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ASSESSING RESEARCH SUPPORT TO PARLIAMENTARY COMMITTEES IN THE CONTEXT OF THE FOURTH INDUSTRIAL REVOLUTION

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LIST OF ACRONYMS

4IR:	Fourth Industrial Revolution
BRRR:	Budget Review and Recommendation Reports
COVID-19:	Coronavirus Disease
ICT:	Information and Communication Technology
IPU:	Inter-Parliamentary Union
KISD:	Knowledge and Information Services Division
MPs:	Members of Parliament
MS:	Microsoft
NA:	National Assembly
NCOP:	National Council of Provinces
PRU:	Parliamentary Research Unit
UCLA:	University of California, Los Angeles
UN:	United Nations
XML:	Extensible Mark-up Language

1. INTRODUCTION

The Fourth Industrial Revolution (4IR) represents a fundamental change in the way we live, work and relate to one another. It affects aspects related to our sense of privacy, our notions of ownership, our consumption patterns, the time we devote to work and leisure, how we develop our careers and cultivate our skills, and meet people and nurture relationships.¹

It is a new chapter in human development, enabled by extraordinary technology advances matching those of the first, second and third industrial revolutions combined. These advances are merging the physical, digital and biological worlds in ways that create both huge opportunity and potential threat. The speed, breadth and depth of this revolution have forced us to rethink how countries develop, how organisations create value, and even what it means to be human.²

Furthermore, since the outbreak of the Coronavirus Disease (COVID-19) pandemic there has been further unprecedented effects on communities around the world. The pandemic has become a catalyst for the 4IR due to the extent it disrupted the way of life for all globally. In March 2020, the President of the Republic of South Africa, Mr Cyril Ramaphosa (“the President”) declared the COVID-19 pandemic a national disaster and announced a nation-wide lockdown.³ The lockdown forced the use of technologies, which tested all sectors of their readiness for virtual and remote working conditions. The use of technology has become compulsory to ensure that programme implementation continued.

Amid the threats that the 4IR and COVID-19 pandemic presents, there are also many opportunities to make use of new technologies for the Parliament of the Republic of South

¹ World Economic Forum (2020).

² Ibid.

³ Ramaphosa, M.C. (2020).



Africa (“Parliament”) to fulfil its oversight mandate effectively.

2. RATIONALE FOR THE PAPER

The research paper aims to establish the extent to which the Parliamentary Research Unit (PRU) currently, and in the future can enhance support to the Members of Parliament (“Members or MPs”) in the context of 4IR through an e-Parliament. Furthermore, the objective of the research is thus to measure the status of and enhance the research support provided to MPs by making optimal use of available technology that can assist in providing Members with content that is relevant, timeous and presented in an engaging manner.

The objective of the research paper is thus to measure the status of and enhance the research support provided to MPs in the context of the 4IR, i.e. making optimal use of available technology that can assist in providing Members with content that is relevant, timeous and presented in an engaging manner.

The methodology used to undertake the measurement of the status of research support was through questionnaires that were completed by the clients of the Research Unit, that is a sample of MPs. The questionnaires were aimed at gauging the use of technology and the ease with which Members use technology to access information and research papers.

Committee Secretaries as the official delegated persons, who distribute information and research papers to MPs also completed questionnaires. The aim was to assess the use of technology by Committee Secretaries in distributing information and research papers, as well as, gain insight as to their perceptions on the use of technology by Members in accessing information and research papers.

3. OVERVIEW OF THE FOURTH INDUSTRIAL REVOLUTION (4IR)

The 4IR is not regarded as a technology revolution. The revolution is about convergence as the technologies have been there since the first industrial revolution. It is the consideration of how the different technologies interact and includes the convergence, interactivity and complementarity of big data fields, analytics and artificial intelligence.⁴

As the physical, digital, and biological worlds continue to converge, new technologies and platforms will increasingly enable citizens to engage with governments, voice their opinions, coordinate their efforts, and even circumvent the supervision of public authorities. Due to the intense pace of technology, and particularly digital technology development, the 4IR is broader and faster than any before it.⁵

Key issues characterising the 4IR include the following:⁶

⁴ World Economic Forum (2017).

⁵ Ibid.

⁶ Nordin and Norman (2018).



- **Disruption to Jobs and Skills:** Shifting of job roles and skillsets due to the disruption of business models will require countries and industries to understand the existing skills base and how disruptive change will dictate the new skills required.
- **Innovation and Productivity:** Few organisations have reorganized themselves to fully experience the productivity explosion being created by the new technologies at the heart of the 4IR. Furthermore, the impact on productivity is also not fully apparent yet, since increases in efficiency are occurring in areas that cannot be accurately measured by traditional tools.
- **Business Disruption:** The foundations of the business are being challenged because the relationship between businesses and their customers is shifting to an on-demand, an always-connected model powered by the widespread availability of mobile communication.
- **Inequality:** Worsening inequality, and a corresponding negative impact on social stability, is one of the greatest potential risks associated with the 4IR. While new technologies can democratise access to employment and entrepreneurial opportunities, not to mention education and knowledge, the tendency of new global technology platforms to dominate winner-takes-all markets could worsen inequality and social fragmentation.
- **Fusing Technologies:** Collaboration between disciplines is opening new frontiers. The 4IR is distinguished by the way it builds from a fusion of technologies, and a growing harmonization and integration of research disciplines. Nearly every new development in any field now draws on digital capability. For example, the digital and physical worlds collide in fields such as autonomous vehicles and 3D printing.
- **Agile Governance:** New technologies are outpacing regulatory frameworks. Governments will be forced to change their approach when it comes to the creation and enforcement of regulation, and to create new instruments to cope with the spread of new technologies. Agile governance will mean that governments will continuously have to find ways to reinvent themselves to better understand what they are regulating. Close collaboration with business and civil society will be necessary to make that happen.
- **Ethics and Identity:** Innovations are redefining what it means to be human by pushing the limits of lifespan, health, cognition and other capabilities in ways once confined to science fiction. As knowledge progresses and discoveries are made, a related moral and ethical discussion is critical if people are to best respond to phenomena like life extension, so-called designer babies, what information about personal health should be shared, what rights and responsibilities we have with regard to altering the genetic code of future generations, and how societies should deal with machines that have human-like qualities and an ability to autonomously make life-or-death decisions. To combat these challenges, there is a need to ensure that the 4IR nurtures individualism and humanity, and is an empowering force that fosters technology as a tool that is made by people, for people.
- **Security and Conflict:** The 4IR will affect the scale and character of conflict. The internet is becoming as much an area of engagement as land, sea and air. It is almost inevitable that future conflict will include an online dimension because opponents will have the ability to disrupt, confuse or destroy its enemy's communications and decision-making capabilities. This will not only lower the threshold of what constitutes war but will also blur the distinction



between war and peace; since any network or connected device, from military systems to civilian infrastructure, like electricity grids or water supplies, can be hacked and attacked.

Parliament thus has a significant role to play in the 4IR and should therefore deepen oversight and evidence-based law-making. This requires the development of a regulatory framework to guide this process, as it is a critical aspect most pertinent to parliamentarians from a law-making and oversight perspective.

4. OVERVIEW OF e-PARLIAMENT

Social media and Web 2.0 technologies have created changes within government activities and established innovative channels for easier service delivery, and at a lower cost. The internet and its applications have deepened the relationship between the Executive and Parliament. The utilisation of technology within a political arena is effective in the management of the activities within parliaments. An e-Parliament involves the utilisation of Information and Communication Technology (ICT), as well as, the internet to better manage parliamentary activities and to facilitate the relationship between the MPs and the public they represent.⁷

The United Nations (UN) together with the Inter-Parliamentary Union (IPU) defined e-Parliament as a legislature that is empowered to be more transparent, accessible and accountable through Information and Communication Technology.⁸ Between 2007 and 2012, the Global Centre for ICT in Parliament, through the UN and IPU, conducted a survey on the efforts of legislatures around the world to use ICT to support their constitutional functions. Based on 156 parliaments representing a membership of 28 613 legislators. The following was found:⁹

- More political leaders were engaged in setting goal and objectives for ICT in the parliamentary institutions;
- Mobile devices and applications were being adopted more rapidly than expected;
- The implementation of Extensible Mark-up Language (XML) for managing bills had increased;
- More parliaments had new systems for managing plenary and committee documents; and
- There was a rise in the intent and actions of parliaments to share information and collaborate on improving technology.

