



Demographics, agency culture, training and technological application as determinants of commercial crime investigators effectiveness: The Nigeria experience

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Abstract

This study examined the moderating influence of gender, academic qualification and cadre on the combined and relative contributions of agency culture, training and technology application on professional effectiveness of commercial crime investigators. This study used a descriptive survey design of ex-post-facto type. One thousand and two hundred participants, selected through a combination of purposive and stratified random sampling techniques, were drawn from commercial crime investigating units of the Police, EFCC, Customs and NDLEA in Lagos State. Data were collected using two adopted and three adapted instruments. The reliability coefficients yielded by the instruments were: Agency Culture Inventory, 0.88; Training Effectiveness Scale, 0.73; Technology Application Inventory, 0.91; and Commercial Crime Investigators Effectiveness Scale, 0.81. Three null hypotheses were tested at 0.05 level of significance, while data were analyzed using of means, standard deviation and Multiple Regression Analysis.

Results indicated that gender, cadre and academic qualification significantly moderated the joint and relative contributions of culture, training, and technological application to commercial crime investigators' effectiveness. For female crime investigators ($R = .417$; $R^2 = .173$; $\text{Adj. } R^2 = .159$; $F_{(5,657)} = 21.907$; $p < .05$), it was observed that all the predictor variables accounted for 15.9% variability of commercial crimes investigators' effectiveness and 23.3% for male crime investigators effectiveness ($R = .511$; $R^2 = .261$; $\text{Adj. } R^2 = .233$; $F_{(5,510)} = 13.343$; $p < .05$). It was observed that all the predictor variables accounted for 4.9% variability of the commercial crimes effectiveness of senior officers ($R = .223$; $R^2 = .049$; $\text{Adj. } R^2 = .049$; $F_{(5,401)} = 9.524$; $p < .05$) in commercial crimes investigations, while 10.8% variability was reported for the commercial crimes effectiveness of junior officers ($R = .223$; $R^2 = .171$; $\text{Adj. } R^2 = .158$; $F_{(5,401)} = 9.524$; $p < .05$). Also, it was observed that all the predictor variables accounted for 12.9% variability of the effectiveness of commercial crime investigators with first degree and above ($R = .359$; $R^2 = .129$; $\text{Adj. } R^2 = .129$; $F_{(5,388)} = 13.051$; $p < .05$) 14.3% variability for the effectiveness of commercial crime investigators with less than first degree ($R = .403$; $R^2 = .162$; $\text{Adj. } R^2 = .143$; $F_{(5,791)} = 10.999$; $p < .05$).

The study concluded that the findings of this research have shown the predictive power of gender, cadre (hierarchy), and qualification in understanding the influence of culture, training and technological application on commercial crime investigators effectiveness in Nigeria. It was recommended, amongst others, that the agencies for fighting crimes in Nigeria should be strengthened, through constant training, promotion of the right values and state-of-the-art technology. Relative autonomy of the agencies would also empower them to deal with commercial crimes more effectively.

Keywords: agency culture, training, technology application, commercial crime investigators, effectiveness

Introduction

It is well recognized all over the world that peace and security of life and property are the primary conditions for progress and development of any society (Besley, Persson, & Sturm, 2010) [5]. In line with this, the 1999 Constitution of the Federal Republic of Nigeria provides that the security and welfare of the people shall be the primary purpose of government. All over the world, however, the principal agency charged with the responsibility of internal peace and security of nations is the police. As a result, a lot of powers are given to the Police to enable it perform its duties. The 1999 Nigerian Constitution provides for the establishment of the Nigerian Police Force under section 214. It provides that there shall be a Police Force, and subject to the provisions of the constitution, no other police force shall be established for the country.

