



Effect of Information and Communication Technology (ICT) on Payrolling of Staff in Tertiary Institutions: Evidence from Imo State, Nigeria.

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Abstract

Payrolling of staff in tertiary institutions lays emphasis on prompt remunerations and productivity. Payment of salary in tertiary institutions is a key to performance effectiveness, efficiency and service success. This study examined the effect of ICT in payrolling of staff in tertiary institutions in Imo State using four institutions. Data were collected through secondary and primary sources. The data was generated using well structured likert scale questionnaire and correlation analysis which was used to test the hypotheses. The findings are that the use of ICT has reduced fraud in payroll system in tertiary institutions and also the use of ICT has contributed to the timely/regular payment of salaries in tertiary institutions. It was recommended that every institution should encourage the use of ICT in pay rolling of staff salaries to reduce frauds. Also, proper education and training should be given to staff in payroll departments to ensure efficiency and finally awareness campaign should be carried out to enlighten the bursary department on the benefits of using ICT in pay rolling of staff salaries.

Keywords: Pay rolling, Information and Communication Technology, Tertiary Institution.

1.0 Introduction

Armstrong (2000) defined payroll as the list of employees by a company and the amount of money to be paid to each of them. In educational Institutions, payroll is the list of staff (both non academic and academic) employed by the school management, ministry of education, Universities, colleges of education, polytechnics and the amount of money to be paid to each of them.

More so in educational institutions, it is usually the responsibility of the bursary or the accounts department to pay the staff. Murray (2015) asserts that payroll is the distribution of paycheck to employees each pay day and the financial records for employee wages/salaries, withholding deductions, bonuses, pay for time not worked and other items of employee paychecks. Payroll is the most part of an action that is usually performed by organizations with employee. For this reason, there must be an efficient and effective way to make payment of staff work accurately. As a result of this, there is need for

Information and Communication Technology (ICT). Information and Communication Technology is a major tool of transformations in a modern society. A country without ICT is winking in dark. ICT is a tree that comprises any communication device which includes: radio, television, computers of various types, internets, networks etcetera. Rouse (2005) defined ICT as an umbrella that includes any communication device or application encompassing: television, radio, cellular phones, computer and network hardware and software, satellite system as well as the various services and applications associated with them. Information and communication Technology systems are very unique and flexible and can be made to perform a variety of different tasks. It helps to improve on the way we deal with information in all areas of our lives. ICT usage in the present day society is becoming so universal and people carefully think out methodical approach to computerize various processes that inspire confidence and guarantee unalloyed success in every endeavor of human life. Since the advent of ICT, pay rolling of staff is becoming easier day by

day in our institutions. The payment of every employee must be made in a detailed explanation and queued in a computer for easy assessment. The payroll unit must therefore be capable of processing the input data which includes the employee's name, date worked, pay rate, social security number etcetera in order to produce accurate output of pay schedule, cheques, pay record, payee taxes, statements and reports to the appropriate government agencies.

1.1 Statement of the Problem

With an upsurge in fraudulent activities in Nigeria, ICT has become an emerging topic of great importance for academic, research and organizations.

Based on the aim of this study to find out how the use of ICT in pay rolling reduces the huge obstacles resulting from mistakes associated with manual calculations of staff salaries and how ICT also reduces fraudulent activities in pay rolling system, the process still suffer major setbacks. Many issues which are inherent in the payrolling system which this study addressed are: wastage of time and cost in the manual transaction process, problem of reporting salary details to staff, problem of overpayment of staff which is usually experienced in manual transaction process, problem of time and non- regular payment of salaries in Tertiary Institutions and problem of ghost workers in an establishment.

1.2 Objectives of Study

The main objective of this study is to examine the effect of ICT on payrolling of staff in tertiary institutions in Imo State, Nigeria.

Specifically, the study attempts:

- i. To determine whether the use of ICT has reduced fraud in payrolling system in tertiary institutions.
- ii. To examine the contribution of ICT to timely and regular payment of salary in tertiary Institutions.
- iii. To determine how the use of ICT in pay rolling has affected the reporting of salary details to staff.

1.3 Research Questions

- i. To what extent has the contribution of ICT reduced fraud in payrolling system in tertiary institution?

- ii. To what extent has the use of ICT contributed to the timely/regular payment of salaries in tertiary institutions in Imo State?

