Advances In Multidisciplinary & Scientific Research
A Multidisciplinary & Interdisciplinary Journal

Vol. 5 No. 4, December, 2019

Impact Analysis of Information and Communication Technology (ICT) on The Nigeria Corrections Services - FCT Command Headquarters, Abuja in Focus

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ABSTRACT

The study evaluated the extent of ICT adoption so far in the command headquarters', it shed light on the positive and negative impact of ICT adoption and finally the challenges posed by ICT adoption. A cross-sectional quantitative survey method was employed; data was collected using questionnaires from a sample number of 80 respondents out of a population of 224 members of staff. The Single factor ANOVA analysis technique was used to verify the research hypothesis. It was determined that although some aspects of ICT have been adopted, challenges such as lack of funding, equipment maintenance and power outages have posed problems to the full implementation of ICT tools in the Nigeria Prisons Service FCT Command headquarters office. The study concluded that ICT adoption had a very positive impact on the Nigeria Prisons Service FCT Command headquarters. Based on the above, the researcher recommends the provision of alternative power supply sources and regular training of staff in ICT applications. There is also a need for adequate funding of ICT in the Nigeria Prisons Service FCT Command headquarters office.

Key words: Impact Analysis, Information and Communication Technology (ICT), Nigeria, Corrections Services

Aims Research Journal Reference Format:
Onwodi, G.O. & Ehigiator, M.O. (2019): Impact Analysis of Information and Communication Technology (ICT) on The Nigeria Corrections Services - FCT Command Headquarters, Abuja in FocusAdvances in Multidisciplinary Research Journal. Vol. 5. No. 4, Pp 39–60
Article DOI: dx.doi.org/10.22624/AIMS/V5N4P5

1. INTRODUCTION

A study by Joseph (2012) showed that there were a high percentage of illiterates in Nigerian prisons and also no trace of information and communication technology programs in the prison. However, the study also determined that the inmates were interested to be literate in ICT. Oye & Inuwa (2015) opined that record management is a crucial aspect of survival for any organization no matter the size. To that intent they successfully pioneered the design and installation of a database for management of Prison inmate information in Yola Central Prison. The information management system handles processes involved in keeping records for Prisoners such as those under awaiting trial, warrant return date and transfer from other Prisons. Also it;

i. Keeps Prisoners personal and warrant details on admission, personal details including details like: name, address, date of admission etc. and warrant details include the court and the crime details, crime number, laws and sections, sentence for convicted Prisoners, etc. into databases.
ii. Handles disposal of Prisoners and their warrants. This includes type of disposals like bail, release on completion of sentence, transfer and other details like disposal date, warrant return date, generating comprehensive report of Prisoners by date of disposal or release, date jailed, etc. for easy sorting.
iii. Provides an effective and reliable method of data and file management which reduced the movement of files and limited the problems.

2. RELATED LITERATURE

Fadare (2015) initiated a unique educational program that aims to help rehabilitate, empower and reintegrate inmates back into the society through Information Technology and other skill acquisition. The program started September 24, 2013 in Agodi prisons, Ibadan, Oyo State and is designed for a two (2) month continuous ICT training program to prepare and equip inmates for life after their incarceration. He further states that inmates can find a source of livelihood with the skills acquired rather than going back to crime after their jail terms. The writer is of the opinion that acquiring skills in ICT will indeed help in the reformation of criminally minded inmates as the saying goes "the idle mind is the devils workshop".

Ofoni (2018) states that training and retraining of staff to enhance capacity building of officers and men of the service is one of the priorities of the Nigeria Prisons Service which is led by the Controller General of Prisons, Ja'afaru Ahmed. He disclosed that the Nigerian Prisons Service (NPS) in collaboration with the International Committee of Red Cross (ICRC), conducted a training program for staff of the Statistics, Records and Information and Communication Technology (ICT) Units in Rivers State. The aim of the training was to digitize the prisoner's registry, design and develop an automated case management system and to quicken prisoner's access to justice by ensuring Judicial Guarantees. The Nigeria Prisons Service FCT Abuja Command commissioned the Case Management ICT Unit in 2014. The unit was revamped in 2018 and this study shall highlight its effectiveness and impact thus far.

2.1 Impact Assessment of ICT in the Nigeria Prisons Service

Athough Lockitt (2011) cited in Tsend-Ayush (2017) studied the impact of ICT on Prisons Institutions and was of the opinion that the introduction of ICT in prison education is not a "leisure tool" for inmates but a necessary measure to provide an up-to-date qualification which improves social reintegration chances, job opportunities and finally reduces costs in a substantial way by reducing the risk and costs of re-offending, the study was a generic assessment and thus the conclusion reached that ICT has a positive impact on the prison system lacked empirical results and is thus subject to debate.

The application of ICT in the NPS as previously stated is a relatively new development and as such there is little to no contemporary assessment literature on the impact of the application of ICT. Moreover, as Prisons in Nigeria is solely funded by the Federal Government, relevant data needed for critical research is hard to obtain due to secrecy laws binding on FG Parastatals.

Contemporary literature supports the opinion that Information and Communication Technology has a positive impact on Prison Institutions in general. Previous studies have highlighted the implementation of ICT in the Nigeria Prisons Service but there is little or no discourse on the impact of such ICT implementation in the Nigeria Prisons for the reasons stated in the preceding chapter. This research is an attempt to address this shortfall in available literature.

3. RESEARCH METHODOLOGY

Thissection elucidates on the research methodology. The research design, population, sampling strategies, data collection instruments, data quality control, research procedure and the data analysis techniques employed in the study.

3.1 Research Design

The study employed a qualitative descriptive research design. This allowed for a simple random study of the sample population comprised of the staff of the Nigeria Prisons Service, FCT Headquarters. It also allows for an evaluation of the results returned from individual sub-set departments. The study was carried out on the first week of September 2018.

The dependent study variables posed in the research questions were evaluated by means of a survey questionnaire administered to members of staff. Questions discussing the impact of ICT tools on the mandated function of the NPS were utilized as dependent variables to generate data for the research analysis. A simple percentage summary of findings was reported.

