Leveraging Technology to Enhance Effective Electronic Policing in Developing Countries

Ester-Omma NELAGO[1], Jude OSAKWE[1], Gloria IYAWA[1], Martin UJAKPA[2]

[1] *Namibia University of Science and Technology, 13 Jackson Kaujeua Street, Windhoek, Namibia, Email: esternelago1@gmail.com, jdosakwe@yahoo.com, ejehi4jesus@gmail.com*
[2]*Ghana Communication Technology University, Nsawam Rd, Accra, Ghana Email: ujakpamabeifam@gmail.com*

Abstract: In Namibia, the introduction of electronic policing (e-policing) has brought changes in the organisation of Police work, mainly recording, storing, and sharing of Police information electronically for the betterment of Police service delivery. The introduction of e-policing in Namibia also came with challenges such as backlog of cases not updated on time. The purpose of this study is to assess the challenges brought by implementing e-policing and propose better strategies to curb the challenges. A quantitative approach was used to analyze data obtained through structured questionnaires. The research aims to focus on the following sub-objectives: to assess the current organisation policy on e-policing system; to investigate the challenges of implementing e-policing, and recommend strategies that can be used for a successful implementation of e-policing through studying relevant literatures. The research identified that Police officers understand e-policing differently and the major challenge faced by the organisation is budgetary fund allocation.

Keywords: e-policing, technology, crime prevention

1. Introduction

Electronic policing is a method that intends to provide total computerised information system support for the work of the Police [1]. According to [2] e-policing is broadly defined as a combination of intelligent implementation of innovations in policing technology while implementing the existing policing strategies such as Intelligence-led Policing, Hotspot Policing, Problem-oriented Policing, crime prevention and crime investigation.

The rate of E-policing success depends heavily on attributes such as adequate technological infrastructure, technological skills, and financial support. Namibia is a developing county and the introduction of e-policing faced challenges such as underdeveloped ICT infrastructure, inadequate computer skills, financial constraints, poor internet access and reliability that leads to poor case docket clearing and poor crime prevention. The findings from [3] shows that the typical difficulties of introducing e-policing in other developed countries such as Tanzania is the inappropriate selection of Police staff to join the ICT training.

Technology has evolved and the advancements have benefited and shaped Police functions over the years. Police strategy was mostly vehicle patrols for crime prevention and responses to call for service which then swiftly migrated to two-way radio communication and later computer aided dispatch systems.

2. Objectives

The main objective of the research is to examine challenges and prospects of e-policing in Namibia by delivering possible solutions to smooth out the draw backs that are preventing

the system from being fully utilised and hinder the system to deliver quality services. The study has the following sub-objectives:

- To assess the current organisation policy of e-policing system in Namibia;
- To investigate the challenges of implementing e-policing in Namibia;
- To investigate the factors necessary for the implementation of e-policing in Namibia;
- To recommend strategies that can be used for a successful implementation of e-policing in Namibia.

3. Methodology

A quantitative approach was used in this study. This involved the use of open and close ended questionnaires as a method of collecting data. Questionnaires are useful for gathering original data about people, their behaviours, experience, opinions, and awareness of events [2].

3.1 Population

A total of 82 Police officers and 3 civilian components of Okahandja Police station participated. The research sample of 62 officials were selected using random sampling technique from the total population. Out of 62, 60 questionnaires were distributed to 6 administrative officers, 6 crime prevention officers, 24 crime investigation officers and 24 charge office officers. This sample is believed to present accurate and valuable results.

3.2 Data collection instruments

Close ended questionnaires were used. [4] stated that questionnaires may provide ideas of written interviews that can offer large amount of data records from a large sample of people. Other data inputs used included books published in journals, thesis, library studies, official government reports and commissioned documentation.