1.4 Hypotheses

H₀₋₁: The use of ICT has not reduced fraud in payroll system in tertiary institution.

H₀₋₂: The use of ICT has not contributed to the timely/regular payment of salaries in tertiary institutions.

2.0 Literature Review

2.1 Conceptual Framework

The importance of payroll cannot be overstated. Payroll is an integral part of all organization. The payroll department is not only responsible for employee's salary compensation but, it also plays a vital role in protecting the company's reputation by ensuring compliance with various legislations.

The Importance of payroll according to G Team in payroll (2015) includes:

- **Morale of employees:** This is a very important aspect of payroll is its impact on the morale of the employees. The employees in an organisation need to feel assured that they can be paid on a consistent and timely basis. Late and inaccurate payroll might cause employees to question the financial stability of the organization. This might compromise on the work climate within the organization, thereby resulting in under performance and ignorant behavior toward the organization.
- **Compensation Package:** Payroll allows an employee to feel his net worth within the organization. An employee's total compensation such as salary, bonuses and benefit are incorporated into payroll. Based on annual performance evaluation, employees are typically rewarded with a salary increase or a fat bonus. This might boost an employee's performance and also create a positive effect on the organization.
- **Re- allocation of resources:** With all the paper works and calculations that comes synonymously with payroll, it can be an extremely time-consuming and manual job. As payroll has to be performed regularly every month, additional resources need to be employed to ensure the accuracy and precision of payroll calculated. Most

organisations tackle this issue by engaging a reliable payroll software system. A payroll software system would allow a more comprehensive dates management, provide organizations the option of generating customized reports. In addition, payroll software systems are typically up to date with the latest legislative charges. As payroll is now automatic, it allows organizations to save on costs in the long run. Other benefits of payroll systems include (see Steven, 2004):

- i.* Elimination of errors associated with manual payroll processing.
- ii.* Computation of payments for employees who are under many different pay plans.
- iii.* Reduces processing times and down time.
- iv.* Improve staff efficiency and productivity.

2.1.1 Concept of Payrolling in ICT

Payrolling is defined as handwritten, multi-post method whereby entries of monthly earnings and deductions from personal emolument cards are pay rolled in duplicate (Jibrin, Ejura and Augustina, 2015). Roost (2009) opines that payroll system involves everything that has to do with the payment of employees and the filing to employment taxes. This includes keeping track of hours, calculating wages, withholding taxes and other deductions, printing, delivering cheques and payment of employment taxes to the government. Irish Times (2002) defined payroll system as a system whereby workers are being paid according to their level of productivity.

According to Lindblad (2015), a payroll system calculates the amount an employer owes employees based on factors such as the time they worked, their hourly wages or salaries and whether they took vacation or holiday time during the pay period. The system adjusts gross pay by calculating and subtracting taxes and other withholding amounts. A payroll system also processes tax information and helps to comply with tax obligations.

Computerized payroll is a stand alone windows-based system which has limited integrative function. Computerized payroll system is the process of normal payroll tasks via a computerized system rather than using manual. Computerized payroll system performs the same functions that manual methods of payroll do in a more sophisticated way.

It comprises of a set of software programs. The programs have various screens into which the payroll had entered employee's data and time sheets. Other programs calculate, check amounts and produce reports. The programs contain formulas that take the input data such as hours worked and pay rates. Then it will compute the gross and net pay amount (Barrett, 2014). Payroll can be done once a week or once a month. In tertiary institutions, it is done once in a month. For quite some decades now, ICT has been around but the consistent quest for its application recently in the various facets of human life shows the robust and reliable opportunities it provides. (Akujor *et al.*, 2014). The application and introduction of ICT is ensuring effectiveness and accuracy in pay rolling of staff. ICT has helped in the storage, retrieval and disseminations of information in payrolling of staff in tertiary institutions which is almost impossible through the manual means.

Heek (1999) defines Information and communication technologies as electronic and communicating information. They comprise computer hardware, software and network. The introduction of ICT has changed the way pay-rolling in many institutions is being handled. Through the use of internet, salaries can be paid to the bank after payrolling and alerts received immediately. ICT is known for its capability in speeding up processing time in business. It has really shortened the length and cumbersome manual procedures in payrolling. ICT has become an integral and accepted part of everyday life for many people.