Commercial crime investigators are trained personnel in investigating commercial crimes {e.g EFCC, Criminal Investigation Department (CID) in the police like SFU (Special Fraud Unit)}. Commercial crime investigators in

Nigeria are the investigation departments in Police force, Economic and Financial Crime Commission (EFCC), Nigeria Drug and Law Enforcement Agency (NDLEA), and Nigeria Custom.

The commercial crime investigators therefore, are very critical societal agents for the attainment, preservation and promotion of security in the society. Security and investigation are necessary conditions for development. Therefore, the commercial crime investigators play important role in the sustenance of an enabling environment for development. In order to maintain order and enforce the law, the commercial crime investigators are endowed by the Constitution and laws with enormous powers of surveillance, arrest, investigation, search, seizure, interrogation, detention, bail and prosecution (Alemika, 2003) [3].

An examination of the literature in the fields of agency culture has been independently linked to organizational effectiveness. For example, researchers have examined the links between leadership styles and performance (Fashanu

& Ayodele, 2007), and also between organizational culture and performance (Nwosu, Onuoha & Ayodele, 2010) ^[21]. Furthermore, numerous aspects of the organizational culture literature allude to the role of leaders in 'creating' and 'maintaining' particular types of culture (Schein, 1992; Siehl, 1985) ^[30].

Training both physically, socially, intellectually and mentally are very essential in facilitating not only the level of productivity but also the development of personnel in any organization. Therefore, training can be put in a contact relevant to criminal investigators. However, knowledge is the ability, the skill, the understanding, the information, which every individual requires acquiring in order to be able to function effectively and perform efficiently (Olaniyan & Ojo, 2008) ^[24].

Law enforcement agencies are expected to have and utilize the finest technology available to conduct investigations, protect citizens, respond to crises and prevent crimes (Abida & Irfan, 2010) ^[1]. Garicano and Heaton (2007) indicated that information technology can enhance effectiveness in police work, when it is integrated with certain organizational practices which are adopted to take benefits of data availability. Information technology offers a tool to help commercial crime investigators to achieve its wider and increasingly multifaceted tasks. Colvin and Goh (2005) emphasize that technology has considerable influence the performance of commercial crime investigators work. Ultimately, it can be said that if commercial crime investigators accept technology, it can increase their performance and value (Gottschalk & Holgersson, 2006). For that reason, it is essential to learn how technology is effective for commercial crime investigations.

However, commercial crime investigators' effectiveness has been a source of concern to educators, academicians, and other stakeholders in Nigeria. The concepts employed to gauge the performance of commercial crime investigators is effectiveness. Effectiveness could be likened to task performance. Effective employees (Investigators) are those which meet challenges put to them, satisfy demands for service or solve problems call for increased commercial crime investigators (Investigative department of Police, Custom, EFCC and NDLEA) protection, the deterrence of crime is effectiveness problem which bedevil commercial crime investigators.

All the aforementioned studies, no doubt constitute an attempt to study the constituent of a rather homogenous whole. Therefore, professional effectiveness of commercial crimes investigator is persistent problems in Nigeria since they deal with more organized and well-structured crimes often aided with technology. In order to develop a sound strategy in this regard, it is crucial to learn from past research in the area of investigations, and to incorporate into law enforcement organizations those policies deemed most fruitful. Consequently, this study examined the influence of agency culture, training and technological application on commercial crimes investigators' effectiveness across four agencies (Police, EFCC, Customs, and NDLEA) in Nigeria.

Hypotheses

1. There is no significant moderating influence of gender on the joint and relative contribution of agency culture, training and technological application on commercial crimes investigators' effectiveness.
2. There is no significant moderating influence of cadre on

the joint and relative contribution of agency culture, training and technological application on commercial crimes investigators' effectiveness.

3. There is no significant moderating influence of academic qualification on the joint and relative contribution of agency culture, training and technological application on commercial crimes investigators' effectiveness.

Methodology

Research Design: This study adopted a descriptive survey design of ex-post-facto type. This survey design was preferred since the researcher cannot control the conditions experienced by the subjects.

