Ministry of Information & Communication Technology

SURVEY ON CURRENT ICT USAGE IN THE GOVERNMENT INSTITUTIONS

FINAL REPORT

OCTOBER 10, 2021

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Executive Summary

The role of Information and Communication Technology (ICT) in public sector operations and service delivery is well documented and its impact is undeniable. This report provides a reference for baseline indicators on access to and use of ICTs in the country's public institutions. The findings are based on percentage (proportion) as the method of analysis.

Institutions that are planned or implementing projects this year are more than 60%. While some of these projects are still ongoing, others are completed. Furthermore, over 40% of the completed projects obtained excellent results while the remaining obtained very good results. None of the respondents obtained poor results.

The survey also stated that 65% of government institutions have not deployed any system during this year. The remaining 35% who have deployed a system, named various systems including OSS, FMIS, database system, file system, management system, banking system and others. These systems have the functionality and objective of not only providing the intended services for the organizations but also expediting the process and making it easier for workers to do their jobs. The majority of Government institution have network installed in their buildings.

Surveying 35 government institutions across Somaliland government institutions, the assessment established that Nearly 70% of the government institutions do not have license for their software whereas 29% do. The remaining 3% have license only for some of the software they use. The survey also reported not everyone has their own computer within the government institutions, nearly 45% of institutions stated not everyone has their own computer. when it comes to transmission of data between employees and data recovery, most institutions don't have a formal procedure. This report highlights the major findings of the assessment and will present relevant recommendations.

Background

There is a growing recognition that the use of information and communication technologies (ICTs) by the public sector can improve efficiency in delivery of government services to the citizenry. The provision of government services online (e-government) and innovations offers significant opportunities for transforming the public administration into an instrument of sustainable economic growth and development.

The Somaliland Government has identified ICTs as a cross cutting enablers to the attainment of Vision 2030 goals and its aspirations. The thrust of the vision with regard to the ICT sector is to transform Somaliland into a knowledge and information-based economy by enabling access to quality, affordable and reliable ICT services through innovation and e-government. This leads to a more efficient public administration, provision of better services and response to demands and enhancing transparency and accountability. E-government can help institutions go-green and promote effective natural resource management, as well as stimulate economic growth and promote social inclusion, particularly for the disadvantaged and vulnerable groups. The use of ICTs in government also facilitates knowledge sharing, skills development, transfer of innovative e-government solutions, capacity-building for sustainable development as well as acting as catalyst for new employment.

Information and Communication Technology (ICT) provides the underpinning platform for the growth of digital economy in which production, distribution and consumption depend on broadband networks and services which act as a critical enabler for sustainable development. All the three pillars of sustainable development namely; economic development, social inclusion and environmental protection need ICTs as key catalysts in achieving the seventeen sustainable development goals (SDGs) and the 169 targets. ICT has tremendous potential to accelerate achievement of all the SDGs by enhancing capability to measure progress toward all the SDGs, providing opportunities to streamline and enhance the efficiency and effectiveness of the activities for development landscape and provide access to new digital enabled products and services that strengthen local economies, local innovation and local communities.

Previous Survey

Somaliland development of ICT in government has been assessed in October 2019 by the Ministry of Information and Communication Technology, the main objectives of this assessment was to evaluate the current status of utilization of ICTs in Government and assess technical and professional gaps, so as to come up with future plans for ICT function/services; for strategic planning at a national level. Government institutions were the target of this assessment, consequently, 44 government institutions (presidency, ministries, commissions, government agencies) were selected to include in the assessment, and 43 out of the 44 institutions successfully participated in the assessment, this assessment was questionnaire-based and descriptive survey design was deployed to get the curate data of ICT level in the institutions.

The main findings of the previous assessment would refer the following result

- 62% of all government institutions do not have separate ICT units while only 38% have such facility.

- 22.5% of staff in government institutions has a computer assigned. This means 22 out of every 100 can be assigned to a computer.
- Use of office suit applications such as word processing, spreadsheets, presentations and databases in day-to-day work is significantly high ONLY 33% of the institutions computer systems are connected to Local Area Network (LAN). The rest (67%) maintain their computer system on a 'stand-alone' basis
- Microsoft Windows is used by 98% of institutions with 95% reported the use of unlicensed Software.
- 48% of central government institutions have databases maintaining data and information but they are not publicly accessible.
- 98% of all government institutions have internet access. Wireless AP is the most preferred type of connectivity to the Internet followed by fixed fiber-cable lines
- 30% of government institutions have installed an electronic surveillance system.
- 49% of government institutions have website which is a very low statistic. The majority of them use to publish institutional information
- Of the 49% government institutions who have website 70% have a fully dedicated person(s) for updating their websites
- 74% of government institutions reported that they have social media presence.
- Overall, only 24% of the government institutions use institutional e-mails for official communication. A majority 76% DO NOT have institutional e-mails to officially communicate with each other and to external parties.
- Only 5% of Government institutions indicated they have a separate budget for ICT related activities. The rest use the institutions' miscellaneous allocations for ICT related expenditures.