The majority of parliaments further reported that the three most important improvements in their work made possible by ICT included, but not limited to, increased capacity to disseminate information and documents; improved availability of documents and information on the parliamentary websites; and more timely delivery of documents and information to members. Given these beneficial effects of ICT enhancements towards members, this translates in parliaments being more open and transparent to the citizens.¹⁰

⁷ Abu-Shanab, Al-Dalou, and Talafha (2018).

⁸ Global Centre for Information and Communication Technologies in Parliament (2012).

⁹ Ibid.

¹⁰ Ibid.



However, there are limited studies on e-Parliament and its impact in relation to member support within a South African context. It remains a concern as to whether the Parliament of the Republic of South Africa has improved its standards in terms of ICT support to MPs and whether South African MPs have been well capacitated when it comes to consumption and usage of ICT.

4.1. e-Parliament and the COVID-19 pandemic in South Africa

Before the COVID-19 pandemic, Parliament made many strides towards an e-Parliament within the context of the 4IR. For example, the institution has ICT structures and policies in place that regulated ICT within the institution. However, despite the initiation to move towards an e-Parliament and paperless environment, the move was slow especially with heavy reliance on volumes of hard copies for Committee meetings and very limited usage of video conferencing facilities for meetings and engagements with stakeholders. This was evident as it was only after the COVID-19 pandemic that Parliament had its first physical and virtual plenary session with several Ministers and Deputy Ministers answering written and oral questions from MPs of various political parties.¹¹

After the pandemic, there have been many shifts within the e-Parliament context. For example, during a presentation of the Parliament Special Adjustments Budget in July 2020, the Acting Secretary to Parliament, Ms Penelope Tyawa indicated that as the Gross Domestic Product (GDP) growth and tax revenue decreased, Parliament's budget would come under downward pressure. This disrupted the old style used by Parliament to conduct its work, and the COVID-19 pandemic had brought additional health and security risks, forcing Parliament to become more heavily reliant on technology.¹²

As of 17 May 2020, Parliament had already conducted over 100 virtual meetings of oversight committees, which were held during weekdays, weekends and public holidays, due to a huge load of oversight and legislative work before Parliament.¹³ Parliament has also established the first-ever hybrid sitting (both physical and virtual setting) on 27 May in the National Assembly (NA) for posing questions to Ministers' response to the Covid-19 pandemic. The National Council of Provinces (NCOP) also had their own hybrid sitting from 02 June 2020 to consider the Division of Revenue Bill, which was approved by the National Assembly. Despite the success from physical to virtual meetings and sitting arrangements by parliament, this requires members to now become more technologically savvy.

The parliamentary virtual platform has not been without its challenges given the fact that Members and staff had to go through training within a short period, to be able to facilitate and engage in online platforms. Some of the challenges faced by Members included poor network signals, hacking of meetings, difficulties in using ICT equipment, among others. The Speaker to the National Assembly in Parliament, Hon. Thandi Modise is of the view that this is uncharted terrain and forces us to embrace the notion of e-Parliament in a way that we have never imagined before, and we learn as we go. She further noted that Parliament's commitment remains to ensure the work of committees is conducted without any compromise due to technological ineptness on our part and that challenges with virtual platforms that were also experienced by parliaments in other countries are resolved

¹¹ Parliament of the Republic of South Africa (2020b).

¹² Parliamentary Monitoring Group (2020).

¹³ Parliament of the Republic of South Africa (2020a).



timeously.¹⁴ This commitment by parliamentary leadership indicates that Parliament has embraced e-Parliament as the new normal of doing work during and post the COVID-19 pandemic.

5. BENEFITS OF e-PARLIAMENT

One of the basic advantages of an e-Environment and remote working for Parliament means that the strain on limited venues is resolved. At the same time, the shift to a virtual working environment requires greater and more effective Information and Communication Technology (ICT) support and enhancement.

Key benefits of an e-Parliament include but not restricted to:

- The ability to build and expand networks;
- Easy dissemination of information quickly and widely at a low cost;
- Readily accessible records and archive of correspondence;
- Greater public participation and accessibility;
- Committees can meet more; and
- Savings in time, space, catering, venue bookings, utilities, materials and postage.

6. CHALLENGES OF e-PARLIAMENT

The move to connect virtually at the same time from different, homes and provinces have highlighted the vast ranges of strengths and weaknesses in connectivity. Depending on the area, it appears that the connectivity experiences of the remote working environment have either worked seamlessly or brought many difficulties. These challenges sometimes lead to the disruptions in virtual meetings, especially when the host or Chairperson of a meeting has difficulty in connecting to the platform.

Following from the above, additional issues such accessibility including licensing issues with software; connectivity difficulties, lack of access to resources, for example, adequate data, own office space at home, printer; agronomical chairs, Screen fatigue/ Computer Vision Syndrome; extended operating hours etc. might also impact the efficient provision of support to MPs and Parliamentary Committees.

6.1. Accessibility

The e-Parliament concept goes beyond ICT, which implies that the definition of an e-Parliament must move beyond technical considerations and focus on Parliament's vision, values, strategy process and operating model.¹⁵ It is about digital optimisation and transformation, and accessibility is thus a vital aspect in the context of an e-Parliament. Many challenges emanated with the emergence of an e-Parliament. For example, with the abrupt implementation of virtual meetings, Parliament could not host several meetings simultaneously. This resulted in Committees competing for virtual slots for meetings, which were due to licensing issues with virtual meeting platforms. Subsequently, this constraint has been lifted whereby Parliament has expanded the virtual meeting platforms through the purchasing of more software licences.

¹⁴ Parliament of the Republic of South Africa (2020b).

¹⁵ Inter-Parliamentary Union (2018).



Connectivity also presented many constraints, especially with adequate connectivity devices and data to cope with lengthy Committee meeting hours. The location also plays a significant role in connectivity, which requires high-quality access to internet devices and connectivity. This is being addressed through Parliament's ICT policy and Tools of Trade policy, as well as, the development of an ICT strategy for Parliament. The general lack of resources during this period has a major impact on the effectiveness of an e-Parliament since funding remains an issue for high- as well as low-income countries.¹⁶

6.2. Screen Fatigue/Computer Vision Syndrome

The change in working conditions, whereby research support to MPs and parliamentary Committees moved from physical meetings to virtual ones has meant a shift in the manner in which this support is provided. While the bulk of the support provided, has consisted of research, meaning large amounts of time spent in front of a computer screen, (including analysis of Annual Performance Reports and Annual Reports online), these are dense reports that are usually read in print format. This was ameliorated by spending time in meetings, public participation and oversight visits to communities and provinces. Following the declaration of the State of Disaster, the research support moved fully online and all aspects became virtual. The result is that this sudden shift has brought about unforeseen possible health consequences.

This includes screen fatigue, or computer-related eye fatigue, due to extended computer use. According to the University of California, Los Angeles (UCLA), Stein Eye Institute: "Working at a computer for extended periods is visually demanding, requiring frequent eye movement, eye focusing, and eye alignment processes. Problems can occur when the visual demands of the task exceed the visual abilities of the individual to perform the task comfortably."¹⁷

The Institute notes that studies show that humans blink half the usual amount of time when using computers. Blinking leaves a thin layer of the tear film over the front of the eye, helping the eye to focus properly. Not blinking can cause images to look blurry and lead to dry eye and eyestrain that can increase by marathon work sessions and sleep deprivation. The signs and symptoms of computer-related eye fatigue may include the following:¹⁸

- Blurred vision;
- Double vision;
- Difficulty focusing after leaving the computer;
- Dry and irritated eyes;
- Redness;
- Eyestrain;
- Headache; and
- Potentially related orthopaedic complaints, such as stiff neck and neck pain.

¹⁶ Inter-Parliamentary Union (2018).

¹⁷ UCLA Health (2020), p. 1.

¹⁸ UCLA Health (2020), p. 1.