3.3. Technology Description

E-policing was introduced as an electronic service tool for crime prevention to allow the members of the Police force to access information quickly and deliver services to the public [5]. Despite these benefits, the system's implementation is still immature since not all the units in the Namibian Police service are introduced to the system. Secondly, the majority of the officers are not computer literate. A problem of backlog of cases and data not being updated on time resulting in incomplete information on the system was identified, while in some cases officers are not following proper procedures of recording and updating the data. These complaints came with implications to the policing of the country. The numbers of cases are closed as undetected because of ineffective utilisation of crime investigation resources [6]. [7] argued that while officers are supposed to embrace the technology, they do not always receive proper training needed to use it at a mastery level.

4. Results from Data Analysis

The data was analysed for descriptive statistics as follows;

4.1 Questionnaire response rate

Questionnaires were used to collect data from Okahandja Police station. Sixty questionnaires were distributed, all of which were completed and returned, giving a 100% response rate. The gender representation was 80% Policewomen and 20% Policemen.
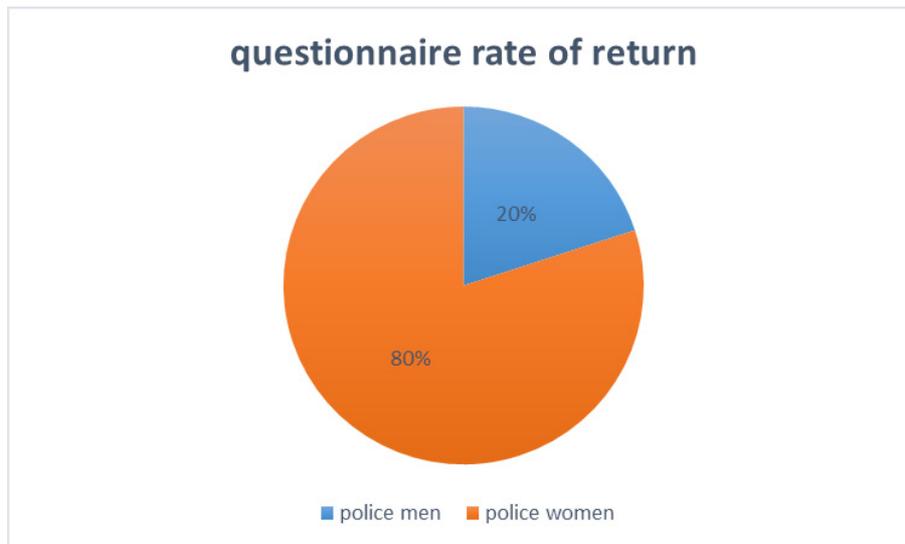
Figure 1. Questionnaire response rate

4.2 Demographic information

The respondents' individualities that were examined included age, gender, level of education and function or unit the respondent belongs to. These attributes helped to lay the structure for clarifying the findings of the study.
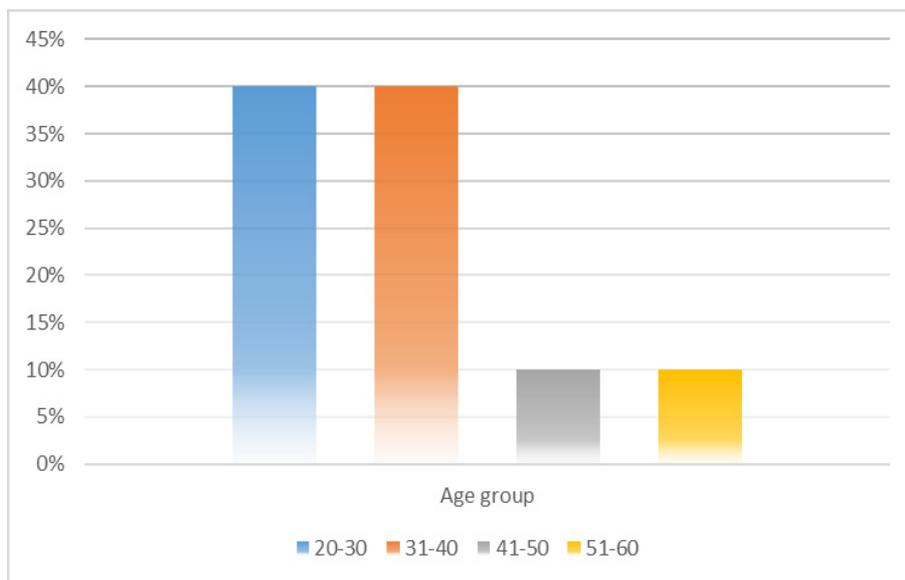