Current Survey

The aim of this assessment is to evaluate the current status of utilization of ICTs in Government and assess technical and professional gaps, so as to come up with future plans for ICT function/services.

Objectives

The main objective of the survey was to evaluate the current status of utilization of ICTs in Government institutions. The Specific objectives were to:

- Give an overview of the latest developments in the Somaliland ICT sector;
- Give an explanation why some choices and decisions have led to certain developments;
- Provide comparative data for experts and institutions on the current situation of Somaliland ICT development progress and the current level of overall Somaliland ICT;
- Draw attention to the main problems facing Somaliland ICT development in the future.
- Propose recommendations or key action plans regarding ICT adoption and use.
- Assess the current on-going government ICT projects.

The areas assessed in this report are the following:

- Government E-government System.
- Government ICT Projects
- Government ICT Infrastructure
- Government Network & Security

Methodology

The Government ICT evaluation survey was designed to provide reliable estimates on the current status of utilization of ICTs in Government institutions at a national level. The survey targeted 34 Government institutions; 34 out of 35 institutions successfully participated in the assessment. This assessment used a descriptive survey design and data collection instruments were a questionnaire that was used to collect all the responses from government institutions.

Anticipated Survey Challenges

- Communication/Technical Language barriers in some areas would make administering the questionnaires difficult.
- Some institutions regard the data requested as sensitive and confidential
- Honoring of appointments by the respondents.
- Some questions may not be easily understood by the respondents.

Findings

Projects

Findings of the assessment showed that nearly 60% of the institutions have projects they are planning or implementing this year. While some of these projects are still ongoing, others are completed. Furthermore, over 40% of the completed projects obtained excellent results while the remaining obtained very good results. None of the respondents obtained poor results. This indicates that the institutions were able to successfully launch and implement their respective projects without any major complications impacting the results.

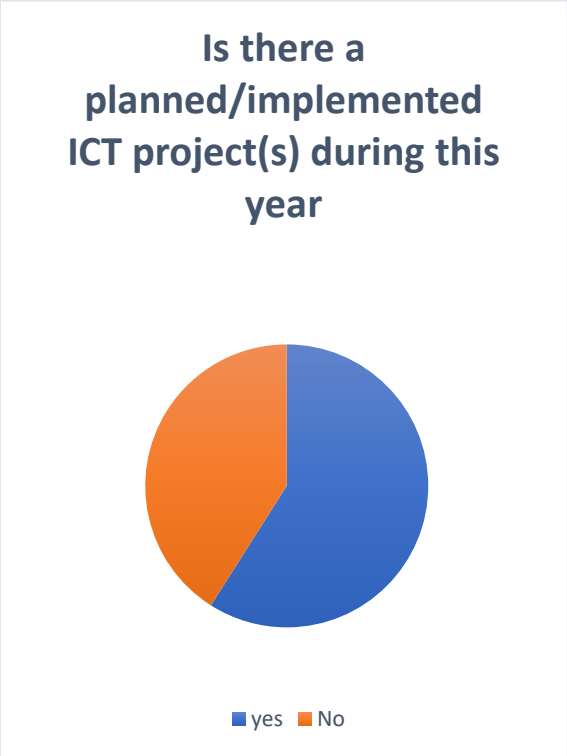

Figure 1 Is there a planned/implemented ICT project(s) during this year

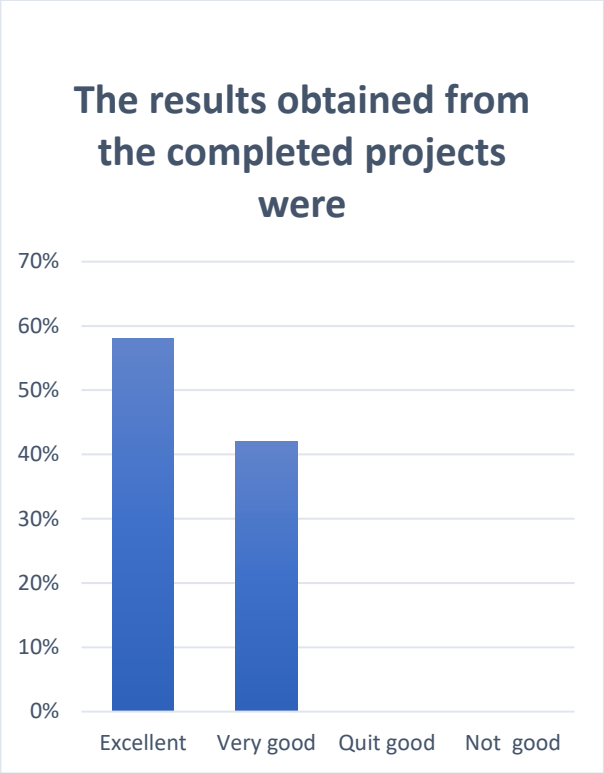

Figure2: The results obtained from the completed projects were

The lowest number of projects being undertaken currently is one and the highest is six and most of these projects have been going on for at least three months. Additionally, not many of the projects are currently being funded. However, the 25% of the projects that are being funded get their funds from the government and not from private organizations.