2.1.2 Benefits of ICT in Payrolling

According to Ferguson (2013), the use of ICT in payrolling offers a number of benefits. These benefits are briefly explained as follows:

- i.* Time Importation: Time keeping system such as time clock is used by employers to track employees work hours. A manual system requires tracking employed time by hand, but a computerized payroll system payroll system has the ability to automatically transmit employee entries from the time keeping system into the payroll system.
- ii.* Automatic Calculations: Computerized pay rolling system can round employee work hours into quarter hour segments and accurately calculate the total hours worked and to be paid, thereby saving time spent on manual calculations.

iii. Report Generation: A computerized payroll system generates payroll reports that allows a double check payroll before printing paychecks or pay stubs. Also it gives report so as to reduce the number of ghost workers in an establishment.

iv. Paycheck Processing: A computerized payroll system has direct deposit capability which saves money spent on manual checks and reconciliations. On the other hand, a manual payroll system requires to print paycheck on a typewriter or by hand.

Other benefits of ICT include:

- ICT will help in system integration between various units/departments of tertiary institutions in Nigeria.
- It will help in enhancement of access to vital information resources.
- ICT will help in better communication and information sharing between the bursary department and staff.

2.2 Theoretical Framework

2.2.1 Payroll Tax Theory

Feigenbaum (2014) states that some economic theorist argues that payroll taxes can impact employment and the work force in broad and important ways. For instance, a reduction of payroll taxes alleviates employer's financial burdens and may create incentives for them to hire more employee using their cost saving. Similarly, lower payroll withholding may encourage employee to work more during a given tax year, improving industrial output for the entire country.

2.2.2 Integrated Payroll and Personal Information System Theory

This system covers the administration of Federal Government of Nigeria's Human Resources. It aims to promote the effectiveness and efficiency in storage of personal records and administration of monthly payroll in such a way to enhance confidence in staff emolument costs and budgeting. The integrated payroll and personnel information system is a web – based Human Resource Management System that has personnel records and payroll administration modules. The human resources management system runs an internet that connects the data centers of Ministries, Departments and Agencies (MDA). This theory also ensures that every detail about payment of staff monthly emoluments from individual civil

servant, the MDAs and the amount paid monthly to third party agencies are being documented electronically. A computerized human resource system helps an organisation to handle performance review, government labour reporting requirements, benefits packages and other issues relating to management.

2.3 Empirical Review

In the works of Emenike (2015), an automated payroll system positively affects the image of a company and saves its resources. Employees can carry out self-services on a payroll system such as filling forms, changing names, home addresses, bank account numbers, phone numbers etc.

However, this accessibility may come with a level of access control and authority for different employees. The automated payroll system improves the calculations and accuracy of employees income. More so, it ensures that the organization is in compliance with tax and labour regulations. In recent times, all establishments are becoming modernized. Modern technologies make their transaction fast, easy and also for security purpose. Computerized payroll system will not only produce accurate calculations and fast process of payroll transaction but it will secure data through security implementation pay rolling system using ICT saves time and lower error ratio and also dictate errors and adjust them beforehand (Azurin, 2011).

3.0 Methodology

3.1 Research Design

The survey research design was used in this study. The population of the study comprises four institutions in Imo State: Federal University of Technology, Owerri (FUTO), Imo State University (IMSU), Alvan Ikoku Federal College of Education Owerri (AIFCE) and Imo State Polytechnic Umuagwo (ISPU).

3.2 Population of the Study

The population of study was drawn from staff of the Bursary departments of the four tertiary institutions. FUTO – 156 staff, IMSU -26 staff, Alvan -98 staff and Imo Poly- 52 staff. This gave a population of 329.

3.3 Sample size

The sample size adopted was 181 staff from the bursary departments. The sample technique used in selecting the sample size is the Yaro Yamene technique of the sample random sample.

$$n = \frac{N}{1 + N(e^2)}$$

where n is the sample size, N is the population size, and e is maximum allowance for sampling error, in our case, 5% or 0.05.

$$n = \frac{329}{1 + 329(0.05^2)} = 180.5 \cong 181$$

Consequently, a sample of 181 respondents of the selected tertiary institutions in Imo State was used

in the present study. The sample size proportion for each institution studied was considered using the formula:

$$k = \frac{w_i}{N} \times n$$

where k is the sample size proportion, w_i is the number of respondent for individual institution, N is the population size, n is the sample size.

