

SUPERVISION DEFICIENCY OR TECHNO-PHOBIA: POLICE RELUCTANCE TO USE RADIO COMMUNICATION SYSTEMS

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ABSTRACT

The study is an analysis of the reluctance of Zimbabwe Republic Police to use Radio Communication systems. The establishment of the Zimbabwe Republic Police saw the development and use of information technology perceptible in nearly all levels of organisational operations including patrolling, crime detection and crime prevention. The target population was 714 police officers responsible for policing in Mutare Central District and use Radio Telecommunication system in their day today duties. They are also in agreement that a minimum of 10% of population can represent a total population to be a valid sample. In this study, the sample size used is 10% of 714 Police officers in Mutare Central District which translate to 71 police officers which is a representative of the target population. The researcher used a questionnaire which had opened ended questions and closed questions. The research also unearthed the challenge of handheld batteries which quickly get used up thereby causing police officer to go on patrol without the radios. Thus, perceived usefulness and ease of use as depicted in the Acceptance Technology Model which is based on the Theory of Reasoned Action are parameters that are considered when determining the use of a technology. The research recommended that the Zimbabwe Republic Police as an organisation should support the Information Communication Technology Department by availing funds to source for state of the art and sufficient radio communication equipment that would attract all members of the organization to use them in their day to day activities. Training on the use of newly acquired radio communication equipment should be conducted at Depot by Information and Communication Technology Training Wing and refresher programmes regularly conducted various Provincial Updating Centres to both seasoned and junior members of the organisation. Any member who attains the rank of an officer must undergo Signals orientation course through Staff College. This would necessitate acceptance and perceived ease of use of the radio communication systems.

Keywords: Communication technology, Radio Telecommunication system, technophobia.

1.0 INTRODUCTION

The existence of a Police Radio Telecommunication systems has its origins in the Morse's invention of the electronic telegraph in 1835, and the further development of Morse Code by

Vail in 1838, allowed remote stations to communicate with one another (Connected Earth). In 1846, Scotland Yard installed the first telegraphs linking their main office to a central communications center. In the decades after Marconi's first wireless communication patent in 1897, radio broadcasts by amateur radio enthusiasts became common. Victoria, Australia police completed the first wireless communication by sending a Morse code transmission between a central dispatch and a patrol car in 1923 (My emergency services, 2013). In 1928, the get through of America's Detroit Police communication came when the department started utilizing one-way broadcasting radios in patrol cars where police officers would reply back through the use of telephone call boxes in order to transmit back the information or acknowledge calls from dispatchers in control rooms. The upgrading of this system into two way modern radio communication was done in 1933 by New Jersey's Bayonne Police Department although the broadcasting was being done over the publicly accessible network (Steward 1994). Since communication by any Police organisation is supposed to be confidential, the foregoing statement meant that information relating to police operations was being compromised as individuals who had similar sets could appear at crime scenes before arrival of the police. As a result, criminals used to take advantage thereby avoiding arrests by planning safe routes to run away. Consequently, the police had to invent other ways to have secure communications with some privacy through the use of language and communication styles such as secret codes (Cohen 2013). Replacing the British South Africa Police in 1980, the Zimbabwe Republic Police was established and took over the communication technologies that had been in use then. British South Africa Police used radios during riotous situations as well as ground to air communication in the military. However, the establishment of the Zimbabwe Republic Police saw the development and use of information technology perceptible in nearly all levels of organisational operations including patrolling, crime detection and crime prevention. The setup of the Zimbabwe Republic Police radio communication network is that Police General Headquarters is equipped with a long distance communication high frequency (H.F) transceiver to connect Police Provincial Headquarters country wide. These Provincial Headquarters and other urban centres together with stations, posts and bases make use of very-high frequency (V.H.F) radio transceivers either static or mobile to cater for effective short range communications stretching for a radius of about 30 kilometres except for Harare and Bulawayo cities which operate on ultra high frequency (U.H.F). Raab et al (2002) avers that radio wave signals are able to permeate buildings because of the high frequency associated with these radio wave signals hence it is an ideal mode of communication in cities with tall buildings. In addition, high frequency (H.F) mobile and pack set equipment are installed at many stations to cater for long range distance communication connecting patrol vehicles, foot and cycle patrols. Since the introduction of the ZIMPOD in 1995, the Zimbabwe Republic Police has been operating effectively and efficiently in scene attendance where according to the ZRP Service Charter, scenes were to be attended to within specific times depending on call grades. This was made simpler through the use of two way radio communication systems which seemed to ensure security and confidentiality of information. Conversely, the coming in of cellphones which are smaller and lighter than two way communication radios has seen many police officers reducing the use of these radios. However, public network providers who own cellphone networks are independent and thus information may be accessed by anyone, hence, security of information may be compromised. The use of WhatsApp, Facebook, Twitter, Skype and Viber in short message texting is faster yes, but information from these services can be accessed by anyone. In the case of the Zimbabwe Republic Police, this information could end up in the hands of criminals who would know how

the police are operating and thus evade arrests. In addition, one may simply switch off his or her cellphone or ignore to answer if one does not want to be bothered unlike the use of two way radio communication system where disciplinary measures may be taken if one does not respond to the radio. It is against this background that this research seeks to inquire into the causes of the reduction in use of two way radio communication systems in the Zimbabwe Republic Police. The use of official police radio communication systems has significantly decreased as police officers have resorted to other communication devices on the market. In the Zimbabwe Republic Police, communication amongst police officers on patrol has essentially been narrowed to use of cellphone short message texts relying on public services like WhatsApp, Viber, Twitter, Skype and Facebook. Use of two way radio communication systems is no longer in the interest of many members in the organisation, but the question that remains haunting is to what extent is the security of information assured in these circumstances. Technicians from Mutare ICT Workshops have reported that on many occasion they find radio equipment switched off at stations, handhelds' batteries not charged but the equipment will be functional.