Population: This study comprised of commercial crime investigative units of the Police (SFU) with a population of 901, EFCC with 750, Customs with 697 and NDLEA with 515 within the Federal operational command in Lagos State, Nigeria.

Sample and Sampling Technique: One thousand and two hundred participants were selected through purposive and stratified random sampling techniques. First, the Police, EFCC, Customs and NDLEA in Federal operational command in Lagos State, Nigeria was selected purposively because the four agencies are involved in the investigation of commercial crimes in Nigeria. A sample size of 300 respondents was selected respectively from each of the commercial crime investigative outfits - Police, EFCC, Customs and NDLEA, making a total of 1200 in all.

Instruments

Agency Culture Inventory (ACI): Agency culture was measured by adopting Agency Culture Inventory by Hee-jae (2000) ^[12]. This instrument consists of 60 items and was designed to capture four dimensions of agency culture (organizational structure), namely involvement, consistency, adaptability and mission. All sub-scales employ a four point scale, ranging from 1 (strongly disagree) to 4 (strongly agree). The internal consistency measured by Cronbach alphas for overall agency culture inventory and for involvement, consistency, adaptability and mission sub-scales are 0.88, 0.90, 0.88, 0.81, and 0.92 respectively (Hee-jae, 2000) ^[12]. In Nigeria, the instrument has also been used by Oledikwa and Nbang (2006) ^[25].

Training Effectiveness Scales (TES): Commercial crime investigators' training was measured by the South Carolina Law Enforcement Training Survey developed by Rojek, Kaminski, Smith, and Scheer (2007) ^[28]. This instrument questionnaire has been used in more than 65 agencies in the United States of America. For the purpose of this study, the internal consistency of this instrument was established using Cronbach alpha which yielded a coefficient of 0.73

Technology Application Inventory (TAD): This scale assesses how competent Commercial Crime Investigators are in ICT tools and program operations; while section C was adapted from the work Abida and Irfan (2010) ^[1], which was an earlier adaptation from seven factors of computer application originally developed by seven authors namely Venkatesh and Davis (2000) ^[32] for intention to use, Thompson, Higgins and Howell (1991) for job fit, Venkatesh and Davis (2000) ^[32] for perceived ease of use, Bhattacharjee (2000) for attitude, Taylor and Todd (1995) ^[31] for facilitating conditions, Teo (2008) for affect towards usage, and Venkatesh and Davis (2000) ^[32] for

voluntariness.

Commercial Crime Investigators Effectiveness Survey (CCIES): Crime investigators effectiveness scale developed by Osterburg (1962) was adopted in this study. It has 24 items. The scale was developed to ascertain certain law enforcement current practices in line with their operation, selection, training, evaluation, investigation, job description, work requirement/methodology, and desirable experiences. A four-point response was employed, ranging from “very weak” to 4 “very good”. In this study the internal consistency index for the scale using Cronbach alpha was 0.87.

Procedure: The researcher and four research assistants were involved in the administration of the instruments to each of the sample respondents chosen. The research

assistants were postgraduate students of Babcock University trained for the purpose of this study. They were given an orientation on the research and how to carry out the administration of the questionnaires.

Method of Data Analysis: The data collected in this study were analyzed using both descriptive and inferential statistics. The descriptive tools of mean and standard deviation scores were used to describe the commercial crime investigators effectiveness. The hypotheses generated to guide the study were tested by the Multiple Regression Analysis (to explain the contribution, joint and relative of the independent variables) to the dependent variable and its accompanying analysis of variance (ANOVA) test at the 0.5 level of significance.