Possible options to address screen fatigue might include optical aids, special computer glasses, prisms, eye exercises, filters, and ergonomic aids. The Institute suggests eye exercises and additional steps that may assist to limit eyestrain from computer use, which include:¹⁹

- Look around at objects that are at different distances. Follow the 20-20-20 rule: every 20 minutes, look at an object at least 20 feet away, for at least 20 seconds.
- Put a note on your computer reminding yourself to blink.
- Reduce the brightness of your computer screen or use a screen filter to reduce computer glare.
- Sit two feet from the computer screen and make sure your eye gaze is slightly downward.
- Place a damp, warm washcloth over closed eyes or use artificial tears to refresh tired, dry eyes.
- Take regular breaks.
- When eyes start feeling sore, use that as a signal to step away from the computer.

While the above suggestions are important, it must be noted that virtual meetings, which might last up to three or four hours and beyond, sometimes take place without any pause, to either have a water/coffee/tea break or comfort break. This means that virtual meetings often continue for extended periods, thereby increasing the likelihood of the screen fatigue.

6.3. Extended Working Hours

Parliament's shift to virtual meetings, utilising the Zoom or Microsoft (MS) Teams platforms has also changed how the organisation undertakes oversight of Departments and the Executive. This means that those that are working from home use the webcam meetings for meetings that would typically be in person at the office. This has sometimes led to the extension of the working day, as meetings can now be scheduled without the concern of lack of venues, or availability of participants due to having to fly in from other provinces to be present at the Parliamentary precinct in Cape Town.

However, this shift, while ensuring that the business of Parliament continues using virtual means, it is also exhausting and overwhelming being in meetings using Zoom or MS Teams so much more than when in the office having those same meetings.

The virtual model of multi-person screens magnifies an exhausting problem. Gallery view, where all meeting participants appear, challenges the brain's central vision, forcing it to decode so many people at once that no one comes through meaningfully, not even the speaker.²⁰

Following from the above, the oversight role of Committee and Parliament might be diluted due to the platform used, as well as, the limited time allotted to some of these meetings. In some instances, during these virtual meetings, it is unclear if the participants understand the questions put to them,

¹⁹ UCLA Health (2020), p. 1.

²⁰ Sklar, J. (2020), pp. 2-3. This effect has been termed: Zoom fatigue, though this exhaustion also applies when using Google Hangouts, Skype, FaceTime, or any other video-calling interface. The unprecedented explosion of their use in response to the pandemic has launched an unofficial social experiment, showing at a population scale what's always been true: virtual interactions can be extremely hard on the brain.



as it sometimes appears as if the respondents or the Executive appear more evasive in answering the questions. This has also led to more written questions/answers being sought.

Due to limited Zoom or MS Teams licences, the Committees have limited meeting slots available to access these portals. The licensing issues with regard to available access to the software mean that it is limited. Parliament, therefore, schedules meetings way past a normal working day. The limited time slots for Committee Meetings have affected the organisations operating hours, whereby meetings sometimes take place up till 9 in the evening and sometimes extend past 9.

The limited opportunities available to undertake physical oversight or public hearings have resulted in Parliament moving towards a possible virtual public participation model. This means that greater numbers of the public might have access to participate in public hearings held to consult the public and deliberate on legislation. It has been noted that some virtual platforms might even provide access of at least up to 10 000 participants per virtual meeting. While greater public participation in the workings of Parliament is welcome, systems must be put in place to ensure that these deliberations and contributions can be effectively incorporated into the workings of the Committees and Parliament.

Regardless of the challenges noted above, the Research Unit has managed to ensure a seamless transition in providing support to Members of Parliament and Parliamentary Committees. However, systems need to be put in place to ensure that work/life balance is not undermined.

The challenge remains that as Alvarez noted an added pressure placed on people working from home, which increases fatigue is that people feel obligated to deliver something each day since working from home no longer provides the proof that people are sitting at their desk for eight hours. Instead, the only way managers believe that people were productive is through the things that are done. This forces people to sit in front of their computer screen for more extended periods than would normally be the case when in the office, often past the regulated scheduled workday.²¹

The scheduling of meetings constantly shifts and sometimes takes place in the middle of the evening, meaning that people are not able to shut down from looking at e-mails until late in the evening or before they go to sleep.

7. PARLIAMENT INFORMATION TECHNOLOGY AND COMMUNICATIONS (ICT)

Parliament has a policy that regulates the access to and the use of the institution's ICT to ensure the provision of accessible, secure and reliable ICT services and infrastructure to all authorised users for official use.²²

Key objectives of the policy include the following:²³

- To ensure that users are responsible for the creation, use and safeguarding of their network and e-mail passwords;

²¹ Alvarez (2020), p. 2.

²² Parliament (2018a).

²³ Ibid.



- To ensure that access to computer systems, an electronic network of Parliament and the internet is provided and managed in terms of acceptable standards and applicable legislation;
- To ensure that electronic network and e-mail facilities are used for authorised purposes;
- To ensure that the internet is used for business-related purposes;
- To ensure the confidentiality, privacy, integrity and availability of information, computer systems and electronic network of Parliament; and
- To ensure that remote access to the ICT infrastructure of Parliament is available, reliable and secure.

In addition to the ICT policy, Parliament has a policy on Tools of Trade. Given the nature and functioning of Parliament, Members and staff are required to communicate with all stakeholders using available electronic tools, platforms, access online parliamentary information, and information services remotely.²⁴ The institution thus recognises the need that employees be provided with the appropriate ICT tools to enable them to optimally perform their functions. ICT tools of Trade include desktop computers, laptops, notebooks, tablets, mobile phones, printers, data modems, docking stations, portable drives, broadband systems and associated accessories.

Key objectives of the policy include the following:²⁵

- To empower and enable all employees to conduct their duties remotely and at Parliament effectively and efficiently through the provision of appropriate ICT tools;
- To assist managers and staff in determining and allocating the appropriate ICT tools;
- To ensure cost efficiency in the allocation and use of ICT tools; and
- To ensure proper use and care of ICT tools issued to employees.

8. RESEARCH UNIT MANDATE²⁶

The Parliamentary Research Unit (PRU) was established in 1997 and forms part of the Knowledge and Information Services Division (KISD). It offers objective, non-partisan research support to Members of Parliament, Committees, Delegations and Senior managers.

Research Unit is divided into seven clusters, each headed by a Senior researcher, with between 5 – 13 researchers and supported by an administrative assistant.

Principles governing the work of the PRU include:

- Non-partisanship;
- Impartiality;
- Objectivity;
- Confidentiality; and
- Accessibility

²⁴ Parliament (2018b).

²⁵ Ibid.

²⁶ Parliament (2018c).



The PRU provides the following services:

- Research support to clients;
- Support for oversight;
- Support for oversight visits, international study tours, conferences, parliamentary programmes; and
- Presentations to clients i.e. committees, parliamentary delegations, etc.

Research products include the following:

- Parliamentary and Committee programmes:
 - State of the Nation Address;
 - Budget from a sectoral perspective;
 - Strategic Plans and Annual Performance Plans of government departments;
 - Quarterly expenditure and Performance reports;
 - Medium-Term Budget Policy Statement;
 - Annual Reports; and
 - Input into the Budget Review and Recommendation Reports (BRRR).
- Ad hoc research support:
 - Legislative analysis;
 - Background papers for oversight visits;
 - Policy analysis;
 - Research papers on sector-specific topics arising from Committee programmes;
 - Comparative studies;
 - Draft conference papers;
 - Draft delegation reports (if the researcher accompanies a delegation);
 - Papers for international participation;
 - Analytical oversight reports; and
 - Analysis of international instruments, e.g. treaties, conventions, etc.

Broader research services offered include:

- Strategic and planning support;
 - Research to identify sector-specific priorities for planning purposes; and
 - Attendance at committee management meetings and planning sessions.
- Oversight support, international and public participation (including sectoral parliaments);
- Presentations; and
- Limited Primary Research.

Support is offered to various stakeholders including Individual Members of Parliament, Committees, Delegations, Sectoral Parliaments (Youth and Women Parliaments), Parliamentary programmes (NCOP Taking Parliament to the People, Provincial Week, Local Government Week), and Parliamentary projects.



9. RESEARCH METHODOLOGY

The methodology used to undertake the measurement of the status of research support was through questionnaires that were completed by the clients of the Research Unit, that is, MPs. The questionnaires were aimed at gauging the use of technology and the ease with which MPs use technology to access information and research papers from the Research Unit.