2.0 Materials and Methods

A descriptive survey study was used in this research since respondents could exhibit different paths in terms of attitudes and intention of using police radio communication systems. Yalcinkaya (2007) postulates that, the descriptive design offers more explanatory strength since it gives a high analytical value of evaluating organization efficiency when aspects being studied are related to human observations, opinions and beliefs. The same author argues that, survey research is preferred when researchers cannot influence the conditions that, the subjects experience as with the police officers who responded to this research study. Moreover, a descriptive survey seeks to know what people are feeling, thinking and doing (Mitchell and Jolley 1996). This research study sought to find out what people felt and thought are the major causes of the decline in use of police radio communication systems. The same authors assert that, the other advantage of a descriptive survey is that, it is a fast and inexpensive way to source information about people's attitudes, beliefs and self-supported behaviour. Burch and Heinrich (2016) agrees with Howitt who describes a target population as the whole group of people to whom researchers wish to generalize their findings of a study including persons who do not participate in the study. In this study, the target population was 714 police officers responsible for policing in Mutare Central District and use Radio Telecommunication system in their day today duties. They are also in agreement that a minimum of 10% of population can represent a total population to be a valid sample. In this study, the sample size used is 10% of 714 Police officers in Mutare Central District which translate to 71 police officers which is a representative of the target population. The researcher first got the list of all the 714 Police officers in Mutare Central District. These were put into strata. Six non-overlapping groups were formed. The first one consisting of 4 Senior Officers of the rank of Chief Superintendent and Superintendent, 16 Junior Officers of the rank of Inspector and Chief Inspector, 32 Assistant Inspectors, 66 Sergeants/Sergeant Majors and 596 constables. Using the names of the study population which were written down on pieces of paper, the names of each stratum were placed in three separate hats. Names were picked one by one replacing them back into the hat so that each participant has the same chances of being picked. A total of 71 participants were selected. Simple random sampling was then done in each stratum to obtain three samples. Simple random sampling was again conducted to choose 8 SMEs dealing with raw timber, 17 dealing in processed timber and 27 dealing in carpentry.

The following procedure was used:

Chief Superintendent/Superintendents	(stratum A) = 04
Chief Inspectors/Inspectors	(stratum B) = 16
Assistant Inspectors	(Stratum C) = 32
Sergeants Major/Sergeants	(Stratum D) = 66
Constables	(Stratum E) = 596

The researcher used the following formula to obtain the number of sample elements

$$\frac{\text{Total elements in stratum}}{N} \times X \text{ sample size}$$

All Police officers in Mutare Central District

Thus;

$$\text{Stratum A: } \frac{4}{714} \times 71 = 0.39 = 0 \text{ (to the nearest whole number)}$$

$$\text{Stratum B: } \frac{16}{714} \times 71 = 1.59 = 2 \text{ (to the nearest whole number)}$$

$$\text{Stratum C: } \frac{32}{714} \times 71 = 3.18 = 3 \text{ (to the nearest whole number)}$$

$$\text{Stratum D: } \frac{66}{714} \times 71 = 6.56 = 7 \text{ (to the nearest whole number)}$$

$$\text{Stratum E: } \frac{596}{714} \times 71 = 59.2 = 59 \text{ (to the nearest whole number)}$$

Therefore total sample = 71

In this study, the researcher used a questionnaire which had opened ended questions and closed questions. Neuman (2017) defines a closed question is that which usually gives a single word or very short answers whilst an open ended question is that question which gives the respondent a chance to answer a question in his/her words or opinion. In this study, the researcher used a questionnaire due to the fact that it can be used to solicit sensitive and personal information which is helpful to the study and also that it is relatively cheap and easy to administer. As a way of mitigating the disadvantages of a questionnaire, the researcher in this study carried out a pilot study prior to the actual study. Some sample questionnaires were given to selected respondents outside the study population. The pilot study was done to determine the correctness of the questions and whether the questionnaire was simple to understand. In order to control as to who will fill the questionnaires, the Officer In Charge and Members In Charge sections of Mutare Central District were requested to assist in their distribution. The sample frame drawn was comprised of a total of 60 police officers responding to the questionnaires and these included 20 police officers from ZRP Mutare Central Station in the charge office and beat patrols, 17 police officers from ZRP Sakubva, 10 police officer from ZRP Dangamvura and 13 police officers from ZRP Chikanga. This is supported by Justin A. Haegele and Samuel R. Hodge(2015) who assert that, a sample of 10% to 20% of the population fairly represents the population. There were ten police officers who responded to the interview guide. This research study made use of probability sampling which according to Leedy (1997) outlines that, in probability sampling there are equal chances of selection for each element to be represented in the sample. The preceding statement means that every member executing charge office and beat patrol duties at ZRP Mutare Central, ZRP Sakubva, ZRP Dangamvura and ZRP Chikanga Police stations is included. The researcher used stations as strata were Mutare Central police station constituted 20 police officers, Sakubva police station constituted 17 police officers, Chikanga police station constituted 13 police officers and Dangamvura police station constituted 10 Police officers. These police officers always work using the police radios while performing charge office and beat patrols duties in their policing areas. Table 1: below shows the tabulation of operational stations in ZRP Mutare Central District grouped into strata. ZRP Mutare Central, ZRP Sakubva, ZRP Dangamvura and ZRP Chikanga stations were taken as the census since they are the operational stations in the district.

