if p value (significance value) is less than 0.05, an alternative hypothesis is accepted. In operational support items, p values for all items are less than 0.05, so the alternative hypothesis is accepted, i.e. there is a significant operational support gap for all items. From the mean analysis and hypothesis testing, operational support gap for individual items is negative and significant with respect to all items. The operational support items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₉: There is a significant difference between experienced and expected operational support is accepted.

Null Hypothesis H₀₂₀: There is no significant difference between experienced and expected reputation & image.

Alternative Hypothesis H₁₂₀: There is a significant difference between experienced and expected reputation & image.

Table 70: Gap analysis for Reputation & Image factor (n=55)

Reputation & Image	Mean	SD	p-value
IM1. Service Firm is trustworthy [Experienced Quality] – IM1. Service Firm is trustworthy [Expected Quality]	-.745	1.250	0.000**
IM2. Service Firm offers excellent service to customers [Experienced Quality] – IM2. Service Firm offers excellent service to customers [Expected Quality]	-.182	.641	0.040*
IM3. Service Firm is a successful in the market [Experienced Quality] – IM3. Service Firm is a successful in the market [Expected Quality]	-.545	.997	0.000**
IM5. Service Firm possess a superior wind turbine service technology [Experienced Quality] – IM5. Service Firm possess a superior wind turbine service technology [Expected Quality]	-.727	1.326	0.000**
IM7. Service Firm has a good esteem in the society [Experienced Quality] – IM7. Service Firm has a good esteem in the society [Expected Quality]	-.564	.977	0.000**

**p<0.01, *p<0.05

Table 70 presents the Paired-t test for reputation & image dimension, if p value (significance value) is less than 0.05, an alternative hypothesis is accepted. In reputation & image items, p values for all items are less than 0.05, so the alternative hypothesis is accepted, i.e. there is a significant reputation & image gap for all items. From the mean analysis and hypothesis testing, reputation & image gap for individual items is negative and significant with respect to all items. The reputation & image items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₂₀: There is a significant difference between experienced and expected reputation & image is accepted.

Null Hypothesis H₀₂₁: There is no significant difference between experienced and expected service quality dimensions.

Alternative Hypothesis H₁₂₁: There is a significant difference between experienced and expected service quality dimensions.

Table 71: Gap analysis for Service quality factor (n=55)

Service Quality	Mean	SD	p-value
Tangibility (Experienced) - Tangibility (Expected)	.12727	.46032	0.045*
Reliability (Experienced) - Reliability (Expected)	-.03333	.24721	0.322
Responsiveness (Experienced) - Responsiveness (Expected)	-.24364	.88501	0.046*
Assurance (Experienced) - Assurance (Expected)	-.12727	.66818	0.164
Empathy (Experienced) - Empathy (Expected)	-.36000	1.04165	0.013**
Turbine Availability (Experienced) - Turbine Availability (Expected)	-.18909	.73476	0.062
Operational Support (Experienced) - Operational Support (Expected)	-.47636	1.17473	0.004**
Reputation & Image (Experienced) - Reputation & Image (Expected)	-.55273	.91568	0.000**

**p<0.01, *p<0.05

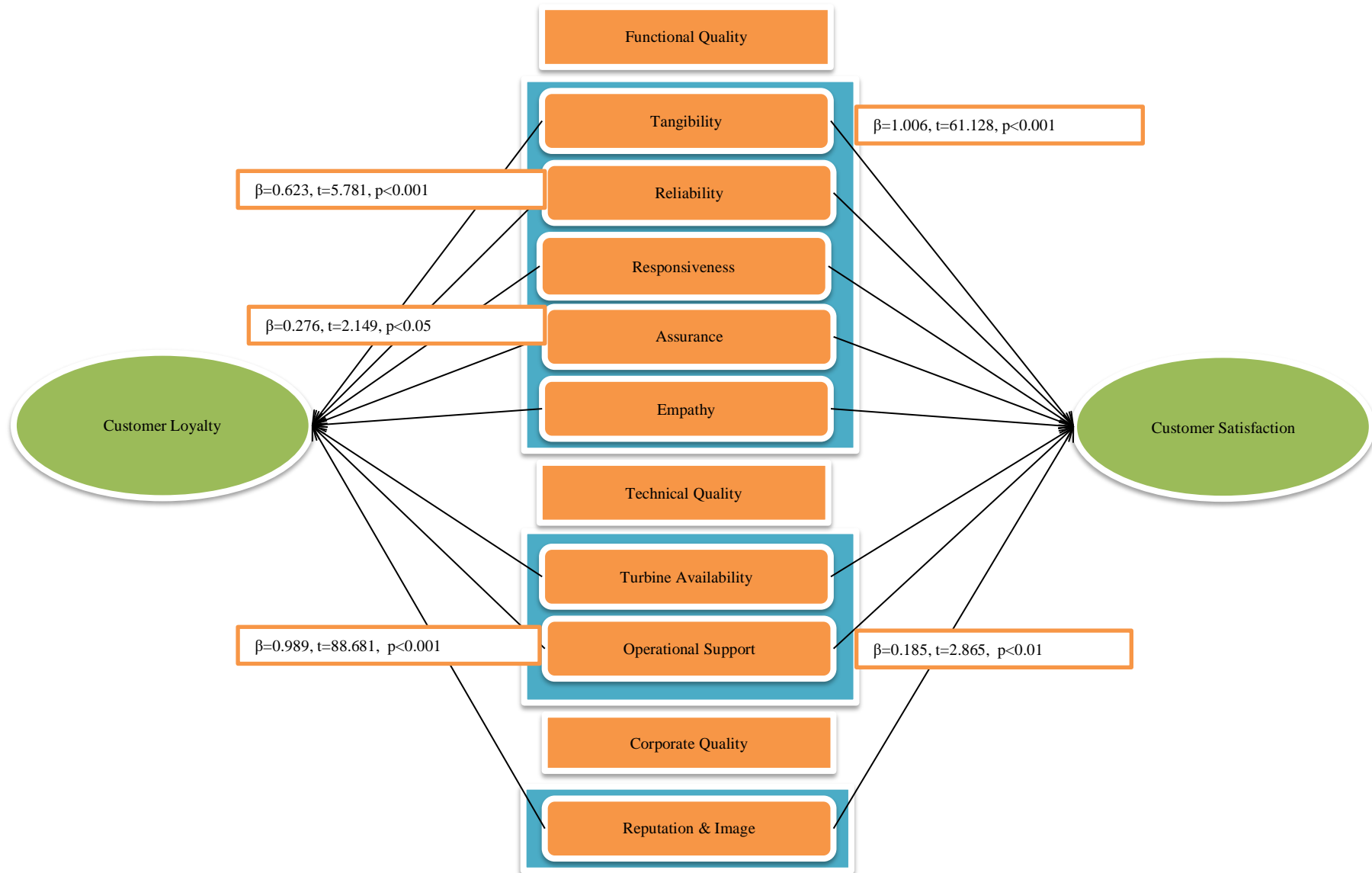
Table 71 presents the Paired-t test for service quality dimension. For tangibility, responsiveness, empathy, operational support and reputation & image p value (significance value) is less than 0.05, the alternate hypothesis is accepted. For tangibility, responsiveness, empathy, operational support and reputation & image, p value are less than 0.05, so the alternate hypothesis is partially accepted for five dimensions, i.e. there is a significant gap for tangibility, responsiveness, empathy, operational support and reputation & image dimensions. From the mean analysis and hypothesis testing, responsiveness, empathy, operational support and reputation & image dimensions have a negative score and significant with respect to four dimensions, that is experienced score is less than the expected score. For reliability, assurance and turbine availability p-value are greater than 0.05, there is no significant gap reliability, assurance and turbine availability between experienced and expected score. Hence conclude that

H₁₂₁: There is a significant difference between experienced and an expected service quality dimension is partially accepted.

