RATERC Model and ATM Repeat Use: A ServPerf Perspective

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Abstract: This paper, entitled RATERC Model and ATM Repeat Use: a ServPerf Perspective, explores the RATERC model (made up of reliability, assurance, tangibles, empathy, responsiveness and cost) to see how the variables can be blended to ensure an increase in the repeat use of ATMs by bank customers. Primary data were used and they were sourced with the aid of 503 questionnaires made up of five point likert scale comprising 37 positive statements covering the variables under study. The reliability of the instrument was determined using Chronbach's Alpha and the value is 0.830. This shows a high degree of internal consistency of the measuring instrument used. Seven hypotheses were tested and all the null hypotheses were rejected, indicating that there is a correlation between RATERC and Repeat Use. A regression of RATERC and Repeat-Use shows that the constant, reliability, responsiveness and cost were significant, but assurance, tangibles and empathy were not significant at least at 5 percent significance level, indicating that reliability, cost and assurance have great effect on repeat use. The study further reveals that there is no serious problem of multi-collinearity among the independent variables of the study, hence validating the acronym, RATERC, used in this study. Finally, the paper recommends that banks should promote the six elements that constitute RATERC to increase customers repeat use of ATMs, since the result of the regression analysis revealed a significant regression between Repeat-Use of ATM and RATERC; Banks should optimize customers' cost of using ATMs by removing all unapproved charges on customers' accounts since cost yields the greatest contribution to the prediction of Repeat use.

Key words: Service Quality, Customer Satisfaction, ServQual, ServPerf, RATERC

Strictly as per the compliance and regulations of:

1.0 INTRODUCTION
1.1 Background of the Study

The Automated Teller Machine (ATM) is a self-service machine that dispenses cash and performs some other human teller functions. The introduction and rapid use of ATM is the most visible revolution in the banking sector. ATM offers customers the convenience of banking in many more locations than ever before (Litan, 1999). Agboola (2006) laments that only one bank had ATM in Nigeria in 1998. However, with time, there was a surge in the use of ATM, despite the presence of some intractable challenges. Wole and Louisa (2009) posit that the deployment of ATM by banks and its use by bank customers is just gaining ground and has burgeoned in recent times. Fasan (2007) attributes the growth in the use of ATM to the consolidation of banks, which made it possible for more banks to deploy ATMs or at least become part of the shared networks. Encomium (2014) affirms the growth in the use of ATMs in their study that declared Nigerians the heaviest ATM users in Africa. According to the source, out of 32,000 bank customers in 43 countries, including Nigeria, Kenya and South Africa who were surveyed by EY in 2014, Nigerians were adjudged the heaviest users of ATM. NIBSS (2017) also reports that the average ATM in Nigeria dispenses thrice the number of notes in Ghana, and 10 times the number of notes in U.K. That is to show that the use of ATMs in Nigeria is high (Bayo, 2017). This surge in the use of ATMs suggests that something is triggering the increase and the most likely triggering factor is service quality. This is traced to the fact that many studies have revealed a strong positive correlation between customer satisfaction and service quality (Anderson and Fornell, 1994; Poretia and Thanassoulis, 2005; Yong and Fang, 2004). Satisfied customers usually rebound and buy more. Apart from buying more, they also network to reach other potential customers by sharing experiences (Hague & Hague 2016). This work, therefore, is poised to take a critical look at service quality variables as they interface with repeat use.

1.2 Statement of the Problem
The relationship between these two constructs have always been a topical issue, even as the models to adopt for their operationalization has been constested by some authors (Parasuraman, Berry, & Zeithaml,1988; Cronin and Taylor, 1994. What are the constituents of service quality and to what extent does each of the dimensions correlate with repeat use, which is one of the ways an ATM user displays his/her satisfaction with the service quality of ATMs?

1.3 Objectives of the Study
The general objective of this work is to examine the relationship between ATM service quality and repeat use. In specific terms, this work seeks to:
1. examine the extent of relationship between reliability and repeat use;
2. evaluate the extent to which assurance correlates with repeat use;
3. evaluate the extent of correlation between tangibles and repeat use;
4. examine the extent of correlation between empathy and repeat use;
5. identify the extent of correlation between responsiveness and repeat use;

6. examine the extent of correlation between cost and repeat use;
7. examine the effect of reliability, assurance, tangibles, empathy, responsiveness and cost on repeat use.

1.4 Research Hypotheses

The following hypotheses shall be tested in this study:

Ho1:   There is no significant relationship between reliability and repeat use.
Ho2:   There is no significant correlation between assurance and repeat use.
Ho3:   There is no significant correlation between tangibles and repeat use.
Ho4:   There is no significant correlation between empathy and repeat use.
Ho5:   There is no significant correlation between responsiveness and repeat use.
Ho6:   There is no significant correlation between cost and repeat use.
Ho7:   Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost do not have any significant effect on repeat use.