Figure 2. Age group

Respondents aged between 20 - 30 years and 31 - 40 years were majority at 40% with 41-50 and 51-60 years at 10% each. This indicates that the samples includes more young Police officers and this will positively impact on the study findings as research have shown that young people are more technology savvy [8]. The young Police officers are mostly deployed at charge office, crime prevention and crime investigation and they are the mostly utilizing the e-policing. The findings are illustrated in Figure 2.

4.3 Gender

Regarding gender, 20% males and 80% females completed the questionnaires - see Figure 3. This resulted in a low ratio of male Police officers compared to females. This could mean that there are more female Police officers at the station. [9], felt that society usually do not

consider the Police profession for women due to irrational working hour and challenging work environment, however, the finding in this study is different. According to [10], female Police officers are still facing a barrier of gender stereotyping of Police work.
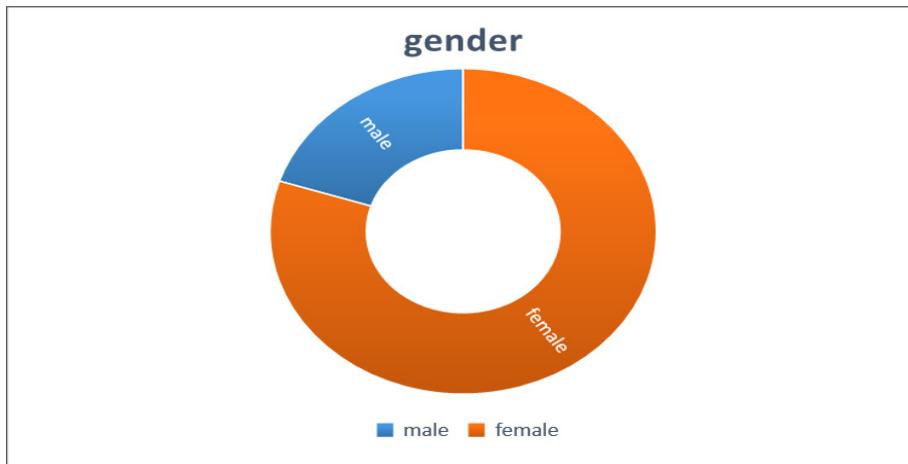

Figure 3. Gender

4.4 Function/ Units

Okahandja Police station has several units. The findings indicated that 10% of respondents were deployed at administration, and human resources departments, 30% charge office, 30% crime prevention, and 30% crime investigation (see Figure 4). Crime prevention includes duties such as e-policing updating, patrol duties, community policing and court orderly. This formed 30% of respondents. Their contribution was well spread as they are the ones who use the e-policing system daily.
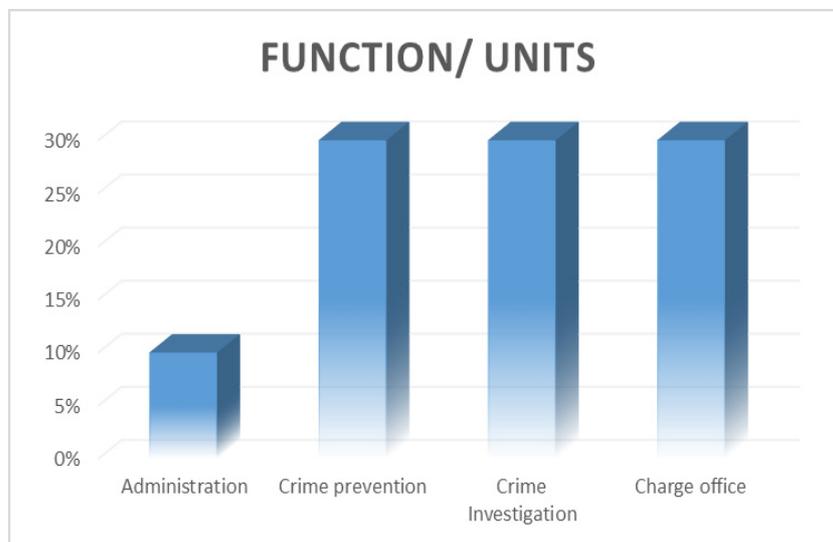