Committee Secretaries as the official delegated persons, who distribute information and research papers to MPs, also completed questionnaires. The aim was to assess the use of technology by Committee Secretaries in distributing information and research papers, as well as, gain insight as to their perceptions on the use of technology by Members in accessing information and research papers. A total of 25 questionnaires were completed, of which 20 were completed by Parliamentary Members and 5 by Committee Secretaries.

The questionnaires covered the following key areas with regard to technology and Research outputs: access, ease of use, frequency, use of specific technological applications and preferences for certain technology in accessing information.

10. ETHICAL CONSIDERATIONS

This study was conducted in accordance with the ethical guidelines for research suggested by Goodwin and Wellington.²⁷ A formal request was submitted to the Chairpersons of the Committees for participation in the research project. All participants were treated with respect and sensitivity. All participants were briefed and participated voluntarily. Anonymity and confidentiality were guaranteed for all Committees and participants in this research.

It should be noted that most research projects conform to widely accepted principles such as obtained informed consent, ensure that participation is voluntary, and preserve confidentiality and privacy.²⁸

11. RESEARCH FINDINGS

The findings reveal that all Members of Parliament have access to technology i.e. a Cell phone, Laptop, Email, and iPad/Tablet. Here it is important to note that Members have access to more than one form of technology.

Members indicated that they access the Internet, Facebook and Twitter daily, while YouTube and Instagram were accessed less frequently. The least used technological applications were Skype and Video-conferencing. It is interesting to note that a number of Members indicated that they have never made use of Skype or Video-conferencing, which allows for face-to-face communication without being in the same room. Nonetheless, the questionnaires were completed in February and March of 2020, before COVID-19 restrictions. After the COVID-19 restrictions, Members have had to make use of Video-conferencing applications such as Zoom and MS Teams, not without challenges.

²⁷ Goodwin (2002) p38 – 54 and Wellington (2000) p54 – 57.

²⁸ Swann and Pratt (2003): 18).



Parliament designed an App for Members called the My Parliament App to ease communication about the work of Parliamentary Committees by making it more accessible, timeous and relevant. Committee Secretaries as the official delegated persons, who distribute information and research papers to Parliamentary Members are required to place information such as Committee meeting agendas, Committee programmes, research documents etc. on the My Parliament App. Only three of the 20 Members that completed the research questionnaire indicated that they accessed research papers via the My Parliament App.

The majority of the Members indicated that they accessed research papers via Email or received a hard copy thereof in the Committee Meeting. When Members were asked what their preferences were in accessing research papers, the majority of the Members indicated a preference for emailed copies, followed by hard copies. This preference of Members for emailed copies or hard copies of research papers is confirmed by the Committee Secretaries. Only ten of the 20 Members indicated a preference for accessing research papers via the My Parliament App, which is not borne out as only three Members indicated that they accessed the research papers via the My Parliament App.

Given that only three of the 20 Members use the My Parliament App to access research papers, it could be inferred that the App is not that user-friendly or the benefits of the App was not properly or effectively communicated. This is borne out by the Committee Secretaries responses to qualitative questions related to Members preferences for accessing information via the My Parliament App, that is, how comfortable Members were in using the App and the user-friendliness of the App. The Committee Secretaries were of the opinion that Members did not prefer using the App to access information, and were not comfortable with using the App. Only two of the five Secretaries that completed the questionnaires were of the opinion that the My Parliament App was sometimes user-friendly. It was telling that one Secretary thought that the My Parliament App was only for the use of Members and by implication was therefore not aware of his/her role as a content contributor to the My Parliament App.

More needs to be done to capacitate Members on the My Parliament App and the benefits thereof. Similarly, Committee Secretaries need to be educated about their role as content contributors on the My Parliament App. The My Parliament App project sponsors also need to review the design of the App to ensure that the App is user-friendly and effective all the time and not sometimes.

Parliament has initiated a drive for a paperless Parliament and the question was posed to Members whether they would be supportive of this initiative. The majority of the Members are supportive of the initiative of a paperless Parliament, but with the caveat that the technology provided should be user-friendly and accompanied by training. Some Members were also of the opinion that a balanced approach should be taken towards a paperless Parliament, as hard copies are easier to read and are useful for making notes.

12. QUESTIONNAIRE FEEDBACK²⁹

A total of 25 questionnaires were completed, of which 20 were completed by Parliamentary Members and five by Committee Secretaries.

²⁹ Parliamentary Research Unit (2020).



The questionnaires covered the following key areas with regard to technology and Research outputs: access, ease of use, frequency, use of specific technological applications and preferences for certain technology in accessing information.

The sections below show the responses to each question. The figures show the percentage of respondents that indicated in the affirmative to the questions asked. The figures are followed by a descriptive narration of the number of respondents that answered in the affirmative or negative to the respective questions.

12.1. Do you have access to the following technology?

Members of Parliament and Committee Secretaries have access to a range of technological devices and applications.

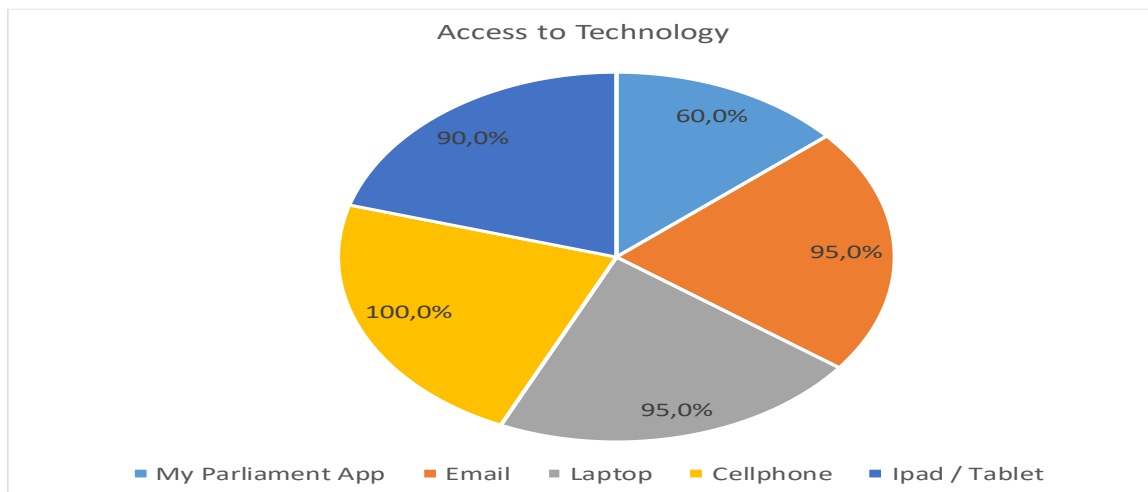


Figure 1: Members' access to Technology

All 20 Members have access to Cell phones; 19 have access to Laptops and Emails, respectively; 18 have access to an iPad/Tablet and only 12 have access to the My Parliament App.

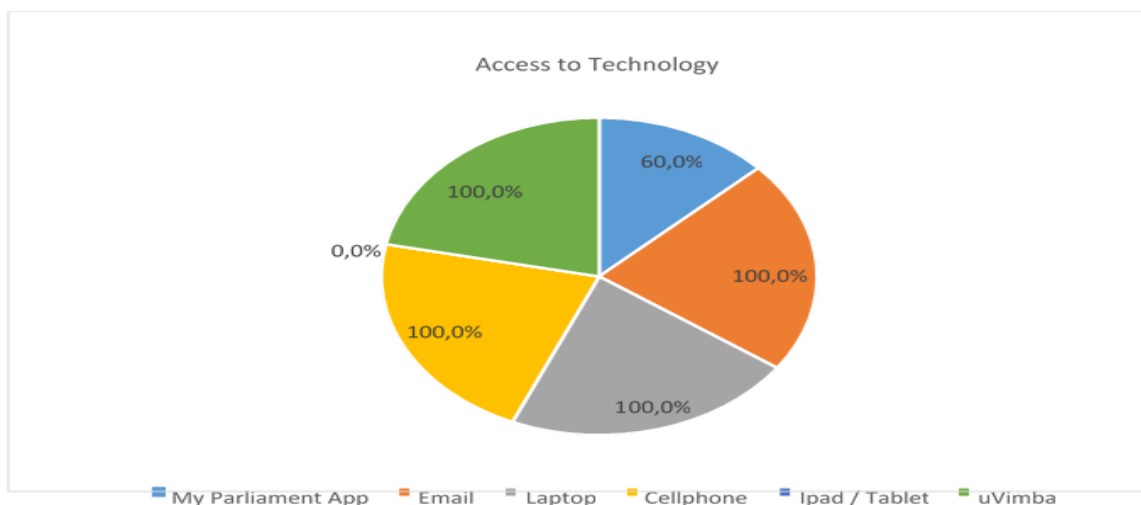


Figure 2: Committee Secretaries' access to Technology



All five Committee Secretaries have access to Cell phones, Laptops, Emails and Uvimba (i.e. Parliament's data management and storage system). Only three Secretaries have access to the My Parliament App and none have access to an iPad/ Tablet. In this case, devices specifically issued by the employer.