2.0 REVIEW OF RELATED LITERATURE
2.1 Conceptual Framework

Service Quality (Independent Variables)   Customer Satisfaction (Dependent Variables)
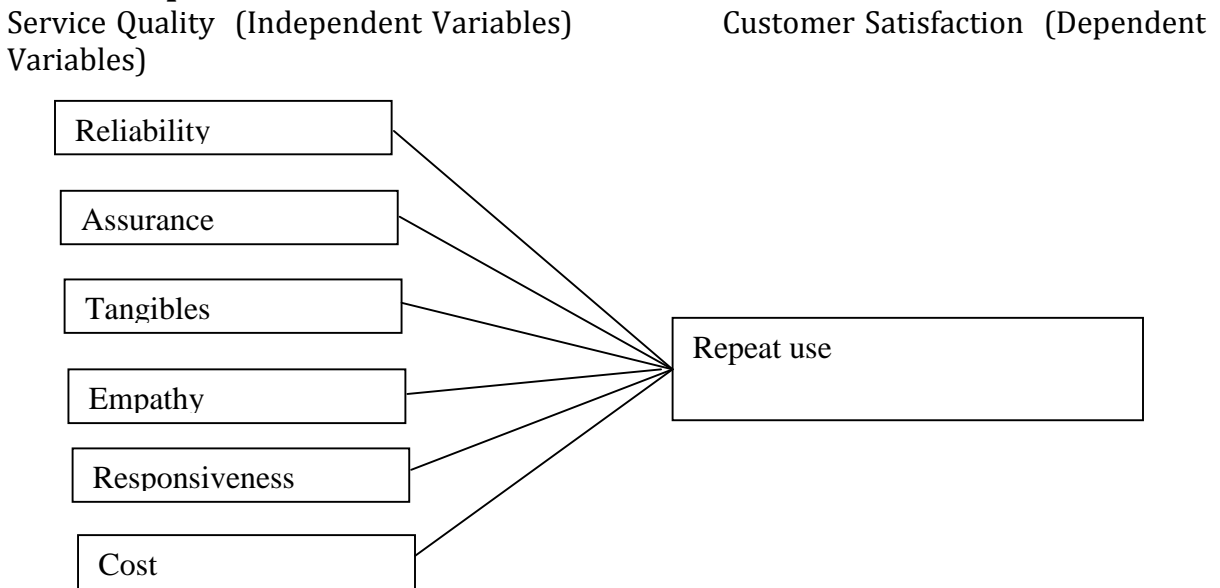
Fig. 2.1   Service Quality/Customer Satisfaction Interface
Source: Researcher (2018).

From the operational conceptual model above, it is obvious that we have two variables - dependent and independent. Service Quality, the independent variable, is made up of reliability, assurance, tangibles, empathy, responsiveness and cost (RATERC), while Customer Satisfaction, the dependent variable, is expressed in the form of repeat use. The relationship among these variables are captured by the lines linking the variables to each other and this is what gives rise to the hypotheses tested in this work.

2.2 THEORETICAL REVIEW
2.2.1 Conceptualization of Service Quality and Customer Satisfaction

Service Quality
As service the industry plays a major role in the overall world economy (Ginzburg and Vojta 1981; Batson 1989), it has also been revealed that delivering quality service by service providers is an essential strategy for success and survival of the firms in this industry (Dawkins and Riecheld 1990; Parasuraman, Zeithaml, and Berry 1985; Reicheld and Sasser 1990; Zeithmal, and Berry 1990). Jiang, Klein, Chen and Tesch (2003) define Service Quality as the comparison between what the customers feel should be offered (expectations) and what is actually delivered (perceptions). Lewis and Booms (1983) support the latter definition, when they define service quality as how well the service level delivered matches the expectations of the customer. Service quality n this work is seen as the total integration of all the features that ensure that an ATM user is satisfied in his/her use of ATMs.

Satisfaction
Satisfaction is a judgment following a consumption that a product provided (or is providing) a pleasurable level of consumption – related fulfillment (Oliver, 1997). In the words of Zeithmal and Bitner (2003), "satisfaction is the consumer fulfilment response. It is a judgment that a good or service feature, or the good or service itself, provides a pleasurable level of consumption-related fulfillment."

Customer Satisfaction
Customer Satisfaction is a transaction specific affective response from customers' comparison of product performance to some pre-purchase standard (Halstead, David and Sandra, 1994). Churchill and Surprenant (1982) define customer satisfaction as summation of satisfaction with various attributes of a product.

2.2.2 Service Quality Vis-À-Vis Customer Satisfaction
Service Quality (SQ) has been identified as an important construct in Customer Satisfaction studies. Anderson and Fornell (1994) support this assertion by affirming that SQ is important in the study of customer satisfaction because many empirical researches have shown that SQ is an antecedent of customer satisfaction. Research on SQ and its relationship with customer satisfaction has been broadly conducted in literature. Poretia and Thanassoulis (2005) corroborate this when they assert that SQ influences performance superiority and that performance directly affects customer satisfaction. If customers are satisfied with a particular service offering after its use, then they are likely to engage in repeat purchase or use and try line extensions (East, 1997). In other words, as repeat users are generating income through their repeat transactions, they are also doing same through the referrals they make. This makes it expedient for firms to satisfy customers knowing that satisfied customers make repeat transactions.

SERVPERF MODEL

The ServPerf model was developed by Cronin and Taylor (Cronin and Taylor, 1994). These authors queried the conceptualization of the ServQual model and found it confusing with customer satisfaction. They came to a point where they decided to expunge the Expectation component (E) of ServQual, while retaining the Performance component (P) alone. Therefore, ServPerf is the performance component of the Service Quality scale (ServQual), which measures five ServQual dimensions: Reliability, Assurance, Tangibles, Empathy and Responsiveness. ServPerf model requires less time for the implementation of the survey, as each item or characteristic of the service is addressed once. ServPerf is more convenient than ServQual since only one set of questionnaire is used as against Servqual that requires two sets of questionnaire. To this end, the Servperf model stands as the basis of this study, though with a little modification. The modification is the inclusion of 'cost', which is critical to the assessment of service quality of ATMs, hence we have RATERC (Reliability, Assurance, Tangible, Empathy, Responsiveness and Cost).