Figure 4. Function/ Unit

4.5 Education

As illustrated in Figure 5, 30% of respondents were university graduates in various fields such as Police science, human resources, and information technology, 20% were college graduates in early childhood development, and basic computer skills and 50% were Police officers holding grade 12 certificates. Police officers with grade 12 certificates are not exposed to e-policing. On the other hand, graduate Police officers understand the e-policing techniques better and tend to be smart in crime detection and prevention [11].
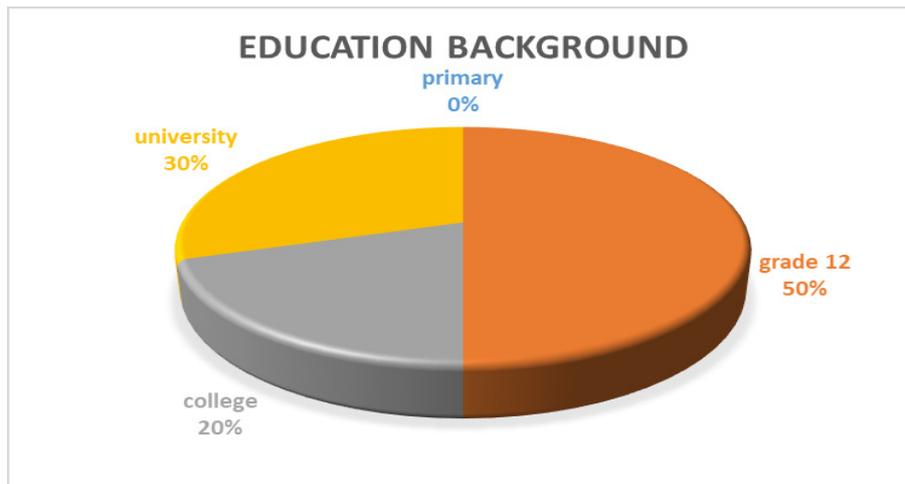
Figure 5 Education level

4.6 Organisation policy

The study attempted to identify whether there was an appropriate policy that supports the use of e-policing in the Police organisation. Figure 6 outlines that 90% of the respondents do not know whether there is a policy governing the e-policing in Namibia. 10% noted that all the government offices, ministries and agencies functions are accepted by the cabinet before being executed.
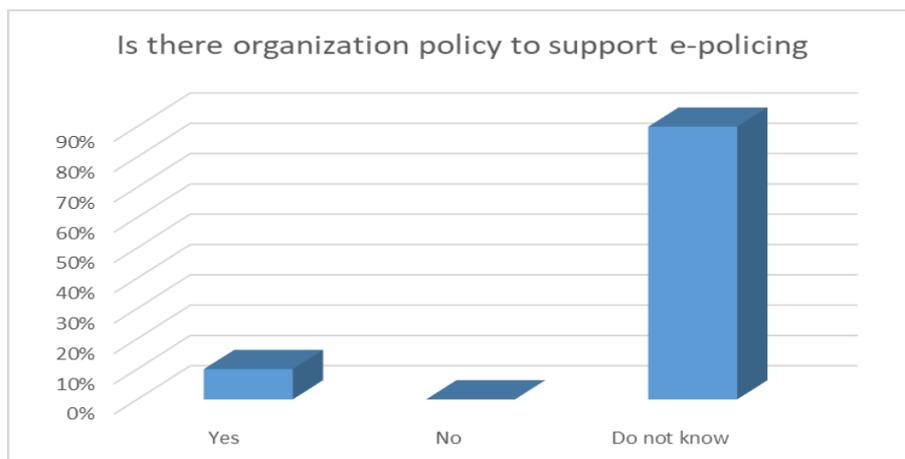