Table 1: Stratified Simple Random Sampling [N = 60, where N is the Sample population]

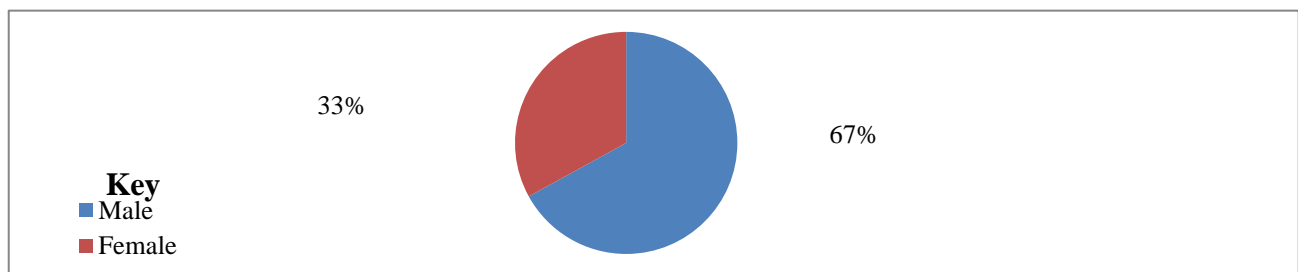
STRATUM	TARGET POPULATION	SAMPLE POPULATION	%
ZRP Mutare Central Charge Office and Beat Patrol members	163	20	12
ZRP Sakubva Charge Office and Beat Patrol members	95	17	18
ZRP Dangamvura Charge Office and Beat patrol members	67	10	15
ZRP Chikanga Charge Office and Beat Patrol members	82	13	16
TOTAL	407	60	61

Source: ZRP Mutare Central District Registry

The research study made use of purposive sampling, that is selecting eight respondents then interviewed them who were four radio technicians and the four Officers/Members in Charge Stations and Sections. These provided valuable information on why the police officers shun the use of police radios as well as outlining the possible strategies that could be employed to ensure compliance on the use of radio communication systems in the Zimbabwe Republic Police. In this research, the gaps left by questionnaires were catered for through use of personal interviews. Saunders et al (2003) postulate that, an interview is a planned conversation between two or more people in which ideas are exchanged on a specific subject. The researcher found out that, face to face interviews facilitated an exchange of views and information with respondents. Saunders et al (2003) add that, the merits are that personal interviews offer an opportunity for feedback and it allows for probing of complex answers as well as increasing the participation rate nonetheless, the limitations are that respondents are not anonymous hence they may be reluctant to give confidential information.

3.0 RESULTS AND DISCUSSION***Gender Distribution***

Figure 1 depicts that, 67% of the sample population are males whilst 33% are females.

**Figure 1: Gender distribution for sixty respondents - Source: Survey Data**

The distribution pie chart on Figure 1 has an inference that, the sample population is representative in terms of gender. It is a common that, the Zimbabwe Republic Police is male subjugated particularly police officers who are deployed on beat patrol duties hence, the 33% of female respondents is adjudged to be representative. In backing the preceding statement, Gudhlanga et al (2012) postulate that, gender in work places has continued to be affected by patriarchy, customary law and the legacy of the colonial error. Gender distribution is able to source input across all gender, consequently the generalization can be applied directly across all police officers.

Work Experience

Table 3: Respondents' Work Experience

YEARS OF EXPERIENCE	FREQUENCY	PERCENTAGE (%)
Below 5 Years	18	30
5 – 10 Years	27	45
10 – 20 Years	15	25
Above 20 Years	0	0
TOTAL	60	100

Source: Survey Data

Table 3 shows that, the police officers doing Charge Office and Beat Patrol duties have varying work experiences. Data collected from the respondents who were interviewed indicated that, out of the 10 sample population; 70% was between 10 - 20 years and 30% was above 20 years.

This seems to suggest that, most of the police officers had an understanding about the use of radio communication systems because of their length of service. This is buttressed by Hendrickson et al (1993) who propose that, longer experience coming from age explains to more knowledge and experience in exploiting a technology.

Respondents' Rank Structures

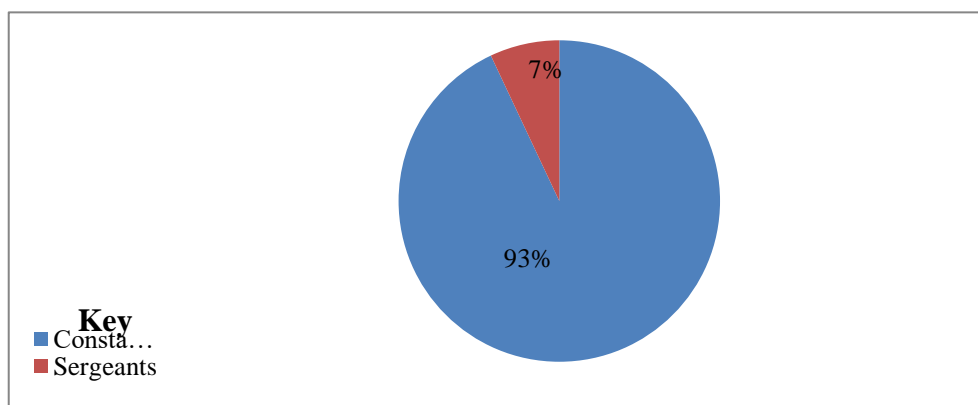


Figure 2: ZRP Mutare Central District respondents' rank structures

Source: Survey Data

Figure 2 shows that, the sample population comprised of 56 Constables constituting 93% and 4 respondents of the rank of Sergeant constituted 7%.

