



Evaluation of the usage of ICT in Faith-based Organizations: A Case of Selected Churches in AKURE South-North Metropolis

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ABSTRACT

The use of Information Technology (IT) based services within the structured of church management is rapidly progressing and is now becoming the hub of church administration. However, the IT adoption varies across different denominations, departments and church groups. This paper examines the adoption of IT in church financial management for proper accountability and integrity. It analyzes the perception of church leaders, ushers and bursary on IT usage for church financial management. It also, examines the adoption of accounting software, electronic banking in this critical sections. Questionnaires were administered to church leaders, ushers accountant, account clerk and members. Thereafter, the questionnaires were analyzed and evaluated via Statistical Package for Social Science (SPSS). Chi-square was utilized in the tests if the hypotheses propounded. The results were interpreted and conclusion and recommendation were drawn.

Keywords

Finance, Questionnaires, Chi-square, ICT, Church

1. INTRODUCTION

The trend towards ICT based services within the structure of church management is progressing rapidly. It has become the central hub of church administration. This has led to a dramatic increase in our daily interactions with highly specialized service systems. Services science towards ICT is an emerging discipline that charged itself with the responsibility to understand service and innovative service systems. Service increases value from some sophisticated forms of cooperation that is it is a value co-creation mechanism, [1]; [2]. However, knowing the impact of ICT in a given service department(s) with the church may be unnecessary; if there is no formal procedure or guidelines for improvement; particularly where the value is below target.

The last two decades has seen the adoption of information and communication technology (ICT) Usage in church for better financial management. Contemporary church communications for growth is taking phenomenally great strides. However, adoption levels vary across countries, church groups, church budgets, and with the increasing threat to mass gathering by insurgencies, the rate of adoption will further increase. This paper examines the adoption of ICT in church financial management for proper accountability and integrity. It analyzes the perception of church leaders (bursary and ushering departments) on ICT usage for church finance and accounting system programs, adoption of electronic banking, and its services such as internet banking, mobile, e-transact, Point of Service (POS), use of Automated Teller

Machines (ATM) for churches as well as the deployment of church ICT infrastructure for church administration and financial management. The paper attempts to identify potential structural shift in church finance and communication strategy. The research covers the southern parts and northern part of Akure metropolis churches. These areas were considered because they are the major areas under the coverage of Akure churches where ICT is being used.

2. RESEARCH METHODOLOGY

A survey approach was used in carrying out the research. The processes involved in carrying out the research include the following:

- i. Literature of related material to the topic was consulted.
- ii. A structured questionnaire was designed to elicit responses from respondents.
- iii. Observation and relevant questions were carried out from various churches whose cases are being used to gather facts.
- iv. The questionnaires were administered to a sampled population of the churches selected which include; their workers, members, deacons, ministers and pastors
- v. The data and information obtained from the questionnaires was analyzed and evaluated using Chi-Square and Statistical Package for Social Science 20.0 version (SPSS).

3. OVERVIEW OF ICT IN CHURCH

Information Communication Technologies (ICTs) has some great benefits. They enable global contact and, enhance life, development and global consciousness. This use may not become widespread except some concrete steps are taken. The church must embrace these ICT revolutions if they want be relevant in this new era. The first communication revolution church adopted was the invention of the printing press and used the printed word to disseminate the word of God and to teach millions who were considered unfit to learn thereby empowering them to fully engage in the mission to the unreached in the world. The Church carries a responsibility for helping its members achieve media literacy, not only to read and understand the gospel but also to discern from the flood of information an understanding of the events of our world today, other revolution like usage of digital calculator, computer, and banks.



3.1 Applicable ICT Tools in the Church

Computers: is an electronic device, that operating under the control of instructions stored in its own memory, that can accept data, process the data according to specified rules, produce results, and stores the results for future use [3].

Internet: has changed the computer and communications world like nothing else. The invention of the telegraph, telephone, radio, and computer set the stage for this unprecedented integration of capabilities. The Internet is at once a world-wide broadcasting capability, a mechanism for information dissemination, and a medium for collaboration and interaction between individuals and their computers without regard for geographic location [4], [5] and [6] stated that with internet connectivity one can do business all over the globe without physical contact with the buyer or the need for a business intermediary.

E-mail: Electronic mail (e-mail) is the exchange of text messages and computer files transmitted via communications networks such as the Internet [7] and [8] described e-mail as an increasing popular method of communicating across the globe.