Table 1: Sample size proportion distribution

Institution	Bursary Dept	Sample Size Proportion	Sample Size
FUTO	156	85.824	86
IMSU	26	14.304	14
AIFCE	95	52.264	52
ISPU	52	28.608	29
Total	329	181	181

3.4 Data Collection

Secondary and primary data were used in the study. The data was generated using well-structured likert scale questionnaire. In this study, we employed

correlation analysis which was used to test the hypotheses.

3.5 Data Analysis

The data collected were synthesized and analyzed to give meaning to the specific objective of the study. The data were tabulated and presented using such statistical tools like mean and standard deviation. The entire hypotheses formulated were tested using regression analysis. Correlation analysis was used as a way of assessing the relationship between the use of ICT and fraud detection in payroll system in tertiary institution and timely/regular payment of salaries in tertiary institutions. The data were analyzed using SPSS (Statistical Package for Social Sciences) version 19. The data were tested based on 95%

confidence level. The decision shall be based on the following rules as specified by the researchers:

Mean values of 4.45 to 5.0 implies “strong agreement” or “very high extent”; mean values of 3.45 to 4.44 implies “Agreement” or “high extent”; mean values of 2.45 to 3.44 implies “neutral”; mean values of 1.45 to 2.44 implies “disagreement” or “low extent”; mean values of 1.0 to 1.44 implies “strong disagreement” or “very low extent”.

For the options for the item statements in the questionnaire, 5 represents “strongly agree” while in some cases “very high”, 4 represents “agree” while in some cases “high extent”, 3 represents “undecided” or “neutral”, while 2 represents “disagree” while in some cases “low extent” and finally 1 represents “strongly disagree” while in other cases it stands for “very low extent”.

Table 2: The respondents make use of ICT in activities such as:

Items Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard déviation
Accounting	102	79	0	0	0	4.56	0.497
Pay rolling	101	74	6	0	0	4.52	0.563
Tax issues	86	84	11	0	0	4.41	0.605
Controlling	59	90	3	19	10	3.93	1.123
Tender/bid monitoring	45	65	22	42	7	3.55	1.204
Grand Mean						4.194	

Table 3: The extent of which the use of ICT has reduced fraud.

Items Statement	Very High Extent	High Extent	Neutral	Low Extent	Very Low Extent	Mean	Standard deviation
The use of ICT in pay rolling identifies frauds	80	81	17	1	2	4.30	0.754
It reduces mistakes associated with manual calculations of staff salaries	86	84	11	0	0	4.41	0.605
Fraudulent staff will not find it easy to manipulate during calculations of staff with the use of ICT.	82	79	17	1	2	4.31	0.757
The use of ICT in pay rolling of staff is considered better than manual method to fraud reduction.	101	74	6	0	0	4.52	0.563
Manipulations and errors will be on its best minimal with the use of ICT	76	92	13	0	0	4.35	0.61
					Grand Mean	4.378	

Table 4: The extent of which the use of ICT in pay-rolling has on quick and accurate result of workers' salaries, allowances and deductions.

Items Statement	Very High Extent	High Extent	Neutral	Low Extent	Very Low Extent	Mean	Standard deviation
The use of ICT in pay rolling increases the level of accuracy of staff employment	59	103	16	2	1	4.2	0.687
It fastened issues related with staff salaries, allowance and deduction	58	80	10	18	15	3.82	1.222
The use of ICT in pay rolling makes payroll department more proactive	69	96	14	1	1	4.28	0.676
It assists the payroll department to make fast report than using the paper based workings	47	99	7	17	11	3.85	1.098
It reduces delay associated with manual calculation of salaries and allowances	102	79	0	0	0	4.56	0.497
					Grand Mean	4.142	

4.0 Analysis and Discussion of Findings

4.1 Data Presentation

The data collected for the study are presented using Tables 2-4. Table 2 shows the respondents views of activities ICT are used for in their place of work. Majority of the respondents reported that ICT is used in virtually all the accounting activities in their unit resulting in a grand mean of 4.19. The result further showed that accounting ($\bar{x} = 4.56$), payrolling ($\bar{x} = 4.52$), managing of tax issues ($\bar{x} = 4.41$), controlling ($\bar{x} = 3.93$) and activities relating to tendering / bid monitoring ($\bar{x} = 3.55$) are all properly achieved with the aid of ICT.