12.2. How frequently do you access the following technology?

Table 1: Members' frequency of accessing Technology

Committee Members	Daily	Weekly	Monthly	Seldom	Never
Internet	85,0%	5,0%	5,0%	0,0%	5,0%
Twitter	45,0%	5,0%	10,0%	25,0%	15,0%
Facebook	80,0%	0,0%	5,0%	0,0%	10,0%
Instagram	30,0%	10,0%	5,0%	15,0%	30,0%
Skype	0,0%	0,0%	0,0%	35,0%	50,0%
Video-Conferencing	10,0%	5,0%	5,0%	40,0%	30,0%
Youtube	35,0%	20,0%	10,0%	10,0%	15,0%

With regard to frequency of use, the majority (16+) of the Members accesses the Internet and Facebook daily, followed by Twitter, YouTube and Instagram. The least used technological application is Skype; half of the Members indicated that they never use it, followed by Video-Conferencing and Instagram.

Table 2: Committee Secretaries' frequency of accessing Technology

Committee Secretaries	Daily	Weekly	Monthly	Seldom	Never
Internet	100,0%	0,0%	0,0%	0,0%	0,0%
Twitter	60,0%	0,0%	0,0%	0,0%	40,0%
Facebook	60,0%	0,0%	0,0%	0,0%	40,0%
Instagram	20,0%	20,0%	0,0%	0,0%	60,0%
Skype	0,0%	0,0%	0,0%	20,0%	80,0%
Video-Conferencing	0,0%	0,0%	0,0%	20,0%	80,0%
Youtube	40,0%	40,0%	0,0%	0,0%	20,0%

All five Committee Secretaries access the internet daily, followed by Twitter, Facebook and YouTube. Skype, Video-Conferencing and Instagram are the least used applications, with the majority (i.e. 3+) of the Secretaries indicating that they never use these applications.

12.3. Have you received information and research papers from Researchers?

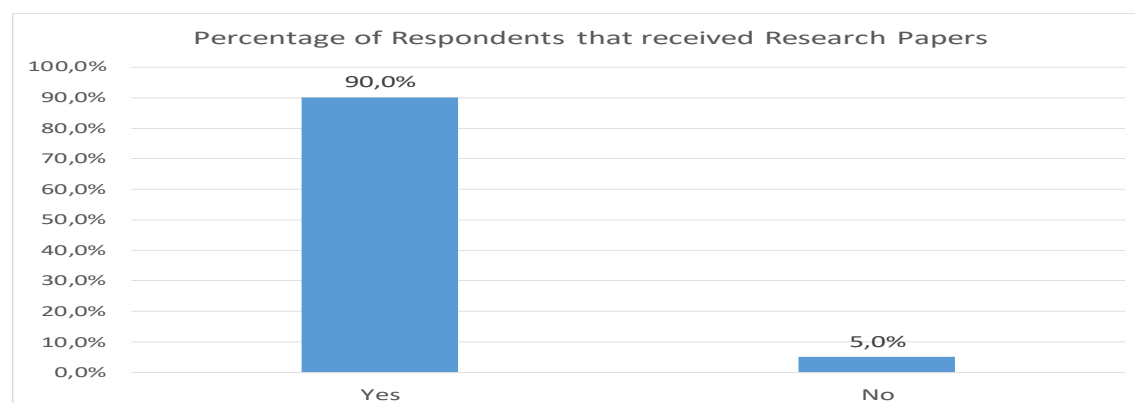


Figure 3: Percentage of Members that received research papers



Eighteen Members indicated that they received research papers from Researchers. One Member indicated that he/she had not received research papers, while one Member did not answer the question.

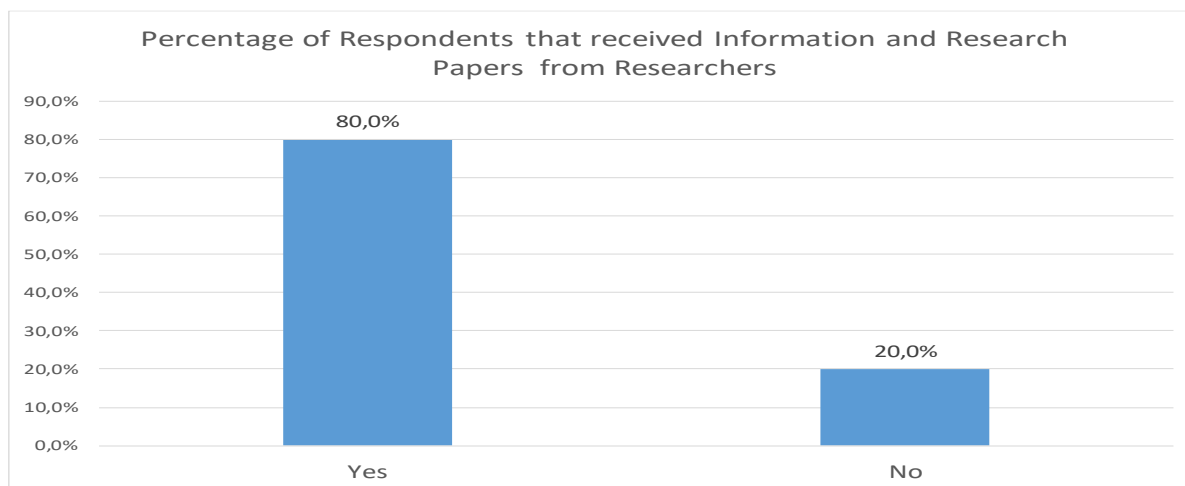


Figure 4: Percentage of Committee Secretaries that received information from Researchers

Four Committee Secretaries indicated that they received research papers from Researchers, while one Secretary indicated that they had not received research papers.

12.4. How did you access/ received research papers?

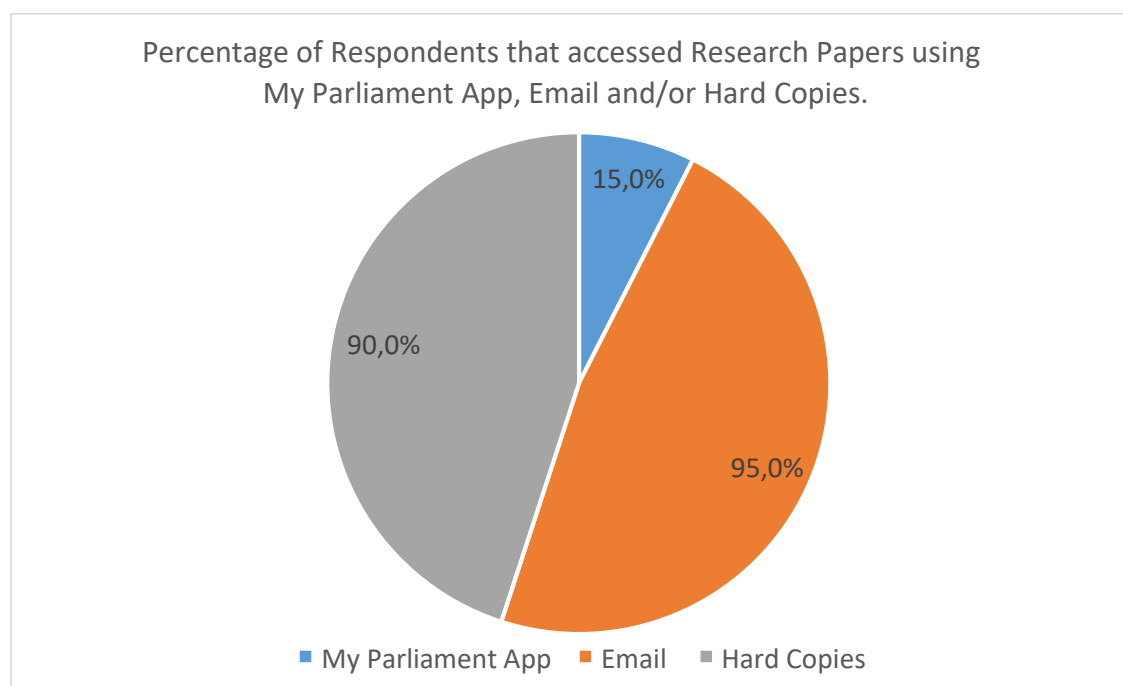


Figure 5: Percentage of Members accessing research papers using different platforms



Nineteen Members accessed or received research papers via Email, eighteen Members via Hard Copies and only three Members accessed the research papers via the My Parliament App. From this finding, we can infer that Members access research papers via Email and receive Hard Copies, which is made available in the Committee Meeting.