Results

Table 1: Beta coefficients and t Ratio for relative contributions of culture, training and technological application to the prediction of commercial crimes investigators’ effectiveness based on gender

		Unstandardized Coefficients		Standardized Coefficients	t-ratio	Sig.
		B	Std. Error	Beta (β)		
Female	(Constant)	19.500	5.111		3.976**	.000
	Culture	.098	.022	.071	1.779*	.000
	Training	.081	.019	.039	1.063*	.031
	Technological Application	.100	.031	.130	2.132*	.037
R = .417; R ² = .173; Adj. R ² = .159; F _(5,657) = 21.907; p < .05						
Male	(Constant)	25.005	7.222		7.419**	.007
	Culture	.113	.025	.151	3.768**	.011
	Training	.144	.041	.200	5.135**	.000
	Technological Application	.107	.029	.124	2.389*	.029
R = .511; R ² = .261; Adj. R ² = .233; F _(5,510) = 13.343; p < .05						

*Significant at 0.05 level

a. Dependent Variable: Commercial Crime Investigators’ effectiveness

The results in Table 1 revealed the strength of causation of the predictor variables on the criterion variable. The most potent predictor of female commercial crime investigators’ effectiveness among the predictors is technological application (β = .130; t = 2.132; p < .05), followed by agency culture (β = .071; t = 1.779; p < .05), and lastly by training (β = .039; t = 1.063; p < .05). For the male commercial crime investigators’ effectiveness, the most potent predictor is training (β = .200; t = 5.135; p < .05), followed by agency culture (β = .151; t = 3.768; p < .05), and lastly by technological application (β = .039; t = 1.063; p < .05) was the next potent factor. The null hypothesis of no moderating influence of gender on the relative contribution of culture, training and technological application on

commercial crimes investigators’ effectiveness was not sustained by this finding. This implies that there was a relative contribution of culture, training, job efficiency and technological application to the prediction of commercial crime effectiveness among male and female commercial crime investigators.

For female crime investigators (R = .417; R² = .173; Adj. R² = .159; F_(5,657) = 21.907; p < .05), it was observed that all the predictor variables accounted for 15.9% variability of commercial crimes investigators’ effectiveness; while 23.3% was observed for male crime investigators effectiveness (R = .511; R² = .261; Adj. R² = .233; F_(5,510) = 13.343; p < .05).

Table 2: Beta coefficients and t Ratio for relative contributions of culture, training and technological application to the prediction of commercial crimes investigators’ effectiveness based on cadre

		Unstandardized Coefficients		Standardized Coefficients	t-ratio	Sig.
		B	Std. Error	Beta (β)		
Senior Officer	(Constant)	28.233	5.611		10.504*	.000
	Culture	.211	.051	.301	4.071**	.027
	Training	.169	.037	.209	2.888*	.063
	Technological Application	.128	.029	.155	1.972*	.019
R = .223; R ² = .049; Adj. R ² = .049; F _(5,401) = 9.524; p < .05						
Junior Officer	(Constant)	19.651	6.505		6.697*	.013
	Culture	.143	.033	.174	3.019**	.031
	Training	.125	.025	.131	2.371*	.009
	Technological Application	.117	.019	.112	2.017*	.017
R = .413; R ² = .171; Adj. R ² = .158; F _(5,772) = 6.483; p < .05						

*Significant at 0.05 level

a. Dependent Variable: Commercial Crime Investigators’ effectiveness

The results in Table 2 revealed the strength of causation of the predictor variables on the criterion variable. The most potent predictor of commercial crime investigators' effectiveness based on cadre among the predictor variables of the study is agency culture (senior officer: $\beta = .301$; $t = 4.071$; $p < .05$; junior officer: $\beta = .174$; $t = 3.019$; $p < .05$). Training was the next potent factor of senior ($\beta = .209$; $t = 2.888$; $p < .05$) and junior ($\beta = .131$; $t = 2.371$; $p < .05$) commercial crime investigator officers' effectiveness, lastly by technological application (senior officer: $\beta = .155$; $t = 1.972$; $p < .05$, and $\beta = .112$; $t = 2.017$; $p < .05$ for junior officer). This implies that there was a relative contribution

of culture, training, job efficiency and technological application to the prediction of commercial crime effectiveness based on cadre with agency culture as the most potent predictor.