Research Question 1: To what extent has the contribution of ICT reduced fraud in pay rolling system in tertiary institution?

Table 3 presents the respondents report on the extent of which the use of ICT has reduced fraud in their tertiary institution. The result has shown that ICT has reduced fraud in their tertiary institution to a high extent as the grand mean account for a grand mean of 4.38. The respondents further reported that the use of ICT in pay rolling has identifies frauds ($\bar{x} = 4.30$) to a high extent; It reduces mistakes associated with manual calculations of staff salaries ($\bar{x} = 4.41$) to a high extent; fraudulent staff will not find it easy to manipulate during calculations of staff with the use of ICT ($\bar{x} = 4.31$) to a high extent; The use of ICT in pay rolling of staff is considered better than manual method to fraud reduction ($\bar{x} = 4.52$) to a very high extent; and that manipulations and errors will be on its best minimal with the use of ICT ($\bar{x} = 4.35$) to a high extent.

Table 5: The Summary result on ICT usage on Fraud reduction

Variables	Correlation Coefficient	Régression	p-value	Decision
ICT Usage Fraud Detection	0.173	0.030	0.020	Reject the null hypotheses

Table 6: The Summary result on ICT usage on timely/regular payment

Variables	Corrélation Coefficient	Régression	p-value	Décision
ICT Usage on Timely/Regular Payment	0.519	0.270	0.000	Reject the null hypotheses

Research Question 2: To what extent has the use of ICT contributed to the timely/regular payment of salaries in tertiary institutions in Imo State?

The result in Table 4 showing the extent of which the use of ICT in pay-rolling has on quick and accurate result of workers' salaries, allowances and deductions has reported to a very high extent indicating a grand mean result of 4.142. The result further reports that the use of ICT in pay rolling increases the level of accuracy of staff employment, It fastened issues related with staff salaries, allowance and deduction, The use of ICT in pay rolling makes payroll department more proactive, It assists the payroll department to make fast report than using the paper based workings and all to a high extent as the mean result falls within 2.6 and 4.5. The respondents have reported that ICT usage reduces delay associated with manual calculation of salaries and allowances to a very high extent reporting a mean of 4.56 and a standard deviation of 0.497.

Test of Hypothesis

H₀₋₁: The use of ICT has not reduced fraud in payroll system in tertiary institution.

The result in Table 5 has a report on the effect of ICT usage on fraud reduction in tertiary institution in Imo State. The result has shown that there is a significant effect (since p-value = 0.020 accounts for less than 0.05 confidence level) and that the effect is a positive effect (accounting about 17.3%) on fraud detection. The study has further shown that the regression value accounts 0.030 indicating that the result will be able to predict about 3% of ICT usage on fraud detection. This result leads us to the regression model where:

$$y = 3.842 + 0.131(x_i)$$

(where y is the fraud reduction)

H₀₋₂: The use of ICT has not contributed to the timely/regular payment of salaries in tertiary institutions.

The result in Table 6 has a report on the effect of ICT usage on timely/regular payment of salaries in tertiary institution in Imo State. The result has shown that with the use of ICT, there is a significant effect (since p-value = 0.000 < 0.05 confidence level) on timely/regular payment of salaries in tertiary institution and that the effect accounts for a positive effect (reporting about 51.9%). The study has further shown that the regression value accounts 0.270 indicating that the result will be able to predict about 27% of ICT usage on timely/regular payment. This result leads us to the regression model where:

$$y = 2.135 + 0.489(\text{ICT usage})$$

(where y is timely/regular payment)

5.0 Conclusion and Recommendations

The use of ICT in payroll should be embraced as it has a dual purpose or benefits. Modern technology in payroll makes transactions faster, easier and more accurate. More so, the automated payroll systems improve the calculations and accuracy of staff salaries. We however, revealed that the use of ICT reduced fraud in payroll system in tertiary institution and that the use of ICT has contributed (to the timely) regular payment of salaries in tertiary institutions.

We recommend that:

i. Every institution encourages the use of ICT in payrolling of staff salaries to reduce fraud.

ii. Proper education and training / workshop be given to the staff of bursary department to ensure efficiency.

iii. Awareness and orientation campaign be carried out to enlighten every institution, or departments on the benefits of using ICT in payrolling of staff salaries.

iv. There should be adequate power supply to fasten and improve operations.