12.5. How do Members access/receive information and research papers?

This question was put to Committee Secretaries to gauge whether their responses correlated with those given by the Members.

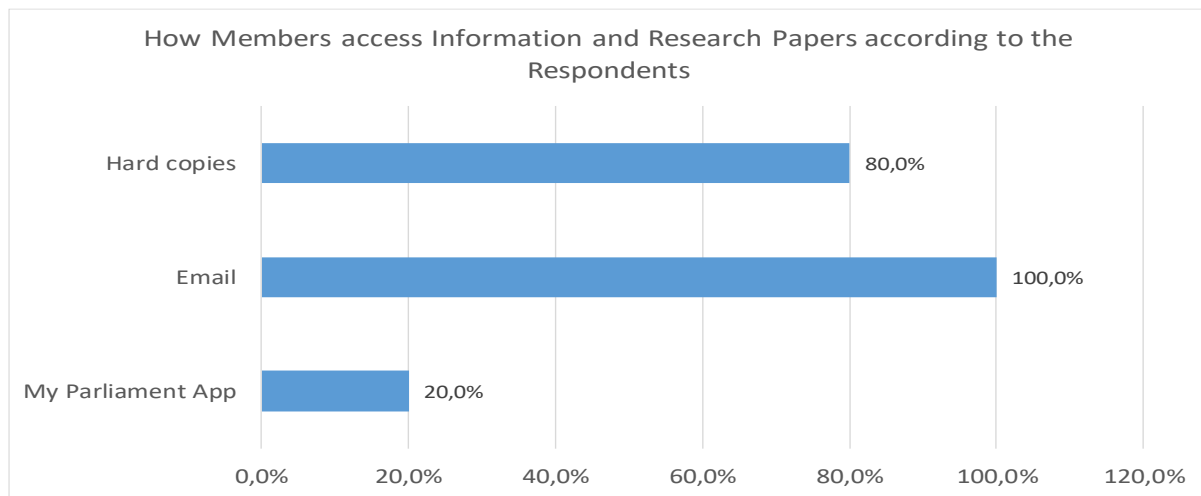


Figure 6: How Members access information and research papers

All five Committee Secretaries indicated that Members mainly access or receive research papers via Email, followed by hard copies. Only one Secretary indicated that Members access research papers via My Parliament App.

12.6. Did the research papers assist you in performing your Parliamentary role?

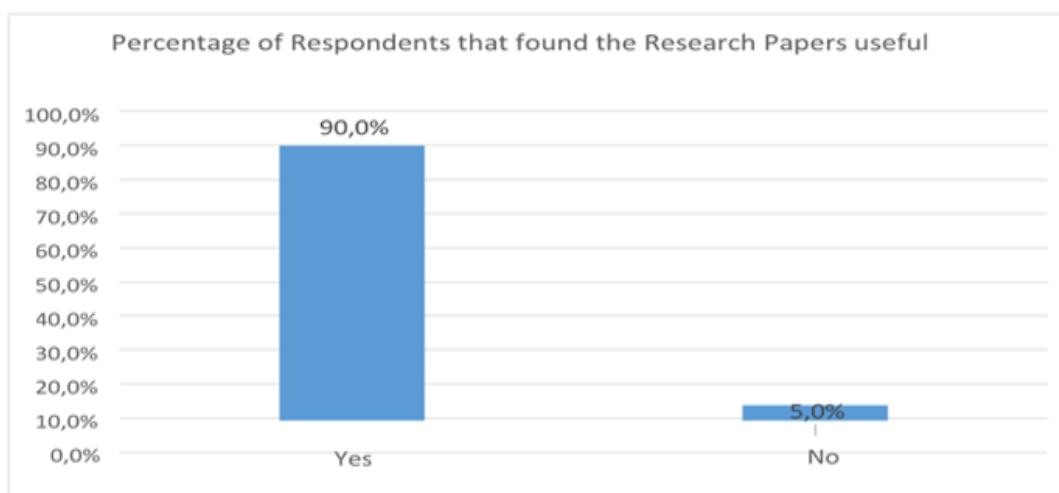


Figure 7: Percentage of Members that found research papers useful



Eighteen Members indicated that they found the research papers useful, which correspond with the number of Members that indicated in the affirmative that they do receive research papers from Researchers. The one Member had indicated that he/she did not receive research papers and therefore deemed the research papers as not being useful. One Member did not answer the question.

12.7. How do you prefer to access /receive information and research papers?

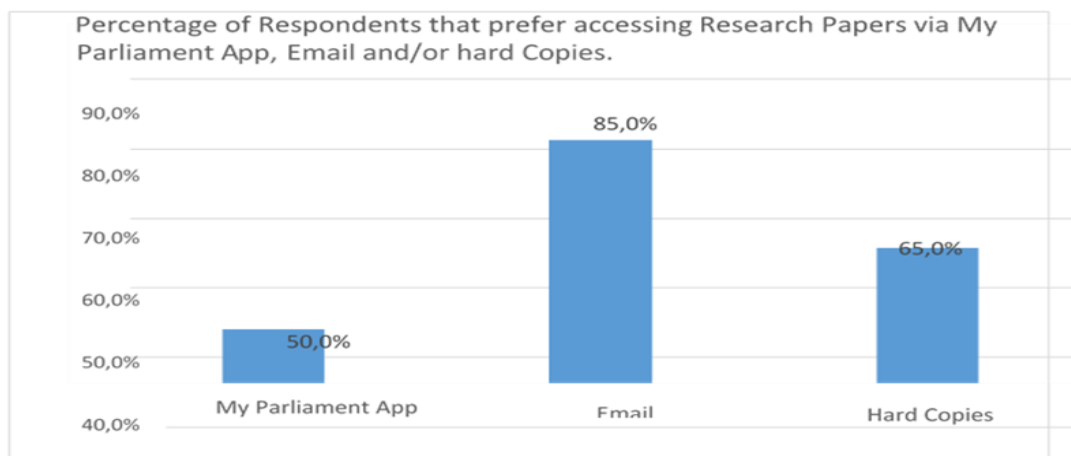


Figure 8: Percentage of Members that prefer accessing research papers via different platforms

Seventeen Members indicated that they prefer to access or receive research papers via Email, thirteen Members preferred Hard Copies, while only ten Members had a preference for accessing research papers via the My Parliament App.

12.8. How do Members prefer to access/receive information and research papers?

This question was put to Committee Secretaries to measure whether their responses correlated with those given by the Members.