RATERC MODEL

This is simply an extension of the RATER model, which incorporates cost as one of the variables for assessing the service quality of ATMs. Cost was added because it is one of the factors that an ATM user considers before he decides whether to use an ATM repeatedly or not.

3.0   METHODOLOGY

The researcher adopted the descriptive research design. The study adopted the use of questionnaires for primary data generation. This questionnaire, designed for ATM users, is made up of Five Point Likert Scale comprising 37 positive statements that cut across the RATERC model. The questionnaire was divided into two major parts – Performance and Customer Satisfaction. It was analyzed using various statistical tools like the mean deviation, standard deviation, correlation analysis and multiple regression analysis. This study is domiciled in the branches of two banks within Abia State. The sampling elements comprise of customers of banks who are users of First Bank and Union Bank ATMs located in the three senatorial districts of Abia. Proportion method was used to obtain a sample size of five hundred and three (503) persons selected using the convenience sampling technique. The Cronbach's alpha was used to test the validity of the instrument used and a value of 0.830 was obtained. This shows a high degree of internal consistency in the measuring instrument used.

4.0   DATA PRESENTATION, ANALYSIS AND INTERPRETATION
4.1   Introduction

The research data collected in this study are presented, analyzed and interpreted in this section. Correlation analysis, regression analysis, ANOVA and t-test are applied to analyze the data and the results of the analyses interpreted via the discussion of the results and findings.

4.2   Data Presentation

4.2.1 Respondents Scores from Questionnaire

The scores of the respondents' opinion in the questionnaire based on 5 points Likert scale are presented in Table 4.1 below. The full data for the 503 respondents are given in Appendix II.

4.3 Data Analysis and Interpretation

4.3.1 Analysis of Demographic Profile of Respondents

Demographic characteristics of respondents are analysed with frequency distribution showing their frequencies and percentages as given in Table 4.3 below.

Table 4.3: Frequency Distribution of Respondents Demographic Characteristics (n=503)

Characteristics	Categories	Frequency	Percentage (%)
Sex	1. Female 2. Male	255 248	50.7 49.3
ATM Literacy status	1. I can use ATM 2. I cannot use ATM	293 210	58.3 41.7

Source: Analysis of Field Survey Data (2018)

Discussion of Results and Findings of Demographic Profile of Respondents

The result of the frequency distribution of Table 4.3 above shows that out of the 503 ATM users sampled 255 (50.7%) are females, while 248 (49.3%) are males. This reveals that more females than males (50.7% - 49.3% = 1.4%) use ATM. The ATM Literacy status reveals that 293 (58.3%) can use ATM on their own without any assistance while 210 (41.7%) of the respondents cannot use ATM on their own without any assistance.

4.3.2 Descriptive Statistics Analysis of the Dependent and Independent Variables

The descriptive statistics analysis of the dependent and independent variables is presented in table 4.4 below in this section and the descriptive statistics considered are the mean, standard deviation, skewness and kurtosis of the study variables: Independent variables (Reliability, (X_1),Assurance(X_2),Tangibles(X_3), Empathy (X_4),Responsiveness(X_5) and Cost(X_6)) and the dependent variables, Repeat Use (Y_1).

Table 4.4: Mean, Standard Deviation, Skewness and Kurtosis of X_1, X_2, X_3, X_4, X_5, X_6, Y_1

	Mean	Standard Deviation	Skewness	Kurtosis
Reliability (X_1)	19.30	4.621	-1.259	1.694
Assurance (X_2)	30.03	6.426	-0.652	0.394
Tangibles (X_3)	22.04	4.982	-0.496	0.226
Empathy (X_4)	17.28	4.643	-0.153	-0.556
Responsiveness (X_5)	16.24	5.476	0.067	-0.890
Cost (X_6)	14.73	3.812	-0.649	0.162

Repeat Use (Y_2)	15.11	3.529	-0.811	0.773

Source: Analysis of Field Survey Data (2018)

Discussion of Results and Findings of descriptive statistics of study variables

The result of Table 4.4 above shows that in this study, the mean score of the Reliability (X_1) is 19.30 (above an expected mean score of 15.00) with a standard deviation score of 4.621 (a relatively low standard deviation), a skewness score of -1.259 (indicating a little high negative departure from the normal distribution assumed value of 0) and kurtosis score of 1.694 (showing a tall peak for the distribution curve). Assurance (X_2) has a mean score of 30.03 (above an expected mean score of 24.00) with a standard deviation score of 6.426 (the highest standard deviation value, but within the expected standard score), a skewness score of -0.652 (indicating a very low negative departure from the normal distribution assumed value of 0) and kurtosis score of 0.394 (showing approximately normal peak for the distribution curve).Tangibles (X_3) has a mean score of 22.04 (above an expected mean score of 18.00) with a standard deviation score of 4.982 (a relatively low standard deviation), a skewness score of -0.496 (indicating a very low negative departure from the normal distribution assumed value of 0) and kurtosis score of 0.226 (showing approximately normal peak for the distribution curve). Empathy (X_4) has a mean score of 17.28 (above an expected mean score of 15.00) with a standard deviation score of 4.643(a relatively low standard deviation), a skewness score of -0.153(indicating a very low negative departure from the normal distribution assumed value of 0) and kurtosis score of -0.556 (showing approximately normal peak for the distribution curve).Responsiveness (X_5) has a mean score of 16.24 (above an expected mean score of 15.00) with a standard deviation score of 5.476 (a relatively low standard deviation), a skewness score of 0.067(indicating a very low negative departure from the normal distribution assumed value of 0) and kurtosis score of -0.890 (showing approximately normal peak for the distribution curve).Cost (X_6) has a mean score of 14.73 (above an expected mean score of 12.00) with a standard deviation score of 3.812 (a very low standard deviation), a skewness score of -0.649 (indicating a very low negative departure from the normal distribution assumed value of 0) and kurtosis score of 0.162 (showing approximately normal peak for the distribution curve). Repeat Use (Y_1) has a mean score of 15.11 (above an expected mean score of 12.00) with a standard deviation score of 3.529 (a very low standard deviation), a skewness score of -0.811 (indicating a very low negative departure from the normal distribution assumed value of 0) and kurtosis score of 0.773 (showing approximately normal peak for the distribution curve).

