

EFFECTIVENESS OF INFORMATION AND COMMUNICATION TECHNOLOGY ON CRIME PREVENTION IN THE NIGERIA CUSTOMS SERVICE

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Abstract

The study examined the effectiveness of Information and Communication Technology (ICT) in the prevention of crime by the Nigeria Customs Service. The study adopted the descriptive survey research design. A total of four hundred (400) customs officers were purposively drawn from the three (3) Area Commands in the South-West that share border with neighboring countries (Benin Republic and Republic of Togo). A questionnaire tagged "Perception of workers on the effectiveness of ICT in Crime Prevention in Nigeria Customs Service" was developed and used to collect data. Simple percentage, frequency counts, and Pearson Product-Moment Correlation were used in analyzing the data collected. Two research questions and one hypothesis (tested at 0.05 level of statistical significance) were raised. The hypothesis revealed a significant positive relationship between ICT and crime prevention $r = (752), 0.000, P < .05$. It was recommended that the NCS should further improve on the aspect of E-payment so as to completely eliminate the use of bribes to bring in contraband goods into the country. NCS should also improve further on the ASYCUDA++ in order to better simplify clearance of goods.

Key words: Nigeria Customs Service, Information and Communication Technology and Crime Prevention.

Introduction

Though Nigeria is West Africa's largest economy and one of the economic powerhouses in Africa, it continues to limp in terms of economic performance and faces the challenge of how to translate its potential wealth to the welfare of its citizens. Some of

the constraints that confront the achievement of this potential include cross-border crimes such as: smuggling of goods, false declaration and concealment, wilful underpayment of customs duties, trafficking in prohibited or restricted goods, use of unapproved routes and ports, forging of

customs documents, touting in customs goods and documents etc. Illegal importation of goods has the capacity to deprive the nation of huge revenues that would have accrued to it from duty payments, and puts the country at the risk of becoming a dumping ground for substandard consumables, arms and ammunitions that might jeopardise the peace and safety of the country. Furthermore, making the country a dumping ground, not only weakens industrial capacity utilisation, but also could lead to the collapse of local businesses.

In recent times, there has been serious apprehension in Nigeria over the country being seen as destination for dangerous weapons. This is not unconnected with the porous border as well as poor border control by the relevant government agents and agencies. Many parts of the borders and coastal waters seem inadequately monitored both electronically and technically. This could make it possible for criminals and smugglers to operate within the loose borders. For instance, in September, 2017, operatives of Tin-Can Island Command of the Nigeria Customs Service smashed a syndicate that specialised in the smuggling of arms into the country. They discovered a consignment of 1,100 pump action rifles loaded in a 20-foot container (New Telegraph 2017). These dangerous items were concealed in a container, deceitfully indicated to contain wash hand basins and water closets.

According to Uexkull and Shui (2014), an astonishing \$5 billion (N1.45 trillion) worth of assorted goods are smuggled into Nigeria through Benin Republic alone every year. This amount represents about 15 per cent of total smuggled goods through that border. Similarly, Raballand and Mjekiqi (2008) estimated that up to US\$4 billion of cargo enters Nigeria's market unofficially from the

Cotonou port alone, which represents a substantial portion of Nigeria's total imports. The World Bank report (2007) also noted that over \$400 million (N116 billion), representing about 25 per cent of the total current annual revenue collected by the Nigerian Customs Service (NCS), is lost through nefarious smuggling across the sub-regional borders. As a result of the activities of smugglers, thousands of industrial units have been rendered inactive due to the availability of smuggled goods in open markets. This development demands adequate attention in order to prevent cross-border crime in the country.

Crime prevention is a concept that has been applied in a number of ways to the problem of crime incidences. In addition, crime prevention strategies have been targeted on different levels of prevention (primary, secondary, tertiary) and on the need for individuals (i.e. private actions), parochial (group actions by neighborhood residents), and public actions (i.e. decisions to involve the respective government agencies such as the customs, immigration and the police.) to prevent crime (Byrne and Marx, 2011). A broad array of measures against criminal activities in the border needs attention beyond the traditional number of criminal events or offences. The control and regulation of cross-border activities are essential for ensuring peace and stability, and for promoting pertinent political and socio-economic activities needed for robust nation's economy.