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Appendix 1

Questionnaire: Activities where we make use of ICT

S/N o.	Items Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard deviation
1	Accounting							
2	Payrolling							
3	Tax issues							
4	Controlling							
5	Tender/bid monitoring							
	Items Statement	Very High Extent	High Extent	Neutral	Low Extent	Very Low Extent	Mean	Standard deviation
6	The use of ICT in pay rolling identifies frauds							
7	It reduces mistakes associated with manual calculations of staff salaries							
8	Fraudulent staff will not find it easy to manipulate during calculations of staff with the use of ICT.							
9	The use of ICT in pay rolling of staff is considered better than manual method to fraud reduction.							
10	Manipulations and errors will be on its best minimal with the use of ICT							
	Items Statement	Very High Extent	High Extent	Neutral	Low Extent	Very Low Extent	Mean	Standard deviation
11	The use of ICT in pay rolling increases the level of accuracy of staff employment							
12	It fastened issues related with staff salaries, allowance and deduction							
13	The use of ICT in pay rolling makes payroll department more proactive							
14	It assists the payroll department to make fast report than using the paper based workings							
15	It reduces delay associated with manual calculation of salaries and allowances							

Appendix 2

FREQUENCIES

VARIABLES=Question1 Question2 Question3 Question4 Question5 Question6
 Question7 Question8 Question9 Question10 Question11 Question12 Question13
 Question14 Question15
 /STATISTICS=STDDEV MEAN
 /ORDER= ANALYSIS .

Frequencies

[DataSet1]

Frequency Table

Question 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 4	79	43.6	43.6	43.6
5	102	56.4	56.4	100.0
Total	181	100.0	100.0	

Question 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 3	6	3.3	3.3	3.3
4	74	40.9	40.9	44.2
5	101	55.8	55.8	100.0
Total	181	100.0	100.0	

Question 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 3	11	6.1	6.1	6.1
4	84	46.4	46.4	52.5
5	86	47.5	47.5	100.0
Total	181	100.0	100.0	

Question 11

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	1	.6	.6	.6
2	2	1.1	1.1	1.7
3	16	8.8	8.8	10.5
4	103	56.9	56.9	67.4
5	59	32.6	32.6	100.0
Total	181	100.0	100.0	

Question 4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	10	5.5	5.5	5.5
2	19	10.5	10.5	16.0
3	3	1.7	1.7	17.7
4	90	49.7	49.7	67.4
5	59	32.6	32.6	100.0
Total	181	100.0	100.0	

Question 12

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	15	8.3	8.3	8.3
2	18	9.9	9.9	18.2
3	10	5.5	5.5	23.8
4	80	44.2	44.2	68.0
5	58	32.0	32.0	100.0
Total	181	100.0	100.0	

Question 5

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	7	3.9	3.9	3.9
2	42	23.2	23.2	27.1
3	22	12.2	12.2	39.2
4	65	35.9	35.9	75.1
5	45	24.9	24.9	100.0
Total	181	100.0	100.0	

Question 13

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	1	.6	.6	.6
2	1	.6	.6	1.1
3	14	7.7	7.7	8.8
4	96	53.0	53.0	61.9
5	69	38.1	38.1	100.0
Total	181	100.0	100.0	

Question 6

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	2	1.1	1.1	1.1
2	1	.6	.6	1.7
3	17	9.4	9.4	11.0
4	81	44.8	44.8	55.8
5	80	44.2	44.2	100.0
Total	181	100.0	100.0	

Question 14

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	11	6.1	6.1	6.1
2	17	9.4	9.4	15.5
3	7	3.9	3.9	19.3
4	99	54.7	54.7	74.0
5	47	26.0	26.0	100.0
Total	181	100.0	100.0	

Question 7

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 3	11	6.1	6.1	6.1
4	84	46.4	46.4	52.5
5	86	47.5	47.5	100.0
Total	181	100.0	100.0	

Question 15

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 4	79	43.6	43.6	43.6
5	102	56.4	56.4	100.0
Total	181	100.0	100.0	

Question 8

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	2	1.1	1.1	1.1
2	1	.6	.6	1.7
3	17	9.4	9.4	11.0
4	79	43.6	43.6	54.7
5	82	45.3	45.3	100.0
Total	181	100.0	100.0	

Question 9

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 3	6	3.3	3.3	3.3
4	74	40.9	40.9	44.2
5	101	55.8	55.8	100.0
Total	181	100.0	100.0	

Question 10

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 3	13	7.2	7.2	7.2
4	92	50.8	50.8	58.0
5	76	42.0	42.0	100.0
Total	181	100.0	100.0	

DESCRIPTIVES

VARIABLES=Question1 Question2 Question3
 Question4 Question5 Question6
 Question7 Question8 Question9 Question10
 Question11 Question12 Question13
 Question14 Question15
 /STATISTICS=MEAN STDDEV .