3.2 Population

The questionnaire was administered on a general cross-section of members of staff of the Nigeria Prisons Service, FCT Command Headquarters. According to the nominal roll, the headquarters has staff strength of 224 personnel divided into the Administrative (General Duty), Professional (Health, Welfare/Case Management, Works) and Operations (Signals, Logistics).

3.3 Sample and Sampling Techniques

The study was conducted in the Nigeria Prisons Service FCT Command Headquarters office. A stratified random sample of 80 members of staff was targeted from the total population, this represented 36% of the total staff strength. The stratum were identified as the functional departments of the office as presently delineated by the NPS namely; Administrative (General Duty), Professional (Health, Welfare/Case Management, Works) and Operations (Signals, Logistics). Simple random sampling was then applied to each stratum. This ensured a wide variety of perspective in the study.

3.4 Instrument for Data Collection

Primary data was collected from the field by self-administered questionnaire. The respondent sample data is presented in table 3.1.

Table 3.1: Sample selection and categories of respondent

DEPARTMENT	POPULATION	SAMPLE
Administrative	69	36
Professional	55	35
Operational	100	9
TOTAL	**224**	**80**

3.5 Questionnaires

A questionnaire was designed such that each question treated a given research question (Appendix A). The questions consisted of both close-ended and open-ended formats with the open-ended being used to extract more detailed information from the respondents. This data collection method was selected due to its efficiency, cost-effectiveness and anonymous nature (Saul McLeod, 2018).

3.6 Procedure for Data Collection

The researcher obtained an appointment from the Controller, Nigeria Prisons Service, FCT Command and was given permission to administer the questionnaires to the staff for both the pilot test and the substantive test. The objectives and purpose of the study was explained to the respondents. Respondents then filled the questionnaires while the researcher observed.

3.7 Data Collection Technique

The questionnaires were administered to the staff during the course of a working week. Senior staffs who requested for more time were granted a 24 hour period to return the filled questionnaires to the researcher.

3.8 Data Quality Control

Validity

Face validity has been defined as reflecting the extent to which a measure reflects what it is intended to measure (Nunnally and Bernstein, 1994). Similarly, Allen and Yen (1979), Anastasi (1988), and Nevo (1985) defined face validity as the degree that respondents or users judge that the items of an assessment instrument are appropriate to the targeted construct and assessment objectives. The questionnaire is formed and created by a combination of information gathered from the literature review, benefiting from similar studies and views and ideas of staff of the FCT Command, NPS. This ascertains the Face validity of the instrument. The instrument was also examined by an expert who rated each item on a scale. His recommendations were used to finally modify questions to solicit the expected data. The content validity index of the questionnaire was calculated as follows:

$$CVI = \frac{\text{Number of Approved Items}}{\text{Total Number of Items Judged}}$$

Table 3.2: Questionnaire Item rating

Relevant Items	Non-relevant Items	Total
27	2	29

$$CVI = \frac{27}{29} = 0.93$$

The established CVI is 0.93 wish indicates that the instrument is valid.

Reliability

A pilot test was conducted after establishing the validity of the instrument. The questionnaire was administered to twenty respondent staff from the prisons farm center, Dukpa which is a subordinate station under the prisons FCT Command, Abuja. Litwin (1995), states that Cronbach alpha (*a*) is the most commonly used measure of internal consistency and reliability. Thus this was used to test for reliability of the instrument with the aid of the Microsoft Excel 2010 Data Analysis Tool. The result (Appendix B) confirmed a Cronbach alpha value of 0.8 for the instruments measuring the positive impact of ICT adoption while a Cronbach alpha value of 0.7 was computed for the instruments measuring the negative impact of ICT adoption. According to George and Mallery (2003) an Alpha value of 0.7 or higher confirms the reliability of a psychometric instrument. The Cronbach alpha values obtained thus confirmed the reliability of the questionnaire.

3.9 Method of Data Analysis

The responses from the structured questions were computed into frequency counts, percentages and mean averages were used to answer the research questions while ANOVA statistics was used to test the hypothesis at 0.05 level of significance. These were summarized and tabulated for ease of presentation, analysis, assessment and interpretation. Data from the open ended questions enriched the details and information garnered from the closed ended questions.

4. RESULTS AND DISCUSSION

This study aimed to assess the present applications of Information and Communication Technology in the Nigeria Prisons Service using a survey questionnaire and to determine the impact of these applications. Five independent variables were utilized, namely; ICT availability, working efficiency, material usage, security, prisoner reformation and prisoner rehabilitation. The analysis of the formulated hypothesis and the results obtained are presented in this chapter. The chapter is divided into three sections, the background demographic of the respondents, section two presents the descriptive statistics of ICT implementation and section three presents the study's findings and a discussion based on the research questions cited in chapter one. A total of 80 staffs were sampled by way of questionnaires. All the questionnaires were successfully completed and returned. This gave a 100% response rate. Information obtained was analyzed in terms of tables of frequencies, percentages and graphs. Responses from open-ended questions were used to extract more detailed information from the respondents. With the 100% response rate the researcher feels that the views expressed in the report are therefore representative of the target population

Section One: Background Information of Respondents

The distribution of respondent's population by department is outlined in table 4.1.

Table 4.1: Distribution of respondents by department

Department	Population	Percentage
Administrative	36	45%
Professional	35	44%
Operations	9	11%
TOTAL	**80**	**100%**

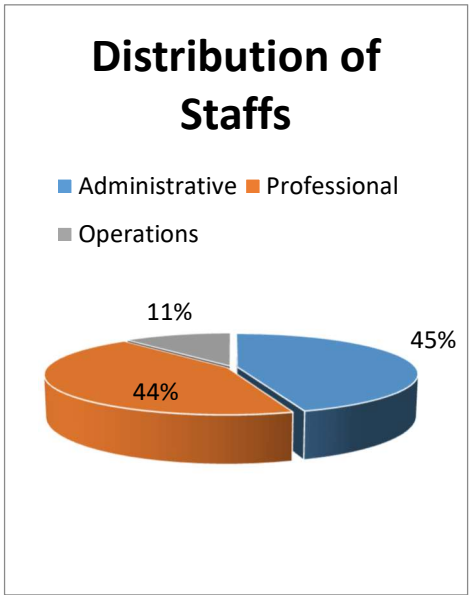

Fig 4.1 Distribution of staffs

The table of population distribution shows that about 45% of staff are administrative, 44% are professional while 9% are in operations department. This distribution of staffs confirms the assertion by the FCT Command office that most operations staffs work in the field. The ANOVA test was thus employed to check for variance in the mean response between departments as stated previously.