According to Global South Group (2012), the Nigerian Customs Service (NCS), has a triple role. First, it collects revenue vital to Nigeria's finances. Second, it exercises security functions, combating smuggling and in co-operation with other agencies, ensuring standards and keeping out narcotics and illegal weapons and thirdly is the primary

enforcement of trade policy, administering differential tariffs, quota restrictions, rules of origin, anti-dumping measures, valuation, and trade embargoes. These roles are important if the country is to thrive in a globalised and highly competitive international trade. All in all, NCS plays a critical role in the implementation of a range of trade, economic and social policies and contributes to the achievement of Nigeria's Vision 20:2020. However, the environment is, generally, non-compliant, leading to constraints. According to Global South Group (2012), the government's dependence on Customs revenues means high tariff rates that encourage evasion; weapons smuggling, violent terrorism, narcotics trafficking, and low-quality imports are common problems confronting the command. Moreover, conditions at the ports make scanning and physical examinations of items time-consuming.

Information and Communication Technology (ICT) systems are widely used in organizations. The use of ICT systems is favourable because they support interaction and collaboration, workplace learning and work performance (Global South Group, 2012). According to Sethi (2013), Information and Communication Technology (ICT) is a generic name used to describe a range of technologies for gathering, storing, retrieving, processing, analysing, and transmitting information. Its use is immense in the field of law both in the enforcement of the laws and the prosecution of the offenders. The proliferation of Information and Communication Technology (ICT) in Sub-Saharan Africa has brought with it tremendous positive changes in socio-economic growth and development within the region. According to the World Bank, the ICT sector is defined as the sum of hardware, software, and networks subsectors

plus the media for retrieving, storing, processing, transmitting and presenting information (voice, data, text, images) (World Bank 2002).

The ICT sector has involved a whole revolution throughout the most diverse areas of society. Almiron (2007), in an article on ICT and financial crime, argued that ICTs are exclusively approached either from the perspective of the globalization of knowledge or from the perspective of economic productivity. However, the roles of ICT include its ability to provide greater transparency in the political, economic and social management of societies. This article describes the connection between the use of ICT and financial crime; reports the fraud that is being created by means of ICT, and the need of a greater attention for ICT as a tool to fight the lack of transparency and white-collar crime.

It is difficult to find a country without one security threat or another, just as it is difficult to find a state that can completely eradicate all threats to its security (Habibat, 2014). In developed nations and some developing nations in Africa, ICT has been revealed as being effective in managing threats. However, there remains a huge gap between the kind of insecurity experienced in developing nations like Nigeria and the way they are handled, compared to developed nations. The introduction of ICT into many aspects of everyday life has led to the development of the modern concept of the information society. This development of the information society offers great opportunities and the level of insecurity in Nigeria today is a level where it is necessary to deploy the right ICT-technological systems and professionals to help fight against all crimes and corruption in the country just the way it is being done in developed countries.

Dalton (2017) carried out a study to measure and analyse the impact of ICT on successful implementation of the Organization's Strategy. The research was conducted through survey questionnaires and personal interviews with the Customs Service Senior Management and Top Managers. The data were also collected by using secondary data (customs reports). The results showed that the new computerized system has a positive impact on key performance indicators improvement. Specifically, the results revealed a significant difference in evaluation of quality of checks between the experimental and the control groups, improved prevention of smuggling of goods, prevention of false clearance and efficient targeting of consignments for inspection. Results also revealed that the NCTS has a significant impact on the KPI related to collection of revenue and finally, that the NCTS has a significant impact on the KPI related to cost and expenditure management. Alcedo & Cajala (2015) in their study, assessed the present computerization programme of the Bureau of Customs (BOC) with focus on the import and export transactions in Philippines. Specifically, the study sought to determine the level of achievement of the computerization programme of BOC in the three major ports of Metro Manila in terms of the perceived benefits; and the effectiveness of the computerized import and export transactions of BOC in the three major ports of Metro Manila. Descriptive-survey method was employed in this study, using a validated questionnaire to gather the data. Using incidental sampling in choosing the respondents, the subjects of the study were customs brokers/representatives, shipping agents/freight forwarders, and value-added service providers (VASP) from the Port of Manila, NAIA and MICP. Percentage,