Systems

With regards to systems development, 65% of the responders stated that they have not deployed a system during this year (Figure 3). The remaining 35% who have deployed a system, named various systems including OSS, FMIS, database system, file system, management system, banking system and others. These systems have the functionality and objective of not only providing the intended services for the organizations but also expediting the process and making it easier for workers to do their jobs. It also allows the organizations to enhance their productivity and provide better services. In addition, responders have listed a few obstacles they were able to overcome with the help of their respective systems including efficient data management, access to files more easily, reduced amount of time on manual transactions, decreased use of papers and others. This all shows the many benefits these organizations have derived from using systems.

There are also challenges that some these government institutions have faced with regards to using the systems. Some of these challenges include the time it takes to implement the systems (which is often long), limited data management, lack of equipment, difficulty maneuvering it, no trained staff / technicians to fix it when problems arise etc.

As for the status of completion of the systems, majority of responders have not yet completed their systems this year whereas only a few have. Among those who have not yet completed, 50% have stated that they are halfway through completing and deploying their system (Figure 4).

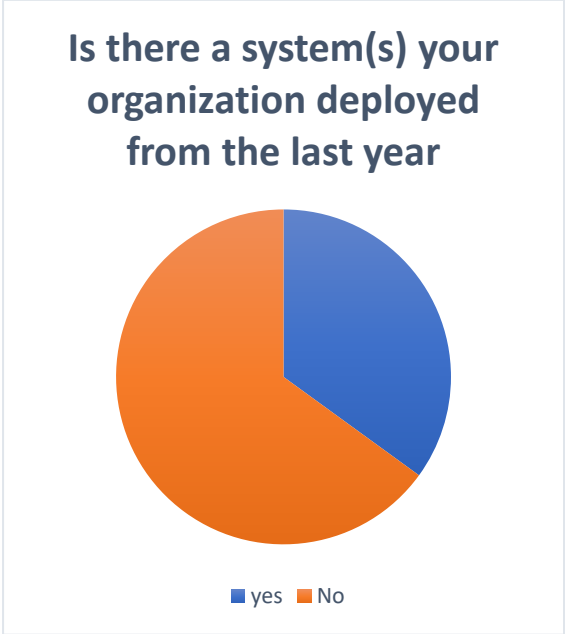

Figure 3: Is there a system(s) your organization deployed from the last year

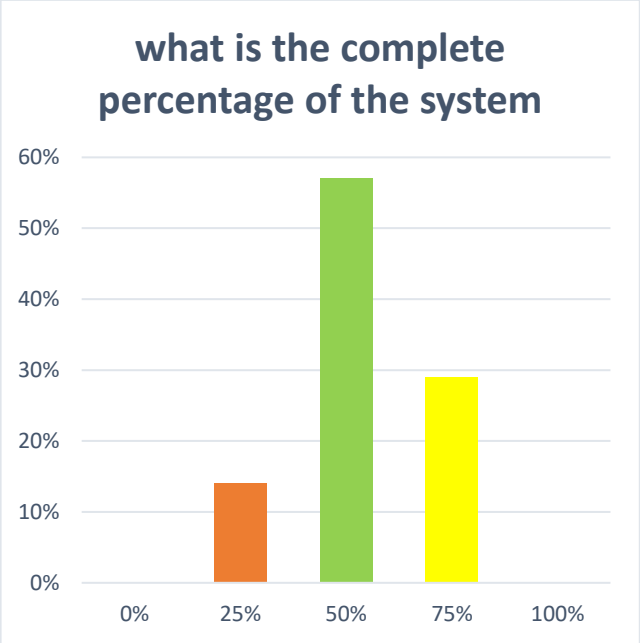

Figure 4: What is the complete percentage of the system

With regards to where the system is hosted, majority of institutions have stated outhouse hosting over inhouse hosting (Figure 5) and have specifically mentioned that they use internet hosting more. This highlights the benefit of internet hosting as it is a globally connected network that allows institutions to share information with other corporations and branches. As for who runs the outhouse system, responders have mentioned the staff of the institution or outside developers. Additionally, most of the institutions have access to a documented manual that allows them to maneuver the system and prevent errors.