Section Two: Descriptive statistics of ICT implementation

Respondents opinions on the level of ICT implementation
The response of respondents on the level of ICT implementation is presented in Table 4.2(a-f).

Table 4.2: Distribution of respondents' response on level of ICT implementation
(4.2a)

	Response	Frequency	Percentage
Use of computers	Yes	42	53%
	No	37	46%
	Not Sure	1	1%
TOTAL		**80**	**100%**

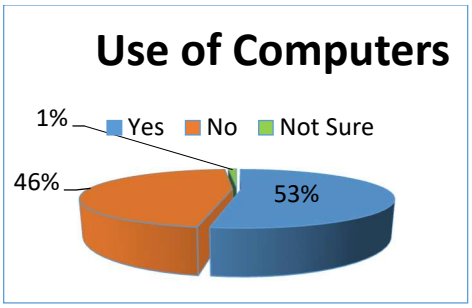

Fig 4.2 Use of computers

From Table 4.2.(a) it can be seen that 42(53%) of the staff asserted that they used computers in the course of their duties while 37(46%) denied using computers. Only a single respondent was not sure. These numbers are likely to change however as at the time of this research it was confirmed that a LAN network was in process of being installed (FCT Command CMU, 2018).

(4.2b)

Use of GSM phones	Response	Frequency	Percentage
	Yes	58	73%
	No	17	21%
	Not Sure	5	6%
TOTAL		**80**	**100%**

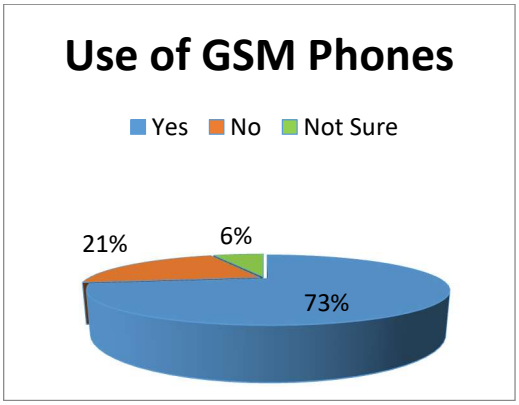

Fig 4.3 Use of GSM Phones

Table 4.2.(b) reveals that a 58(73%) of respondents use GSM technology in the course of their duties. Further research, however revealed that the GSM phones were personally owned by the staff. 17(21%) of staff denied using GSM phones in the course of their duties while 5(6%) were not sure.

(4.2c)

Use of the Internet	Response	Frequency	Percentage
	Yes	45	56%
	No	27	34%
	Not Sure	8	10%
TOTAL		**80**	**100%**

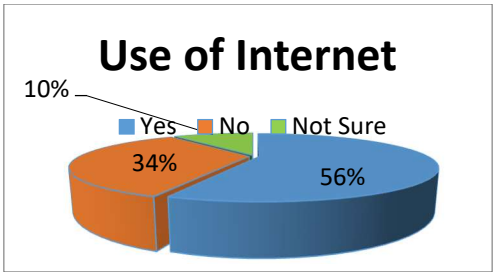

Fig 4.4 Use of Internet

Table 4.2.(c) further revealed that 45(56%) of staff agreed to using the internet while 27(34%) affirmed to not using the internet in the course of their official duties. 8(10%) of staff were not sure. Again, the on-going installation of a LAN network is likely to increase the number of staff using the internet.

(4.2d)

Use of Close Circuit Television (CCTV)	Response	Frequency	Percentage
	Yes	15	19%
	No	58	73%
	Not Sure	7	9%
TOTAL		**80**	**100%**

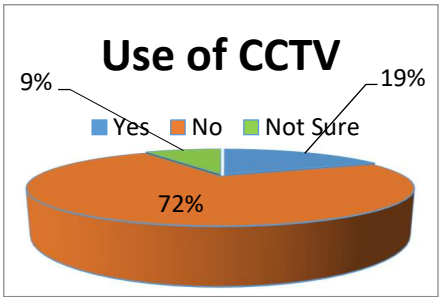

Fig 4.5 Use of CCTV

Table 4.2.(d) shows that 58 staff (73%), were not using CCTV in their office duties while 15(19%) agreed they were using CCTV. 7 staff (9%) were not sure.

(4.2e)

Use of Radio Transmitters	Response	Frequency	Percentage
	Yes	53	66%
	No	24	30%
	Not Sure	3	4%
TOTAL		**80**	**100%**

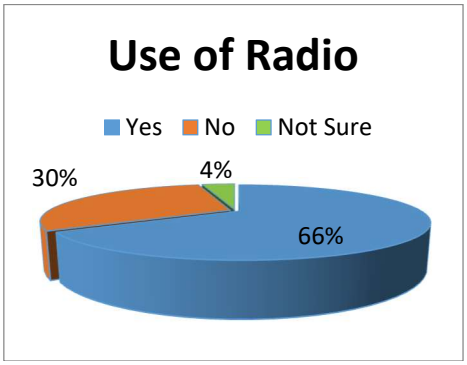

Fig 4.6 Use of Radio

Table 4.2.(e) further shows an overwhelming use of radio transmission by staff. 53 (66%) respondents said they used radio in their duties while 24 (30%) said they did not, 3 staff (4%) were not sure.