weighted mean, and analysis of variance were used to derive the respective figures of each problem. Results revealed that cashless payment, reduced processing time, elimination of face-to-face transaction, lessened fraud commitment, simpler and transparent procedure, 24/7 customs process, and fast release of cargo were all the benefits brought by the computerization of the BOC. However, the respondents found that the computerization of BOC did not fully eliminate the corruption in the bureau. The respondents found that the client profile registration, acceptance of the manifest, export entry lodgement, releasing of cargo, import entry lodgement, cancellation of bonds, conduct of x-ray cargo, examination of x-ray cargo, and assessment of import fees and charges using the computerized import and export transaction of BOC were effective.

Tanui and Barmao (2016) conducted a study in Eldoret town in Uasin Gishu County to examine the use of ICT in the Detection and Prevention of Crime in Kenya. The study employed simple random, stratified and proportionate probability sampling techniques. A sample of 40 respondents from police officers, court officials, bank employees and civilians were purposely selected for the study from Eldoret town. Using simple random sampling, the police officers, court officials, bank employees and civilians were stratified into strata. The questionnaires were administered to police officers, court officials, bank employees and civilians and whereas interview schedule was administered to magistrates and police in charge. Data collected were analysed, using descriptive statistics. The findings revealed that the proliferation of modern and complex information communication technology (ICT) including the borderless connectivity of the World Wide Web (www)

have significantly altered the way nations and states deal with their security, political, economic and social issues. It was recommended that re-training of law enforcers in the use of ICT in prevention and detection crime in Kenya is important.

Ibikunle and Adefiham (2013) examined the impact of Information and Communication Technology (ICT) on Effective Policing. Cross sectional survey method was used as a research method and instrument to collect data from respondents on the area of enquiry. Six hundred respondents were selected, using the Multi-stage, Simple (probability) Random Sampling and Purposive Technique. The data collected were analysed, using the Statistical Package for Social Sciences (SPSS). Hypotheses were formulated and tested, using the Pearson's Product Moment Correlation. It was found out that the use of ICT and other Technologies enhances the performance and effectiveness of the Police.

Information and Communication Technology in Nigeria Customs Service is provided by the Nigerian Integrated Customs Information System (NICIS), which comprises the ASYCUDA++ (Automated system of customs data) processing and risk management system, enhanced by a number of modules known collectively as Trade World Manager (TWM). The basic design of ASYCUDA++ device is founded on three main concepts: flexibility, independence, and open environment, (United Nation Conference on Trade and Development UNCTAD, 2003). A major benefit of the system is that it allows the Customs administration to configure it according to its own specific needs. Automation, in conjunction with use of Direct Trader Input (DTI) and EDI (Electronic Data Input), allows for information to be accessed in advance of goods' arrival and, therefore,

cleared more quickly, greatly improving trade facilitation.

Of the various stages of ASYCUDA++ processing, cargo control is performed by the Import Manifest Module, whose features include data capture and registration, manifest discharge, status reporting and printing of the discharged manifest. The ASYCUDA++ Declaration Processing Module goes through various steps, including data capture, data validation, and monitoring of customs regulations (which include an under-used capability for assessing value and quantity credibility). The system's capabilities are impressive. It is able to deal with new suspense and temporary admission procedures, as well as with additional documents as requested by the NCS and other agencies. According to United Nations Conference on Trade and Development (UNCTAD) (2003), its payment function can also handle prepayment and credit; though reasons external to NCS mean that neither is used in Nigeria at present. Next is the ASYCUDA++ Risk Assessment and Selectivity module, linked to the "color-coded" channels described above UNCTAD, (2003). Its operation is complicated by unnecessary duplication with Service providers (SP) risk assessment efforts and the impact of other agencies' inspection requirements.

The final ASYCUDA++ function is Clearance, whose features include ability to prevent removal of goods until all requirements have been met and all payments made. Closely connected with ICT development and with the potential for customs efficiency and trade facilitation that modern ICT creates are two modern customs concepts: Single Window and Coordinated Border Management (Nigeria Trade Hub, 2013). The Pre-Arrival Assessment Report

(PAAR) introduced by the NCS is fast-tracking goods clearance at the ports that is in tandem with global best practice, enhancing trade, economic competitiveness, revenue collection and border security. The advantages of PAAR include digitalization of import documentation; expert tariff classification tool; assessment of Customs; import export commodity database; detail intelligent risk configuration encompassing; issuance of PAAR, SMS alert integration service; confirmation of transaction value by the supplier; flagging up of high risk commodities; fast-tracking of trusted traders and third Party pricing data, among others (www.nigeriatradehub.gov.ng).