Generally, each of independent and the dependent variable has a mean score that is higher than each expected mean score; their standard deviations are low and approximately equal, indicating a constant variance (homoscedasticity) assumption required by the regression analysis and the t-test. The skewness and kurtosis values that are approximately 0 indicate that the variables are approximately normally distributed. These support the use of these variables for the t-test, ANOVA, correlation analysis and regression analysis used.

4.3.3 Correlation Analysis

The correlation matrix shown in Table 4.5 below is the Pearson Correlation Coefficients between the pairs of these variables: Reliability, Assurance, Tangibles, Empathy, Responsiveness, Cost and Repeat Use. The correlation coefficients show the degree of

association (correlation) between the pair of the study variables with their corresponding p-values enclosed in brackets. The statistical decision is taken using the p-value **(the correlation is significant if the p-value is less than 0.05, otherwise it is not significant)**.

Table 4.5: Correlation Matrix of ATM Users Study Variables (n = 503) with associated p-values in bracket

Variables	Reliability	Assurance	Tangibles	Empathy	Responsiveness	Cost	Referral	Repeat Use
Reliability	1	0.675 (0.000)	0.555 (0.000)	0.361 (0.000)	0.236 (0.000)	0.338 (0.000)	0.392 (0.000)	0.317 (0.000)
Assurance	0.675 (0.000)	1	0.686 (0.000)	0.547 (0.000)	0.412 (0.000)	0.457 (0.000)	0.438 (0.000)	0.372 (0.000)
Tangibles	0.555 (0.000)	0.686 (0.000)	1	0.638 (0.000)	0.448 (0.000)	0.461 (0.000)	0.385 (0.000)	0.369 (0.000)
Empathy	0.361 (0.000)	0.547 (0.000)	0.638 (0.000)	1	0.573 (0.000)	0.544 (0.000)	0.354 (0.000)	0.350 (0.000)
Responsiveness	0.236 (0.000)	0.412 (0.000)	0.448 (0.000)	0.573 (0.000)	1	0.576 (0.000)	0.361 (0.000)	0.442 (0.000)
Cost	0.338 (0.000)	0.457 (0.000)	0.461 (0.000)	0.544 (0.000)	0.576 (0.000)	1	0.451 (0.000)	0.477 (0.000)
Repeat Use	0.317 (0.000)	0.372 (0.000)	0.369 (0.000)	0.350 (0.000)	0.442 (0.000)	0.477 (0.000)	0.668 (0.000)	1

Source: Correlation Analysis of Field Survey Data (2018)

Discussion of Results and Findings of Correlation between the Dependent and the Independent Variables

The result of Table 4.5 shows that the degree of correlation between Repeat-use and Reliability is 0.317 with a p-value of 0.000 which indicates a significant correlation between Repeat-use and Reliability as its p-value is less than 0.05; the degree of correlation between Repeat-use and Assurance is 0.372 with a p-value of 0.000 which indicates a significant correlation between Repeat-use and Assurance as its p-value is less than 0.05; the degree of correlation between Repeat-use and Tangible is 0.369 with a p-value of 0.000 which indicates a significant correlation between Repeat-use and Tangible as its p-value is less than 0.05; the degree of correlation between Repeat-use and Empathy is 0.350 with a p-value of 0.000 which indicates a significant correlation between Repeat-use and Empathy as its p-value is less than 0.05; the degree of correlation between Repeat-use and Responsiveness is 0.442 with a p-value of 0.000 which indicates a significant correlation between Repeat-use and Responsiveness as its p-value is less than 0.05; the degree of correlation between Repeat-use and Cost is 0.477 with a p-value of 0.000 which indicates a significant correlation between Repeat-use and Cost as its p-value is less than 0.05. Each of them is significant at 0.01 level as shown in the SPSS output in appendix 2.

The correlation among the independent variables helps us to ascertain the multi-collinearity among the independent variables. The results of Table 4.5 also show the coefficients of the simple correlation between each pair of independent variables (Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost) and they yield low positive correlation lying between 0.236 and 0.686. This indicates that there is no serious problem of multi-collinearity among the independent variables of the study (Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost), as none of them is up to 0.700; that is, no single independent variable (Reliability, Assurance, Tangibles, Empathy, Responsiveness, Cost) explains the other independent variable. If they had explained one another, that would have led to the dropping of the explained variable. Therefore, all the six independent variables (Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost) individually contributes significantly to the dependent variable and each will be used in the multiple regression analysis.