Also, it was observed that all the predictor variables accounted for 4.9% variability of the commercial crimes effectiveness of senior officers ($R = .223$; $R^2 = .049$; $\text{Adj. } R^2 = .049$; $F_{(5,401)} = 9.524$; $p < .05$) in commercial crimes investigations. Also, all the predictor variables accounted for 10.8% variability of the commercial crimes effectiveness of junior officers ($R = .223$; $R^2 = .171$; $\text{Adj. } R^2 = .158$; $F_{(5,401)} = 9.524$; $p < .05$) in commercial crimes investigations.

Table 3: Beta coefficients and t Ratio for relative contributions of culture, training, and technological application to the prediction of commercial crimes investigators' effectiveness based on academic qualification

		Unstandardized Coefficients		Standardized Coefficients	t-ratio	Sig.
		B	Std. Error	Beta (β)		
First Degree and above	(Constant)	30.647	8.003		12.040*	.000
	Culture	.458	.051	.300	5.911**	.022
	Training	.290	.043	.288	4.332*	.003
	Technological Application	.199	.028	.177	1.599*	.019
	$R = .359$; $R^2 = .129$; $\text{Adj. } R^2 = .129$; $F_{(5,388)} = 13.051$; $p < .05$					
Below First Degree	(Constant)	23.149	10.051		8.778*	.011
	Culture	.431	.049	.271	5.331*	.037
	Training	.219	.021	.200	2.359*	.041
	Technological Application	.287	.036	.254	3.023*	.013
	$R = .403$; $R^2 = .162$; $\text{Adj. } R^2 = .143$; $F_{(5,791)} = 10.999$; $p < .05$					

*Significant at 0.05 level

a. Dependent Variable: Commercial Crime Investigators' effectiveness

The results in Table 3 revealed the strength of causation of the predictor variables on the criterion variable. The most potent predictor of commercial crime investigators' effectiveness based on academic qualification among the predictor variables for those with first degree and above is agency culture ($\beta = .300$; $t = 5.911$; $p < .05$). Training was the next factor ($\beta = .288$; $t = 4.322$; $p < .05$), followed by technological application ($\beta = .177$; $t = 1.599$; $p < .05$). However, for those commercial crime investigators' effectiveness with less than first degree is agency culture ($\beta = .271$; $t = 5.331$). Technological application was the next factor ($\beta = .254$; $t = 3.023$; $p < .05$), followed by training ($\beta = .200$; $t = 2.359$; $p < .05$). The null hypothesis of no moderating influence of academic qualification on the relative contribution of culture, training, and technological application on commercial crimes investigators' effectiveness was not sustained by this finding. This implies that there was a relative contribution of culture, training, job efficiency and technological application to the prediction of commercial crime effectiveness with agency culture as the most potent predictor.

Also, it was observed that all the predictor variables accounted for 12.9% variability of the effectiveness of commercial crime investigators with first degree and above ($R = .359$; $R^2 = .129$; $\text{Adj. } R^2 = .129$; $F_{(5,388)} = 13.051$; $p < .05$). Also, all the predictor variables accounted for 14.3% variability of the effectiveness of commercial crime investigators with less than first degree ($R = .403$; $R^2 = .162$; $\text{Adj. } R^2 = .143$; $F_{(5,791)} = 10.999$; $p < .05$).

Discussion

The first hypothesis which stated that there is no significant moderating effect of gender on combined and relative contribution of culture, training and technological

application on commercial crime investigators effectiveness. The outcome of this result shows that agency culture, training and technological application influence male and female commercial crime investigators effectiveness differently. However, it was revealed that all the three predictors favoured the male commercial crime investigators effectiveness compared to the female. The outcome of this finding support the previous works of Paoline, Myers, and Worden, (2000) and Paoline (2004) on the variation in crime investigators' culture due to several factors. They noted that changes in policing and crime investigators' philosophy, professionalization, education, sex and race have changed the face and values of policing and investigating. This study is also in line with the findings of Britz, (1997) and Poteyeva and Sun, (2009) who have found male officers making claims of females as having lesser physical capabilities, inability to handle violent situations, and excessive emotionality.