Statement of Problem

The rate of border crimes in Nigeria, especially, smuggling of contraband goods seem to be on the increase. Despite efforts by the Nigeria Customs Service to prevent and control these cross border crimes, the problem of illegal transactions within the country's borders still persist. Cross border crimes and other illegal transactions across the border have the capacity to limit government expected income, increase the level of crime and other social-economic vices in the country. Although, there are research efforts on the role of ICT on crime prevention, there is dearth of research in the literature of research efforts that have been conducted on the effectiveness of ICT on crime prevention in the Nigeria Customs Service.

This adoption of the ICT- systems for crime prevention is meant to offer great opportunities for progression in the activities of the NCS. This study was, therefore, conducted to examine the effectiveness of ICT in the prevention of crime by the Nigeria Customs Service in the Nigeria border.

Research Questions

The following research questions were raised to guide this study:

1. To what extent has Nigeria Customs service improved on crime prevention?
2. To what extent has the use of ICT helped the Nigeria Customs Service in cross border crime control?

Hypothesis

The following null hypothesis was tested at 0.05 level of significance.

H0₁: The use of ICT does not significantly improve crime prevention by NCS.

Methodology

The research design adopted for this study was the descriptive survey design. The population for this study comprises all the one thousand and forty six customs officers (1046) in Ogun Area Commands.

The sample of the study comprised 400 (four hundred) out of one thousand and forty six customs officers in Ogun Customs Area Command Nigeria, who were selected using purposive random sampling technique. In an attempt to examine the effectiveness of Information and Communications Technology on crime prevention in the Nigeria Customs Service, the researcher used self-developed questionnaire titled "Perception of workers on the effectiveness of ICT in Crime Prevention in Nigeria Customs Service". The questionnaire was divided into two sections. Section A consists of items that measure the respondents' demographical variables and Section B contains the factors that examine the effectiveness of Information and Communication Technology on crime prevention in the Nigeria Customs Service.

Data collected were analyzed, using descriptive statistics (Simple percentage, frequency counts) and inferential statistics (regression analysis and Pearson Product

Moment Correlation). All these were done with the use of the premier SPSS (Statistical

Package for the Social Sciences).

Results

Research Question 1: To what extent has NCS improved on crime prevention across the Nigeria border?

Table1: Extent to which the NCS has improved on crime prevention across the Nigeria border

S/N	Statements	VH	H	L	VL	MEA N($\bar{X}$)	Std D
1.	Importation of contraband goods has reduced.	228 (57.0)	156 (39.0)	12 (3.0)	2 (0.5)	1.46	0.53
2.	One-on-one contact between officers and traders has reduced thereby reducing incidence of bribery	124 (31.0)	270 (67.5)	4 (1.0)	2 (0.5)	1.71	0.506
3.	E-payment has helped in reducing revenue leakage in NCS operations	146 (36.5)	238 (59.5)	14 (3.5)	2 (0.5)	1.68	0.546
4.	The rate of seizures and detention at the border as a result of channeling most cargos through the Red line of the risk management is	122 (30.2)	236 (59.0)	38 (9.5)	4 (1.0)	1.81	0.636
5.	The rate of monitoring of all Area Commands by the NCS headquarters from the central servers in combating crime is ...	114 (28.5)	238 (59.5)	46 (11.5)	2 (0.5)	1.84	0.628

Table 1 reveals that 96% of the respondents rated the statement “Importation of contraband goods has reduced.” high ($\bar{X}$ =1.46). 98.5% of the respondents rated the statement “The level one-on-one contact between officers and traders has reduced is high ($\bar{X}$ =1.71). 96% of the respondents rated the statement “The extent to which E-payment has helped in reducing revenue leakage in NCS operation is ...” high ($\bar{X}$ =1.68). 89.2% of the respondents rated the statement “The rate of seizures and detention at the border as a result of channelling most cargos through the Red line of the risk management is ...” high ($\bar{X}$ =1.81). While 88% of the respondents

rated the statement “The rate of monitoring of all Area Commands by the NCS headquarters from the central servers in combating crime is ...” high ($\bar{X}$ =1.84). Based on the results from Table 1, the extent at which the NCS has improved on crime prevention across the Nigeria border is very high. The implication of this is that crime prevention in the NCS has improved to a very great extent, especially, with the use of ICT facilities.