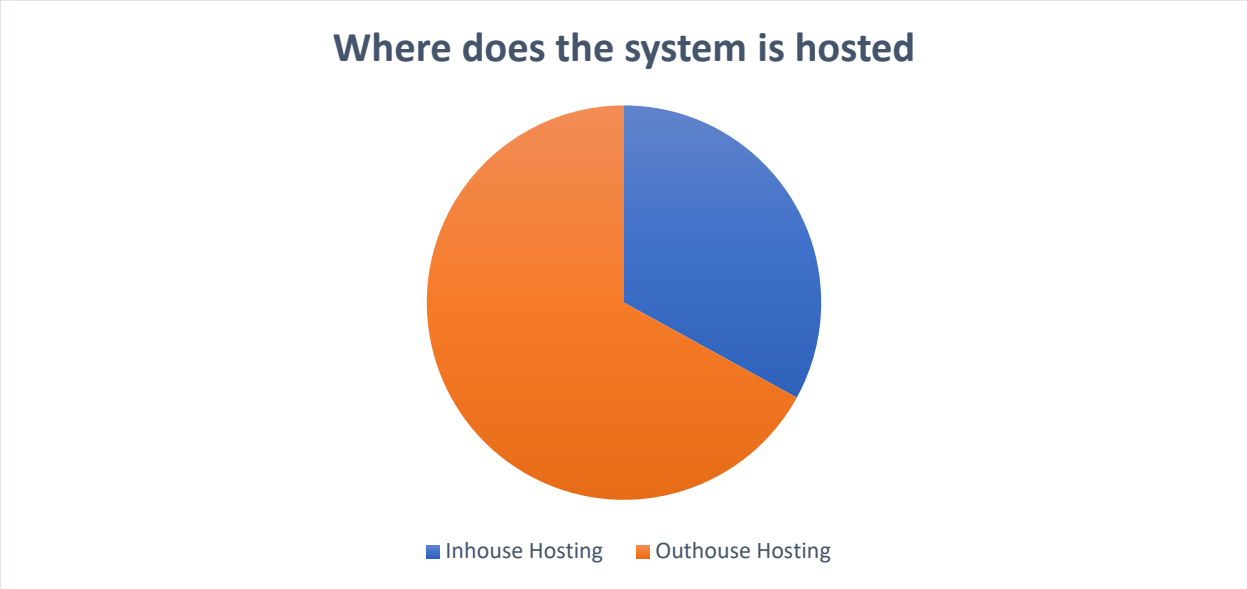

Figure 5: Where does the system is hosted

Office Application/Software

Nearly 70% of the government institutions do not have license for their office applications whereas 29% do. The remaining 3% have license only for some of the software they use. This points to the dangers of unlicensed software which can carry viruses and other types of malwares that infect computers. Furthermore, the software mentioned most recurrently that the institutions use is Windows and Microsoft Office. Furthermore, 47% of the institutions have stated that they have access to a software manual whereas the rest do not. As for software maintenance, responders have mentioned IT department, office staff, or trusted software developers.

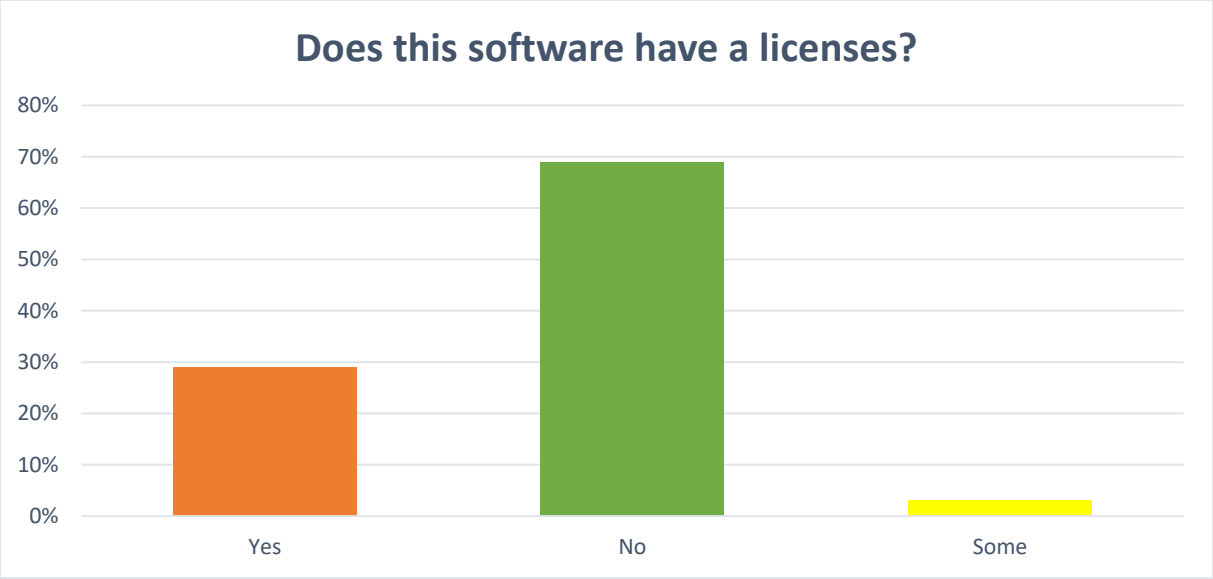

Figure 6: Does this software have licenses?