The findings of Daihani and Rehman (2007) that almost 85 percent of detectives confirm that technological application on their job have brought about easiness for getting information and saving their time. Also, the findings of Al-Gahtani, (2004) confirmed that lack of user acceptance of technology has long been an obstacle to the accomplishment of commencing new technologies. Acquaaah and Tukamushaba (2009) is in agreement with this study that organizations with employees endowed with the knowledge, skills, expertise and experiences for organizing their strategic activities will find them valuable because they are more likely to help the organization to achieve its goals and become more effective. All these are also tilted toward favouring the male compared the female.

The advantage of this finding is that it focuses attention on the need for law enforcement agencies to inculcate into the

agency culture programs, training, and pedagogy that will suit the needs of male and female agents/investigators without putting any of them at a disadvantage. The differences observed may be moderated by the level of gender egalitarianism in the agencies' functional values, beliefs and leadership culture.

The second hypothesis which stated that there is no significant moderating effect of cadre on the combined and relative contribution of culture, training, and technological application on commercial crimes investigators' effectiveness. The result revealed significant moderating effect of cadre on the relative contribution of culture, training, and technological application on commercial crimes investigators' effectiveness. Senior officers were found to be more favoured than the junior officers except in technological application. The implication of this finding was associated with the view that organizations are driven by their own kind of culture known as 'agency culture', which has significant influence on member's attitudes and behaviours.

The findings of this hypothesis support the work of Jones (2010) that the day-to-day operations are conducted within functional hierarchies directed and guided by the bureau through a direct chain of command with specific span of control guidelines that provide for direct supervision at the lieutenant and sergeant levels. Authority delegated to commanders permits them to hold personnel responsible for their actions and to influence the direction of the bureau or precinct from a limited decentralized position. Jones (2010) affirmed in his findings that authority is not just established but was done on technical competence, role responsibility and decision-making authority clearly defined, and rules, standards, and norms are used to control behaviour, create predictability, and define relationships.

Kingshott, Bailey, and Wolfe (2004) confirm that crime investigators' culture promotes a sense of over-entitlement among officers; experiences, environments, and training all serve to support a sense of over-entitlement. A common reaction to over-entitlement includes seeking out power relationships with others in order to demonstrate one's own superiority. It should be noted, however, that agency culture encourages conformity to existing standards, practices and beliefs. Also, Rothwell and Baldwin (2007); Westmarland (2000) agreed that the focus placed on secrecy and loyalty, along with pressures of conformity, encourage officers to participate in, or at least tolerate, unethical behaviors. Other cultural traits, such as masculinity and an "ends justify the means" mentality, further encourage an acceptance or tolerance of ethical or unethical behavior. Any officer who appears willing to report unethical behavior threatens this sense of protection and loyalty offered by the culture (Rothwell & Baldwin, 2007). The officer would then face the consequences of the group—being ostracized, not being trusted, and not having other officers willing to work with the individual (Goldschmidt & Anonymous, 2008).

The advantage of this finding is affixed on the importance of understanding the environment and context in which commercial crime investigators must work; the environment of investigating may have substantial effects on the performance of officers' duties. If officers are affected negatively by the environments in which they must live and work, the legitimacy and effectiveness of the agency is threatened. Only through continued research into the area of investigation can this essential institution be significantly

improved.