4.3.4 Regression Analysis

4.3.4.1 Multiple Regression Analysis of Repeat-Use, Y_1 on X_1, X_2, X_3, X_4, X_5 and X_6

Table 4.6 below shows a summary of the multiple regression analysis results of the dependent variable, Repeat-Use, Y_1 on the independent variables (Reliability,(X_1), Assurance(X_2), Tangibles(X_3), Empathy (X_4), Responsiveness(X_5) and Cost(X_6)).

Table 4.6: Result of Multiple Regression Analysis of Y_1 on X_1, X_2, X_3, X_4, X_5 and X_6.

Variable	Coefficient	Standard Error	Test statistic	p-value
(Constant)	5.940	0.722	8.231	0.000
Reliability (X_1)	0.085	0.040	2.123	0.034
Assurance (X_2)	0.029	0.034	0.868	0.386
Tangibles (X_3)	0.050	0.042	1.192	0.234
Empathy (X_4)	-0.034	0.042	-0.809	0.419
Responsiveness (X_5)	0.148	0.032	4.583	0.000
Cost (X_6)	0.255	0.046	5.539	0.000

Source: Multiple regression analysis of field survey data (2018).

Using these abbreviations: Rep =Repeat-Use, Rel = Reliability, Ass = Assurance, Tan = Tangibles, Emp = Empathy, Res = Responsibility, Cos = Cost, the fitted multiple regression model from the study data

is: $\widehat{Rep} = 5.940 + 0.085 Rel + 0.029 Ass + 0.050 Tan - 0.034 Emp + 0.148 Res + 0.255 Cos$

The coefficients in the equation above indicate the marginal effect of each of the independent variables on Repeat-Use, when all the other independent variables are held constant, that is, an increase in Repeat-Use when one independent variable is increased by one unit, while holding the other independent variables constant. The marginal effect of Reliability on Repeat-Use, b_1 = 0.100, which means that the Repeat-Use of ATM by customers is increased by 0.085 (8.5%), when the Reliability of the ATM is improved by

one unit. It has a standard error of 0.040 with test statistic value of 2.123and p-value of 0.034 which implies that the marginal effect of Reliability on the Repeat-Use of ATM is significant at 3.4%. The marginal effect of Assurance on Repeat-Use, b_2= 0.029, means that the Repeat-Use of ATM is increased by 0.029 (2.9%) when the Assurance of the ATM is improved by one unit. It has a standard error of 0.034 with test statistic value of 0.868 and p-value of 0.386 which implies that the marginal effect of Assurance on the Repeat-Use of ATM is not significant at 38.6%. The marginal effect of Tangibles on Repeat-Use, b_3= 0.050 means that the Repeat-Use of ATM is increased by 0.050 (5.0%) when the Tangibles of the ATM is improved by one unit. It has a standard error of 0.042 with test statistic value of 1.192 and p-value of 0.234 which implies that the marginal effect of Tangibles on the Repeat-Use of ATM is not significant at 23.4%. The marginal effect of Empathy on Repeat-Use, b_4= -0.034 means that the Repeat-Use of ATM is decreased by 0.034 (3.4%) when the Empathy of the ATM is improved by one unit. It has a standard error of 0.042 with test statistic value of -0.809 and p-value of 0.419 which implies that the marginal effect of Tangibles on the Repeat-Use of ATM is not significant at 41.9%. The marginal effect of Responsiveness on Repeat-Use, b_5= 0.148 means that the Repeat-Use of ATM is increased by 0.148 (14.8%) when the Responsiveness of the ATM is improved by one unit. It has a standard error of 0.032 with test statistic value of 4.583and p-value of 0.000 which implies that the marginal effect of Responsiveness on the Repeat-Use of ATM is significant at almost 0.0%. The marginal effect of Cost on Repeat-Use, b_6= 0.255 means that the Repeat-Use of ATM is increased by 0.255 (25.5%) when the Cost of the ATM is improved by one unit. It has a standard error of 0.046 with test statistic value of 5.539 and p-value of 0.000 which implies that the marginal effect of Cost on the Repeat-Use of ATM is significant at almost 0.0%.

4.3.4.3 Multiple R and R^2 of Repeat-Use, Y_2 on X_1, X_2, X_3, X_4, $X_5$and X_6

To assess the combined effect of X_1, X_2, X_3, X_4, X_5 and X_6 on Repeat-Use, Y_1 to determine the goodness of fit of the regression model, we obtained the multiple correlation coefficient, R and the multiple coefficient of determination, R^2, which are shown in table 4.7 below:

Table 4.7: Result of Multiple R and R^2 of Repeat-Use, Y_2on X_1, X_2, X_3, X_4, $X_5$and X_6.

R	R Square	Adjusted R Square
0.546	0.298	0.289

The result of Table 4.7 shows that the multiple correlation coefficient, R is equal to 0.546 and this signifies that there is a moderately strong positive relationship between Repeat-Use of ATM and the six study independent variables. The multiple coefficient of determination R^2 is 0.298. This indicates that Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost jointly account for 29.8% of the variance in Repeat-Use of ATM. 70.2% (100% - 29.8%) of the variance in Repeat-Use of ATM is unexplained by this study's independent variables. The Adjusted R Square is 0.289 = 28.9%, implying that in the minimum, 28.9% of the variation in Repeat-Use of ATM is explained by Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost.