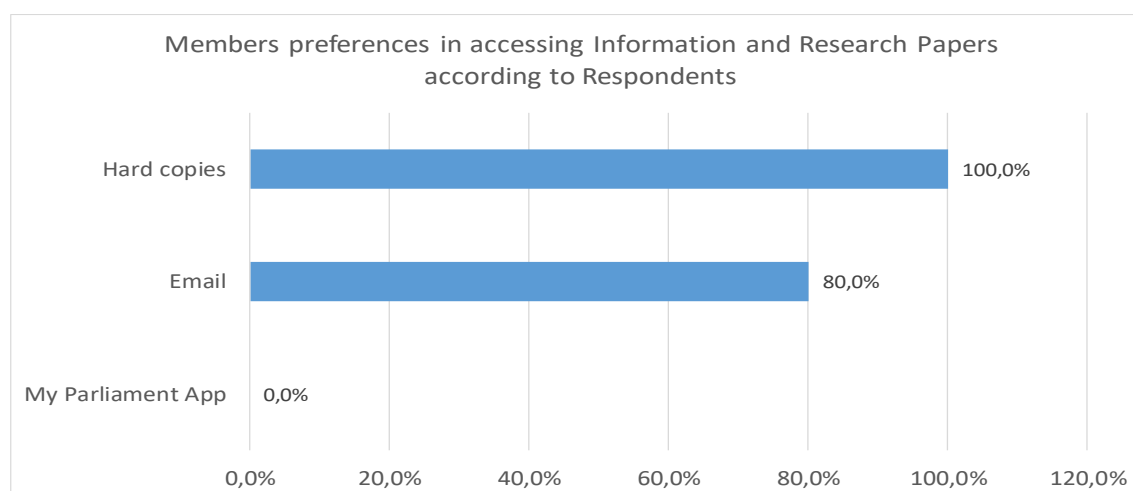


Figure 9: Members preferences in accessing information and research papers



All five Committee Secretaries indicated that Members preferred accessing information or research papers via Hard Copies, followed by Email and were of the view that none of the Members preferred the My Parliament App.

12.9. Do Members use their devices, software and data that are provided?

The questions from 2.9 to 2.12 was put to Committee Secretaries to gauge their perception regarding Members' use of available technological devices and applications and the ease with which they use it.

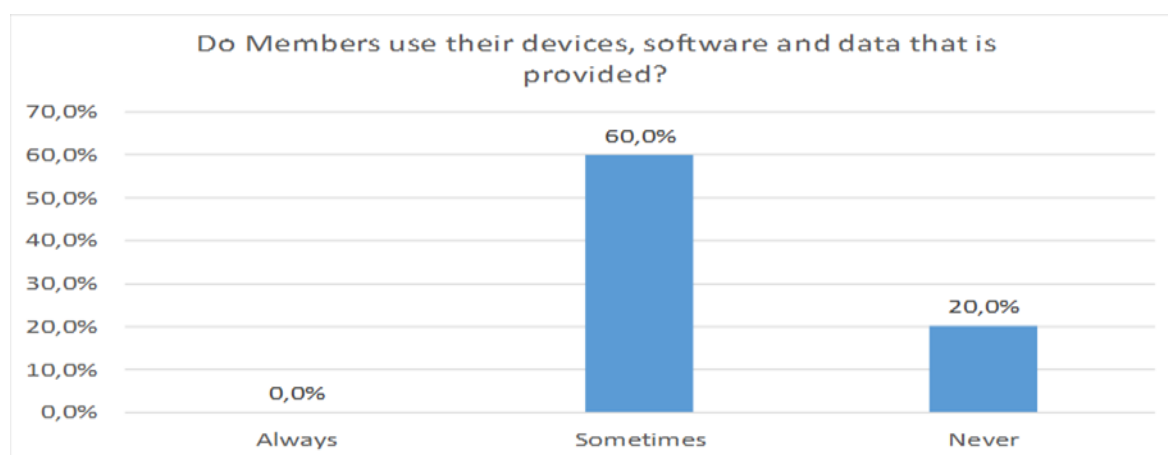


Figure 10: Members usage of allocated devices, software and data

Three Committee Secretaries were of the opinion that Members only make use of their Parliament-issued devices, software and data sometimes. While one Committee Secretary was of the opinion that Members never make use of their allotted devices and one Secretary was uncertain and did not answer the question.

12.10. How comfortable are Members using the My Parliament App?

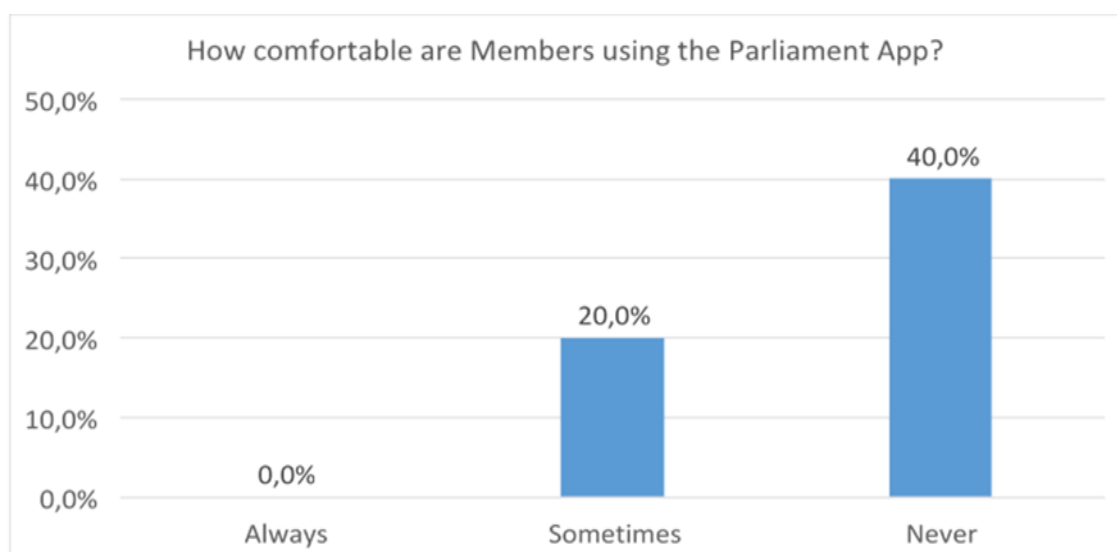


Figure 11: Members usage of the My Parliament App



Two Committee Secretaries were of the opinion that Members were not comfortable with using the My Parliament App. While one Committee Secretary indicated that Members sometimes used it and two Secretaries was uncertain.

12.11. Is the My Parliament App user-friendly?

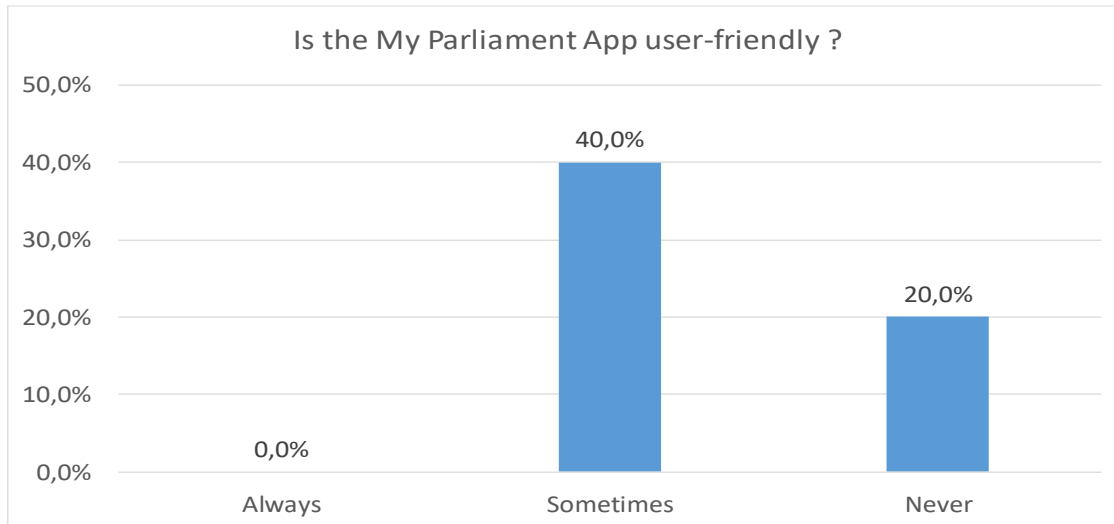


Figure 12: How user-friendly is the My Parliament app

One Committee Secretary was of the opinion that Members did not find the My Parliament App user-friendly at all. While two Committee Secretaries answered sometimes and two Secretaries were uncertain and did not answer this question.