Hypothesis three which stated that there is no significant moderating effect of academic qualification on the combined and relative contribution of culture, training and technological application on commercial crimes investigators' effectiveness was not sustained by this finding. The results revealed significant moderating effect of academic qualification on the relative contribution of culture, training and technological application on commercial crimes investigators' effectiveness. The result on the agency culture is in line with the findings of Jones (2010) and Barnett (1992) that agency culture embedded with organic structures provide integration and information flows within internal and external environments thereby creating a more open and functional working environment that are capable of adapting, learning, and re-directing resources. In this vein, Cheung, & Fan, (2009) conducted a study and found that the organization seek systematically new ways of performance improvement, address changing demands, identify root causes of problems, change work practices, and improve methods.

The findings of Ashkenas, Ulrich, Jick, and Kerr, (2002) on training found that organizational learning begins with the training of its workforce by seeking out best practices from other agencies and applying them to current issues and challenges. Though, individual learning does not guarantee organizational learning, but without it no organizational learning occurs. Also, Jamali, Khoury and Sahyoun, (2006) found that training promotes continual organizational renewal by weaving in/embedding a set of core processes that nurture a positive propensity to learn, adapt and change. The findings on the contribution of technological application to the prediction of the moderating effect of academic qualification on commercial crime investigators' effectiveness was supported by Harris (2007); Chan (2001) and Reichert (2001) that technological innovation and application has been the driving force leading to reform of crime prevention and crime control strategies, both by individual citizens and concerned groups, and by formal crime investigator agencies.

Conclusions

The study found that training is the most potent factor in determining commercial crimes investigators' effectiveness. The finding of this research has also proved the relevance of training in enhancing the effectiveness of both individual and organization. Training and development increase the employee performance like the researcher reported that training and development is an important activity to increase the performance of health sector organization (Iftikhar Ahmad & Siraj-ud-din, 2009). It is therefore very necessary for every agency to give its employees training to get overall goals of the agency in a better way and to increase the overall performance of the agency. Although it is costly to give training to the employees but in the long run it give back more than it took.

Agencies culture is the second potent factor of the study shared values and norms, which influence commercial crime investigating agents' behavior and interactions between supervisors and subordinates, and internal and external participants. This is encouraging fact as it has been recognized that it is the pattern of basic assumptions that a given group has invented, discovered or developed in learning to cope with its problems of external adaptation and

integration that have worked well enough to be considered valid, and therefore to be taught to new members as the correct way to perceive, think and feel in relation to those problems. Therefore, to ensure the successful development of a learning organization, culture must be considered. Culture is the complex, interrelated whole of standardized, institutionalized, habitual behavior that characterizes the agency and that agency only.

The study provides a basis for the understanding of the influence of technological application on the commercial crimes investigating agencies' effectiveness. All over the world today, new technological innovations have been developed to prevent crime and to improve the performance of the crime investigators, but we know remarkably little about how and why certain innovations are adopted and applied, and the consequences –both intended and unintended of technology-driven solutions to the problem of crime. This study has shown that technological application will significantly influence the commercial crime investigators' effectiveness in Nigeria.

The findings of this research have equally shown the predictive power of gender, cadre (hierarchy), and qualification in understanding the influence of culture, training and technological application on commercial crime investigators effectiveness in Nigeria.

Recommendations

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

1. The agencies for fighting crimes in Nigeria should be strengthened, empowered in a significant way and be made to deal with crime effectively thus training should be structured to meet the operational needs of each agency, making sure that the contemporary challenges of the organization is confronted, since crime and society is dynamic.
2. Institutions that train commercial crime investigators in the country should be well equipped with modern equipment in order to give them required training for full participation in the world of crimes.
3. Set out culture of the agencies should be reflected in the standard operational procedure (SOP) manuals as a practicable guide in the operations of these agencies, positive culture being a process to be learnt can be reinforced by provisions of tangible and intangible rewards.
4. Technological application should be structured to meet the operational needs of these agencies, such that a proactive technical unit is set out to meet such needs like forensic and software development department to work on applications that will facilitate the smooth running of the investigative and prosecution process.

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