Mobile Phone: [9] defined as Portable telephone device that does not require the use of landlines. Mobile phones utilize frequencies transmitted by cellular towers to connect the calls between two devices. Mobile phones have grown to be the most widely used portable device in the world. Mobile phones may also be referred to as wireless or cellular phones. According to [10], the availability of this new technology has been reshaping the material basis of the society as well as bringing about a profound restructuring of economic, political, and cultural relations among states. Nigeria is not an exception. According to [11], the importance of information cannot be overemphasized. People need information to plan and carry out their decisions. More than 90 percent of Africa's population could greatly benefit from information on better choice of food, safe water and basic nutrition, child care, family planning, immunization, prevention and control of endemic diseases. The combination of modern communication devices could play significant roles in the collection and dissemination of global information. [12] Supported this view by stating that mobile telephony usage by individuals enables them to communicate with loved ones, clients and business associates. For large businesses, it is a means of providing a service that leads to an increase in profits. For governments, revenues are gained through taxes and duties. As a tool for sustainable livelihoods, mobile telephones provide employment for many who could have been idle.

4. CHURCH FINANCE

Some major sources of revenue to the church are Tithes, offerings and donations. Church members are expected to pay 10 percent of their income according to Mal, 3 chapter verse 8-10 Church as tithes and also enjoined to pay offerings and most of the church members do it. Managing revenue, the church must seek for a right bank though a bank is everywhere, but finding the right bank is not easy. Banks may offer similar services, but they are often different in fees and structure. There are three types of banks: the commercial banks, savings and loans banks, and micro-finance banks. I recommend using a commercial bank provided it is NDIC insured, and you feel comfortable with the privacy issues. Search for a bank that offers free C.O.T and low minimum

balances. The treasurer must be ICT literate enough to know how to get and interpret bank statements and to reconcile bank statements with their deposits so as to detect any shortfall. The head usher must be able to fill necessary forms and use the counting machine properly. As a pastor, you must be watchful over your usher and treasurer. The pastor must have the knowledge of finance so as to be able to interpret simple credit and debit ledger account balances. Also, the pastor would be able to know how to use some of these mobile banking operations such as checking of balance online and monitoring of deposits and withdrawals text alerts. The church should operate current account where two out of three signatories are needed and the pastor as principal signatory before withdrawal can take place.

5. DATA COLLECTION AND SUMMARY

This section documents the process followed in selecting the research design, developing the questionnaire, the various means used to collect data from the respondents and the method of data presentation. The data collection methods utilized was a well-structured questionnaire design.

5.1 Area of the Study

The data for this research was obtained through a sample survey conducted in Akure South Local Government area Akure metropolis, South-West Nigeria. This local government was considered for the study because of the urbanization of the area and a wide spread churches around the area.

5.2 Research Design

The research design used was a survey design. The sample population includes Pastor, Evangelist, Deacon/Deaconess, Church Worker, Church Administrator and Church Members who are Christian's worshippers within Akure South local government area. A total of one hundred ten worshippers were randomly selected and sampled.

A well-structured questionnaire was used to elicit responses from the respondents. The questionnaires were administered to the respondents and collected back immediately to ensure high rate of return. The questionnaire was divided into three sections, section A deals with demographic data of the respondents, section B was a five point likert scale of Excellent, Very Good, Good, Average, and Poor. Section C was a 2 scale point of Yes and No.

5.3 Method of Data Analysis

The data collected from the study will be analyzed with a Chi-Square Model and verified by the aid of Statistical Package for Social Sciences (SPSS) Version 20.0, which would include statistical tools for descriptive statistics. Results will also be presented in form of frequency and percentage distribution and charts.

Categories of Respondents: Respondents to the questionnaire of the study were drawn from seven categories namely: Priest/Pastor/Minister, Evangelist/Missionary, Deacon/Deaconess/Elder, Church Worker/Teacher, Church Administrator, Ordinary Member and others as presented in table 1 shows that Priest/Pastor/Minister constituted 11.8% of the population: Evangelist/Missionary constituted 6.4%: Deacon/Deaconess/Elder constituted 13.6%: Church Worker/Teacher constituted 33.6%: Church Administrator constituted 5%: Ordinary Member 25.5% and Others constituted 4.5%. This implies that majority of the respondent



were workers.

Gender of Respondent: Table 2 shows that male respondents constituted 51.8% while female respondents constituted 48.2% of the respondents' population. That is to say that male respondents were slightly higher in number than their female counterparts. This means that users of ICT in church financial management are of male than female.

Respondents Church Type: In the analysis, out of one hundred and ten respondents the church type reveals that 11.8% were Orthodox, 12.7% were Evangelical, 48.2% were Pentecostal 19.3% were Apostolic and 7.3 % were Others. It indicates that the use of ICT in Church financial management were common in Pentecostal churches. This is shown in table 3.

Relationship between Size of Church and the usage of ICT in Managing Church Finance: Table 4 shows the reveals that there is positive relationship between the church size and the use of ICT in church financial management. This implies that an increase in church size does not necessary lead to the introduction of ICT in management of church financing.

Perception on the usage of ICT gadgets in Church Financial Management: Table 6 shows that 25.5% of the respondents responded yes to their church in incurring any expenses on ICT while 74.5% affirmed No. it implied that majority of the churches are not incurring any cost on ICT in managing church financing.