4.4.3 Summary table (Turbine-wise)

Hypotheses	Type of Statistical test used	Accept/Reject
There is a significant relationship between functional quality dimensions and customer satisfaction	Correlation	Partially accepted
There is a significant relationship between functional quality dimensions and customer loyalty	Correlation	Accepted
There is a significant relationship between technical quality dimensions and customer satisfaction	Correlation	Partially accepted
There is a significant relationship between technical quality dimensions and customer loyalty	Correlation	Accepted
There is no significant relationship between reputation & image and customer satisfaction	Correlation	Accepted
There is no significant relationship between reputation & image and customer loyalty	Correlation	Accepted
There is a significant impact of functional quality dimensions on customer satisfaction	Multiple Regression	Partially accepted
There is a significant impact of functional quality dimensions on customer loyalty	Multiple Regression	Partially accepted
There is a significant impact of technical quality dimensions on customer satisfaction	Multiple Regression	Partially accepted
There is a significant impact of technical quality dimensions on customer loyalty	Multiple Regression	Partially accepted
There is no significant impact of reputation & image on customer satisfaction	Linear Regression	Accepted
There is no significant impact of reputation & image on customer loyalty	Linear Regression	Accepted
There is a significant difference between experienced and expected tangibility	Paired t-test	Partially accepted
There is no significant difference between experienced and expected reliability	Paired t-test	Accepted
There is a significant difference between experienced and expected responsiveness	Paired t-test	Accepted
There is no significant difference between experienced and expected assurance	Paired t-test	Accepted
There is a significant difference between experienced and expected empathy	Paired t-test	Accepted
There is no significant difference between experienced and expected turbine availability	Paired t-test	Accepted
There is a significant difference between experienced and expected operational support	Paired t-test	Accepted
There is a significant difference between experienced and expected reputation & image	Paired t-test	Accepted
There is a significant difference between experienced and expected service quality	Paired t-test	Partially accepted

4.4.4 Turbine-Wise Model



4.5 Service Provider Wise Analysis

Table 72: Descriptive statistics (n=226)

Variables	Service provider 1 (n=67)				Service provider 2 (n=94)				Service provider 3 (n=65)			
	Mean	SD	Max	Min	Mean	SD	Max	Min	Mean	SD	Max	Min
Tangibility-Experienced	4.71	0.49	5.00	3.00	4.76	0.47	5.00	1.17	4.48	0.81	5.00	1.00
Reliability-Experienced	3.34	1.43	5.00	1.00	3.35	1.51	5.00	1.00	3.47	1.38	5.00	1.17
Responsiveness-Experienced	3.29	1.35	5.00	1.00	3.65	1.41	5.00	1.00	3.53	1.37	5.00	1.00
Assurance-Experienced	4.06	1.22	5.00	1.00	4.18	1.12	5.00	1.00	4.26	1.00	5.00	1.00
Empathy-Experienced	3.95	1.26	5.00	1.00	3.86	1.32	5.00	1.00	4.08	1.17	5.00	1.00
Turbine Availability-Experienced	3.89	1.13	5.00	1.00	3.99	1.26	5.00	1.00	4.09	1.02	5.00	1.00
Operational Support-Experienced	3.54	1.38	5.00	1.00	3.50	1.41	5.00	1.00	3.55	1.36	5.00	1.00
Reputation & Image-Experienced	3.49	0.59	5.00	2.20	3.72	0.68	5.00	1.40	3.55	0.60	5.00	2.20
Tangibility-Expected	4.60	0.64	5.00	3.00	4.63	0.73	5.00	1.17	4.41	0.86	5.00	1.00
Reliability-Expected	3.41	1.49	5.00	1.00	3.37	1.52	5.00	1.00	3.55	1.41	5.00	1.17
Responsiveness-Expected	3.88	1.27	5.00	1.00	4.07	1.23	5.00	1.00	3.79	1.31	5.00	1.00
Assurance-Expected	4.32	0.97	5.00	1.00	4.43	0.88	5.00	1.00	4.37	0.88	5.00	1.00
Empathy-Expected	4.22	1.03	5.00	1.20	4.43	0.81	5.00	1.00	4.34	0.93	5.00	1.00
Turbine Availability-Expected	4.26	0.82	5.00	2.00	4.34	0.95	5.00	1.00	4.39	0.66	5.00	2.00
Operational Support-Expected	4.29	0.92	5.00	1.00	4.32	0.87	5.00	1.00	4.35	0.75	5.00	1.40
Reputation & Image-Expected	4.07	0.75	5.00	1.60	4.22	0.63	5.00	1.80	4.09	0.61	5.00	2.80

SD- Standard Deviation, Max- Maximum, Min-Minimum

Table 72 shows the descriptive statistics for the sample in relation to the extracted dimensions for different service providers. Tangibility obtained the high mean score in service provider 2 for experienced (4.76), while Reputation & Image obtained the neutral mean score, in all the three service providers for experienced 3.49, 3.72 and 3.55. Keeping in mind that the Likert scale categories 1.0 to 2.4 are regarded as low, 2.5 to 3.4 are regarded as average or neutral and 3.5 to 5 are regarded as high.

Table 73: Difference in mean service quality dimensions between different service providers (n=226)

Variables	Service Providers			F-value	p-value
	Service provider 1 (n=67)	Service provider 2 (n=94)	Service provider 3 (n=65)		
	Mean±SD				
Tangibility	0.11±0.45	0.13±0.60	0.07±0.34	0.258	0.773
Reliability	-0.07±0.34	-0.02±0.19	-0.08±0.39	0.673	0.511
Responsiveness	-0.58±1.24	-0.42±1.13	-0.25±0.87	1.454	0.236
Assurance	-0.27±0.96	-0.25±0.88	-0.11±0.61	0.747	0.475
Empathy	-0.27±0.97	-0.57±1.30	-0.26±0.93	1.973	0.142
Turbine Availability	-0.36±0.98	-0.34±1.01	-0.30±0.94	0.079	0.924
Operational Support	-0.75±1.35	-0.82±1.43	-0.80±1.43	0.054	0.947
Reputation & Image	-0.58±0.82	-0.49±0.80	-0.54±0.87	0.214	0.807

Table 73 reveals the difference in mean service quality dimensions between different service providers. Since the p-value is greater than 0.05 for all service quality dimensions, hence there is no difference in mean service quality dimensions between different service providers.