Infrastructure

As shown in figure 7, not everyone has their own computer within the government institutions. In fact, nearly 45% of the institutions stated that not everyone has their own computer at work. Additionally, the computers available at most institutions (62%) do not have a central server to provide certain functionalities that can facilitate the connectivity between clients. As for the functionality of the computers, almost all the institutions said their computers work properly. Furthermore, less than a third of the institutions claimed that problems related to electricity hinders their daily work routine.

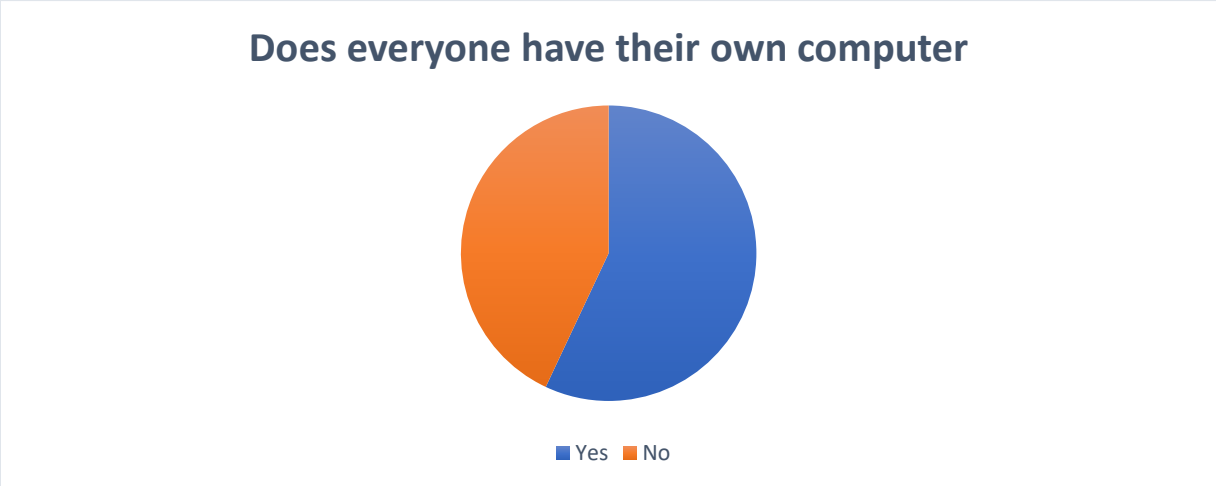

Figure 7: Does everyone have their own computer

When it comes to ordering ICT related orders, only 34% of government institutions include the Ministry of Information Communication and Technology (MICT) as part of the process (Figure 8). The remaining 66% take an independent route to ordering their own tools. This reduces the relationship between government ICT departments and the MICT and loses collaboration between them. After ordering and receiving the equipment, a little over half the institutions mentioned they have stock to store it whereas the rest don't. Additionally, any faulty equipment is repaired by the IT department, specifically technical supporters. Majority of the government institutions also have a place to put faulty equipment, but most do not follow a disposal procedure which can help differentiate between faulty and working equipment more easily.