The implication of these figures suggest that, many of the police officers who do Charge Office and Beat Patrol duties are mainly comprised of lower ranks that is Constables and Sergeants while Assistant Inspectors, Inspectors and Chief Inspectors will be doing Charge Office and Beat Patrol Checks or Visiting Officers (Standing Orders Volume I, Part C2 Paragraph 5.0). The lower ranks are the members who make use of two way communication radios frequently during their course of duty hence they were the best target group for the purpose of this research study.

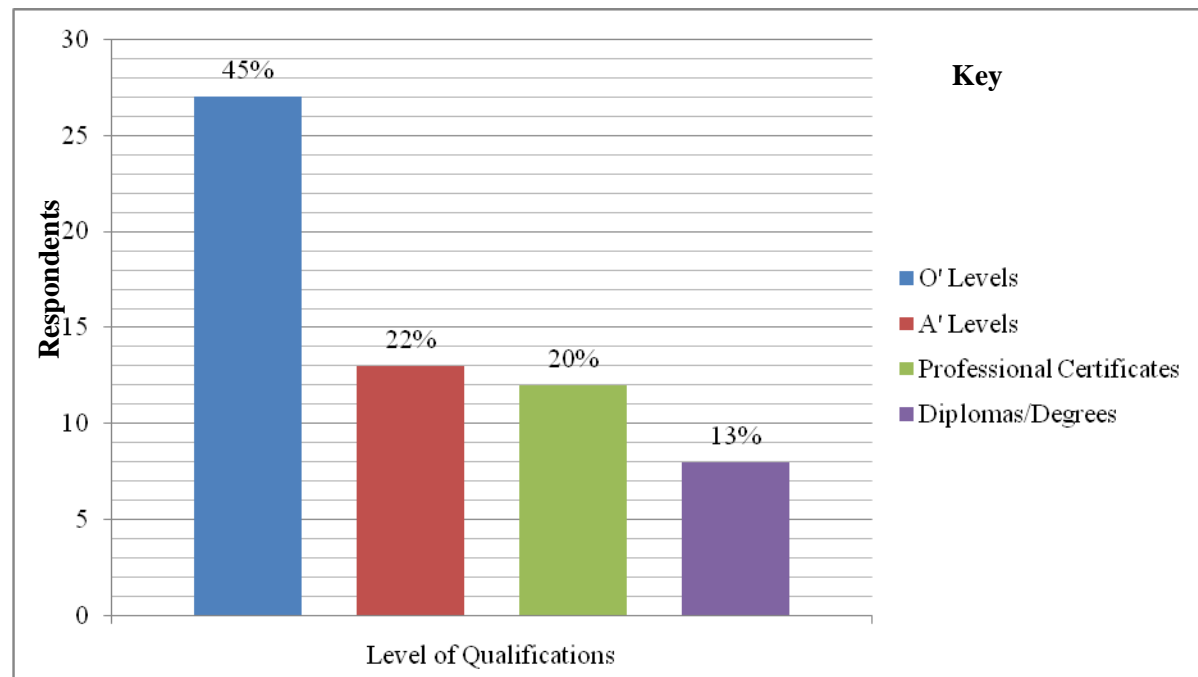


Figure 3: Qualification levels of the respondents

Source: Survey Data

Figure 3 illustrates that, 45% of the respondents attained 'O' Levels, 22% of the respondents have 'A Levels, 20% of the respondents have Professional Certificates and 13% of the respondents have Professional Diplomas/Degrees.

These statistics seem to reveal that, generally all the respondents attained at least 'O' Levels meaning that they understood the purpose and effect of this research study in that it was going to be of useful to them and the organisation as a whole.

*Causes of the Reduction in use of Radio
Communication Systems in the Zimbabwe Republic Police*