4.5.1 Hypothesis

Null Hypothesis H_{01} : There is no significant relationship between functional quality dimensions and customer satisfaction

Alternative Hypothesis H_{11} : There is a significant relationship between functional quality dimensions and customer satisfaction

Table 74: Correlation between functional quality dimensions and customer satisfaction (n=226)

Service Provider	Variables	Tangibility	Reliability	Responsiveness	Assurance	Empathy	Customer Satisfaction
Service provider 1	Tangibility	1	.064	.087	.278*	.122	.989**
	Reliability		1	.562**	.266*	.329**	.024
	Responsiveness			1	.388**	.091	.055
	Assurance				1	.311*	.276*
	Empathy					1	.141
	Customer Satisfaction						1
Service provider 2	Tangibility	1	.072	.110	.012	-.122	.988**
	Reliability		1	.327**	.279**	.222*	.020
	Responsiveness			1	.212*	-.163	.096
	Assurance				1	-.042	.011
	Empathy					1	-.135
	Customer Satisfaction						1
Service provider 3	Tangibility	1	.196	.172	.098	.086	.996**
	Reliability		1	.346**	.268*	.411**	.162
	Responsiveness			1	.267*	-.143	.163
	Assurance				1	.177	.080
	Empathy					1	.086
	Customer Satisfaction						1

**p<0.01, *p<0.05

Table 74 presents the Pearson correlation analysis. It is evident from the table that in service provider 1, tangibility does show a significant positive linear relationship with assurance ($r=0.278$, $p<0.05$) and customer satisfaction ($r=0.989$, $p<0.001$). Reliability shows a significant positive relationship with responsiveness ($r=0.562$, $p<0.001$), assurance ($r=0.266$, $p<0.05$) and empathy ($r=0.329$, $p<0.001$). Responsiveness shows a significant positive relationship with assurance ($r=0.388$, $p<0.001$). Assurance shows significant positive relationship with empathy ($r=0.311$, $p<0.05$) and customer satisfaction ($r=0.276$, $p<0.05$).

In service provider 2, tangibility shows a significant positive relationship with customer satisfaction ($r=0.988$, $p<0.001$). Reliability is positively correlated with responsiveness ($r=0.327$, $p<0.001$), assurance ($r=0.279$, $p<0.001$) and empathy ($r=0.222$, $p<0.05$). Responsiveness is correlated with assurance ($r=0.212$, $p<0.05$).

In service provider 3, tangibility shows a significant positive relationship with customer satisfaction ($r=0.996$, $p<0.001$). Reliability shows a positive relationship with responsiveness ($r=0.346$, $p<0.001$), assurance ($r=0.268$, $p<0.05$) and empathy ($r=0.411$, $p<0.001$). Responsiveness is positively correlated with assurance ($r=0.267$, $p<0.05$). The correlation value ranged from 0.267-0.996. The correlation values are positive, mean when functional quality increases customer satisfaction also increases. Therefore the hypothesis

H_{11} : There is a significant relationship between functional quality dimensions and customer satisfaction is partially accepted.

Null Hypothesis H_{02} : There is no significant relationship between functional quality dimensions and customer loyalty

Alternative Hypothesis H_{12} : There is a significant relationship between functional quality dimensions and customer loyalty

Table 75: Correlation between functional quality dimensions and customer loyalty (n=226)

Service Provider	Variables	Tangibility	Reliability	Responsiveness	Assurance	Empathy	Customer Loyalty
Service provider 1	Tangibility	1	.064	.087	.278*	.122	.120
	Reliability		1	.562**	.266*	.329**	.869**
	Responsiveness			1	.388**	.091	.527**
	Assurance				1	.311*	.297*
	Empathy					1	.367**
	Customer Loyalty						1
Service provider 2	Tangibility	1	.072	.110	.012	-.122	.211*
	Reliability		1	.327**	.279**	.222*	.810**
	Responsiveness			1	.212*	-.163	.340**
	Assurance				1	-.042	.213*
	Empathy					1	.168
	Customer Loyalty						1
Service provider 3	Tangibility	1	.196	.172	.098	.086	.259*
	Reliability		1	.346**	.268*	.411**	.882**
	Responsiveness			1	.267*	-.143	.389**
	Assurance				1	.177	.298*
	Empathy					1	.341**
	Customer Loyalty						1

** $p<0.01$, * $p<0.05$

Table 75 presents the Pearson correlation analysis. It is evident from the table that in service provider 1, customer loyalty does show a significant positive linear relationship with reliability ($r=0.869$, $p<0.001$), responsiveness ($r=0.527$, $p<0.001$), assurance ($r=0.297$, $p<0.05$) and empathy ($r=0.367$, $p<0.001$).

In service provider 2, customer loyalty shows a significant positive relationship with tangibility ($r=0.211$, $p<0.05$), Reliability ($r=0.810$, $p<0.001$), responsiveness ($r=0.340$, $p<0.001$) and assurance ($r=0.213$, $p<0.05$).

In service provider 3, customer loyalty shows significant positive relationship with tangibility ($r=0.259$, $p<0.05$), Reliability ($r=0.882$, $p<0.001$), responsiveness ($r=0.389$, $p<0.001$), assurance ($r=0.298$, $p<0.05$) and empathy ($r=0.341$, $p<0.001$). The correlation values are positive, mean when functional quality increases customer loyalty also increases. Therefore, the hypothesis

H₁₂: There is a significant relationship between functional quality dimensions and customer loyalty is partially accepted.

Null Hypothesis H₀₃: There is no significant relationship between technical quality dimensions and customer satisfaction

Alternative Hypothesis H₁₃: There is a significant relationship between technical quality dimensions and customer satisfaction

Table 76: Correlation between technical quality dimensions and customer satisfaction (n=226)

Service Provider	Variables	Turbine Availability	Operational Support	Customer Satisfaction
Service provider 1	Turbine Availability	1	.312*	.242*
	Operational Support		1	.080
	Customer Satisfaction			1
Service provider 2	Turbine Availability	1	.150	.196
	Operational Support		1	.157
	Customer Satisfaction			1
Service provider 3	Turbine Availability	1	.318**	.297*
	Operational Support		1	.231
	Customer Satisfaction			1

** $p<0.01$, * $p<0.05$

Table 76 presents the Pearson correlation analysis. It is evident from the table that in service provider 1, turbine availability does show a significant positive linear relationship with operational support ($r=0.312$, $p<0.05$) and customer satisfaction ($r=0.242$, $p<0.05$).

In service provider 3, turbine availability shows significant positive relationship with operational support ($r=0.318$, $p<0.001$) and customer satisfaction ($r=0.297$, $p<0.05$). The correlation value lies between 0.242 to 0.318. The correlation values are positive, mean when technical quality increases customer loyalty also increases. Therefore, the hypothesis

H₁₃: There is a significant relationship between technical quality dimensions and customer satisfaction is partially accepted.