Fig. 4.6.   Organisation policy

[10] outlined the adequate institutional capacity to assist and promote the sharing of information, and infrastructure between government ministries, regional, and local authorities for the purpose of national planning, coordination, and development. The Police organisation under the Ministry of Home Affair, Immigration, Safety, and Security is hosted under this umbrella in order to implement the proper use of e-policing and increase Police competency.

4.7 Benefits of e-policing

E-policing helps effective updating of crime data to provide timely information. Giving effective and efficient service to the public is the goal of the Namibian Police, and with e-policing, Police officers will spend less time writing report or conducting foot patrol.

However, the findings illustrated in Figure 7 show that 70% of respondents felt that the adoption of e-policing at Okahandja Police station did not benefit them. The Police officers do not see the need to store the occurrence book electronically as it is seen as an unnecessary duplication of data. They felt that an additional burden is added onto their work responsibilities. In contrast, 30% of the respondents felt that e-policing had benefits

such as improved crime rate accuracy and speed of case investigation, improved communication at the station, reduced crime response time, improved enthusiasm to perform duties, and advance crime data gathering.
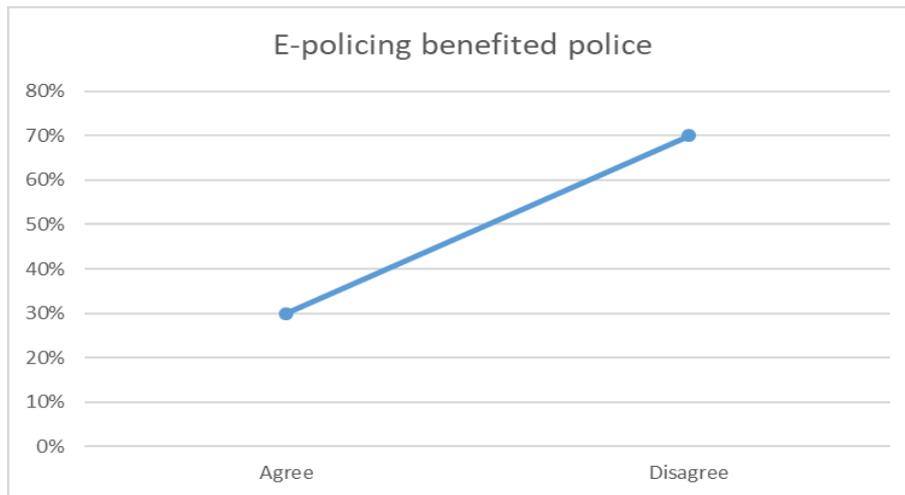

Figure 7.   Benefits of e-policing system

Table 1. *Challenges faced by Police officers.*

	Often	**Not sure**	**Rare**
Lack of specialised training	20%	10%	40%
Lack of tools and equipment	60%	20%	20%
Weak cyber-crime law	0%	80%	0%
Lack of funds	70%	20%	10%
Computer Literacy	30%	50%	20%

As outlined in Table 1, 40% of respondents indicated that the special training on e-policing barely happens and all respondents felt that there is no cyber-crime law to prosecute cyber criminals. 60% noted that there is a lack of technological tools and equipment to combat crime. 70% of the respondents outlined that the biggest challenge is lack of funds to service the equipment in their effort to embrace the e-policing system.