4.3.4.4 ANOVA of Regression Analysis of Repeat-Use, Y_1 on X_1, X_2, X_3, X_4, $X_5$and X_6

The ANOVA of Regression Analysis of Repeat-Use, Y_1 on X_1, X_2, X_3, X_4, X_5 and X_6 tests if there is a significant relationship between Repeat-Use of ATM and the independent variables X_1, X_2, X_3, X_4, X_5 and X_6 and its result are shown in Table 4.8 below.

Table 4.8 ANOVA of Regression Analysis of Repeat-Use, Y_1 on X_1, X_2, X_3, X_4, X_5 and X_6

Source of Variation	SS	Df	MS	F	Sig (p-value)
Regression	1860.615	6	310.102	35.040	0.000
Residual	4389.588	496	8.850		
Total	6250.203	502			

Source: Multiple Regression Analysis of field survey data (2018).

Discussion of Results and Findings of ANOVA of Repeat-Use, Y_1 on X_1, X_2, X_3, X_4, X_5, X_6
The result of Table 4.8 reveals that the test statistic, F, also called F-ratio or F calculated = 35.040 with p-value of 0.000 indicates that there is a significant regression between Repeat-Use of ATM and the six independent variables X_1, X_2, X_3, X_4, X_5 and X_6 included in the regression model.

4.4 HYPOTHESES TEST RESULTS INTERPRETATION
The hypotheses formulated earlier in this work shall be tested using the ANOVA, t-test, regression analysis and correlation analysis on the field survey data.

4.4.1 Hypothesis Test with Correlation Analysis
Correlation analysis results presented earlier will be used to test the hypotheses and the regression analysis done will lend credence to the test below:

Hypothesis 1
$H_0 1$: There is no significant correlation between Reliability and Repeat-Use.
Since the correlation coefficient between Repeat-Use and Reliability is 0.317 with a p-value of 0.000 which is less than 0.05, we reject the null hypothesis 1 and that indicates there is a significant correlation between Repeat-Use and Reliability. The marginal effect of reliability on Repeat-Use is 0.085 with a p-value of 0.034 which is less than 0.05. This confirms the decision of rejecting null hypothesis 1 and this also implies that the effect of reliability on Repeat-Use is significant at 3.4% significance level.

Hypothesis 2
$H_0 2$: There is no significant correlation between Assurance and Repeat-Use.
Since the correlation coefficient between Repeat-Use and Assurance is 0.372 with a p-value of 0.000 which is less than 0.05, we reject the null hypothesis 2 and that indicates there is a significant correlation between Repeat-Use and Assurance. The marginal effect of Assurance on Repeat-Use is 0.029 with a p-value of 0.386 which is greater than 0.05. This implies that the effect of Assurance on Repeat-Use is not significant at 38.6% significance level.

Hypothesis 3
$H_0 3$: There is no significant correlation between Tangibles and Repeat-Use.

Since the correlation coefficient between Repeat-Use and Tangibles is 0.369 with a p-value of 0.000 which is less than 0.05, we reject the null hypothesis 3 and that indicates there is a significant correlation between Repeat-Use and Tangibles. The marginal effect of Tangibles on Repeat-Use is 0.050 with a p-value of 0.234 which is greater than 0.05. This indicates that though the correlation between Tangibles on Repeat-Use is not significant at 23.4% significance level.

Hypothesis 4
H_04: There is no significant correlation between Empathy and Repeat-Use.
Since the correlation coefficient between Repeat-Use and Empathy is 0.350 with a p-value of 0.000 which is less than 0.05, we reject the null hypothesis 4 and that indicates there is a significant correlation between Repeat-Use and Empathy. The marginal effect of Tangibles on Repeat-Use is -0.034 with a p-value of 0.419 which is greater than 0.05. This indicates that though the correlation between Empathy on Repeat-Use is not significant at 41.9% significance level.

Hypothesis 5
H_05: There is no significant correlation between Responsiveness and Repeat-Use.
Since the correlation coefficient between Repeat-Use and Responsiveness is 0.442 with a p-value of 0.000 which is less than 0.05, we reject the null hypothesis 5 and that indicates there is a significant correlation between Repeat-Use and Responsiveness. The marginal effect of Responsiveness on Repeat-Use is 0.148 with a p-value of 0.000 which is less than 0.05. This confirms the decision of rejecting null hypothesis 5 and this also implies that the effect of Responsiveness on Repeat-Use is significant at almost 0.0% significance level.

Hypothesis 6
H_06: There is no significant correlation between Cost and Repeat-Use.
Since the correlation coefficient between Repeat-Use and Cost is 0.477 with a p-value of 0.000 which is less than 0.05, we reject the null hypothesis 6 and that indicates there is a significant correlation between Repeat-Use and Cost. The marginal effect of Cost on Repeat-Use is 0.255 with a p-value of 0.000 which is less than 0.05. This confirms the decision of rejecting null hypothesis 6 and this also implies that the effect of Cost on Repeat-Use is significant at almost 0.0% significance level.

Hypothesis 7
H_07: Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost do not have a significant
    effect on Repeat-Use.
Since the test statistic, F, also called F-ratio or F calculated = 35.040 with p-value of 0.000 which is less than 0.05. This shows that there is a significant effect of Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost on Repeat-Use. Therefore, the null hypothesis 7 is rejected at almost 0.0% significance level.

5.1   SUMMARY OF MAJOR FINDINGS
The major findings of this study are summarized below:
1.   The correlation coefficients between each pair of this study six independent variables (Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost) each yields

low positive correlation coefficient lying between 0.236 and 0.686 and this indicates that there is no serious problem of multi-collinearity among the independent variables of the study.