Research Question 2: To what extent has the use of ICT tools helped the NCS in cross border crime control?

Table 2: Extent to which the use of ICT tools helped the NCS in cross border crime control

S/N	Statements	VH	H	L	VL	MEA N($\bar{X}$)	Std D
1.	Crime rate has reduced as a result of E-payment in NCS operation.	166 (41.5)	216 (54.0)	12 (3.0)	4 (1.0)	1.63	0.594
2.	Air surveillance along the border is fighting cross border crime.	48 (12.0)	314 (53.5)	98 (24.5)	36 (9.0)	2.30	0.799
3.	Scanning machine is effectively used in crime detection at the border.	106 (26.5)	248 (62.0)	34 (8.5)	8 (2.0)	1.85	0.644
4.	Customs data bank has helped in reducing cross border crime.	86 (21.5)	284 (71.0)	24 (6.0)	4 (1.0)	1.86	0.546
5.	ASYCUDA++, risk management system and PAAR has reduced delay in cargo clearance.	120 (30.0)	258 (64.5)	16 (4.0)	6 (1.5)	1.77	0.589

Table 2 reveals that 95.5% of the respondents rated the statement “The extent at which E-payment in NCS operation has reduced crime is high ($\bar{X}$ =1.63). 65.5% of the respondents rated the statement “The rate at which Air surveillance along the border is fighting cross border crime is...” high ($\bar{X}$ =2.30). 88.5% of the respondents rated the statement “The extent at which Scanning machine is used in crime detection at the border is high ($\bar{X}$ =1.85). 92.5% of the respondents rated the statement “The rate at which customs data bank has helped in reducing cross border crime is high

($\bar{X}$ =1.86). While 94.5% of the respondents rated the statement “The extent to which ASYCUDA++, risk management system and PAAR has reduced delay in cargo clearance is high ($\bar{X}$ =1.77). Based on the results from Table 2, the extent at which ICT usage has helped in cross border crime control in the NCS is very high. The implication of this is that ICT has been effective in crime control in Nigeria Customs Service.

Hypothesis: There is no significant relationship between use of ICT tools and crime prevention in the Nigeria Customs Service.

Table 3: PPMC of ICT and crime prevention

Variable	N	Mean	Standard Deviation	R	Sig(P)	Remarks
Use of ICT	400	1.63	0. 594	0.752	0.000	Significant
Crime Prevention by NCS		1.85	0. 644			

($P < .05$)

The results in Table 3 indicated Pearson Product Moment Correlation showing the relationship between the use of ICT and crime prevention by NCS. From Table 3,

there was a significant positive strong correlation between use of ICT and crime prevention by NCS, $r = (752)$, 0.000, $P < .05$. Based on this analysis, the null hypothesis

stating that there was no significant relationship between use of ICT tools and crime prevention in the Nigeria Customs Service was, therefore, rejected. This indicates that the use of ICT significantly improved crime prevention by NCS.

In line with the hypothesis stating that, “There is no significant relationship between use of ICT tools and crime prevention in the Nigeria Customs Service,” the result obtained from the analysis showed that there was a significant positive strong correlation between use of ICT and crime prevention by NCS, $r = (752), 0.000, P < .05$. This indicated that the use of ICT significantly improved crime prevention by NCS. This finding is in agreement with the findings of Alcedo and Cajala (2015) and Dalton (2017), who found that the use Of ICT significantly improved the prevention of crime by Customs Service in their countries of study respectively. The findings of this study also agree with that of Byrne and Marx (2011), who worked on Technological Innovations in Crime Prevention and Policing. They provided an examination of a wide range of new technological innovations that have applications in the areas of crime prevention generally, and crime control (by police) in particular.