30% of the respondents noted that computer illiteracy plays a negative role among Police officers and even if they are willing to embrace the e-policing, the organisation does not provide sufficient training on basic computer skills and information technology knowledge. Another challenge was lack of personnel in the crime investigation unit that results in an increase in the backlog of case dockets resulting in some cases not being finalised on time.

The [13] document indicated that there is a low rate of case docket clearance that aid in the increasing of backlog of cases due to lack of experienced investigators.

4.8   The effects of e-policing use on Police performance

Figure 8 indicates that 30% of the respondents were of the opinion that the use of e-policing does not ease Police work. This group think the e-policing adds more work to their overwhelming work. In contrast, 40% felt it does ease Police work in the sense that electronic information can be retrieved faster compared to manual information. 30% indicated that they do not know if e-policing eases Police work.

100% of the respondents indicated that the use e-policing did not helped in crime investigation or in prosecuting criminal offenders. Evolving use of technology has a major impact on criminal procedures to be followed when collecting and presenting digital

evidence in court. Handling digital evidence has its weaknesses and requires specific guidelines and procedures compared to physical evidence.

[12] strengthen the capacities of States worldwide and Namibia is not excluded, to apply legislation on cybercrime and electronic evidence and enhance their abilities for effective international cooperation in area such as promoting consistent cybercrime legislation, policies and strategies; strengthening the capacity of Police authorities to investigate cybercrime and engage in effective Police-to-Police cooperation.
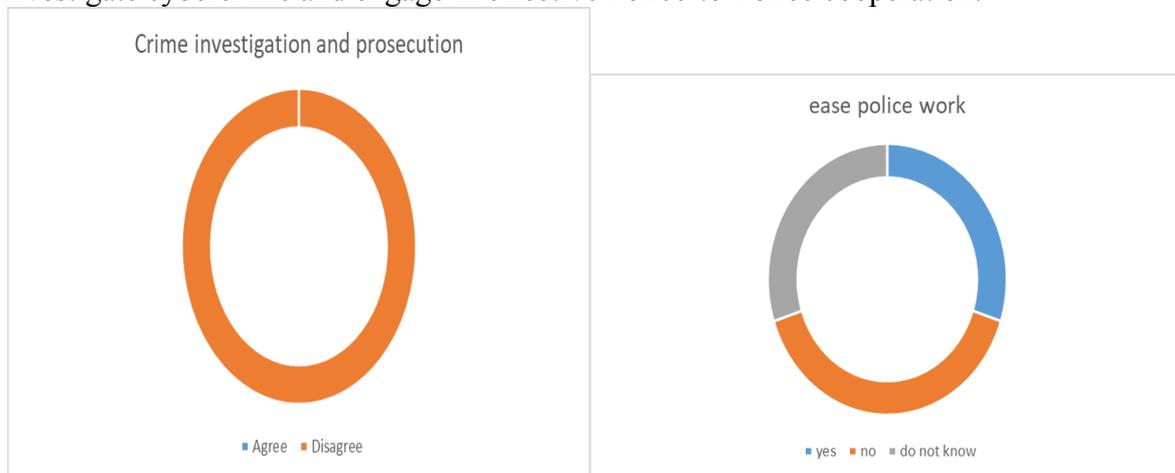

Figure 8. Effects of e-policing on Police performances

4.9   Best strategies for adopting e-policing

Some best strategies were identified in the effort to aid Police officers embrace the e-policing so that they can improve their work performance.