12.12. Are Members able to easily communicate with support staff during meetings?

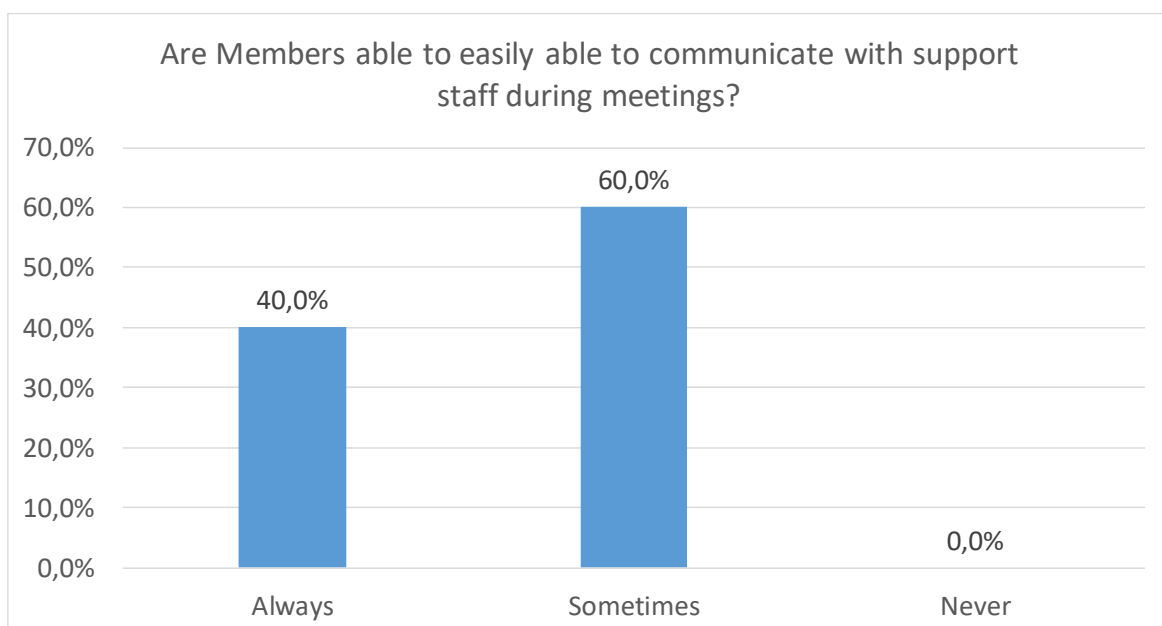


Figure 13: Staff accessibility to Members during meetings



Two Committee Secretaries were of the opinion that Members were always able to easily communicate with support staff during meetings. While three Secretaries were of the opinion that Members were only sometimes able to easily communicate with support staff during meetings.

12.13. How do you prefer the information to be presented?

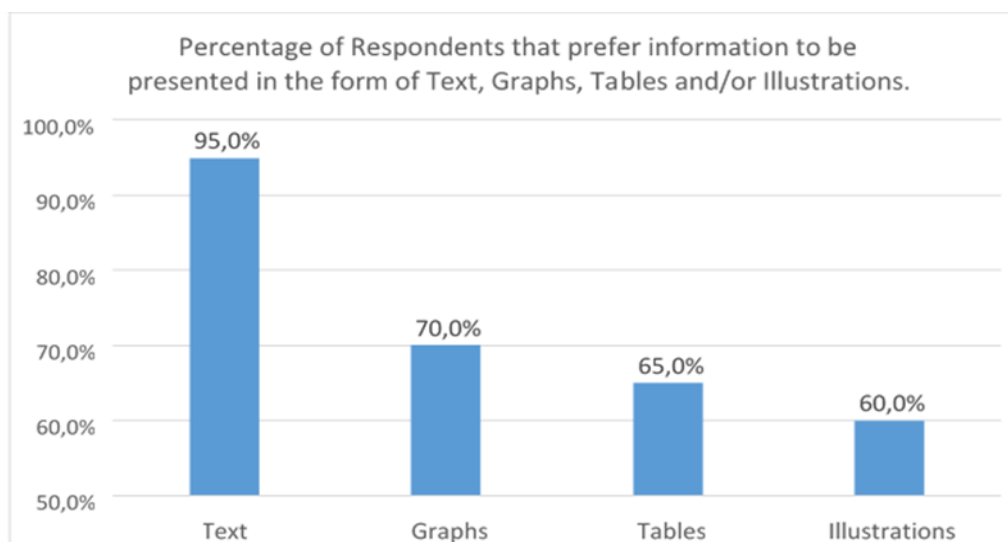


Figure 14: Members preference for receiving information in various formats

The majority (i.e. 19) of the Members indicated that they preferred information to be presented in Text form, followed by fourteen Members indicating a preference for Graphs, thirteen Members showed a preference for Tables and twelve Members indicated a preference for illustrations. Only one Member specified other forms, and suggested videos.

12.14. Do you support the initiative of a paperless Parliament?

Table 3: Members perception of a paperless Parliament

Committee Members	Answers
1	Yes
2	Yes
3	Yes
4	Yes, but then the system must not give IT problems.
5	Yes, paperless. Support fully.
6	Yes, but a short course to be provided for those in short coming in IT.
7	No comment made.
8	I do from an environmental perspective.
9	Yes
10	Yes, it is feasible, members can print what we would like to have in hard copy.
11	Yebo, yes
12	I prefer hard copies, as I'm facing a problem with the laptop.
13	Yes, Hon members who looks for Parliament assistance on how to use gadgets must be used without hesitation.
14	Yes, due to the fact that we promoting e-reading and 4IR.
15	Yes, I do. It will preserve the environment.
16	I am so, so about it.
17	Yes, Cost saving.
18	Yes, (if) it is user friendly.
19	As with everything balance is needed. Paper makes it easier to make notes and keep records. Too much paper, however, means that less is read and makes filing more difficult.
20	I believe that we can and must lessen our use of paper, but I don't think that one will be able to cancel out the use of paper completely.



The majority of the Members are supportive of the initiative of a paperless Parliament, but with the caveat that the technology provided should be user-friendly and accompanied by training. Some Members were also of the opinion that a balanced approach should be taken towards a paperless Parliament, as hard copies are easier to read and are useful for making notes.

12.15. How many printed copies in a pack do you provide each Member?

Committee Secretaries	Number
1	3
2	4
3	5
4	
5	1
Average number	2,6

Figure 19: Number of printed copies in a pack for Members

Only four Committee Secretaries answered this question and the average number of documents in a pack is 2.6. The highest number of documents in a pack is five and the least is one.

12.16. What kind of documents are accessed via the My Parliament App?

Committee Secretaries	Answers
1	Word documents, eg. Agenda, minutes of previous meeting etc. Powerpoint presentations. Excel and PDF reports.
2	Should be, but don't think they are - minutes, presentations, notices etc.
3	Notices, research briefs, presentations received, content briefs.
4	
5	I don't know, I never used this app. I thought its only for MPs.

Figure 20: Kind of documents accessed via the My Parliament App

The Committee Secretaries indicated that the type of documents accessed via the My Parliament App includes Agendas, Meeting Minutes, Notices, Research Briefs, Content Briefs and Presentations. While one Committee Secretary indicated that, he/she never used the My Parliament App to load documents and thought that it was only for use by Members.

13. RECOMMENDATIONS FOR AN EFFECTIVE e-PARLIAMENT

Many parliaments have the resources to invest in digital innovation and have thus been able to explore more radical participatory and collaborative projects. However, many parliaments struggle with inadequate resources, even for fairly basic processes, such as maintaining a parliamentary portal.³⁰ Financial resources and adequate staff remains major constraints for effective e-Parliament.

The following are recommended for an effective e-Parliament:

³⁰ Inter-Parliamentary Union (2018).



- Adequate financial and human resources;
- Digital optimisation and transformation;
- Capacity building and training required for all, including MPs and staff;
- Interface platforms for processing and management of data, that is, a Parliamentary Nerve Centre and Academy;
- Enhanced accessibility needs to be improved so that Members and staff have access to internal administrative programmes, such as Marang etc.;
- Software applications should be available to staff i.e. infographics, data software packages;
- Software applications, such as the My Parliament App should allow for editing properties so Members can make notes and highlight information accessed on the App;
- User-friendly applications;
- The implementation of the paperless initiative should be nuanced, taking into account the different needs of Members and staff;
- Adequate resources should be provided to ensure that Members and staff are effective in working remotely; and
- Remote working conditions protocols should be developed.

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