(4.2f)

Use of Bio-metrics (Digital Photos & Fingerprinting)	Response	Frequency	Percentage
	Yes	20	25%
	No	51	65%
	Not Sure	8	10%
TOTAL		**79**	**100%**

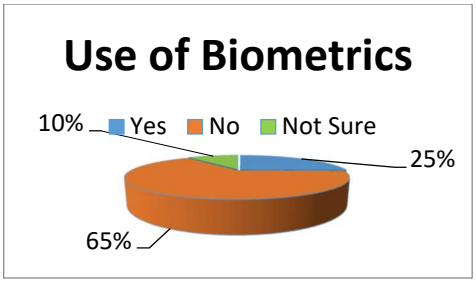

Fig 4.7 Use of Biometrics

Table 4.2.(f) revealed a low use of biometric technology by the FCT command as only 20(25%) of respondents asserted to use of biometrics in their duties. 51(65%) of respondents denied using biometrics while 8(10%) were not sure of the use of biometrics.

Respondents opinions on the positive impact of ICT adoption

The response of respondents on the positive impact of ICT adoption on the Nigeria Prisons Service FCT Command is presented in Table 4.3(a-i).

Table 4.3: Respondents response on the positive impact of ICT adoption

(4.3a)

Use of ICT has made my duties faster	Response	Frequency	Percentage
	Strongly Agree	24	30%
	Agree	35	44%
	Disagree	16	20%
	Strongly Disagree	5	6%
TOTAL		**80**	**100%**

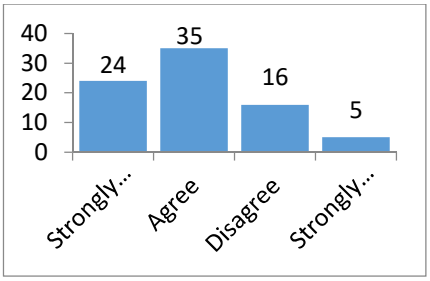

Fig 4.8 Faster duty

Table 4.3a revealed that 24(30%) of respondents strongly agreed and 35(44%) agreed that ICT made their duties faster. 16(20%) disagreed that ICT made their duties faster while only 5(6%) strongly disagreed that ICT made their duties faster.

(4.3b)

Use of ICT has made my duties more accurate	Response	Frequency	Percentage
	Strongly Agree	22	28%
	Agree	38	48%
	Disagree	17	21%
	Strongly Disagree	3	4%
TOTAL		**80**	**100%**

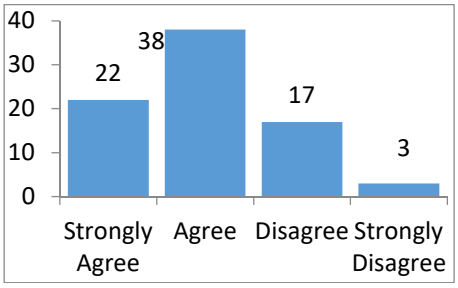

Fig 4.9 More Accuracy

Table 4.3b further showed that 22(28%) of respondents strongly agreed and 38(48%) agreed that ICT has made their duties more accurate. 17 staff (21%) disagreed that ICT has made their duties more accurate while only 3(4%) strongly disagreed.

(4.3c)

Use of ICT has reduced my material waste	Response	Frequency	Percentage
	Strongly Agree	23	29%
	Agree	39	49%
	Disagree	15	19%
	Strongly Disagree	3	4%
TOTAL		**80**	**100%**

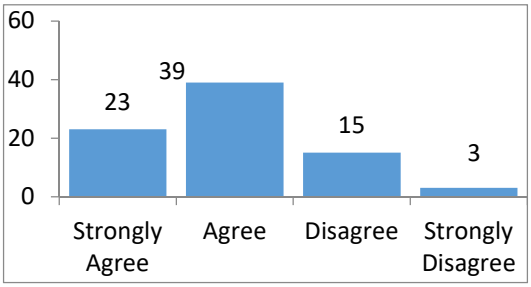

Fig 4.10 Reduced material waste

Table 4.3c indicated that 23(29%) of respondents strongly agreed and 39(49%) agreed that ICT has reduced the waste of office material. 15(19%) disagreed that ICT has reduced the waste of office material. 3(4%) Strongly disagree.

(4.3d)

Use of ICT has made my duties easier	Response	Frequency	Percentage
	Strongly Agree	22	28%
	Agree	42	53%
	Disagree	14	18%
	Strongly Disagree	2	3%
TOTAL		**80**	**100%**

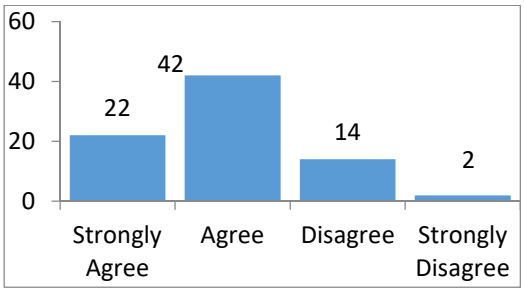

Fig 4.11 Easier Duty

Table 4.3d further showed that 22(28%) of respondents strongly agreed and 42(53%) agreed that ICT has made their duties easier. Conversely, 14(18%) disagree that ICT has made their duties easier while 2(3%) strongly disagree.

(4.3e)

Use of ICT has reduced transportation	Response	Frequency	Percentage
	Strongly Agree	25	31%
	Agree	37	46%
	Disagree	12	15%
	Strongly Disagree	6	8%
TOTAL		**80**	**100%**

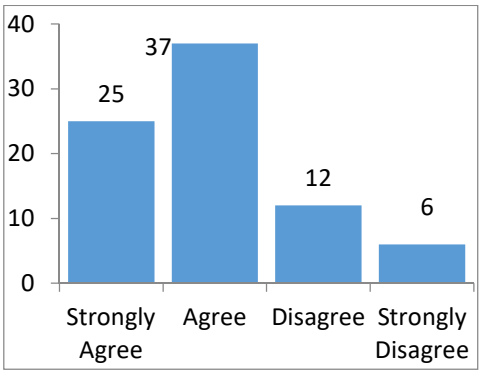

Fig 4.12 Reduced Transportation

25(31%) of respondents strongly agreed that ICT had reduced transportation while 37(46%) agreed that ICT had reduced transportation as presented in table 4.3e. 12 (15%) staff disagreed while 6(8%) of staff strongly disagreed.