i) Budgetary allocation

The study established that the government does not allocate sufficient funds to advance the acquisition of equipment to curb crime. Respondents noted that better equipment such as body cameras, license plate readers, CCTV cameras and use of map-based apps that can alert Police officers on crime hotspot would be advantageous to maximise the crime response time and speed of information dissemination. As outlined in Figure 9, 80 % of the respondents were in the opinion that the annual budgetary allocation should be increased while 20% do not know if the budget needs to be increased. Under the NDP5 [13] on Good Governance under peace, security and rule of law strategies and desire outcome, the Government of Namibia wish to reduce crime through coordinated involvement of stakeholders and leverage of ICT and development strategic policy.
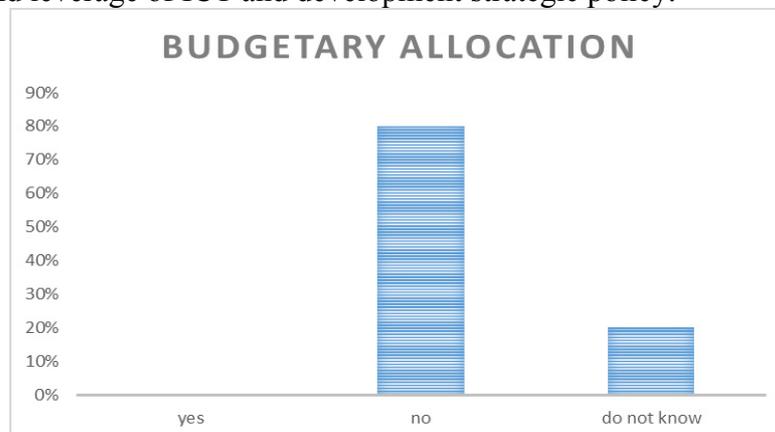

Figure 9. Budgetary allocation

ii)   Improved Police training curriculum

As outlined in Figure 10, 40% of the respondents pointed out that the enhancement of basic digital forensic knowledge in the development of the force is important. It is vital for the Police organisation to include training on information technology skills, forensic investigation and basic computer skill and periodically do in-service training on the fast-changing nature of technology to enhance the capacity of improving crime investigations on digital and forensic matter. 30% indicated that the Police training should include awareness raising with Police officers on current cyber-crimes, use of e-policing system, use of internet and software to leverage technology effectively. 30% felt the need for a well-developed Police training curriculum.
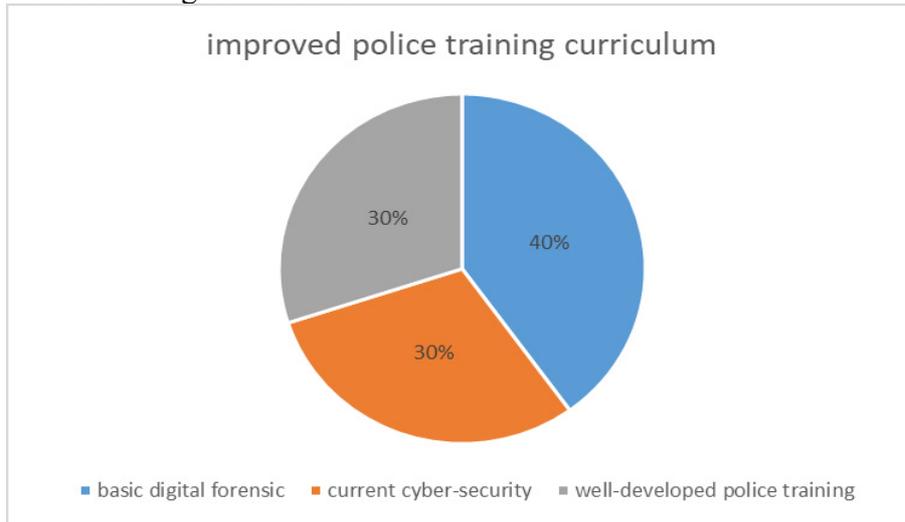