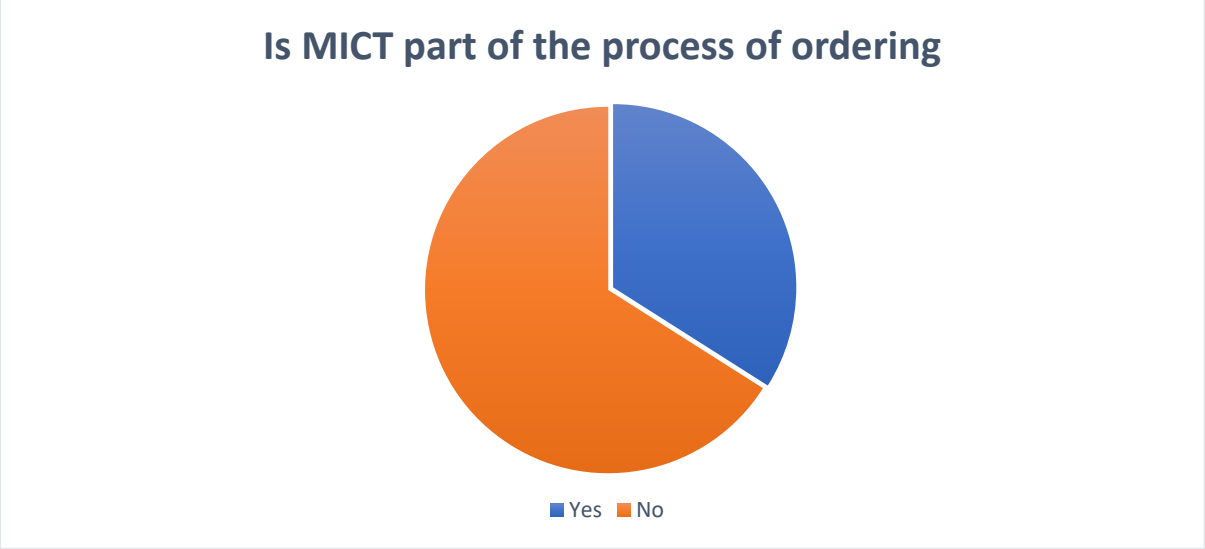

Figure 8: Is MICT part of the process of ordering

Network and Security

When asked about whether the government institutions had a network installed, the majority replied in the affirmative (Figure 9). Whereas some of the government institutions said they had a network since the beginning of their institution, others have mentioned that they only had it for a few years or less. Furthermore, nearly 80% claimed they had enough network tools. Such tools have various functions including security backing and managing activities. However, majority of the institutions don't have tools to monitor when the network components fail or become slow. Additionally, 80% of the institutions have reported that their network connection is LAN rather than WAN. From this given data, it can be presumed that LAN is preferred to WAN in government institutions due to its relatively inexpensive and high-speed qualities which is suitable for network devices that are connected together within the same building.

Network typology refers to the layout or arrangement of networks. This is important because choosing the right topology ensures high quality performance by making it easier to detect errors and preventing loss of information during data transmission thereby increasing data efficiency. There are various types of network typology each with a different objective. As can be seen in figure 10, over 40% of the government institutions have mentioned that their network is connected to Star topology. This is followed by Mesh which has 21%, bus topology and hybrid topology which both have 17% and finally ring topology which only 4% of the networks are connected to. Because STAR typology had the highest percentage, it could be because of the convenient way in which an institution's entire network is managed from a single location. This minimizes data loss by ensuring that information is passed to its destination in a complete form.

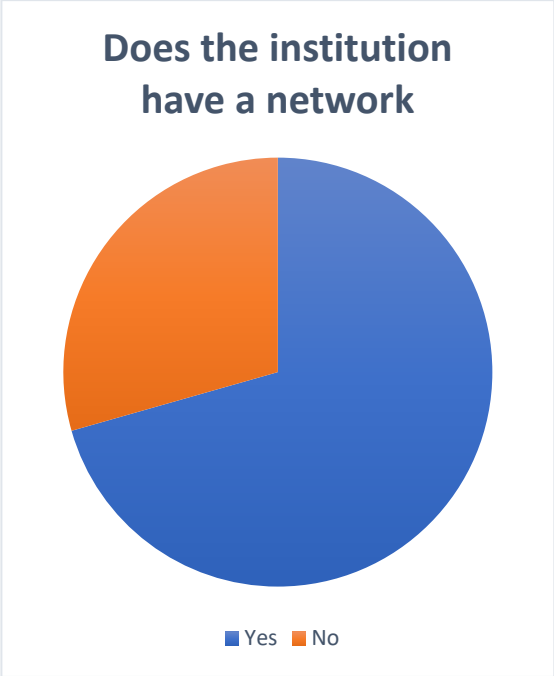

Figure 9: Does the institution have a network

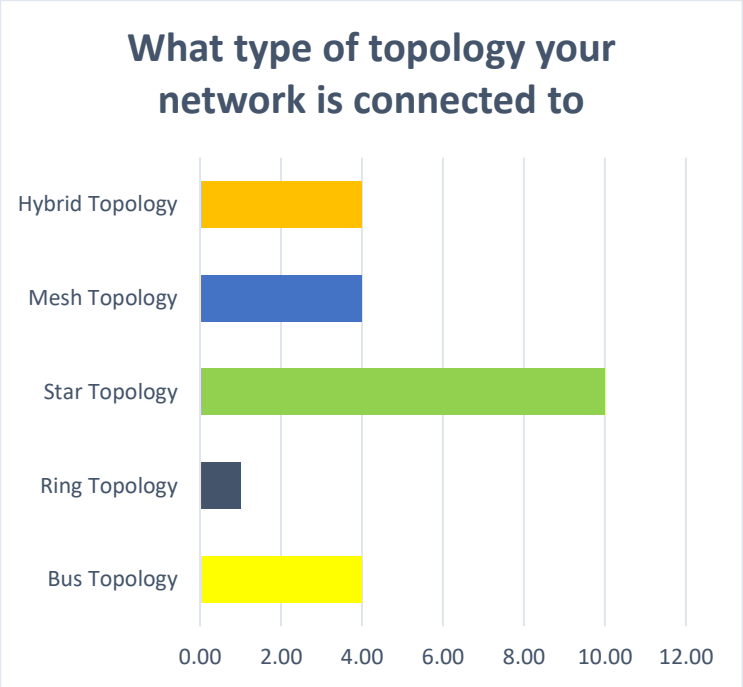

Figure 10: What type of topology your network is connected to

The three main internet service providers in Somaliland are Telesom, Somtel and Somcable. Among the 34 interviewed government institutions, 17 have mentioned that they use Somtel, 16 have mentioned Somcable and only 1 mentioned Telesom. Furthermore, half of them use wireless internet connection whereas the other half use wired and most of the institutions have stated the reliability of their connection to be very good. As for the bandwidth of the internet, the replies ranged from

10mbps to 25mbps. Additionally, when there are issues with the connection, majority of the institutions have stated that their requests are responded to immediately. From this given data, it can be perceived that majority of the government institutions do not appear to have complications with their internet service providers, and if they do come across obstacles, they have a system in place for how to tackle it.