(4.3f)

Use of ICT has made duties more cost effective	Response	Frequency	Percentage
	Strongly Agree	13	16%
	Agree	38	48%
	Disagree	25	32%
	Strongly Disagree	3	4%
TOTAL		**79**	**100%**

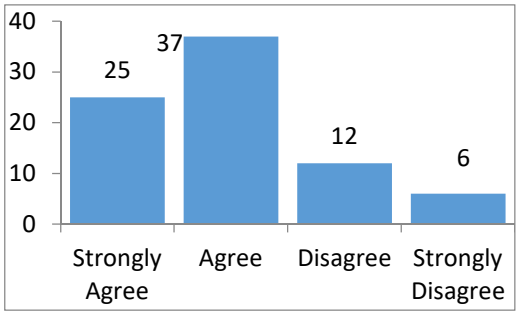

Fig 4.13 Cost Effectiveness

(4.3g)

Use of ICT has increased the security of prisons	Response	Freq	Percentage
	Strongly Agree	12	15%
	Agree	54	68%
	Disagree	12	15%
	Strongly Disagree	2	3%
TOTAL		**80**	**100%**

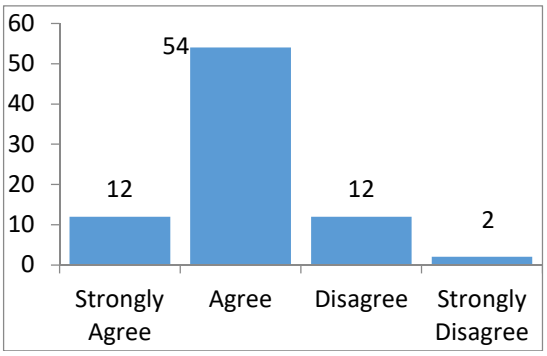

Fig 4.14 Security of Prisons

(4.3h)

Use of ICT has improved prisoner reformation	Response	Frequency	Percentage
	Strongly Agree	14	18%
	Agree	49	61%
	Disagree	14	18%
	Strongly Disagree	3	4%
TOTAL		**80**	**100%**

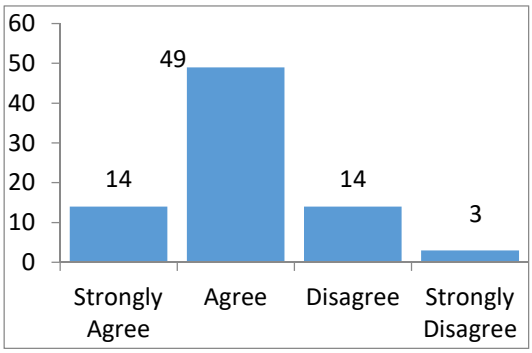

Fig 4.15 Prisoner Reformation

(4.3i)

Use of ICT has made prisoner rehabilitation in the NPS more effective	Response	Frequency	Percentage
	Strongly Agree	13	16%
	Agree	52	65%
	Disagree	13	16%
	Strongly Disagree	2	3%
TOTAL		**80**	**100%**

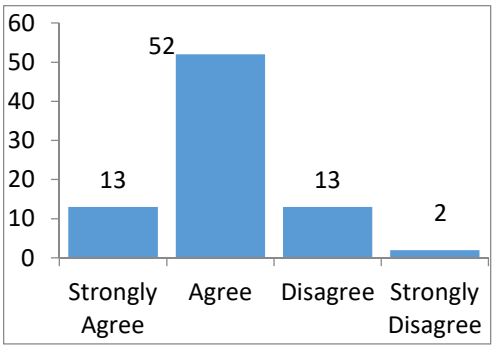

Fig 4.16 Better prisoner Rehabilitationz

Respondents opinions on the negative impact of ICT adoption

The response of respondents on the negative impact of ICT adoption on the Nigeria Prisons Service FCT Command is presented in Table 4.3(a-i).

Table 4.4: Respondents response on the negative impact of ICT adoption

(4.4a)

Use of ICT has made my duties slower	Response	Frequency	Percentage
	Strongly Agree	1	1%
	Agree	6	8%
	Disagree	57	71%
	Strongly Disagree	16	20%
TOTAL		**80**	**100%**

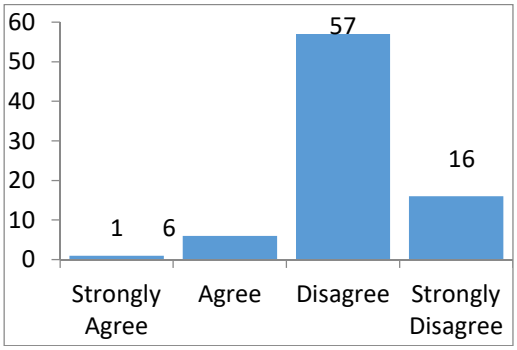

Fig 4.17 Slower duty

(4.4b)

Use of ICT has made my duties less accurate	Response	Frequency	Percentage
	Strongly Agree	1	1%
	Agree	12	15%
	Disagree	49	62%
	Strongly Disagree	17	22%
TOTAL		**79**	**100%**

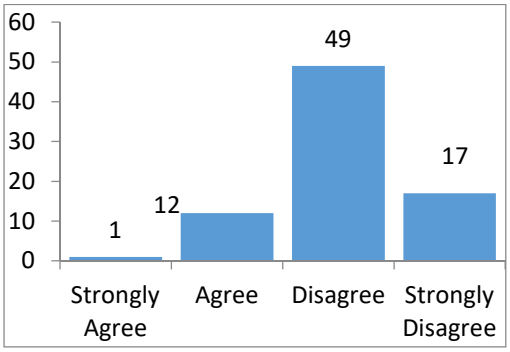

Fig 4.18 Less accuracy

(4.4c)