Types of Radio Equipment used in ZRP Mutare Central District

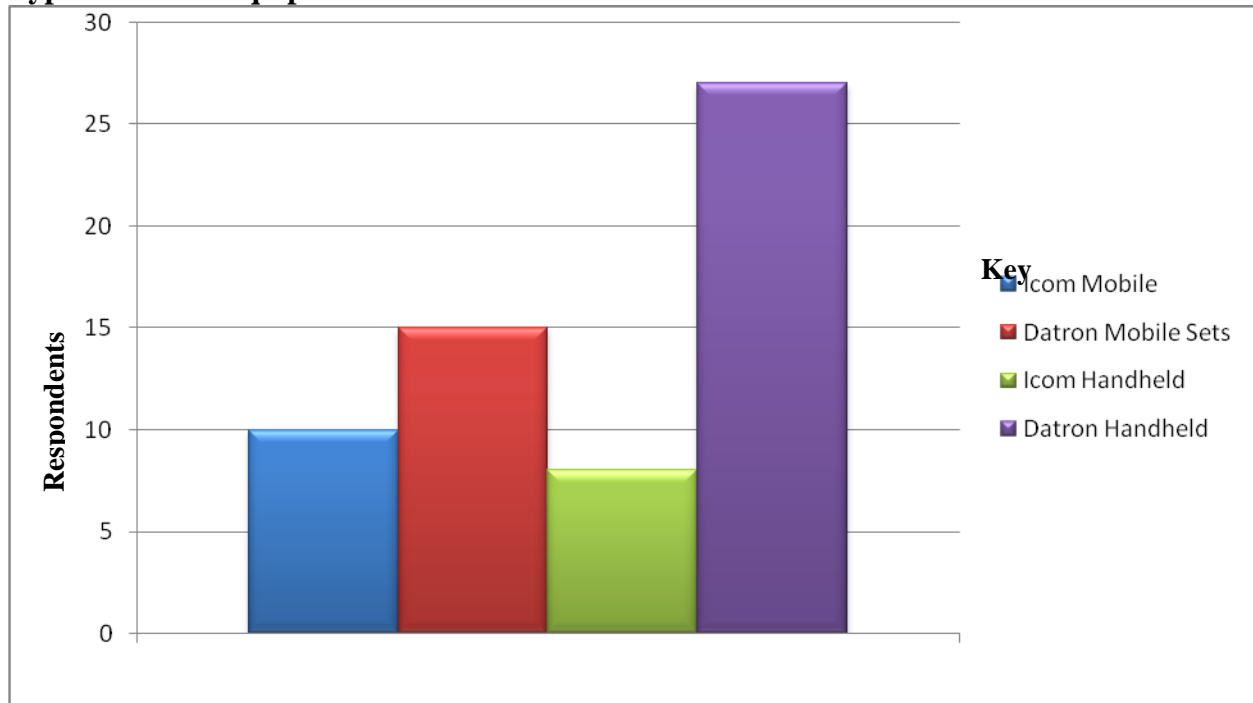


Figure 1: Type of Radio Equipment - Source: Survey Data

Respondents were requested to specify the type of radio equipment they had at their stations. As reflected in Figure 4 above, 10 (17%) respondents have Icom Mobile radio equipment, 15 (25%) respondents have Datron Mobile radio equipment, 8 (13%) of the respondents have Icom handheld radios and 27(45%) have Datron handheld radios at their respective stations. From the 10 respondents who were interviewed, 4 (40%) of the respondents pointed out that they had all the two types of handheld radios while 6 (60%) of the respondents revealed that they only had Datron Handheld radios.

It would imply that the majority of the respondents seem to be having more of Datron handheld radio equipment at their stations.

4.4.2 Adequacy of Radio Communication Equipment

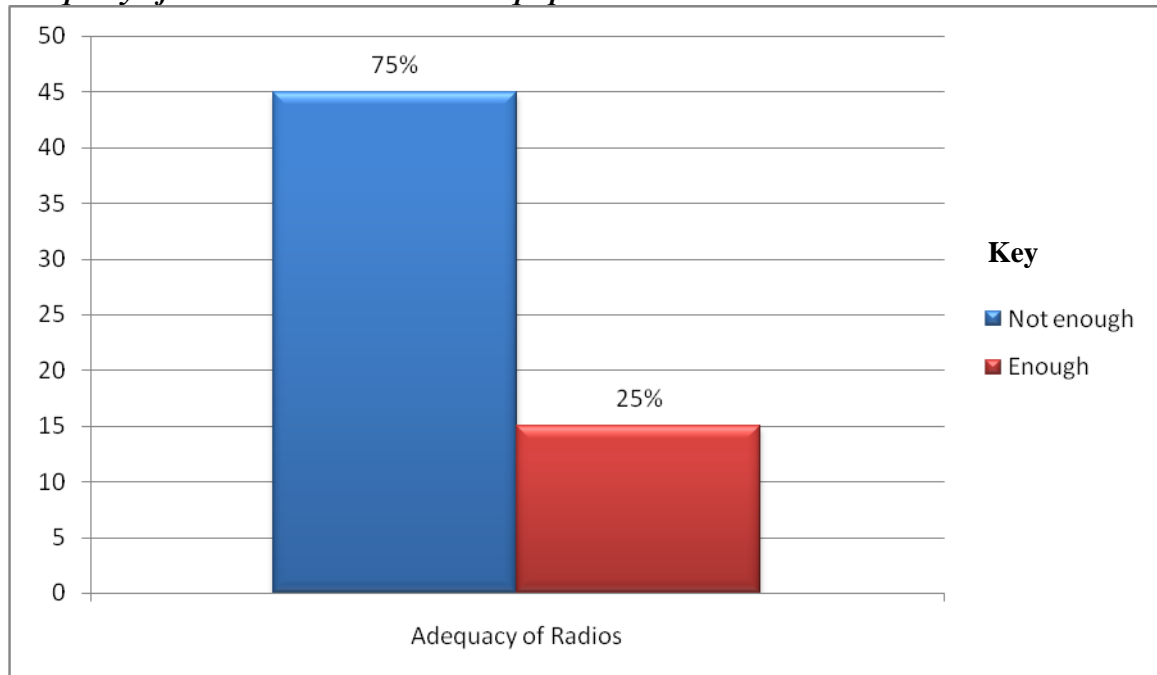


Figure 5: Adequacy of Radio Communication Equipment – Source: Survey Data

Respondents were asked on the adequacy of radio equipment they use at their stations and Figure 5 demonstrates that 75% of the respondents are of the view that, police radios are few in the organisation, and 25% of the respondents suggested that police radios are enough to take them for beat patrol duties. The ten respondents who were interviewed had different opinions of which seven indicated that communication radios were not enough at stations.

The implication from this data seems to suggest that, police radios are few in the Zimbabwe Republic Police as reflected by the highest figure that is 75% of the respondents. Three out of ten respondents interviewed suggested that, the need to use police radios could be enhanced by issuing a handheld radio to an individual police officer upon being posted to a station. This would minimize even the damage of radio equipment because equipment gets damaged through the changing of hands. The same results were obtained by Raleigh et al (1998) in their research, Uganda Police Project Evaluation where they cited inadequacy of number of police radios allocated to police officers who were patrolling leaving them without confidence to patrol dangerous areas.