6. DATA ANALYSIS AND INTERPRETATION

6.1 Analysis and Test of Hypotheses

Respondents were selected randomly from different parts of Akure South-North LGA under consideration. Chi-square, Correlation coefficient and Spearman's Rank Correlation were utilized in the tests of the three hypotheses were tested, using Chi-square, Correlation and spearman's Rank Correlation:

Hypothesis One

H_0 : The use of ICT in church accounting does not improve church financial report.

H_1 : The use of ICT in church accounting improves church financial report Significant level $\alpha = 0.05$

Hypothesis Two

H_0 : The use of ICT does not help in maintain accountability in the church

H_1 : The uses of ICT helps in maintain accountability in the church Significant level $\alpha = 0.05$

Hypothesis Three

H_0 : The use of ICT equipment's does not has impact in tracking fraud in the Church finance and accounting

H_1 : The use of ICT equipment's has impact in tracking fraud in the Church finance and accounting Significant level $\alpha = 0.05$

The Chi-square, Correlation and spearman's Rank Correlation were adopted for this research as would be evaluated below because it was the most suitable statistic to help us make decisions about which study outcomes reflects fluke differences between ICT usage and Church Management in Akure, Nigeria. One vital set of statistical tests allows us to test for deviations of observed frequencies from expected

frequencies. Also making judgments about accuracy of survey sample in reflecting characteristics of population from which it was drawn from our results obtained in Table 1 and 18.

6.2 How to Calculate the ICT Technology using Chi-Square Test for Church Management In Akure, Ondo State

The chi-square (I) test is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in one or more categories. Do the numbers of respondents/individuals or objects that fall in each category differ significantly from the number you would expect? Is this difference between the expected and observed due to sampling error, or is it a real difference?

RECALL

The null hypothesis states that there is no significant difference between the expected and observed frequencies. The alternative hypothesis states they are different. The level of significance (the point at which you can say with 95% confidence that the difference is NOT due to chance alone) is set at .05 (the standard for most science experiments.) The chi-square formula used on these data is [13]

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where O is the Observed Frequency in each Category, E is the Expected Frequency in the Corresponding Category is sum of, df is the degree of freedom ($n - 1$)

χ^2 is Chi-Square

6.3 Procedures on Chi-Square Goodness-of-Fit Tests

The steps in using the chi-square test may be summarized as follows:

1. Write the observed frequencies in column O
2. Figure the expected frequencies and write them in column E .
3. Use the formula to find the chi-square value:
4. Find the df . ($N-1$)
5. Find the table value (consult the Chi Square Table.)
6. If your chi-square value is equal to or greater than the table value, reject the null Hypothesis.

Similarly, the Chi-Square goodness-of-fit tests can be calculated using the steps above.

7. CHI-SQUARE ANALYSIS AND INTERPRETATION

The statistical data analysis provides sufficient data to draw certain conclusions. For better numerical understanding of the data capture, basic descriptive statistics has been applied. This technique allowed comparison of the results obtained and revalidated with SPSS version 20.0

7.1 TEST OF HYPOTHESIS (H1) RESULTS AND INTERPRETATION Hypothesis One

H_0 : The use of ICT in church accounting does not improve church financial report.



H₁: The use of ICT in church accounting improves church financial report Significant level $\alpha = 0.05$

MEANING: CR: Categories of Respondent. F: Frequency. CT: Church type. SC: Size of the church. A: ICT in church accounting Frequency Yes/No. B: How often does your church use ICT. C: Frequency. D: informed on church ICT Frequency. E: Relationship between Frequency F: knowledge on e-banking Frequency. G: usage on ICT frequency. H: Church physical TOTAL. P/P/M/P: P/P/M/P: Priest/Pastor/Minister/Pro. E/M: Evangelist/Missionary. D/D/E: Deacon/Deaconess/Elder. CW/T: Church Worker/Teacher. CA: Church Administrator. OM: Ordinary Member. OPN: Other, Please name. EX: Excellent. VG: Very Good. GD: Good. AV: Average. PR: Poor

This was tested with ten tables out of the twenty-one table generated from chapter three. This was to give a more detailed and closed conclusion on the first test of test of hypothesis (H₁). The tables are listed as table 1, 3, 4, 5, 6, 8, 9, 10, 12, and 13 above and below respectively.

By following the aforementioned section 4.2.3, we have as follows:

Step 1: Write the observed frequencies in column O

Step 2: Figure the expected frequencies and write them in column E

These steps are shown on table 7 and 8 for detailed data analysis as explained below:

To find the expected frequencies, we assume independent of the rows and columns. To get the expected frequency corresponding to the 177 at top left, we look at row total (110) and column total (1099), multiply them, and then divide by the overall total (1099). So the expected frequency is: $177 \times 110 / 1099 = 17.72$; hence to get the entire table expectation entry we calculate (row total multiply column total) divide overall total.