2. The degree of correlation between each of this study six independent variables (Reliability, Assurance, tangibles, empathy, responsiveness and cost) and Repeat-Use (independent variable) is significant at 0.000 significance level, thereby leading to the rejection of hypotheses 1 - 6.

3. The marginal effect of Reliability on Repeat-Use is 0.085. That is, Repeat-Use of ATM is increased by 8.5% when the Reliability of the ATM is improved by one unit and this is significant as its p-value (appropriate significance level) is 3.4%.

4. The marginal effect of Assurance on Repeat-Use is 0.029. That is, Repeat-Use of ATM is increased by 2.9% when the Assurance of the ATM is improved by one unit and this is not significant as its p-value (appropriate significance level) is 38.6%.

5. The marginal effect of Tangibles on Repeat-Use is 0.050. That is, Repeat-Use of ATM is increased by 5.0% when the Tangibles of the ATM is improved by one unit and this is not significant as its p-value (appropriate significance level) is 23.4%.

6. The marginal effect of Empathy on Repeat-Use is -0.034. That is, Repeat-Use of ATM is decreased by 3.4% when the Empathy of the ATM is improved by one unit and this is not significant as its p-value (appropriate significance level) is 41.9%.

7. The marginal effect of Responsiveness on Repeat-Use is 0.148. That is, Repeat-Use of ATM is increased by 14.8% when the Responsiveness of the ATM is improved by one unit and is significant as its p-value (appropriate significance level) is 0.0%.

8. The marginal effect of Cost on Repeat-Use is 0.255. That is, Repeat-Use of ATM is increased by 25.5% when the Cost is improved by one unit and this is significant as its p-value (appropriate significance level) is 0.0%.

9. The estimated regression model for Repeat-Use is given as:
$$\widehat{Rep} = 5.940 + 0.085Rel + 0.029Ass + 0.050Tan - 0.034Emp + 0.148Res + 0.255Cos$$

10. The test of the significance of the relationship between Repeat-Use and Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost, using the Analysis of Variance, yielded test statistic of 35.040 with p-value of 0.000 which indicates that there is a significant regression between Repeat-Use of ATM and Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost.

5.2   CONCLUSION

The survey data collected in this study were analyzed with respect to the six independent variables (Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost) and the dependent variable (Repeat-Use) in line with the hypotheses formulated in the

introduction and other related and useful suppositions using the correlation analysis, regression analysis, t-test and F test (ANOVA). The null hypotheses one to six which postulate that there is no significant correlation between each of the six independent variables and Repeat use were all rejected at almost 0.0 percent level of significance. In the same vein, null hypothesis 7 which postulates that there is no significant correlation between all the six independent variables and Repeat-Use was rejected at almost 0.0 percent level of significance.

In addition, a regression of the six independent variables (Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost) and Repeat-Use (dependent variable), yielded this estimated predictive regression model: $\widehat{Rep} = 5.940 + 0.085Rel + 0.029Ass + 0.050Tan - 0.034Emp + 0.148Res + 0.255Cos$ which shows that the constant, reliability, responsiveness and cost were significant but *assurance, tangibles and empathy were not significant at least at 5 percent significance level.*

5.3   RECOMMENDATIONS

Based on the findings of this research, the following recommendations are made:

1.   To ensure repeat use of ATMs, banks in Nigeria should use this model developed from this

    research work:
    $\widehat{Rep} = 5.940 + 0.085Rel + 0.029Ass + 0.050Tan - 0.034Emp + 0.148Res + 0.255Cos$
    This will enhance the efficiency and performance of their ATM service quality delivery.

2.   Banks should also optimize customers' cost of using ATM by removing all unapproved charges on customers' accounts since cost yields the greatest contribution to the prediction of Repeat use.

3.   Since the result of the regression analysis revealed a significant regression between Repeat-Use of ATM and Reliability, Assurance, Tangibles, Empathy, Responsiveness and Cost (RATERC), all these six dimensions that constitute RATERC should be promoted to increase customers repeat use of ATMs, not withstanding their hierarchy of effects.

4.   Policy and procedures on Reliability of ATM must be well-established and well-known by all employees as the effect of reliability on the predictive model is significantly up to 10 percent. Previous researches have also found that reliability feature of ATM is essential to consumers' use of electronic channels of banking (Polatoglu and Ekin, 2001; Liao and Cheung, 2002). This can be done by using double or triple authentication systems that involves the use of bio-data like that of the retina, thumbprint, among others. This will definitely enhance reliability, which stands out among the variables in this study.

5.   Since assurance is the third in line of the magnitude of effect on the predictor variable, banks should work on building customers' confidence if they want their customers to keep using ATMs. Any moment a customer loses confidence in a bank, he or she will definitely withdraw his/her patronage.