Null Hypothesis H₀₄: There is no significant relationship between technical quality dimensions and customer loyalty

Alternative Hypothesis H₁₄: There is a significant relationship between technical quality dimensions and customer loyalty

Table 77: Correlation between technical quality dimensions and customer loyalty (n=226)

Service Provider	Variables	Turbine Availability	Operational Support	Customer Loyalty
Service provider 1	Turbine Availability	1	.312*	.315**
	Operational Support		1	.998**
	Customer Loyalty			1
Service provider 2	Turbine Availability	1	.150	.163
	Operational Support		1	.997**
	Customer Loyalty			1
Service provider 3	Turbine Availability	1	.318**	.318**
	Operational Support		1	.997**
	Customer Loyalty			1

** $p<0.01$, * $p<0.05$

Table 77 presents the Pearson correlation analysis. It is evident from the table that in service provider 1, turbine availability does show a significant positive linear relationship with operational support ($r=0.312$, $p<0.05$) and customer loyalty ($r=0.315$, $p<0.001$). Operational support is positively related with customer loyalty ($r=0.998$, $p<0.001$).

In service provider 2, operational support does show a significant positive linear relationship with customer loyalty ($r=0.997$, $p<0.001$).

In service provider 3, turbine availability shows a significant positive relationship with operational support ($r=0.318$, $p<0.001$) and customer loyalty ($r=0.318$, $p<0.001$). Operational support is positively related with customer loyalty ($r=0.997$, $p<0.001$). The correlation value ranges from 0.312 to 0.998. The correlation values are positive, mean when technical quality increases customer loyalty also increases. Therefore, the hypothesis

H₁₄: There is a significant relationship between technical quality dimensions and customer loyalty is partially accepted.

Null Hypothesis H₀₅: There is no significant relationship between reputation & image and customer satisfaction

Alternative Hypothesis H₁₅: There is a significant relationship between reputation & image and customer satisfaction

Table 78: Correlation between corporate quality and customer satisfaction (n=226)

Service Provider	Variables	Reputation & Image	Customer Satisfaction
Service provider 1	Reputation & Image	1	.090
	Customer Satisfaction		1
Service provider 2	Reputation & Image	1	.022
	Customer Satisfaction		1
Service provider 3	Reputation & Image	1	-.098
	Customer Satisfaction		1

Table 78 presents the Pearson correlation analysis. It is evident from the table that there is no significant relationship between reputation/image and customer satisfaction for service provider 1, service provider 2 and service provider 3. Therefore, the hypothesis

H₀₅: There is no significant relationship between reputation & image and customer satisfaction is accepted.

Null Hypothesis H₀₆: There is no significant relationship between reputation & image and customer loyalty

Alternative Hypothesis H₁₆: There is a significant relationship between reputation & image and customer loyalty

Table 79: Correlation between corporate quality and customer loyalty (n=226)

Service Provider	Variables	Reputation & Image	Customer Loyalty
Service provider 1	Reputation & Image	1	-.089
	Customer Loyalty		1
Service provider 2	Reputation & Image	1	.095
	Customer Loyalty		1
Service provider 3	Reputation & Image	1	-.042
	Customer Loyalty		1

Table 79 presents the Pearson correlation analysis. It is evident from the table that there is no significant relationship between reputation/image and customer loyalty for service provider 1, service provider 2 and service provider 3. Therefore, the hypothesis

H₀₆: There is no significant relationship between reputation & image and customer loyalty is accepted.

Null Hypothesis H₀₇: There is no significant impact of functional quality dimensions on customer satisfaction

Alternative Hypothesis H₁₇: There is a significant impact of functional quality dimensions on customer satisfaction

Table 80: Association between functional quality dimensions on customer satisfaction (n=226)

Service Provider	Model		Unstandardized Coefficients		Adjusted R-square	t-value	p-value
			Beta	SE			
Service provider 1	1	(Constant)	0.082	0.088	0.979	0.926	0.358
		Tangibility	0.982	0.019		52.441	0.000**
		Reliability	-0.016	0.008		-2.028	0.047*
		Responsiveness	-0.003	0.009		-0.409	0.684
		Assurance	0.003	0.009		0.332	0.741
		Empathy	0.014	0.008		1.732	0.088
Service provider 2	1	(Constant)	0.126	0.085	0.977	1.476	0.144
		Tangibility	0.975	0.016		62.098	0.000**
		Reliability	-0.017	0.005		-3.084	0.003**
		Responsiveness	0.001	0.006		0.128	0.898
		Assurance	0.006	0.007		0.836	0.406
		Empathy	0.000	0.006		-0.062	0.951
Service provider 3	1	(Constant)	0.093	0.058	0.994	1.603	0.114
		Tangibility	0.985	0.010		98.384	0.000**
		Reliability	-0.026	0.007		-3.671	0.001**
		Responsiveness	0.008	0.007		1.163	0.249
		Assurance	-0.010	0.008		-1.245	0.218
		Empathy	0.016	0.008		1.981	0.052*

Dependent Variable: Customer Satisfaction, **p<0.01, *p<0.05

The association between functional quality dimensions and customer satisfaction is presented in the table 80. In the regression model, functional quality dimensions are considered as independent variable while customer satisfaction is considered as a dependent variable. In service provider 1, the significance value (p-value<0.05) clearly unveils that Tangibility ($\beta=0.982$, $t=52.441$, $p<0.001$) is positively significant and Reliability ($\beta=-0.016$, $t=-2.028$, $p=0.047<0.05$) is negative impact on customer satisfaction. While in service provider 2 and service provider 3 there is no change, that is tangibility, is positively and reliability negatively impacts on customer satisfaction. In addition, 98 (0.979) percent for service provider 1, 98 (0.977) percent for service provider 2 and 99 (0.994) percent for service provider 3 of the variation in customer satisfaction is dependent on functional quality dimensions (Adjusted R-square=0.979, 0.977 and 0.994). Hence conclude that

H₁₇: There is a significant impact of functional quality dimensions on customer satisfaction is partially accepted.