Step 3: Use the formula to find the chi-square value

Step 4: Find the *df*. (N-1)

The number of degree of freedom is calculated from an m-by-n table as $(m * n - 1)$; so in this case we have $(11 * 7 - 1) = 76$; hence showing a degree of freedom as 76.

Step 5: Find the table value (consult the Chi Square Table)

Hence the tabular 95% value of χ^2 (degree of freedom = 76) is 97.35; the calculated chi-square value for the set of data we analyzed (602.1009) is significant at 5% level and greater than the table critical value (97.35) - reject the null hypothesis, and accept the alternate (there is a significant difference). In this situation, the rejection of the null hypothesis means that the differences between the expected frequencies and the observed frequencies are not due to chance. That is, they are not due to chance variation in the sample survey; there is a real difference between them. Therefore, in deciding ICT usage in churches within Akure South-North, we conclude that ICT in church accounting improves church financial report. So we conclude that our survey sample supports the hypothesis of a difference.

7.2 Revalidated with SPSS Version 20 for Test of Hypothesis (H₁)

Decision Rule: Reject H₀ if the significant probability is less

than the level otherwise do not reject.

Conclusion: Since the significant probability is lesser than the α level i.e $0.013 < 0.05$, there is statistical reason to reject H₀ and conclude that the use of ICT in church accounting improves church financial report

7.3 TEST OF HYPOTHESIS (H₂) RESULTS AND INTERPRETATION Hypothesis Two

H₀: The use of ICT does not help in maintain accountability in the church

H₁: The uses of ICT helps in maintain accountability in the church Significant level $\alpha = 0.05$

This was tested with nine tables out of the twenty-one table generated from chapter three. This was to give a more detailed and closed conclusion on the first test of test of hypothesis (H₂). And the tables are listed as table 8, 9, 11, 12, 15.

Step 1: Write the observed frequencies in column O

Step 2: Figure the expected frequencies and write them in column E

To find the expected frequencies, we assume independent of the rows and columns. To get the expected frequency corresponding to the 285 at top left, we look at row total (110) and column total (989), multiply them, and then divide by the overall total (989). So the expected frequency is: $\frac{285 * 110}{989} = 31.70$; hence to get the entire table expectation entry we calculate (row total multiply column total) divide overall total.

Step 4: Find the *df*. (N-1)

The number of degree of freedom is calculated from an m-by-n table as $(m * n - 1)$; so in this case we have $(9 * 5 - 1) = 45 - 1 = 44$; hence showing a degree of freedom as 44.

Step 5: Find the table value (consult the Chi Square Table)

Hence the tabular 95% value of χ^2 (degree of freedom = 44) is 60.48; the calculated chi-square value for the set of data we analyzed (430.1014) is significant at 5% level and greater than the table critical value (60.48) - reject the null hypothesis, and accept the alternate (there is a significant difference). In this situation, the rejection of the null hypothesis means that the differences between the expected frequencies and the observed frequencies are not due to chance. Therefore, we can conclude that the uses of ICT helps in maintain accountability in the church.

7.4 Revalidated with SPSS Version 20 for Test of Hypothesis (H₂)

Decision Rule: Reject H₀ if the significant probability is less than the level otherwise do not reject.

Conclusion: Since the significant probability is lesser than the α level that is $0.00 < 0.05$, there is statistical reason to reject H₀ and conclude that the uses of ICT helps in maintain accountability in the church.

7.5 Test of Hypothesis (H₃) Results and Interpretation

Hypothesis Three

H₀: The use of ICT equipment's does not has impact in



tracking fraud in the Church finance and management.

H₁: The use of ICT equipment's has impact in tracking fraud in the Church finance and management. Significant level $\alpha = 0.05$

This was tested with eleven tables out of the twenty-one table generated from this research. This was to give a more detailed and closed conclusion on the first test of test of hypothesis (H₃). And the tables are listed as 3.5. - 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 3.5.16 respectively.

Step 1: Write the observed frequencies in column O

Step 2: Figure the expected frequencies and write them in column E

To find the expected frequencies, we assume independent of the rows and columns. To get the expected frequency corresponding to the 258 at top left, we look at row total (110) and column total (989), multiply them, and then divide by the overall total (1210). So the expected frequency is: $\frac{285 * 110}{1210} = 23.45$; hence to get the entire table expectation entry we calculate (row total multiply column total) divide overall total.

Step 3: Use the formula to find the chi-square value

Step 4: Find the df. (N-1)

The number of degree of freedom is calculated from an m-by-n table as $(m * n - 1)$; so in this case we have $(11 * 5 - 1) = 55 - 1 = 54$; hence showing a degree of freedom as 54.