Use of ICT has increased material waste	Response	Frequency	Percentage
	Strongly Agree	0	0%
	Agree	8	10%
	Disagree	51	64%
	Strongly Disagree	21	26%
TOTAL		**80**	**100%**

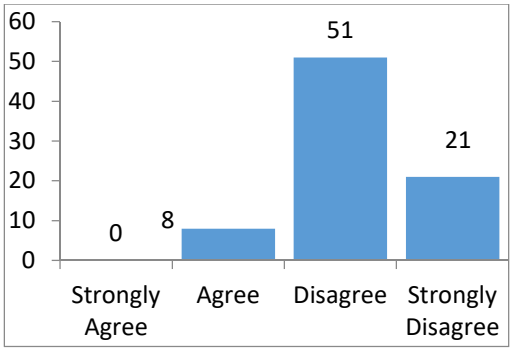

Fig 4.19 Increased material waste

(4.4d)

Use of ICT has made my duties harder	Response	Frequency	Percentage
	Strongly Agree	0	0%
	Agree	3	4%
	Disagree	58	73%
	Strongly Disagree	19	24%
TOTAL		**80**	**100%**

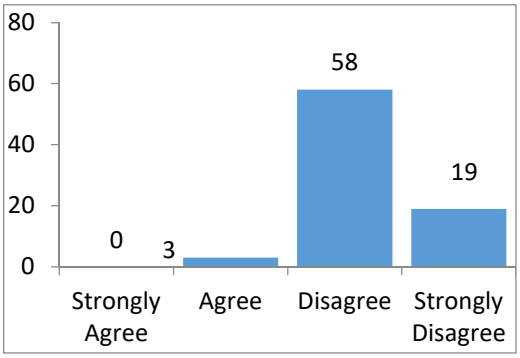

Fig 4.20 Duty is harder

(4.4e)

Use of ICT has increased the transportation	Response	Frequency	Percentage
	Strongly Agree	1	1%
	Agree	13	16%
	Disagree	45	56%
	Strongly Disagree	21	26%
TOTAL		**80**	**100%**

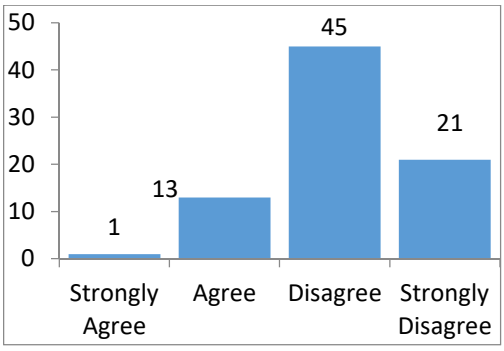

Fig 4.21 Increased transportation

(4.4f)

Use of ICT has made duties more expensive	Response	Frequency	Percentage
	Strongly Agree	2	3%
	Agree	14	18%
	Disagree	49	61%
	Strongly Disagree	15	19%
TOTAL		**80**	**100%**

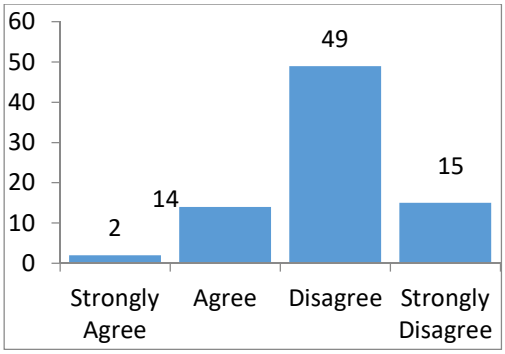

Fig 4.22 More expensive duty

(4.4g)

Use of ICT has reduced the security of prisons	Response	Frequency	Percentage
	Strongly Agree	1	1%
	Agree	8	10%
	Disagree	54	68%
	Strongly Disagree	16	20%
TOTAL		**79**	**100%**

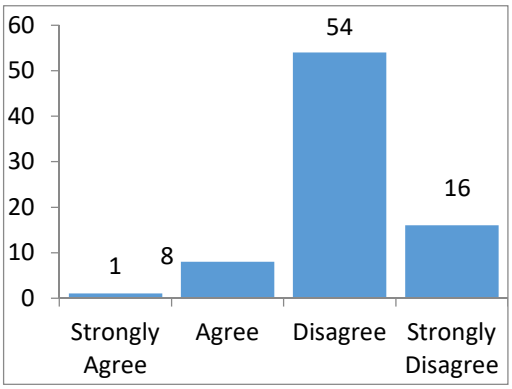

Fig 4.23 Reduced security

(4.4h)

Use of ICT has hampered prisoner reformation	Response	Frequency	Percentage
	Strongly Agree	1	1%
	Agree	7	9%
	Disagree	51	65%
	Strongly Disagree	19	24%
TOTAL		**78**	**100%**

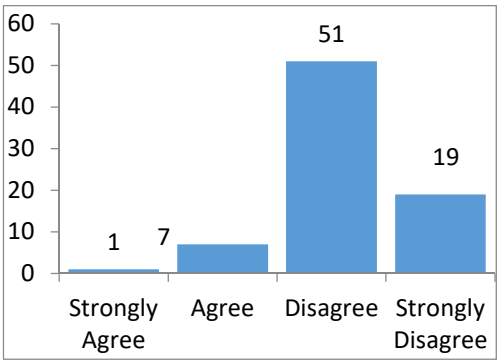

Fig 4.24 Hampered reformation

(4.4i)

Use of ICT has made prisoner rehabilitation in the NPS less effective	Response	Frequency	Percentage
	Strongly Agree	1	1%
	Agree	8	10%
	Disagree	48	60%
	Strongly Disagree	23	29%
TOTAL		**80**	**100%**

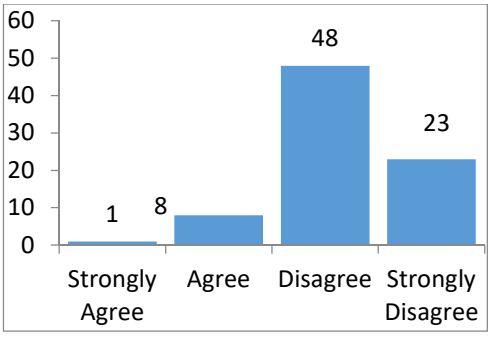

Fig 4.24 Hampered rehabilitation

Mean average response for level of ICT adoption

The mean response of respondents on the level of ICT adoption in the Nigeria Prisons Service FCT Command is presented in Table 4.5.