Challenges Encountered when using Radio Communication Equipment

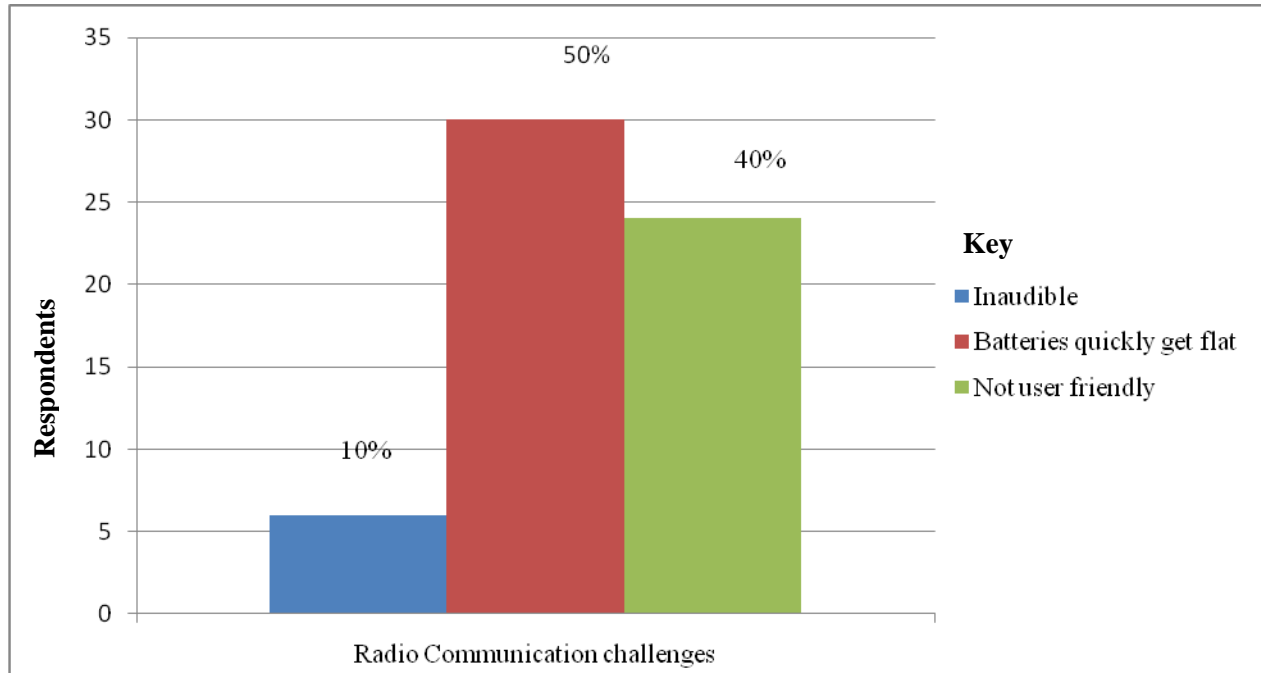


Figure 6: Radio Communication Equipment Challenges

Source: Survey Data

The question of challenges encountered by the respondents when using radio communication equipment may be responded by data presented in Figure 6. It came out that 10% of the respondents are of the view that the current radio communication equipment is inaudible, 50% of the respondents suggest that the batteries of handheld radios quickly get used up and 45% of the respondents dismissed the current radio equipment in use, as not user friendly. From the data gathered through ten interviewees, 50% of the respondents revealed that handheld batteries are giving them problems as the batteries do not have long lifespan. 50% revealed the radio equipment as obsolete and problematic to use.

The overall inference is that, most respondents seem to be facing challenges on the use of police radio equipment with the majority respondents citing battery problems which quickly get used up during the tour of the beat patrol duties. While quite a number of the respondents pointed out that the police radios are not users friendly taking into consideration the current technological advancement.

What problems do you encounter when using the Police radios? In answering one of the respondents said, “*We have problems with Icom and Datron handheld batteries which quickly get used up at times before transmission...*”

Training on the Use of Radio Communication Equipment

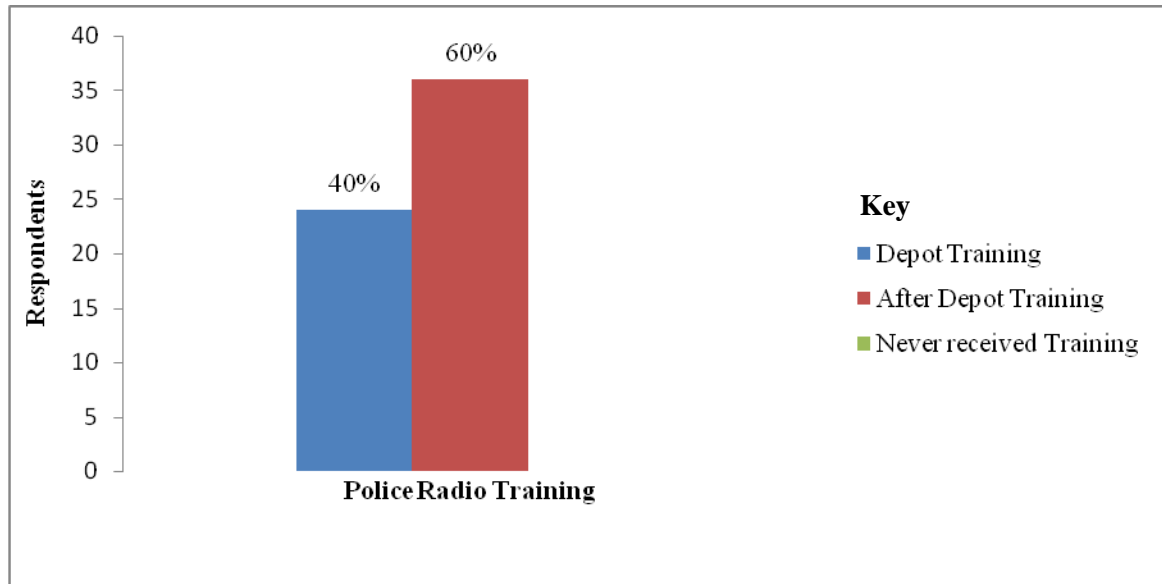


Figure 7: Radio Communication Equipment Training

Source: Survey Data

Respondents were asked whether they received any training on the use of radio communication equipment at their stations and Figure 7 displays that, 40% of the respondents received training of police radios during Depot Training, 60% of the respondents received training in the use of radio communication equipment after Depot Training. There is no police officer who has never received any basic police radio training at stations. On the ten respondents interviewed, all of them revealed that they received further training on the use of police radios however; they indicated that refresher courses on use of radio communication equipment should be carried out frequently.