Step 5: Find the table value (consult the Chi Square Table)

Hence the tabular 95% value of χ^2 (degree of freedom = 54) is 72.15; the calculated chi-square value for the set of data we analyzed (142.3508) is significant at 5% level and greater than the table critical value (72.15) - reject the null hypothesis, and accept the alternate (there is a significant difference). In this situation, the rejection of the null hypothesis means that the differences between the expected frequencies and the observed frequencies are not due to chance. Therefore, conclude that conclude that the use of ICT equipment's has impact in tracking fraud in the Church.

7.6 Revalidated with SPSS Version 20 for Test of Hypothesis (H₃)

Decision Rule: Reject H₀ if the significant probability is less than the level otherwise do not reject.

Conclusion: Since the significant probability is lesser than the α level i.e $0.044 < 0.05$, there is statistical reason to reject H₀

and conclude that the use of ICT equipment's has impact in tracking fraud in the Church.

8. SUMMARY

Based on the analysis on this work and various statistical tests carried out, the following findings were made in the course of this work: The rate of adoption of ICT in church financial management is very low despite the numerous advantages accrued on its adoption. There is a positive relationship between the church size and the use of ICT in church financial management system and the positive relationship was not significant. This implies that an increase in church size does not necessary lead to the introduction of ICT in management of church financing. The use of ICT in church accounting improved church financial report. ICT has maintain accountability in the church financial management system Adoption of ICT in church financing equipment's has impact in tracking frauds in the Church Financial management system. Majority of the Churches do not have any accounting software in managing church fund.

9. CONCLUSION

Based on this finding, the churches should commit valuable part of their time and money to improve the ICT in Churches, particularly in the area of finance. The benefits gained by implementing the use of ICT in church finance documentation is high for example, easy retrieval of documents, complex security rules, controlling access for proper recording thereby enabling improved services to the congregation.

10. RECOMMENDATION

Based on the results from this research; the following recommendations are hereby presented:

1. The church leaders should promote computer literacy programmes for leaders and members (most especially those in-charge of finance) to enhance their use of the ICT in their various departments.
2. In order to take full advantage of church financial management, the church should go for web-based enterprise solutions so that some areas like church membership, church outreach management system, church pastoral care management, church financial system, church document management system and church education management can be available to the members and interesting members through Internet all the time.

Table 1: Categories of Respondents

Variables	Frequency	Percent	Cumulative Percent
Priest/Pastor/Minister/Pro	13	11.8	11.8
Evangelist/Missionary	7	6.4	18.2
Deacon/Deaconess/Elder	15	13.6	31.8
Church Worker/Teacher	37	33.6	65.5
Church Administrator	5	4.5	70.0
Ordinary Member	28	25.5	95.5
Other, Please name	5	4.5	100.0
Total	110	100.0	



Table 2 Gender of Respondent

Variables	Frequency	Percent	Cumulative Percent
Male	57	51.8	51.8
Female	53	48.2	100.0
Total	110	100.0	

Table 3: Church Type

Variables	Frequency	Percent	Cumulative Percent
Orthodox	13	11.8	11.9
Evangelical	14	12.7	24.8
Pentecostal	53	48.2	73.4
Apostolic	21	19.1	92.7
Other name	8	7.3	100.0
Total	109	99.1	100.0

Relationship between Size of Church and the usage of ICT in Managing Church Finance:

Table 4: Relationship of the Church and usage of ICT managing Church Finance

Variables	Size of church					Total	
	Less than 50	50-100	100-200	200-500	Above 500		
The use of ICT in Church Accounting System	Yes	1	9	6	8	18	42
	No	2	11	10	13	32	68
Total	3	20	16	21	50	110	

Table 5: How well informed is your church about ICT usage of accounting Software?

How well informed is your church about ICT usage of accounting Software?	Frequency	Percent
Excellent	23	20.9
Very Good	27	24.5
Good	28	25.5
Average	21	19.1
Poor	11	10.0
Total	110	100

Table 6: shows the frequency of the ICT facilities

ICT facilities	Frequency	Percentage
Accounting software (e. g Peach tree, Quatro pro, Microsoft Excel etc)	30	-
GSM/Telephone	120	100%
Internet	37	30.83%
Satellite technology	-	-%
Radio set	120	100%



Electronic mail	42	35%
Digital video disk (DVD)	30	25%
CD-ROM technology	25	20.83%
Fax	-	-%
Printer	42	35%
Scanner	57	47.50%
CCTV	30	-
Projector	40	-

Table 7: Observed frequencies in column 0 in H₁

C R	F	CT	SC	F	A	B	C	D	E	F	G	H	TOTAL
P/P/M/P	13	13	200-500	21	0	0	EX	31	23	13	28	30	26 177
E/M	7	14	100-500	16	8	13	VG	19	27	30	31	28	40 238
D/D/E	15	53	50-100	20	6	10	GD	25	28	29	29	25	20 256
CW/T	37	21	Less than 50	3	9	11	AV	14	21	15	10	16	13 187
C A	5	-	Above 500	50	1	2	PR	21	11	23	12	11	11 100
O M	28	-	-	-	18	32	-	-	-	-	-	-	128
O,P,N	5	-	-	-	0	0	-	-	-	-	-	-	13
TOTAL	110	109		110	42	68		110	110	110	110	110	110 1099