Table 4.5: Respondents mean average response, level of ICT adoption

QUESTION	MEAN AVERAGE RESPONSE		
	ADMINISTRATIVE	PROFESSIONAL	OPERATIONS
Do you use computers in the course of your duties?	No	Yes	Yes
Do you use GSM phones in the course of your duties?	Yes	Yes	Yes
Do you use the Internet in the course of your duties?	No	Yes	No
Do you use Close Circuit Television in the course of your duties?	No	No	No
Do you use Radio Transmitters in the course of your duties?	Yes	No	Yes
Do you use Bio-metrics (Digital Photos & Fingerprinting) in the course of your duties?	No	No	No

Mean average response for positive impact of ICT adoption

The mean response of respondents to questions posed on the variables used to determine the positive impact of ICT adoption on the Nigeria Prisons Service FCT Command is presented in Table 4.6.

Table 4.6: Respondents mean average response, positive impact of ICT

QUESTION	MEAN AVERAGE RESPONSE		
	Administrative	Professional	Operations
The use of ICT has made my duties faster.	Agree	Agree	Agree
The use of ICT has made my duties more accurate	Agree	Agree	Agree
The use of ICT has reduced my material waste (i.e. paper, ink)	Agree	Agree	Agree
The use of ICT has made my duties easier	Agree	Agree	Agree
The use of ICT has reduced the transportation involved in my duties	Agree	Agree	Agree
The use of ICT has made my duties more cost effective	Agree	Agree	Agree
The use of ICT has increased the security of prisons.	Agree	Agree	Agree
The use of ICT has improved the prisoner reformation function of the NPS	Agree	Agree	Agree
The use of ICT has made prisoner rehabilitation in the NPS more effective	Agree	Agree	Agree

Mean average response for negative impact of ICT adoption

The mean response of respondents to questions posed on the variables used to determine the negative impact of ICT adoption on the Nigeria Prisons Service FCT Command is presented in Table 4.7.

Table 4.7: Respondents mean average response, negative impact of ICT

Question	Mean Average Response		
	Administrative	Professional	Operations
The use of ICT has made my duties slower	Disagree	Disagree	Disagree
The use of ICT has made my duties less accurate	Disagree	Disagree	Disagree
The use of ICT has increased your material waste (i.e. paper, ink)	Disagree	Disagree	Disagree
The use of ICT has made your duties harder	Disagree	Disagree	Disagree
The use of ICT has increased the transportation involved in your duties	Disagree	Disagree	Disagree
The use of ICT has made your duties more expensive	Disagree	Disagree	Disagree
The use of ICT has reduced the security of prisons	Disagree	Disagree	Disagree
The use of ICT has hampered the prisoner reformation function of the NPS	Disagree	Disagree	Disagree
The use of ICT has made prisoner rehabilitation in the NPS less effective	Disagree	Disagree	Disagree

ANOVA test of hypothesis

The average mean values of the questionnaire responses were subjected to a single factor ANOVA test with a significance of 0.05 to confirm our hypothesis. The Null hypothesis in ANOVA is valid when all the sample means are equal, or they don't have any significant difference. Thus, they can be considered as a part of a larger set of the population. On the other hand, the alternate hypothesis is valid when at least one of the sample means is different from the rest of the sample means (Singh G, 2018). In mathematical form, they can be represented as:

Null Hypothesis

H0: $\mu 1 = \mu 2 = \mu 3 \ldots = \mu k$

where μ = group mean values

k = the number of independent comparison groups.

Research or Alternative hypothesis

H1: at least one of the means is different.

The result of the test is presented in table 4.8.

Table 4.8: ANOVA Single factor test result

SUMMARY						
Groups	**Count**	**Sum**	**Average**	**Variance**		
ADMINISTRATIVE	24	56.42381	2.350992	0.380838		
PROFESSIONAL	24	55.60672	2.316947	0.465621		
OPERATIONS	24	53.55556	2.231481	0.59465		
ANOVA						
Source of Variation	**SS**	**Df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	0.181969	2	0.090985	0.18941	0.8279	3.1296
Within Groups	33.14552	69	0.48037			
Total	33.32749	71				

The statistic which measures if the means of different samples are significantly different or not is called the F-Ratio. The lower the F-Ratio, the more similar are the sample means. In that case, we cannot reject the null hypothesis (Singh G, 2018). Here, we can see that the F-value is 0.18941 which is less than the F-critical value of 3.1296 calculated for the level of significance selected (0.05). Therefore, we have evidence to support the null hypothesis and say that the mean of the three samples is equal and thus belong to the same population. Another measure for ANOVA is the p-value. If the p-value is less than the alpha level selected we reject the Null Hypothesis. In our result however, the p-value = 0.8279 which is greater than the alpha level of significance selected (0.05). Thus the null hypothesis is again accepted.

Section Three: Discussion

The following discussion is focused on the research objectives.

Discussion on the extent of ICT adoption in the NPS FCT Command

This study established that although aspects of ICT have been implemented, many other key ICT tools have not partly or wholly been adopted.

Table 4.2.(c) further revealed that 56% of staff agreed to using the internet while 34% affirmed to not using the internet in the course of their official duties. 10% were not sure. Again, the on-going installation of a LAN network is likely to increase the number of staff using the internet.

Table 4.2.(d) shows that a large number of staff (73%), were not using CCTV in their office duties while 19% agreed they were using CCTV. 9% were not sure.

Table 4.2.(e) further shows an overwhelming use of radio transmission by staff. 66% of respondents said they used radio in their duties while 30% said they did not, 4% were not sure. This was not surprising as the FCT command was confirmed to have had an operational radio signal room with staff and equipment for secure communication with other commands of the Nigeria Prisons Service since the inception of the command.