Figure 10. Improved Police training curriculum
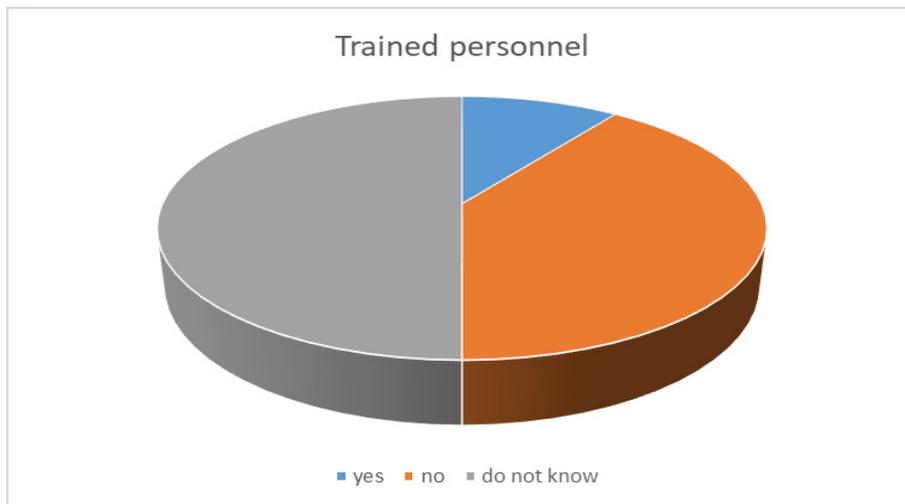
iii) Trained personnel

Figure 11. Trained personnel

As outlined in Figure 11, 50% of the respondents indicated that they are not aware if personnel responsible for adoption of e-policing were trained or not. 40% indicated that they are not trained while 10% felt they were trained. The respondents noted that a majority of Police offices get training on their own through funding their own studies and some resign once they graduate due to unattractive remuneration package. [2] revealed that trained personnel have good quality of case study, observation and report taking. It is crucial for any organisation to have well trained employees for excellence service delivery.

5. Discussion

The study analysed the demographic characteristics of the Police officers at Okahandja Police station. Within this specific sample, there were more female than male respondents. The respondents have different educational backgrounds ranging grade 12 certificate to college and university graduates.

The first objective of the study focused on identifying whether there was appropriate policy that supports the use of e-policing within the Police Organisation. The study revealed that 90% of the respondents do not know whether there a policy governing e-policing in Namibia is in existence. A majority of the respondents noted that all the government offices, ministries and agencies' functions are regulated by Cabinet before being executed. [14] outlined that the idea of the policy is to enable the growth of ICT in Namibia. Regarding technology used at Okahandja Police station, 100% responded that cellphones, computers and radios were mostly used.

One of the challenges identified in this study is the lack of appropriate budgetary allocation to the Police Organisation, which leads to limited access to necessary technology equipment. 70% of respondents also indicated that lack of IT knowledge and basic computer user skills brings about poor compliance in recording information on the e-policing system. Another challenge is the lack of manpower in crime investigation. This leads to a back log of case dockets not being finalised on time. It is also revealed that there are no proper law or bill adopted on how to gather and present digital evidence to prosecute cyber-criminals. The latest bill by [12] project which was finalised in February 2020 is not yet known within the sampled personnel at the Okahandja Police station.

6. Recommendations and conclusions

Successful e-policing depends heavily on attributes such as adequate technological infrastructure, technological skills, and financial support. Namibia is a developing country, and the introduction of e-policing is facing challenges such as underdeveloped ICT infrastructure, inadequate computer skills, financial constraints, poor and unreliable internet access that leads to poor case docket clearing and poor crime prevention. Therefore, the steps to be taken in order to assist the Police are recommended as follows:

 i. The Government of Namibia should allocate adequate funds to the Namibian Police Organisation to enable them to procure necessary technological equipment for better Police performance.
 ii. The Government of Namibia should enact laws that will support crime investigations and prosecution of cyber-criminals.
iii. The Police Organisation should engage Information Technology specialists to work within the crime investigation units in order to ease the processes of resolving cyber-crimes.
iv. Police training and development unit should restructure their training curriculum to include courses on cyber-criminology and computer user skills.

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