Table 8: Expected Frequencies in Column E In H₂

C R	F	CT	SC	F	A	B	C	D	E	F	G	H	TOTAL	
P/P/M/P	17.72	17.72	200-500	17.72	6.78	10.95	EX	17.72	17.72	17.72	17.72	17.72	17.72	177.03
E/M	23.82	23.61	100-500	23.82	9.10	14.73	VG	23.82	23.82	23.82	23.82	23.82	23.82	238
D/D/E	25.62	25.39	50-100	9.78	15.84	25.62	GD	25.62	25.62	25.62	25.62	25.62	25.62	255,97
CW/T	18.72	18.55	Less than 50	7.15	11.57	18.72	AV	18.72	18.72	18.72	18.72	18.72	18.72	187.03
C A	10.00	9.92	Above 500	10.00	3.82	6.19	PR	10.00	10.00	10.00	10.00	10.00	10.00	99.03
O M	12.81	12.69	-	12.81	4.89	7.92	-	12.81	12.81	12.81	12.81	12.81	12.81	127.98



Table 9: The computed chi-square table in H₁

O	E	(O - E)	(O - E) ^2	 O - E ^2/E
13	17.72	-4.72	22.2784	1.2572
13	17.56	-4.56	20.7936	1.1841
-	17.72	-17.72	313.9984	17.7200
--	6.76	-6.76	45.6976	6.7600
31	10.95	-10.95	119.9025	10.9500
23	17.72	13.28	176.3584	9.9525
13	17.72	5.28	27.8784	1.5732
28	17.72	-4.72	22.2784	1.2572
30	17.72	10.28	105.6784	5.9638
26	17.72	12.28	150.7984	8.5033
7	17.72	8.28	68.5584	3.8690
14	23.82	-16.82	282.9124	11.8771
21	23.61	-9.61	92.3521	3.9116
8	23.82	-2.82	7.9524	0.3339
13	9.10	-1.1	1.21	0.1330
19	14.73	-1.73	2.9929	0.2032
27	23.82	-4.82	23.2324	0.9753
30	23.82	3.18	10.1124	0.4245
31	23.82	6.18	38.1924	1.6034
28	23.82	7.18	51.5524	2.1642
O	E	(O - E)	(O - E) ^2	 O - E ^2/E
40	23.82	4.18	17.4724	0.7335
15	23.82	16.18	261.7924	10.9904
53	25.62	-10.62	112.7844	4.4022
16	25.39	27.61	762.3121	30.0241
6	9.78	-9.62	92.5444	3.4765
10	15.84	-3.78	14.2884	1.4610
25	25.62	-5.84	34.1056	2.1531
28	25.62	-0.62	0.3844	0.0150
29	25.62	2.38	5.6644	0.2211
29	25.62	3.38	11.4244	0.4459
25	25.62	3.38	0.3844	0.0150
20	25.62	-0.62	31.5844	1.2328
37	18.72	-5.62	334.1564	17.8503
21	18.55	18.28	6.0025	0.3236
20	18.72	2.45	1.6384	0.0875
9	7.15	1.28	3.4225	0.4787
11	11.57	1.85	0.3249	0.0251



14	18.72	-0.57	22.2784	1.1901
21	18.72	-4.72	5.1984	0.2777
15	18.72	2.28	13.8384	0.7392
10	18.72	-3.72	76.0384	4.0619
16	18.72	-8.72	7.3984	0.3952
13	18.72	-2.72	32.7184	1.7478
5	10.00	-5.72	25.0000	2.5000
-	9.92	-5.00	98.4064	9.9200
3	10.00	-9.92	49.0000	4.9000
1	3.82	-7.00	7.9524	2.0818
2	6.19	-2.82	17.5561	2.8362
21	10.00	-4.19	121.000	12.1000
11	10.00	11.00	1.0000	0.10000
23	10.00	1.00	169.0000	16.9000
12	10.00	13.00	4.0000	0.40000
11	10.00	2.00	1.0000	0.10000
11	10.00	1.00	1.0000	0.10000
28	12.81	1.00	230.7361	18.0122
-	12.69	15.19	161.0361	12.6900
50	12.81	-12.69	1383.0961	107.9700
18	4.89	37.19	171.8721	35.1477
32	7.92	13.11	579.8464	73.2129
-	12.81	24.08	164.0961	12.8100
-	12.81	-12.81	164.0961	12.8100
-	12.81	-12.81	164.0961	12.8100
--	12.81	-12.81	164.0961	12.8100
-	12.81	-12.81	164.0961	12.8100
O	E	(O - E)	(O - E) ^2	 O - E ^2/E
-	12.81	-12.81	164.0961	12.8100
5	1.30	3.70	13.69	10.5308
8	1.29	6.71	45.0241	34.9024
-	1.30	-1.30	1.6900	1.3000
-	0.50	-0.50	0.2500	0.5000
-	0.80	-0.80	0.6400	0.8000
-	1.30	-1.30	1.6900	1.3000
-	1.30	-1.30	1.6900	1.3000
-	1.30	-1.30	1.6900	1.3000
-	1.30	-1.30	1.6900	1.3000
-	1.30	-1.30	1.6900	1.3000
-	1.30	-1.30	1.6900	1.3000