Table 4.2.(f) revealed a low use of biometric technology by the FCT command as only (25%) of respondents asserted to use of biometrics in their duties. 65% of respondents denied using biometrics while 10% were not sure of the use of biometrics.

Discussion on the positive impact of ICT on NPS FCT Command

The mean average response of respondents from all departments as presented in table 4.6 unanimously confirmed that ICT adoption has had a net positive impact on the Nigeria Prisons Service FCT Command Headquarters and by extension, the Nigeria Prisons Service at a National level. Table 4.3a revealed that 30% of respondents strongly agreed and 44% agreed that ICT made their duties faster. Table 4.3b further showed that 28% of respondents strongly agreed and 48% agreed that ICT has made their duties more accurate.

Table 4.3c indicated that 29% of respondents strongly agreed and 49% agreed that ICT has reduced the waste of office material while Table 4.3d further showed that 28% of respondents strongly agreed and 53% agreed that ICT has made their duties easier. 31% of respondents strongly believed that ICT had reduced transportation while 46% agreed the same as presented in table 4.3e.

In table 4.3f, only 16% of respondents strongly agreed that ICT had made duties more cost effective however 48% agreed that ICT had made duties more cost effective. Table 4.3g shows that 15% of respondents strongly agreed and 68% agreed that ICT has increased the security of prisons.

In view of the opinions opined by the respondents on the aforementioned variables of efficiency, it is not surprising that 18% and 61% of respondents respectively strongly agreed and agreed that the use of ICT has improved prisoner reformation in the Nigeria Prisons Service FCT Command (table 4.3h). Moreover, 16% of respondents strongly agreed and 65% agreed that ICT has made prisoner rehabilitation in the Nigeria Prisons FCT command more effective.

Discussion on the negative impact of ICT on NPS FCT Command

In validation of the response obtained from respondents through this study on the positive impact of ICT implementation, Table 4.7 (table off mean average response, negative impact of ICT) shows clearly that respondents agreed that ICT had not had a net negative impact on the Nigeria Prisons Service FCT Command. However, the pen ended questions posed to the respondents in the questionnaire revealed that staffs were very concerned about the challenges posed to the complete implementation of ICT in the service. This is discussed in the next section.

Discussion on the challenges faced by the NPS in use of ICT

Respondents identified three (3) major challenges faced by the Nigeria Prisons Service FCT command in the use of ICT;

1) Lack of electrical power - 91% of respondents decried the lack of constant electricity. According to Awosope (2014) the engine of life the world over, is uninterrupted electrical power supply.
2) Inadequate supply of Equipment – According to 74% of respondents, though they use ICT in their daily duties, equipment such as computers and Radio transmitters are either not sufficient in number or not provided at all and staff have to result to commercial computer desktop publishing services.
3) Lack of maintenance – 65% of Staff surveyed opined that lack of maintenance for supplied ICT equipment coupled with poor funding resulted in a situation where most ICT equipment was not functional, sometimes for easily rectifiable causes as the case of a respondent who stated that the office computer system was non-operational due to a dead UPS battery.

Discussion on the solutions to the challenges faced in use of ICT

Respondents proffered solutions to the identified challenges faced by the Nigeria Prisons Service FCT command in the use of ICT;

1. 70% of respondents opined that increased budgetary allocation to ICT resources by the National headquarters office would provide more ICT equipment and also enable the proper maintenance of existing ICT equipment.
2. 67% of respondents recommended the provision of standby petrol or diesel generators to reduce the negative effect of epileptic electrical power supply from the national grid.
3. 55% of respondents felt that regular staff training in ICT systems implementation would increase the effective use of ICT tools in the NPS FCT command.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter consists of four sections; namely the introduction, conclusions and recommendations. Finally, the chapter concludes with suggestions for areas where the researcher deems further research is necessary.

5.2. Conclusion

The following conclusions were deduced from the research output data;

1) The Nigeria Prisons Service FCT command has implemented several aspects of ICT in the daily functions of the office. However, some aspects have been adopted better than others. This is clearly portrayed by the fact that 73% of respondents said they used GSM technology in the course of their duties yet 73% said they did not use CCTV technology in the course of their duties.
2) The respondents agreed that ICT adoption had increased the efficiency of the Nigeria Prisons Service FCT command, it was shown that the use of ICT made duties faster, more accurate, easier, more cost effective and reduced material waste. The use of ICT has also increased the security of prisons and improved the prisoner reformation and rehabilitation function of the NPS. Thus it has been concluded that ICT adoption had a very positive impact on the Nigeria Prisons Service FCT command headquarters.
3) This study also concluded that the major challenges faced in ICT adoption in the Nigeria Prisons Service FCT command headquarters were due to sporadic power supply, inadequate funding and improper maintenance of installed ICT equipment. Staff also complained of insufficient training programs and lack of exposure to latest developments in ICT.

5.3. Recommendations

Based on the findings of this study, to improve on ICT adoption in the Nigeria Prisons Service FCT command headquarters, the following recommendations are proffered;

1) There is need for provision of alternative power supply sources such as petrol / diesel generators or solar inverter systems. There is also need for a dedicated budgetary allocation for ICT in the office to enable purchase and maintenance of the command ICT equipment.
2) The Nigeria Prisons Service FCT command headquarters should make provision for regular training of staff in ICT applications and staff should be deployed to the ICT department occasionally to refresh their previously learned ICT skills.

5.4. Suggestions for further research

Crime is continually evolving and adapting globally (United Nations Congress, 2015) and as such to ensure the safe custody of remanded inmates, correctional services globally are constrained to constantly evolve. The mplementation of ICT tools is a facet of this evolution and leads to many new research areas.

The researcher therefore recommends the following possible research areas.

1) The impact of ICT adoption on inmate holding facilities in the NPS.
2) Ways to promote effective synergy in ICT use between the NPS and other security agencies.
3) Implementation of a management information system in the Nigeria Prisons Service.

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