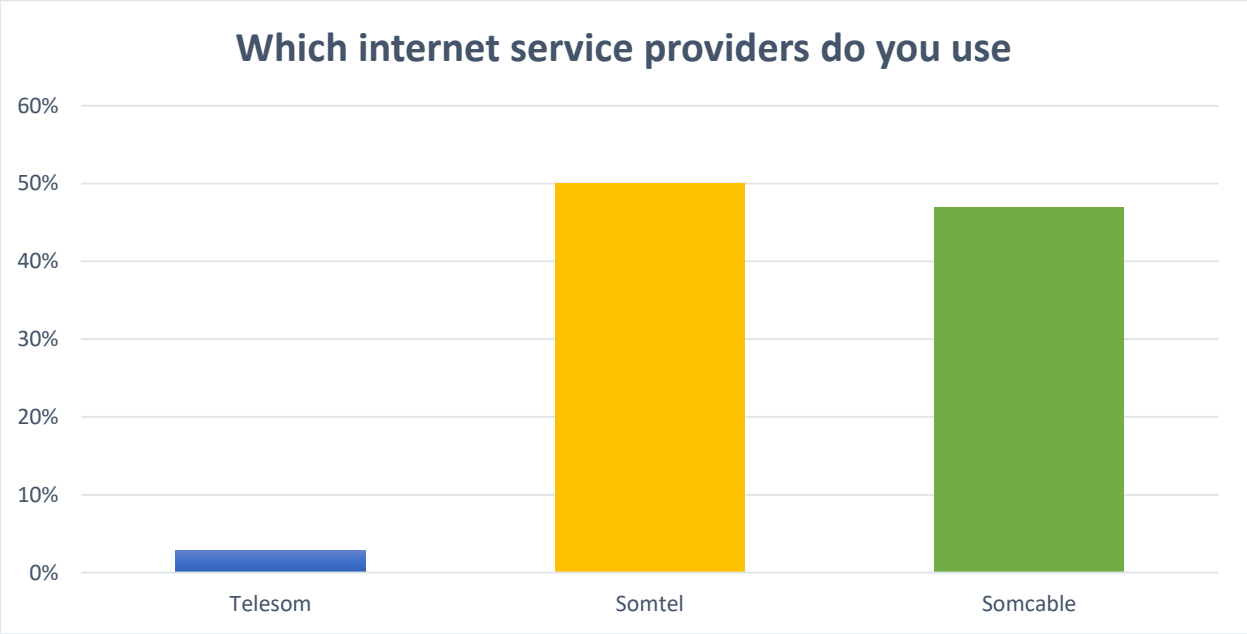

Figure 11: Which internet service providers do you use

Regarding network security used for protecting network devices, only 5% have a security device. Most institutions mentioned that they have security software (53%) or no security at all (42%). Additionally, most have stated that they use Kaspersky antivirus as a security software but don't have documented information security policies and procedures which would have helped prevent security incidents.