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APPENDIX 1: QUESTIONNAIRE DESIGNED FOR ATM USERS

Please, tick below the option you consider most appropriate:

Sex: Female ☐ Male ☐ Literacy Status: I can use ATM ☐ I cannot use ATM ☐

KEY: SD = Strongly Disagree; D = Disagree; U = Undecided; A = Agree; SA = Strongly Agree

SN	CUSTOMERS' PERCEPTION OF ATM SERVICE QUALITY	S	D	U	A	SA
1	ATMs dispense cash and carries out commands as specified					
2	ATMs dispense accurate amount of cash					
3	ATMs print balance slips that always show customers' true balance					
4	ATMs do not dispense fake currencies					
5	Balance after each transaction is always accurate					
6	ATMs work 24 hours a day					
7	Only one customer is allowed to enter the ATM cabin					
8	Voice prompt does not announce transactions to others					
9	There are security officers at ATM points at all times					
10	Cards are retracted after third attempt of keying in wrong PIN					
11	There is always light at ATM points (no darkness)					
12	Hackers can never hack my accounts, even if they know my pins					
13	Security cameras capture every ATM user, even if he hides his face					
14	Key pads of ATMs are easy to press					
15	Touch screen is easy to manipulate					
16	ATMs rarely break down					
17	Menu options match corresponding menu keys					
18	ATMs can accept deposits as well as perform other functions					
19	ATMs are not easily worn out and outdated					
20	ATM displayed language is easy to understand					
21	ATM users are shaded from sunshine and rainfall					
22	Long queues are not always seen at ATM points					
23	Customer Care staff of banks assist ATM card users who need help					
24	ATM users are provided with seats					
25	I use ATMs on my own volition - not because I am constrained by banks					
26	I use ATMs because I am satisfied with their performance					
27	Users are dissatisfied with ATM service quality due to the challenges they face in the use of ATMs					
28	Customers face many challenges in their use of ATMs					
29	ATM errors are reversed immediately					
30	Retracted cards are always retrieved immediately					
31	It doesn't take time for ATMs to respond to users' request					
32	ATMs are reloaded the moment they run out of cash					
33	New ATM cards are issued immediately they are requested					
34	ATM users are charged for new cards, only when they request for them					
35	SMS alert charge for a transaction does not exceed #2 (bulk SMS cost)					
36	There are no charges on ATM transactions					
37	Using other banks' ATMs up to three times in a month attracts a charge					
SN	**Customer Satisfaction Variables**	S	D	U	A	SA
4	I keep using ATMs because I am satisfied with its service quality					
5	I keep using ATMs because I have no better alternative					

APPENDIX 2
Reliability Coefficient of Performance

Reliability Statistics	
Cronbach's Alpha	N of Items
0.803	37

Item Statistics			
	Mean	Std. Deviation	N
PR1	4.20	1.105	20
PR2	4.60	0.598	20
PR3	3.75	1.410	20
PR4	3.60	1.429	20
PR5	3.80	1.005	20
PR6	3.10	1.210	20
PA1	4.15	1.137	20
PA2	4.05	1.099	20
PA3	2.25	1.372	20
PA4	3.65	1.663	20
PA5	3.90	1.252	20
PA6	2.95	1.701	20
PA7	3.70	1.593	20
PT1	4.00	1.026	20
PT2	3.80	1.152	20
PT3	3.40	1.273	20
PT4	3.95	0.999	20
PT5	3.70	1.261	20
PT6	3.40	1.314	20
PE1	4.20	0.834	20
PE2	3.65	1.531	20
PE3	2.20	1.322	20
PE4	2.35	1.424	20
PE5	2.25	2.971	20
PE6	3.65	1.631	20
PE7	3.50	0.827	20
PE8	3.60	0.883	20
PE9	3.60	1.095	20
PRS1	2.55	1.605	20
PRS2	2.00	1.257	20
PRS3	3.20	1.508	20
PRS4	2.10	1.553	20
PRS5	2.25	1.410	20
PC1	2.00	1.338	20
PC2	1.70	1.174	20
PC3	1.90	1.252	20
PC4	3.70	1.593	20

Summary Item Statistics							
	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.253	1.700	4.600	2.900	2.706	.643	37
Item Variances	1.881	0.358	8.829	8.471	24.669	1.785	37
Inter-Item Covariances	.186	-1.895	1.645	3.539	-0.868	0.245	37
Inter-Item Correlations	.120	-0.737	0.813	1.550	-1.103	0.069	37

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PR1	116.15	301.713	.382	.795
PR2	115.75	308.934	.395	.798
PR3	116.60	298.884	.343	.796
PR4	116.75	300.934	.295	.798
PR5	116.55	310.892	.161	.802
PR6	117.25	301.039	.360	.796
PA1	116.20	291.747	.633	.788
PA2	116.30	296.011	.539	.791
PA3	118.10	296.095	.416	.793
PA4	116.70	327.168	-.205	.818
PA5	116.45	303.839	.279	.798
PA6	117.40	284.884	.520	.788
PA7	116.65	285.082	.558	.787
PT1	116.35	298.766	.502	.793
PT2	116.55	307.418	.219	.800
PT3	116.95	301.839	.320	.797
PT4	116.40	310.568	.172	.801
PT5	116.65	295.713	.468	.792
PT6	116.95	301.734	.310	.797
PE1	116.15	306.029	.373	.797
PE2	116.70	296.011	.365	.795
PE3	118.15	288.871	.601	.787
PE4	118.00	283.789	.662	.784
PE5	118.10	316.937	-.077	.831
PE6	116.70	298.537	.291	.798
PE7	116.85	309.608	.251	.800
PE8	116.75	317.355	-.017	.805
PE9	116.75	308.303	.211	.800
PRS1	117.80	303.116	.213	.801
PRS2	118.35	292.345	.551	.789
PRS3	117.15	313.608	.032	.808
PRS4	118.25	296.829	.343	.796
PRS5	118.10	298.516	.351	.796
PC1	118.35	293.818	.480	.791
PC2	118.65	300.239	.393	.795
PC3	118.45	305.734	.235	.800
PC4	116.65	332.976	-.308	.821

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
120.35	317.608	17.822	37