Table 10. Test Statistics

	The use of ICT in Church Accounting System
Chi-Square	6.145 ^a
Df	1
Asymp. Sig.	.013

Table 11: Observed frequencies in column O in H₂

Standard option on Respondent	Frequency	standard of electronic banking	Well informed about ICT	Relationship between manual	Church uses physical measure	Variables	Church spent money on ICT	Rate of ICT	Roles of ICT	Church type	Frequency	Total
Excellent	27	23	30	13	26	Yes	28	67	58	Orthodox	13	285
Very Good	24	27	28	30	40	No	82	43	52	Evangelical	14	340
Good	31	28	25	29	20	-	-	-	-	Pentecostal	53	186
Average	12	21	16	15	13	-	-	-	-	Apostolic	21	98
Poor	16	11	11	23	11	-	-	-	-	Other name	8	80
Total	110	110	110	110	110		110	110	110		109	989

Table 12: Expected frequencies in column E in H₂

Standard option on Respondent	Frequency	standard of electronic banking	Well informed about ICT	Relationship between manual	Church uses physical measure	Variables	Church spent money on ICT	Rate of ICT	Roles of ICT	Church type	Frequency	Total
Excellent	31.70	31.70	31.70	31.70	31.70	Yes	31.70	31.70	31.70	Orthodox	31.41	285.01
Very Good	37.82	37.82	37.82	37.82	37.82	No	37.82	37.82	37.82	Evangelical	37.47	340.03
Good	20.69	20.69	20.69	20.69	20.69		20.69	20.69	20.69	Pentecostal	20.50	186.02
Average	10.90	10.90	10.90	10.90	10.90		10.90	10.90	10.90	Apostolic	10.80	98.00
Poor	8.90	8.90	8.90	8.90	8.90		8.90	8.90	8.90	Other name	8.82	80.02
Total	110	110	110	110	110		110	110	110		109	989.08



Table 13: The computed chi-square table in H₂

O	E	(O - E)	(O - E) ^2	 O - E ^2/E
27	31.70	-4.7	22.09	0.6968
23	31.70	-8.7	75.69	2.3877
30	31.70	-1.7	2.89	0.0912
13	31.70	-18.7	349.69	11.0312
26	31.70	-5.7	32.49	1.0249
28	31.70	-3.7	13.69	0.4319
67	31.70	35.3	1246.09	39.3088
58	31.70	26.3	691.69	21.8199
13	31.41	18.41	338.9281	10.7905
24	37.82	13.82	190.9924	5.0500
27	37.82	-10.82	117.0724	3.0955
28	37.82	-9.82	96.4324	2.5498
30	37.82	-7.82	61.1524	1.6169
40	37.82	2.18	4.7524	0.1257
82	37.82	44.18	1951.8724	51.6095
43	37.82	4.18	17.4724	0.4620
52	37.82	14.18	201.0724	5.3166
14	37.47	23.47	550.8409	14.7009
31	20.69	10.31	106.2961	5.1376
28	20.69	7.31	53.4361	2.5827
25	20.69	4.31	18.5761	0.8978
29	20.69	8.31	69.0561	3.3377
20	20.69	-0.69	0.4761	0.0230
-	20.69	-20.69	428.0761	20.6900
-	20.69	-20.69	428.0761	20.6900
-	20.69	-20.69	428.0761	20.6900
O	E	(O - E)	(O - E) ^2	 O - E ^2/E
53	20.50	32.50	1056.25	51.5244
12	10.90	1.1	1.21	0.1110
21	10.90	10.1	102.01	9.3587
16	10.90	5.1	26.01	2.3862
15	10.90	4.1	16.81	1.5422
13	10.90	2.1	4.41	0.4046
-	10.90	-10.9	118.81	10.9000
-	10.90	-10.9	118.81	10.9000
-	10.90	-10.9	118.81	10.9000
21	10.80	10.2	104.04	9.6333
16	8.90	7.1	50.41	5.6640



11	8.90	2.1	4.41	0.4955
11	8.90	2.1	4.41	0.4955
23	8.90	14.1	198.81	22.3382
11	8.90	2.1	4.41	0.4955
-	8.90	-8.9	79.21	8.9000
-	8.90	-8.9	79.21	8.9000
-	8.90	-8.9	79.21	8.9000
8	8.82	-0.82	0.6724	0.0762