Null Hypothesis H₀₈: There is no significant impact of functional quality dimensions on customer loyalty

Alternative Hypothesis H₁₈: There is a significant impact of functional quality dimensions on customer loyalty

Table 81: Association between functional quality dimensions on customer loyalty (n=226)

Service Provider	Model		Unstandardized Coefficients		Adjusted R-square	t-value	p-value
			Beta	SE			
Service provider 1	1	(Constant)	-0.325	0.846	0.750	-0.384	0.702
		Tangibility	0.131	0.180		0.730	0.468
		Reliability	0.774	0.077		10.103	0.000**
		Responsiveness	0.058	0.082		0.704	0.484
		Assurance	0.025	0.082		0.309	0.758
		Empathy	0.096	0.076		1.261	0.212
Service provider 2	1	(Constant)	-1.331	0.995	0.667	-1.338	0.184
		Tangibility	0.451	0.183		2.470	0.015*
		Reliability	0.720	0.064		11.300	0.000**
		Responsiveness	0.079	0.066		1.205	0.232
		Assurance	-0.025	0.079		-0.314	0.754
		Empathy	0.029	0.068		0.419	0.676
Service provider 3	1	(Constant)	-0.355	0.581	0.777	-0.610	0.544
		Tangibility	0.132	0.101		1.309	0.196
		Reliability	0.805	0.071		11.341	0.000**
		Responsiveness	0.073	0.068		1.077	0.286
		Assurance	0.065	0.084		0.774	0.442
		Empathy	-0.005	0.079		-0.061	0.952

Dependent Variable: Customer Loyalty, **p<0.01, *p<0.05

The association between functional quality dimensions and customer loyalty is presented in the table 81. In the regression model, functional quality dimensions are considered as independent variable while customer loyalty is considered as a dependent variable. In service provider 1, the significance value (p-value<0.05) clearly unveils that Reliability ($\beta=0.774$, $t=10.103$, $p<0.001$) is a positive impact and explains 75 percent variation on customer loyalty. While in service provider 2, tangibility ($\beta=0.451$, $t=2.470$, $p=0.015<0.05$) and reliability ($\beta=0.720$, $t=11.300$, $p<0.001$) are positively impact on customer loyalty and explains 67 percent variation on customer loyalty. When service provider 3 is considered, reliability ($\beta=0.805$, $t=11.341$, $p<0.001$) is positive and explains 78 percent of variation on customer loyalty. Hence conclude that

H₁₈: There is a significant impact of functional quality dimensions on customer loyalty is partially accepted.

Null Hypothesis H₀₉: There is no significant impact of technical quality dimensions on customer satisfaction

Alternative Hypothesis H₁₉: There is a significant impact of technical quality dimensions on customer satisfaction

Table 82: Association between technical quality dimensions on customer satisfaction (n=226)

Service Provider	Model		Unstandardized Coefficients		Adjusted R-square	t-value	p-value
			Beta	SE			
Service provider 1	1	(Constant)	4.299	0.233	0.029	18.418	0.000
		Turbine Availability	0.105	0.055		1.887	0.064
		Operational Support	0.002	0.045		0.039	0.969
Service provider 2	1	(Constant)	4.329	0.182	0.034	23.846	0.000
		Turbine Availability	0.064	0.037		1.714	0.090
		Operational Support	0.042	0.033		1.269	0.208
Service provider 3	1	(Constant)	3.365	0.414	0.080	8.127	0.000
		Turbine Availability	0.193	0.098		1.966	0.054*
		Operational Support	0.089	0.074		1.206	0.232

Dependent Variable: Customer Satisfaction, *p<0.05

The association between technical quality dimensions and customer satisfaction is presented in the table 82. In the regression model, technical quality dimensions are considered as independent variable while customer satisfaction is considered as a dependent variable. In service provider 3, turbine availability ($\beta=0.193$, $t=1.966$, $p=0.054<0.05$) is a positive impact and explains 8 percent of the variation in customer satisfaction. Hence conclude that

H₁₉: There is a significant impact of technical quality dimensions on customer satisfaction is partially accepted.

Null Hypothesis H₀₁₀: There is no significant impact of technical quality dimensions on customer loyalty

Alternative Hypothesis H₁₁₀: There is a significant impact of technical quality dimensions on customer loyalty

Table 83: Association between technical quality dimensions on customer loyalty (n=226)

Service Provider	Model		Unstandardized Coefficients		Adjusted R-square	t-value	p-value
			Beta	SE			
Service provider 1	1	(Constant)	-0.009	0.042	0.996	-0.216	0.830
		Turbine Availability	0.004	0.010		0.385	0.702
		Operational Support	0.999	0.008		122.324	0.000**
Service provider 2	1	(Constant)	0.004	0.041	0.995	0.100	0.920
		Turbine Availability	0.015	0.008		1.846	0.068
		Operational Support	0.989	0.007		131.886	0.000**
Service provider 3	1	(Constant)	0.057	0.052	0.995	1.080	0.284
		Turbine Availability	0.002	0.012		0.161	0.873
		Operational Support	0.981	0.009		104.991	0.000**

Dependent Variable: Customer Loyalty, **p<0.01

The association between technical quality dimensions and customer loyalty is presented in the table 83. In the regression model, technical quality dimensions are considered as independent variable while customer loyalty is considered as a dependent variable. In service provider 1, 2 and 3 operational support are a positive impact and explains 100 percent of variation on customer loyalty. Hence conclude that

H₁₁₀: There is a significant impact of technical quality dimensions on customer loyalty is partially accepted.

Null Hypothesis H₀₁₁: There is no significant impact of reputation & image on customer satisfaction

Alternative Hypothesis H₁₁₁: There is a significant impact of reputation & image on customer satisfaction

Table 84: Association between corporate quality on customer satisfaction (n=226)

Service Provider	Model		Unstandardized Coefficients		Adjusted R-square	t-value	p-value
			Beta	SE			
Service provider 1	1	(Constant)	4.449	0.365	-0.007	12.190	0.000
		Reputation & Image	0.075	0.103		0.732	0.467
Service provider 2	1	(Constant)	4.679	0.265	-0.010	17.628	0.000
		Reputation & Image	0.015	0.070		0.209	0.835
Service provider 3	1	(Constant)	4.927	0.595	-0.006	8.280	0.000
		Reputation & Image	-0.129	0.165		-0.779	0.439

Dependent Variable: Customer Satisfaction

The association between reputation & image and customer satisfaction is presented in the table 84. In the regression model, reputation & image is considered as independent variable while customer satisfaction is considered as a dependent variable. In service provider 1, 2 and 3 reputation & image does not impact on customer satisfaction. Hence conclude that

H₀₁₁: There is no significant impact of reputation & image on customer satisfaction is accepted.

Null Hypothesis H₀₁₂: There is no significant impact of reputation & image on customer loyalty

Alternative Hypothesis H₁₁₂: There is a significant impact of reputation & image on customer loyalty

Table 85: Association between corporate quality on customer loyalty (n=226)

Service Provider	Model		Unstandardized Coefficients		Adjusted R-square	t-value	p-value
			Beta	SE			
Service provider 1	1	(Constant)	4.280	1.027	-0.007	4.169	0.000
		Reputation & Image	-0.210	0.290		-0.724	0.472
Service provider 2	1	(Constant)	2.798	0.809	-0.002	3.459	0.001
		Reputation & Image	0.195	0.214		0.913	0.364
Service provider 3	1	(Constant)	3.878	1.007	-0.014	3.850	0.000
		Reputation & Image	-0.094	0.280		-0.337	0.737

Dependent Variable: Customer Loyalty

The association between reputation & image and customer loyalty is presented in the table 85. In the regression model, reputation & image is considered as independent variable while customer loyalty is considered as a dependent variable. In service provider 1, 2 and 3 reputation & image does not impact on customer loyalty. Hence conclude that

H_{012} : There is no significant impact of reputation & image on customer loyalty is accepted.