Descriptives

[DataSet1]

Descriptive Statistics

	N	Mean	Std. Deviation
Question 1	181	4.56	.497
Question 2	181	4.52	.563
Question 3	181	4.41	.605
Question 4	181	3.93	1.123
Question 5	181	3.55	1.204
Question 6	181	4.30	.754
Question 7	181	4.41	.605
Question 8	181	4.31	.757
Question 9	181	4.52	.563
Question 10	181	4.35	.610
Question 11	181	4.20	.687
Question 12	181	3.82	1.222
Question 13	181	4.28	.676
Question 14	181	3.85	1.098
Question 15	181	4.56	.497
Valid N (listwise)	181		

CORRELATIONS

/VARIABLES=ICTUsage Frauddetection
Timelyregularpayment
/PRINT=TWOTAIL SIG
/MISSING=PAIRWISE .

Correlations

[DataSet1]

Correlations

		ICT Usage	Fraud detection	Timelyregular payment
ICT Usage	Pearson Correlation	1	.173	.519
	Sig. (2-tailed)		.020	.000
	N	181	181	181
Fraud detection	Pearson Correlation	.173	1	.241
	Sig. (2-tailed)	.020		.001
	N	181	181	181
Timelyregular payment	Pearson Correlation	.519	.241	1
	Sig. (2-tailed)	.000	.001	
	N	181	181	181

REGRESSION

/DESCRIPTIVES MEAN STDDEV CORR
SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Frauddetection
/METHOD=ENTER ICTUsage .

Regression

[DataSet1]

Descriptive Statistics

	Mean	Std. Deviation	N
Fraud detection	4.381	.3976	181
ICT Usage	4.10	.522	181

Correlations

		Fraud detection	ICT Usage
Pearson Correlation	Fraud detection	1.000	.173
	ICT Usage	.173	1.000
Sig. (1-tailed)	Fraud detection		.010
	ICT Usage	.010	
N	Fraud detection	181	181
	ICT Usage	181	181

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	ICT Usage		Enter

a. All requested variables entered.
b. Dependent Variable: Fraud detection

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.173 ^a	.030	.024	.3927

a. Predictors: (Constant), ICT Usage

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.849	1	.849	5.502	.020 ^a
	Residual	27.608	179	.154		
	Total	28.456	180			

a. Predictors: (Constant), ICT Usage
b. Dependent Variable: Fraud detection

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.842	.232		16.570	.000
	ICT Usage	.131	.056	.173	2.346	.020

a. Dependent Variable: Fraud detection

REGRESSION

/DESCRIPTIVES MEAN STDDEV CORR
SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Timelyregularpayment
/METHOD=ENTER ICTUsage .

Regression

[DataSet1]

Descriptive Statistics

	Mean	Std. Deviation	N
Timelyregular paym	4.141	.4916	181
ICT Usage	4.10	.522	181

Correlations

		Timelyregular payment	ICT Usage
Pearson Correlati	Timelyregular paym	1.000	.519
	ICT Usage	.519	1.000
Sig. (1-tailed)	Timelyregular paym		.000
	ICT Usage	.000	
N	Timelyregular paym	181	181
	ICT Usage	181	181

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ICT Usage	.	Enter

a. All requested variables entered.

b. Dependent Variable: Timelyregular pay

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.519 ^a	.270	.266	.4212

a. Predictors: (Constant), ICT Usage

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.736	1	11.736	66.140	.000 ^a
	Residual	31.763	179	.177		
	Total	43.499	180			

a. Predictors: (Constant), ICT Usage

b. Dependent Variable: Timelyregular payment

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.135	.249		8.566	.000
	ICT Usage	.489	.060	.519	8.133	.000

a. Dependent Variable: Timelyregular payment