TOTAL 430.1014

Table 14: Test Statistics

Variable	How is the level of your church financial accountability using e-statement?
Chi-Square	20.954 ^a
Df	4
Asymp. Sig.	0.000

Table 15: Observed frequencies in column O in H₃

Standard option on Respondent	Frequency	standard of electronic banking	Well informed about ICT	Relationship between manual	Church uses physical measure	Variables	Church spent money on ICT	Rate of ICT	Roles of ICT	Church type	Frequency	Total
Excellent	3	29	33	30	26	23	13	28	27	26	20	258
Very Good	20	33	19	28	21	27	30	31	24	40	40	313
Good	16	20	25	25	22	28	29	29	31	20	21	266
Average	21	17	14	16	17	21	15	10	12	13	14	170
Poor	50	11	19	11	24	11	23	12	16	11	15	203
Total	110	110	110	110	110	110	110	110	110	110	110	1210

Table 16: Expected frequencies in column E in H₃

Standard option on Respondent	Frequency	standard of electronic banking	Well informed about ICT	Relationship between manual	Church uses physical measure	Variables	Church spent money on ICT	Rate of ICT	Roles of ICT	Church type	Frequency	Total
Excellent	23.45	23.45	23.45	23.45	23.45	23.45	23.45	23.45	23.45	23.45	23.45	257.95
Very Good	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	313
Good	24.18	24.18	24.18	24.18	24.18	24.18	24.18	24.18	24.18	24.18	24.18	266
Average	15.45	15.45	15.45	15.45	15.45	15.45	15.45	15.45	15.45	15.45	15.45	170
Poor	18.45	18.45	18.45	18.45	18.45	18.45	18.45	18.45	18.45	18.45	18.45	203
Total	109.98	109.98	109.98	109.98	109.98	109.98	109.98	109.98	109.98	109.98	109.98	1209.95



Table 17: The Computed CHI-Square Table in H₃

O	E	(O - E)	(O - E) ^2	 O - E ^2/E
3	23.45	-20.45	418.2025	17.8338
29	23.45	5.55	30.8025	1.3135
33	23.45	9.55	91.2025	3.8892
30	23.45	6.55	42.90	0.1619
26	23.45	0.2025	17.4724	0.2372
23	23.45	109.2025	261.7924	7.6567
13	23.45	20.7025	112.7844	3.2647
28	23.45	12.6025	762.3121	1.6724
27	23.45	11.9025	92.5444	10.6400
26	23.45	71.4025	14.2884	0.2544
20	23.45	20.7025	34.1056	0.2393
20	28.45	89.3025	0.3844	0.1574
33	28.45	0.2025	5.6644	0.0087
19	28.45	-3.7	11.4244	3.3385
28	28.45	35.3	0.3844	4.3320
21	28.45	26.3	31.5844	1.9775
27	28.45	18.41	334.1564	1.7832
30	28.45	13.82	6.0025	1.9981
31	28.45	-10.82	1.6384	5.8043
24	28.45	-9.82	3.4225	15.1328
40	28.45	-7.82	0.3249	0.2673
40	28.45	2.18	22.2784	0.0876
16	24.18	44.18	5.1984	1.4185
20	24.18	4.18	13.8384	1.4411
25	24.18	14.18	76.0384	0.9309
25	24.18	23.47	7.3984	3.5162
O	E	(O - E)	(O - E) ^2	 O - E ^2/E
22	24.18	10.31	32.7184	0.7893
28	24.18	7.31	25.0000	12.9096
29	24.18	4.31	98.4064	15.5791



29	24.18	8.31	49.0000	3.3870
31	24.18	-0.69	7.9524	0.0008
20	24.18	-20.69	17.5561	0.9915
21	24.18	-20.69	121.000	23.7232
17	15.45	-20.69	1.0000	4.9000
14	15.45	-20.69	169.0000	1.7832
16	15.45	32.50	4.0000	1.9981
17	15.45	1.1	1.0000	5.8043
21	15.45	10.1	1.0000	15.1328
15	15.45	5.1	230.7361	0.2673
10	15.45	4.1	161.0361	0.0876
12	15.45	2.1	1383.0961	1.4185
13	15.45	-10.9	171.8721	1.4411
14	15.45	-10.9	579.8464	0.9309
50	18.45	-10.9	164.0961	3.5162
11	18.45	10.2	164.0961	0.7893
19	18.45	7.1	42.90	12.9096
11	18.45	2.1	17.4724	15.5791
24	18.45	2.1	261.7924	3.3870
11	18.45	14.1	112.7844	0.0008
23	18.45	2.1	762.3121	0.9915
12	18.45	-8.9	92.5444	23.7232
16	18.45	-8.9	14.2884	4.9000
11	18.45	-8.9	55.5025	0.7893
15	18.45	-0.82	11.9025	12.9096

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