4.5.2 Gap Analysis

Null Hypothesis H_{013} : There is no significant difference between experienced and expected tangibility.

Alternative Hypothesis H_{113} : There is a significant difference between experienced and expected tangibility.

Table 86: Gap analysis for Tangibility factor (n=226)

Tangibility	Mean	SD	p-value
TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc. [Experienced Quality] – TG1. Service Firm is well equipped with required Tools, Fixtures, Lifting Equipment's, Personal Protective Equipment's, etc. [Expected Quality]	.115	.494	0.001**
TG2. Service Firm maintains all measuring equipments with proper inspections, checkups & Calibration [Experienced Quality] – TG2. Service Firm maintains all measuring equipment's with proper inspections, checkups & Calibration [Expected Quality]	.097	.451	0.001**
TG3. Service firm provides the maintenance of all Safety Equipment's in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc) [Experienced Quality] – TG3. Service firm provides the maintenance of all Safety Equipment's in Turbines (everything in the factory including Fire Extinguisher, First Aid Kits, etc) [Expected Quality]	.106	.487	0.001**
TG4. Physical appearance of the Service Employees is more professional & safety conscious. [Experienced Quality] – TG4. Physical appearance of the Service Employees is more professional & safety conscious. [Expected Quality]	.106	.505	0.002**
TG5. Service firm provides a good house-keeping activities on Wind Turbines, Office & Storage Area [Experienced Quality] – TG5. Service firm provides a good house-keeping activities on Wind Turbines, Office & Storage Area [Expected Quality]	.124	.552	0.001**
TG7. Service Firm provides latest service technology [Experienced Quality] – TG7. Service Firm provides latest service technology [Expected Quality]	.106	.505	0.002**

**p<0.01

Table 86 presents the Paired-t test for tangibility dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In tangibility items, p value for all the items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant tangibility gap for all the items. From the mean analysis and hypothesis testing, tangibility gap for individual items is positive and significant with respect to all the six items. The tangibility items have a positive score that is experienced score is more than the expected score. Hence conclude that

H₁₁₃: There is a significant difference between experienced and expected tangibility is accepted.

Null Hypothesis H₀₁₄: There is no significant difference between experienced and expected reliability.

Alternative Hypothesis H₁₁₄: There is a significant difference between experienced and expected reliability.

Table 87: Gap analysis for Reliability factor (n=226)

Reliability	Mean	SD	p-value
RL1. Service Firm offers all Preventive (scheduled) & Corrective (un-scheduled) maintenances services as promised in Contract [Experienced Quality] – RL1. Service Firm offers all Preventive (scheduled) & Corrective (un-scheduled) maintenances services as promised in Contract [Expected Quality]	-0.062	.395	0.019*
RL2. Service Firm maintains their service records accurately [Experienced Quality] – RL2. Service Firm maintains their service records accurately [Expected Quality]	-0.062	.395	0.019*
RL3. Services deliveries are uniform at all times [Experienced Quality] – RL3. Services deliveries are uniform at all times [Expected Quality]	-0.062	.395	0.019*
RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures. [Experienced Quality] – RL4. The quality of service is consistent with the Turbine Technical Specification & Operating Procedures. [Expected Quality]	-0.058	.423	0.042*
RL6. Service Firm fulfills warranty obligations [Experienced Quality] – RL6. Service Firm fulfills warranty obligations [Expected Quality]	-0.058	.423	0.042*
RL8. Service Firm is committed to fulfill the execution of turbine maintenance & operation support (promises) in timely manner [Experienced Quality] – RL8. Service Firm is committed to fulfill the execution of turbine maintenance & operation support (promises) in timely manner [Expected Quality]	-0.022	.274	0.226

*p<0.05

Table 87 presents the Paired-t test for reliability dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In reliability items, p values for five items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant reliability gap for five items. From the mean analysis and hypothesis testing, reliability gap for individual items is negative and significant with respect to five items. The reliability items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₄: There is a significant difference between experienced and expected reliability is accepted.

Null Hypothesis H₀₁₅: There is no significant difference between experienced and expected responsiveness.

Alternative Hypothesis H₁₁₅: There is a significant difference between experienced and expected responsiveness.

Table 88: Gap analysis for Responsiveness factor (n=226)

Responsiveness	Mean	SD	p-value
RE1. Service teams/persons provide prompt service to customers depends on the contract [Experienced Quality] – RE1. Service teams/persons provide prompt service to customers depends on the contract [Expected Quality]	-0.412	1.076	0.000**
RE2. Service Employees give their customers shorter waiting time or fast service turnaround [Experienced Quality] – RE2. Service Employees give their customers shorter waiting time or fast service turnaround [Expected Quality]	-0.425	1.114	0.000**
RE4. Service teams/persons always respond to customer calls [Experienced Quality] – RE4. Service teams/persons always respond to customer calls [Expected Quality]	-0.412	1.076	0.000**
RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded [Experienced Quality] – RE5. Service teams/persons are in a position to inform the customer about the time it will take for compliance of the service demanded [Expected Quality]	-0.434	1.138	0.000**
RE6. Service Firm possesses effective complaint handling process [Experienced Quality] – RE6. Service Firm possesses effective complaint handling process [Expected Quality]	-0.434	1.126	0.000**

**p<0.01

Table 88 presents the Paired-t test for responsiveness dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In responsiveness items, p values for five items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant responsiveness gap for five items. From the mean analysis and hypothesis testing, responsiveness gap for individual items is negative and significant with respect to all the five items. The responsiveness items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₅: There is a significant difference between experienced and expected responsiveness is accepted.

Null Hypothesis H₀₁₆: There is no significant difference between experienced and expected assurance.

Alternative Hypothesis H₁₁₆: There is a significant difference between experienced and expected assurance.

Table 89: Gap analysis for Assurance factor (n=226)

Assurance	Mean	SD	p-value
AS1. Service Firm make customer to feel confident in Turbine operations & maintenance provide by the service employees [Experienced Quality] – AS1. Service Firm make customer to feel confident in Turbine operations & maintenance provide by the service employees [Expected Quality]	-.221	.840	0.000**
AS3. Service Employees are efficient and quick in delivering service [Experienced Quality] – AS3. Service Employees are efficient and quick in delivering service [Expected Quality]	-.212	.837	0.000**
AS4. Service Employees possess good technical competencies & attitude in delivering the service [Experienced Quality] – AS4. Service Employees possess good technical competencies & attitude in delivering the service [Expected Quality]	-.212	.837	0.000**
AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees [Experienced Quality] – AS5. Service Firm provides clear work procedures, Instruction, Guidelines to their employees [Expected Quality]	-.212	.837	0.000**
AS6. Service Firm understands & adhere to all National legal legislation of wind turbine operations [Experienced Quality] – AS6. Service Firm understands & adhere to all National legal legislation of wind turbine operations [Expected Quality]	-.212	.837	0.000**

**p<0.01

Table 89 presents the Paired-t test for assurance dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In assurance items, p values for five items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant assurance gap for five items. From the mean analysis and hypothesis testing, assurance gap for individual items is negative and significant with respect to all the five items. The assurance items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₆: There is a significant difference between experienced and expected assurance is accepted.