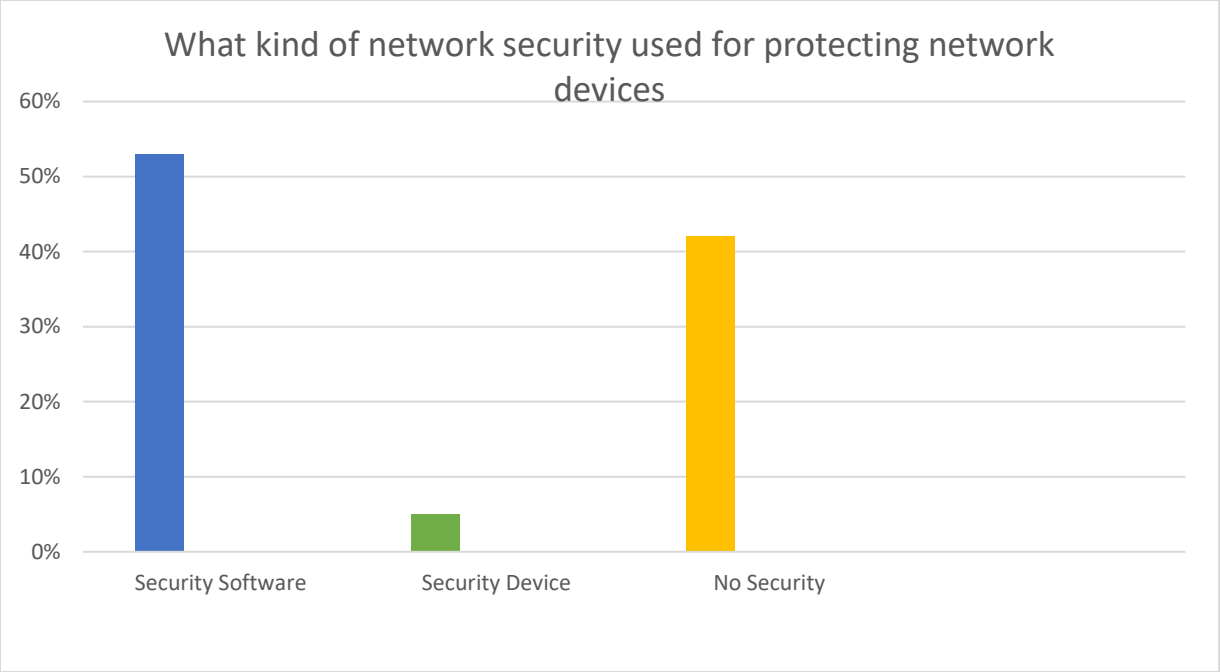

Figure 12: What kind of network security used for protecting network devices

Data recovery tools enable the recovery of inaccessible, corrupted or deleted files from a storage device. As shown in figure 13, 57% of the institutions have stated that they do not have data recovery tools whereas only 43% do. The 43% have mentioned that they use EaseUS Data Recovery, Passcape, and external disk. Furthermore, when it comes to transmission of data between employees, most institutions don't have a formal procedure.

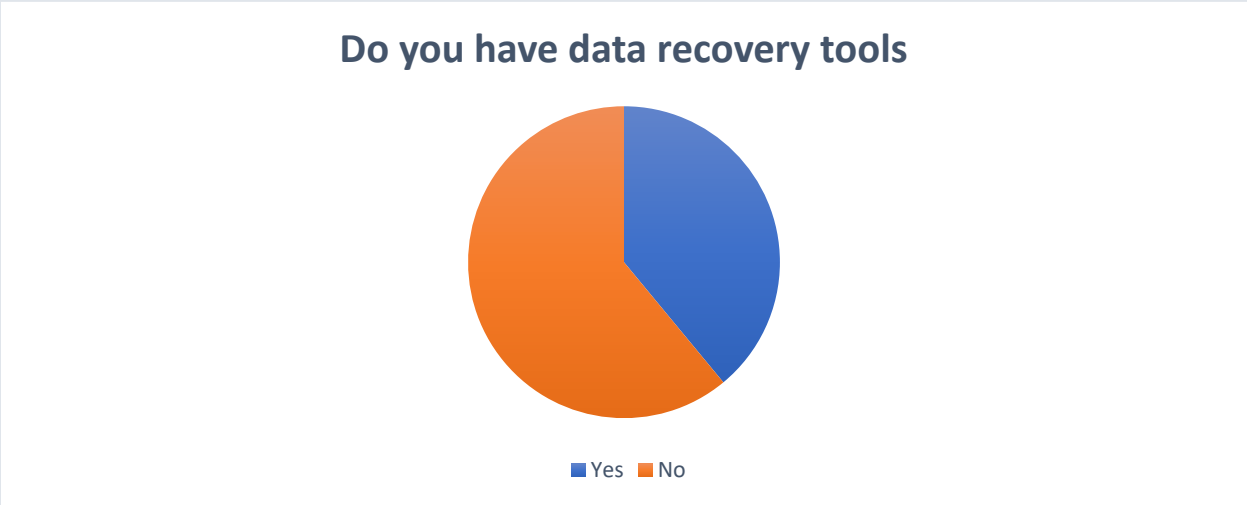

Figure 13: Do you have data recovery tools

Recommendations

1. With regards to systems developments, 65% of the responders stated that they have not deployed a system during this year, this indicates that the majority of these institutions don't take advantage of technology, in order to increase work performance institutions must computerize their physical work to enhance their productivity and provide better services.
2. To improve the quality and effectiveness of the systems, MICT must be part of any system development.
3. Ministry should develop policy and procedures to regulate the development, maintenance, and use of systems.
4. Institutions must establish a comprehensive plan of planning, coordinating, and monitoring ICT-related projects.
5. Regards to where the systems are hosted, majority of institutions have stated outhouse hosting over inhouse hosting, to ensure their reliability and functionality MICT must review the security and the capability of these hosting sources.
6. All office applications must be licensed and genuine, this method will avoid any risk that may arise from the cracked software.
7. Regarding the procurement of ICT-related orders in government institutions MICT isn't part of most of the ordering process, so MICT must be part of any ICT-related procurement process that the Government institutions are involving.
8. Every institution must follow the policies and procedures the ministry published for improving the Government ICT sector.
9. Provision of computers in public institutions in order to increase percent of employees who have access to computers at work.
10. Government employees should get training for the use of ICT in a coordinated and continuous manner.
11. Government private networks must be established for all government institutions to improve the connectivity and integrity of different ICT devices in government institutions.
12. Government institutions must develop internal formal data transmission and data recovery procedure