Data collected during this research study implicated that, the highest number of respondents, which is 60%, received further training on the use of police radios but 40% seems to be a big figure of police officers who did not receive further training on the use of police radios. High Frequency radio equipment including TW7000, RT7000 and PRC1099A have got many buttons and switches which need to be adjusted so that one can establish communication on strength five, unlike the old radios like; TR15B, TR15H and PRM4051. Likewise, appropriate knowledge through training is required for radio operators to appreciate the effects of the ionosphere which normally varies and thus weaken radio wave signals (Herrick 2000).

Reasons behind the Police Organisations having their own Radio Communication Systems Security and Confidentiality of Information

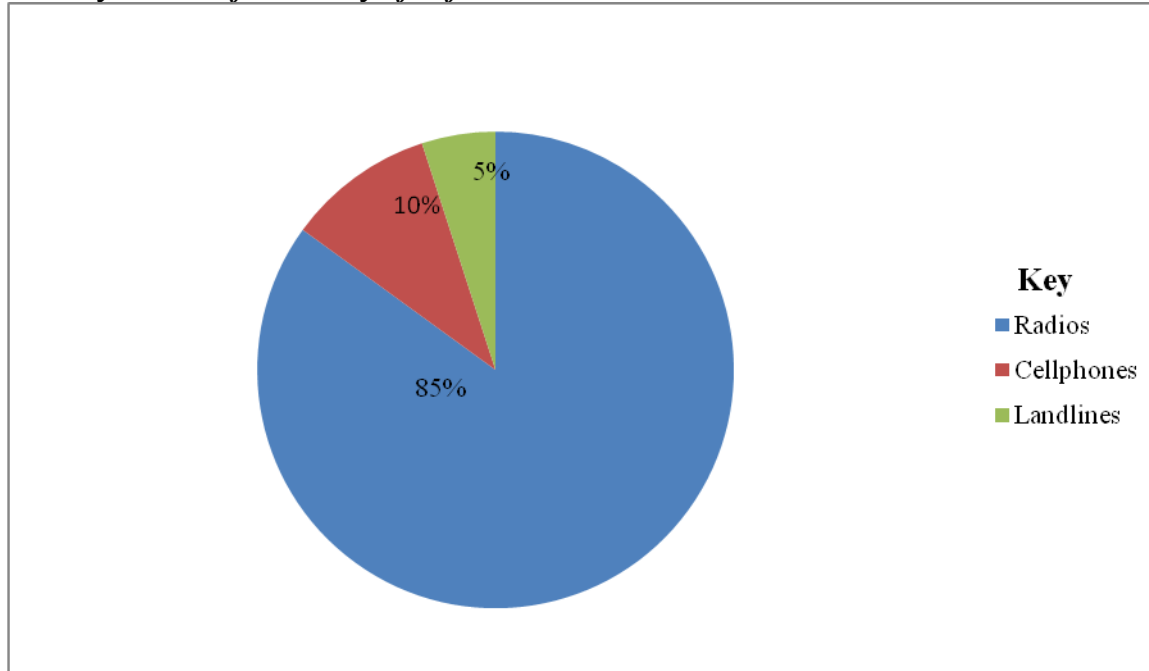
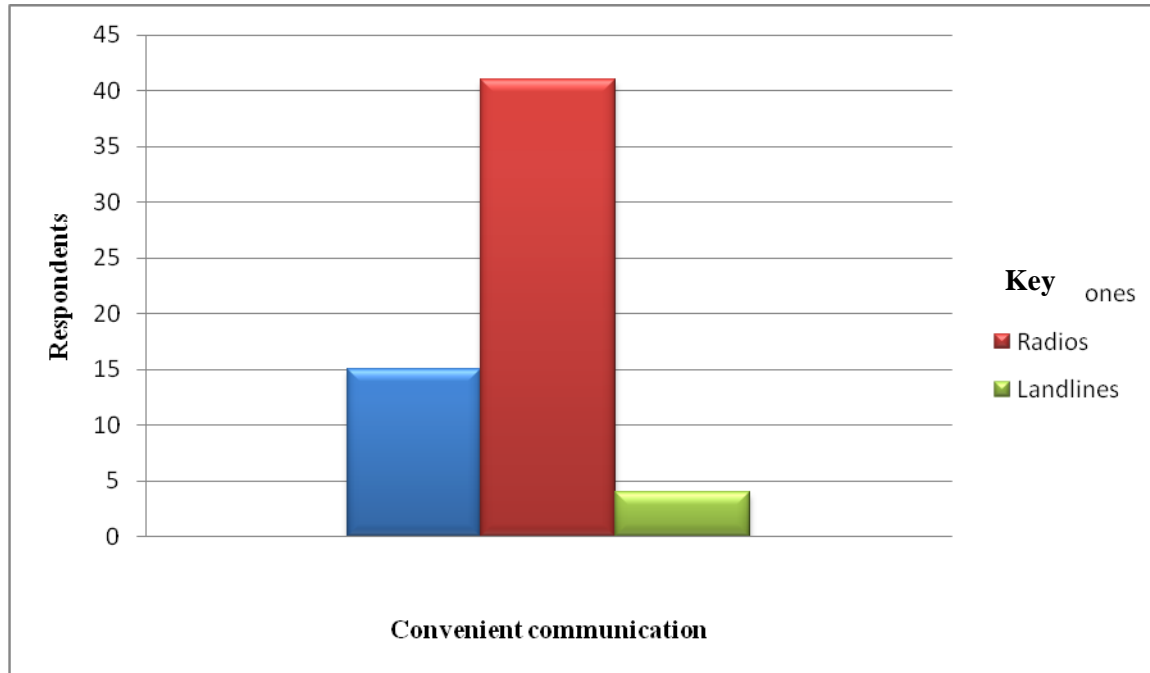