Conclusion

This paper investigated the effectiveness of ICT on crime prevention in the Nigeria Customs Service. The porosity of the Nigeria borders continues to engender cross-border crime and instability in the country, owing to the lack of an appropriate mechanism for monitoring movement and illegal activities across these borders. Some relevant literatures on Information and Communication Technology, crime prevention and Nigeria Customs Service were reviewed. The paper highlighted the

various procedures adopted in carrying out the study.

The results indicated that the use of ICT significantly improved crime prevention by NCS. The results also revealed that the extent at which the NCS has improved on crime prevention across the Nigeria border is very high. From the data collected and analyzed, the discussions, the literature reviewed and the findings of the study, the researcher arrived at the following conclusions about the study.

The use of ICT has helped in cross border crime control in the NCS, especially, the use of air surveillance along the border, scanning machine and E-payment in the NCS operation. This study makes an important contribution in understanding the role of ICT on crime prevention in the Nigeria Customs Service.

Recommendations

Given that the findings of this study showed significant positive relationship between the use of ICT and crime prevention in the Nigeria Customs Service, the following recommendations were made to further improve the operations of the NCS:

The NCS should improve on the aspect of E-payment so as to completely eliminate the use of bribes to bring in contraband goods into the country. NCS should also improve on the ASYCUDA++ in order to better simplify clearance of goods.

Nigeria Customs Service (NCS) should inculcate in their operation, the use of CCTV (Crime Control Television) across the entire border and other necessary places of its operation. CCTV is a valuable management and security tool. The installation of a CCTV system as part of a series of security recommendations generally intended to prevent or detect crime even from the comfort zone of their offices. CCTV can be very effective in maintaining security. Video

evidence can help NCS enquiries or investigations and assist in securing criminal convictions. The visual recording of incidents, for evidential or investigative purposes, has many benefits and with a competitive customer driven market is no longer cost prohibitive.

References

- Alcedo, A. & Cajala, V. (2015) The Present Computerization Program of the Bureau of Customs in Manila, Philippines: Focus on Import and Export Transactions. A Paper Presented at the DLSU Research Congress 2015
- Almiron, N. (2007). ICTs and Financial Crime/International *Communication Gazette volume 69 number 1 February 2007*.
- Byrne, J. and Marx, G. (2011) Technological Innovations in Crime Prevention and Policing. A Review of the Research on Implementation and Impact
- Dalton, S. (2017) ICT Enabled Implementation of Strategy - Empirical Evidence from Serbian Customs Service. *Facta Universitatis Economics and Organization Vol. 14, No 2, 2017, pp. 175 – 187*
- Global South Group. (2012) Customs Reforms and Modernization in Nigeria. Towards a Comprehensive Vision.
- Ibikunle F. and Adefihan B. (2013) Effectiveness of Information and Communication Technology (ICT) in Policing in Nigeria. *Scottish Journal of Arts, Social Sciences and Scientific Studies* -ISSN 2047-1278 <http://scottishjournal.co.uk> Retrieved 10/05/2018
- New Telegraph (2017) <https://newtelegraphonline.com/> Retrieved 10/5/2018
- Raballand, G. and Mjekiqi, E. (2008) “Nigeria’s Trade Policy Facilitates Unofficial Trade and Impacts Negatively Nigeria’s Customs Efficiency and Economy,” *Mimeo, Africa Transport Unit, The World Bank*.
- Tanui, D. K. and Barmao, C. (2016) Use of ICT in the Detection and Prevention of Crimes in Kenya. *Journal of Information Engineering and Applications, Vol.6, No.9*,
- The guardian (2017) <https://guardian.ng/features/focus/at-nigeria-borders-smuggling-remains-thriving-business/> Retrieved 11/05/18
- The World Bank Group (2002): Information & Communication Technology Sector Strategy Paper, April, under http://info.worldbank.org/ict/ICT_ssp.html 1. 10/5/18
- This day (2017) <https://www.thisdaylive.com/index.php/2017/09/22/combating-smuggling-at-seme-border/>
- Uexkull, E. and Shui, L. (2014) Implementing the ECOWAS Common External Tariff Challenges and Opportunities for Nigeria. *Africa Trade Practice Working Paper Series Number 5 June 2014*
- World Bank (2007a), “Nigeria: Competitiveness and Growth.” Country Economic Memorandum. Washington DC: The World Bank.