Null Hypothesis H₀₁₇: There is no significant difference between experienced and expected empathy.

Alternative Hypothesis H₁₁₇: There is a significant difference between experienced and expected empathy.

Table 90: Gap analysis for Empathy factor (n=226)

Empathy	Mean	SD	p-value
EM1. Service Firm ensures individual attention to each customer [Experienced Quality] – EM1. Service Firm ensures individual attention to each customer [Expected Quality]	-.394	1.131	0.000**
EM3. Service Firm have convenient business hours [Experienced Quality] – EM3. Service Firm have convenient business hours [Expected Quality]	-.389	1.119	0.000**
EM4. Service Firm maintains strong customer relations [Experienced Quality] – EM4. Service Firm maintains strong customer relations [Expected Quality]	-.398	1.143	0.000**
EM5. Service Employees are always ready to help customer [Experienced Quality] – EM5. Service Employees are always ready to help customer [Expected Quality]	-.394	1.131	0.000**
EM6. Service Employees are consistently polite and well-mannered [Experienced Quality] – EM6. Service Employees are consistently polite and well-mannered [Expected Quality]	-.394	1.111	0.000**

**p<0.01

Table 90 presents the Paired-t test for empathy dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In empathy items, p values for five items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant empathy gap for five items. From the mean analysis and hypothesis testing, empathy gap for individual items is negative and significant with respect to all the five items. The empathy items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₇: There is a significant difference between experienced and expected empathy is accepted.

Null Hypothesis H₀₁₈: There is no significant difference between experienced and expected turbine availability.

Alternative Hypothesis H₁₁₈: There is a significant difference between experienced and expected turbine availability.

Table 91: Gap analysis for Turbine availability factor (n=226)

Turbine availability	Mean	SD	p-value
TA1. Service firm offers 24/7 turbine services facility [Experienced Quality] – TA1. Service firm offers 24/7 turbine services facility [Expected Quality]	-.350	1.031	0.000**
TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime [Experienced Quality] – TA2. Service firm maintains of adequate spares all times for ensuring minimum turbine downtime [Expected Quality]	-.252	.796	0.000**
TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine Physical Condition [Experienced Quality] – TA3. Service firm does frequent Field Quality Inspection, Testing's & Audits to monitor the Turbine physical Condition [Expected Quality]	-.363	1.038	0.000**
TA4. Service Firm monitors and analyzes the performance of Wind Turbines at frequent intervals [Experienced Quality] – TA4. Service Firm monitors and analyzes the performance of Wind Turbines at frequent intervals [Expected Quality]	-.367	1.034	0.000**
TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine [Experienced Quality] – TA5. Preventive maintenance aims to avert faults / failures to critical components of a wind turbine [Expected Quality]	-.354	1.023	0.000**

Table 91 presents the Paired-t test for turbine availability dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In turbine availability items, p values for five items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant turbine availability gap for five items. From the mean analysis and hypothesis testing, turbine availability gap for individual items is negative and significant with respect to all the five items. The turbine availability items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₈: There is a significant difference between experienced and expected turbine availability is accepted.

Null Hypothesis H₀₁₉: There is no significant difference between experienced and expected operational support.

Alternative Hypothesis H₁₁₉: There is a significant difference between experienced and expected operational support.

Table 92: Gap analysis for Operational Support (n=226)

Operational Support	Mean	SD	p-value
OS1. Service firm support Power Generation Monitoring & Reporting [Experienced Quality] – OS1. Service firm support Power Generation Monitoring & Reporting [Expected Quality]	-0.858	1.519	0.000**
OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations [Experienced Quality] – OS2. The Service firm support Maintenance recommendations & Technical advice for safe operations [Expected Quality]	-0.566	1.040	0.000**
OS5. Service Firm Replace spares only if repairing fails [Experienced Quality] – OS5. Service Firm Replace spares only if repairing fails [Expected Quality]	-0.836	1.480	0.000**
OS6. Service Firm support Component Failure Analysis & root cause Reporting [Experienced Quality] – OS6. Service Firm support Component Failure Analysis & root cause Reporting [Expected Quality]	-0.845	1.496	0.000**
OS7. Service Firm support the customer for handling all legal & local legislation activities [Experienced Quality] – OS7. Service Firm support the customer for handling all legal & local legislation activities [Expected Quality]	-0.854	1.512	0.000**

**p<0.01

Table 92 presents the Paired-t test for operational support dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In operational support items, p values for five items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant operational support gap for five items. From the mean analysis and hypothesis testing, operational support gap for individual items is negative and significant with respect to all the five items. The operational support items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₁₉: There is a significant difference between experienced and expected operational support is accepted.

Null Hypothesis H₀₂₀: There is no significant difference between experienced and expected reputation & image.

Alternative Hypothesis H₁₂₀: There is a significant difference between experienced and expected reputation & image.

Table 93: Gap analysis for Reputation and Image (n=226)

Reputation & Image	Mean	SD	p-value
IM1. Service Firm is trustworthy [Experienced Quality] – IM1. Service Firm is trustworthy [Expected Quality]	-.810	1.190	0.000**
IM2. Service Firm offers excellent service to customers [Experienced Quality] – IM2. Service Firm offers excellent service to customers [Expected Quality]	-.031	.592	0.432
IM3. Service Firm is a successful in the market [Experienced Quality] – IM3. Service Firm is a successful in the market [Expected Quality]	-.518	.915	0.000**
IM5. Service Firm possess a superior wind turbine service technology [Experienced Quality] – IM5. Service Firm possess a superior wind turbine service technology [Expected Quality]	-.708	1.280	0.000**
IM7. Service Firm has a good esteem in the society [Experienced Quality] – IM7. Service Firm has a good esteem in the society [Expected Quality]	-.597	.962	0.000**

**p<0.01

Table 93 presents the Paired-t test for reputation & image dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In reputation & image items, p values for four items are less than 0.05, so the alternate hypothesis is accepted for all the items, i.e. there is significant reputation & image gap for four items. From the mean analysis and hypothesis testing, reputation & image gap for individual items is negative and significant with respect to four items. The reputation & image items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₂₀: There is a significant difference between experienced and expected reputation & image is accepted.

Null Hypothesis H₀₂₁: There is no significant difference between experienced and expected service quality dimensions.

Alternative Hypothesis H₁₂₁: There is a significant difference between experienced and expected service quality dimensions.