Figure 8: Security and confidentiality of information - Source: Survey Data

Respondents were asked on the communication mode which ensures security and confidentiality of information and Figure 8 shows that, 85% of the respondents agreed that police radios offer better services with regards to issues of security and confidentiality, 10% of the respondents believed that cellphones can be used in place of radios in the Zimbabwe Republic Police in order to provide better services and 5% of the respondents suggested that land lines offered better security and confidentiality of information than the rest. All the interviewees acknowledged that the continued use of communication radios was relevant as it ensures and provides security and confidentiality of information.

Data collected on Figure 8 indicates that, the largest number of the respondents seems to be aware that police radios ensure security and confidentiality of information.

Hainbuchner (2005) suggests that, private radio communication offers high-level security features which exist in the standard operating procedures together with the technology itself and organisations will be able to identify and deal with any intruders in the network.

Convenient Communication System during Disaster**Figure 9: Convenient communication system during disasters****Source: Survey Data**

Respondents were asked on the communication system which is most convenient to use during disasters and Figure 9 confirms that, 25% suggested that cellphones are a convenient communication system during disasters, 68% of the respondents confirmed that radio communication systems are convenient and 7% of the respondents proposed that landlines are appropriate communication systems during disasters.

The data presentation on Figure 9 proves that, majority of the respondents were of the view that radio communication systems is the most convenient communication system during disasters. *Betera* (2013) seems to reinforce the preceding statement when he notes that, even some disasters may cause cellphone networks to collapse like what happened during Cyclone Eline in February, 2000 in the Middle Sabi and many Eastern Areas of the country. *Schrier* (2010) also added that, the installation of radio communication systems is simple and can be done instantly. A major advantage of a conventional radio system is that users equipped with radios from different manufacturers can communicate with one another provided they are programmed to the same frequency, which includes the appropriate CTCSS or DCS programming (*Guide for the selection of communication equipment for emergency first responders, 2010*).

Ways that can be employed to ensure compliance on the use of Radio Communication Systems

POSSIBLE SOLUTIONS	PERCENTAGE (%)
Adequacy of Radio Communication Equipment	100
Training on the use of Police Radios	100
Supervision by Commanders on use of Police Radios	100

Table 4: Experts and OIC/MIC responses on how to ensure compliance on the use of radio communication equipment

During the interviews, the ten respondents reflected in Table 4 suggested the following that: -

a) The Zimbabwe Republic Police should avail state of the art Radio equipment with utility belts and features closer to those found in cellphones which include one on one communication, smaller in size, ability to send text messages and taking photographs at the scene.

b) Training on the newly acquired radio communication equipment improves the tolerability of a system and it would mean that the ease of use of that technology would be enhanced.

- Other respondents cited the need for refresher courses to be conducted in order to keep police officers abreast with the functionality of the radio communication equipment.

- Some respondents mentioned that, most HF radio equipment such as TW7000, RT7000 and PRC1099A have got control panels that are not user friendly in order to establish communication.

- Herrick (2000) explained about the effects of the ionosphere which normally varies with seasons at the same time reducing radio wave signals thus proper knowledge through training is needed for radio users to understand how the HF radio transceiver works.

c) Supervision is a tool to ensure compliance on the use of police radios as supported by Theory X by McGregor who assumes that, an average person is lazy and has an inherent dislike of work and that most people must be coerced, controlled, directed and threatened with punishment if the organisation is to achieve its objectives on beat patrols.

4.0 CONCLUSIONS

That inadequacy of radio communication equipment and usability of the radios would cause police officers to use their private cellphones.

The research also unearthed the challenge of handheld batteries which quickly get used up thereby causing police officer to go on patrol without the radios. Thus, perceived usefulness and ease of use as depicted in the Acceptance Technology Model which is based on the Theory of Reasoned Action are parameters that are considered when determining the use of a technology.

This research concluded that the radio communication systems offer security and confidentiality of information because it is a completely owned and controlled network by the organisation.

Moreover, there is less cost incurred in using radio communication systems and hence it is cheaper than other communication systems. It can thus be concluded that radio communication systems is relevant despite the coming in of modern technology.

5.0 RECOMMENDATIONS

- The Zimbabwe Republic Police as an organisation should support the Information Communication Technology Department by availing funds to source for state of the art and sufficient radio communication equipment that would attract all members of the organization to use them in their day to day activities.
- Training on the use of newly acquired radio communication equipment should be conducted at Depot by Information and Communication Technology Training Wing and refresher programmes regularly conducted various Provincial Updating Centers to both seasoned and junior members of the organisation. Any member who attains the rank of an officer must undergo Signals orientation course through Staff College. This would necessitate acceptance and perceived ease of use of the radio communication systems.
- Supervision on use of radio communication equipment should be conducted in liaison with Control room who will be maintaining a daily roll call register for all call signs on patrol on soft copy and advising the Officers in charge of the respective stations on defaulting call signs indicating reasons. Every member of the organisation assigned to charge office and beat patrols should be permanently issued with own radio for accountability and proper maintenance rather than sharing equipment.

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