Table 94: Gap analysis for Service quality dimensions (n=226)

Service Quality factors	Mean	SD	p-value
Tangibility-Experienced - Tangibility-Expected	.10914	.49029	0.001**
Reliability-Experienced - Reliability-Expected	-.05383	.37996	0.034*
Responsiveness-Experienced - Responsiveness-Expected	-.42301	1.10297	0.000**
Assurance-Experienced - Assurance-Expected	-.21416	.83723	0.000**
Empathy-Experienced - Empathy-Expected	-.39381	1.11831	0.000**
Turbine Availability-Experienced - Turbine Availability-Expected	-.33717	.97713	0.000**
Operational Support-Experienced - Operational Support-Expected	-.79204	1.40061	0.000**
Reputation & Image-Experienced - Reputation & Image-Expected	-.53274	.82435	0.000**

**p<0.01, *p<0.05

Table 94 presents the Paired-t test for service quality dimension, if p value (significance value) is less than 0.05, the alternate hypothesis is accepted. In service quality dimensions, p values for all the factors are less than 0.05, so the alternate hypothesis is accepted for all the factors, i.e. there is significant service quality dimensions gap for all the factors. From the mean analysis and hypothesis testing, service quality dimensions gap for individual items is negative and significant with respect to seven factors. The reliability, responsiveness, assurance,

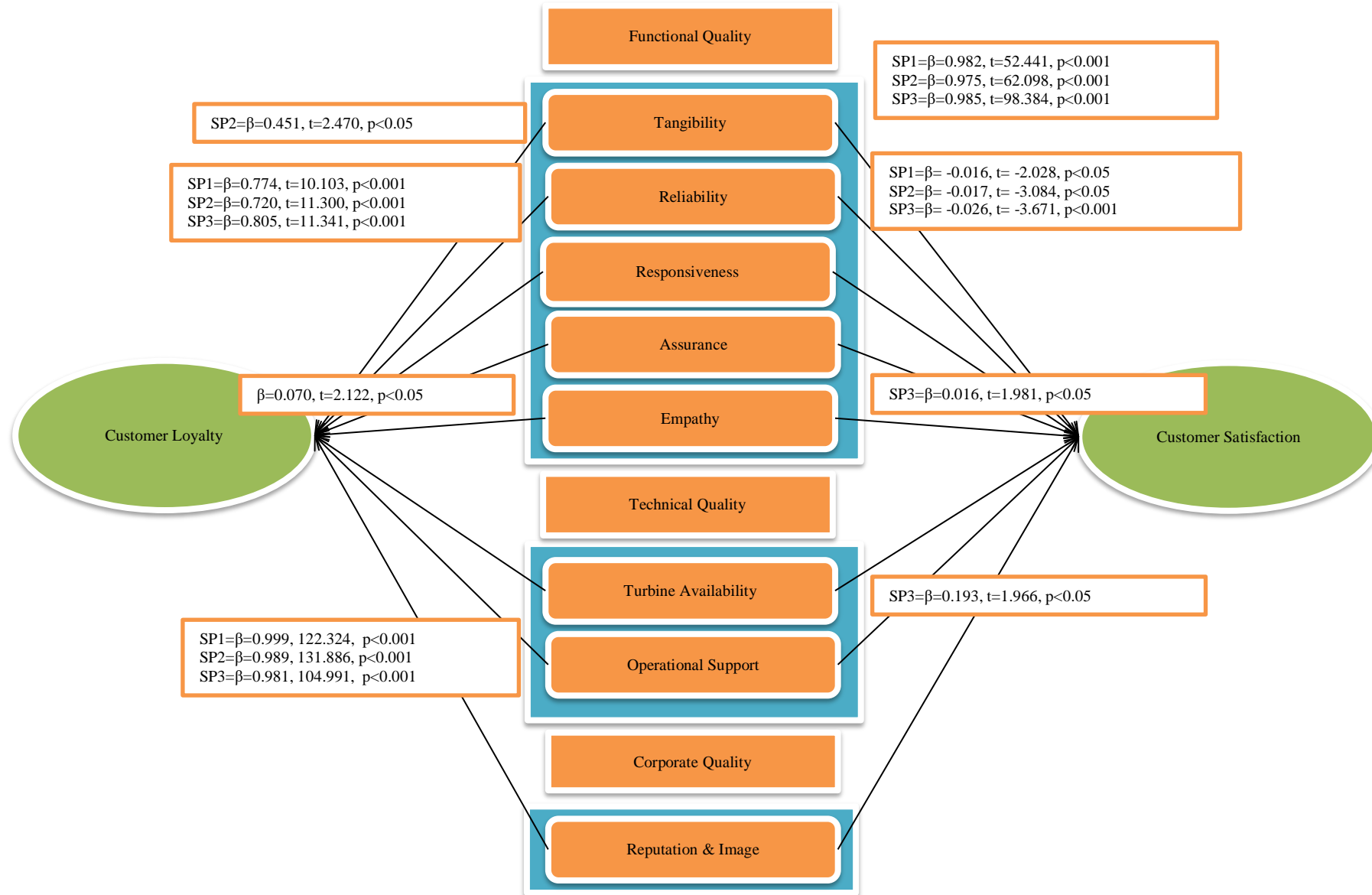
empathy, turbine availability, operational support and reputation & image items have a negative score that is experienced score is less than the expected score. Hence conclude that

H₁₂₁: There is a significant difference between experienced and expected service quality dimensions is accepted.

4.5.3 Summary table (Service provider)

Hypotheses	Type of Statistical test used	Accept/Reject
There is a significant relationship between functional quality dimensions and customer satisfaction	Correlation	Partially accepted
There is a significant relationship between functional quality dimensions and customer loyalty	Correlation	Partially accepted
There is a significant relationship between technical quality dimensions and customer satisfaction	Correlation	Partially accepted
There is a significant relationship between technical quality dimensions and customer loyalty	Correlation	Partially accepted
There is no significant relationship between reputation & image and customer satisfaction	Correlation	Accepted
There is no significant relationship between reputation & image and customer loyalty	Correlation	Accepted
There is a significant impact of functional quality dimensions on customer satisfaction	Multiple Regression	Partially accepted
There is a significant impact of functional quality dimensions on customer loyalty	Multiple Regression	Partially accepted
There is a significant impact of technical quality dimensions on customer satisfaction	Multiple Regression	Partially accepted
There is a significant impact of technical quality dimensions on customer loyalty	Multiple Regression	Partially accepted
There is no significant impact of reputation & image on customer satisfaction	Linear Regression	Accepted
There is no significant impact of reputation & image on customer loyalty	Linear Regression	Accepted
There is a significant difference between experienced and expected tangibility	Paired t-test	Accepted
There is no significant difference between experienced and expected reliability	Paired t-test	Accepted
There is a significant difference between experienced and expected responsiveness	Paired t-test	Accepted
There is no significant difference between experienced and expected assurance	Paired t-test	Accepted
There is a significant difference between experienced and expected empathy	Paired t-test	Accepted
There is no significant difference between experienced and expected turbine availability	Paired t-test	Accepted
There is a significant difference between experienced and expected operational support	Paired t-test	Accepted
There is a significant difference between experienced and expected reputation & image	Paired t-test	Accepted
There is a significant difference between experienced and expected service quality	Paired t-test	Accepted

4.5.4 Service Provider Model



References

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