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Information literacy and sustainability in the context of implementing the National Records Management System (e-SNGD) in the Mozambican Public Administration

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Abstract: Information literacy and sustainability are discussed in the context of implementing of the National Records Management System (e-SNGD), in the Mozambican Public Administration aiming to demonstrate the importance and relevance of equipping both public servants and the citizens with proper digital skills and tools to help the institutions achieve the Sustainable Development Goals, especially the goal 16. So, we look at public institutions as responsible for the management, preservation and access to digital archival documents that contribute to the materialisation of government plans and programmes through the decision-making process. We also look at the

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literacy of citizens, who need to effectively access the available information, respond to their demands and guarantee their participation in public life. This is an exploratory study, based on bibliographical research in several reliable sources of information and documentary research, with a greater focus on Mozambican legislation and projects, which were fundamental for the construction of the theoretical framework, as well as for the interpretation and analysis of the information obtained in the empirical location, through the content analysis method. It was found that the Mozambican Public Administration is still not properly equipped with quality human resources in terms of information and digital literacy. Much investment is still needed to train human resources and equip them with the essential skills to work in records management and long-term digital preservation environments for archival documents. Likewise, it was found that citizens have not benefited from concrete training programmes to easily access information that can respond to their demands. Internet penetration is low, as is the availability of technological resources, which are concentrated in the capital, and this reality immediately excludes citizens from enjoying the right to access information and active participating in public life and, thus, creates an imbalance in terms of sustainability, which stems from the objectives of sustainable development. It is concluded that there is a need for a robust investment in the public administration sector to create the necessary conditions for the implementation of the National Records Management System, taking into account all the elements that will allow the desired success to be achieved regarding long-term digital preservation. Furthermore, there is no point in digitally equipping public administration without including citizens in training packages and investing in the expansion of technological infrastructures.

Keywords: Digital preservation, Digital Information literacy, public administration professionals, Mozambique national records management system, Mozambican public administration.

Introduction

As Grácio, Fadel and Valentim (2013) point out, digital preservation is a pressing need, in the context of the increasingly growing and challenging production and dissemination of information in digital media. In the preservation process, it is necessary to guarantee continued, long-term access to digital archival information, which is authentic, complete and capable of being interpreted in the future, even in a different technological context.

This concern grows on a large scale when a special look is given to the public sector, as it constitutes the largest producer of archival information and concentrates in its custody the information that proves governmental actions and the interaction between the citizen and the

institutions that exercise state power and provide various services through Public Administration.

This responsibility of the Public Administration demands the existence of highly qualified professionals capable of responding to the challenges of the digital era and carrying out tasks aimed at ensuring sustainable development, where access to quality information and a precise response to citizens' desires are the focus of the professional practice.

In other words, these professionals need to have mastery of technologies, the logic of information storage and retrieval, as well as all the aspects present in the context of managing informational tools, respect for archival principles and correct information management, summarized in information literacy in complementarity with digital literacy.

Evidently, there are major risks associated with the digital context and these are based on the dependence of digital objects on technologies (software, hardware and formats) that are characterized by continuous and rapid evolution, generating direct consequences such as obsolescence and degradation of media.

For Santos, Ciocheta Mazuco and Flores (2020), technological obsolescence combined with the lack of management and preservation policies for digital records increases the risk of loss of information. In this context, it is essential that, among other elements, when implementing digital preservation, institutions seek to use internationally accepted models and standards that guarantee the effective reach of this implementation, looking at the systemic digital preservation approach as the most advisable model in the present.

Therefore, the topic "Information literacy and sustainability in the context of implementing the National Records Management System (e-SNGD) in the Mozambican Public Administration" is discussed as a way of drawing attention to the need and relevance of investing in the training and continuous training of professionals involved in the management of archival information throughout its life cycle and thereby contributing to sustainable development. So, the objective of this research *is to demonstrate the importance and relevance of equipping both public servants and the*

citizens with proper digital skills and tools to help the institutions achieving the Sustainable Development Goals, especially the goal 16.

This concern arises from the first signs that are seen in an "institutional and coordinated" manner towards the digital transformation of Public Administration, which is embodied in the implementation of the National Records Management System (e-SNGD). Unfortunately, this project is not accompanied by more robust professional training actions and guarantee of information literacy in Public Administration and these aspects can negatively affect the quality of services provided to citizens and the nation.

In the case of a digital transformation process, there is a set of elements that must be observed and are within the domain of professionals, we are talking about norms, standards and policies that outline the guidelines for professional action, with a view to effectively achieving objectives of digital preservation, provision of access to information for the usufruct of civil rights.

Information literacy combined with the awareness of the elements mentioned above contribute to a public commitment to development based on the precepts of the Sustainable Development Goals (SDGs) presented in the 2030 Agenda.

The discussion raised may serve to boost a more in-depth and contextualized theoretical-academic debate, as well as directing individuals who lead the implementation of the National Records Management System (e-SNGD) to the necessary reflection and investment in information literacy oriented to the use of adequate, rational and effective procedures that will support the decision-making process, as well as the construction of institutional and collective memory.

Methodologically, this is a qualitative study in its approach and descriptive-exploratory in its objectives. To build the theoretical basis, a literature review was carried out based on texts retrieved mainly from the Journal of Information Science and Documentation (InCID), Information Science Database (BRAPCI), Brazilian Institute of Science, Information and Technology (IBICT), Brazilian Journal of Digital Preservation (RBPD)

and other sources such as the National Archives Council (CONARQ), International Research on Permanent Authentic Records in Electronic Systems (InterPARES) and International Organization for Standardization (ISO).

To select the articles and books, we considered topics and subtopics concerning literacy; digital literacy; sustainability; sustainable development goals; information access; agenda 2023, both in Portuguese and English and we excluded all materials that were dealing with other several topics.

Likewise, documentary research was carried out, covering the legislation relating to the National State Archives System (SNAE); National Records Management System (e-SNGD); international documents such as "Transforming Our World: The 2030 Agenda for Sustainable Development" and other documents that proved to be essential for understanding and exploring the subject in study.

The data collected was systematized and analyzed based on the content analysis method, using Bardin (2009, 2011) as the main references. Bardin (2009) states that content analysis integrates different techniques such as categorical analysis, evaluation analysis, enunciation analysis, propositional discourse analysis and expression analysis. To carry out data analysis, in this research, it was necessary to implement the categorical analysis technique that is conceived by Silva and Valentim (2019) as the most appropriate for qualitative research.

Under the proposal of several authors and as implied by the name itself, "categorical analysis" suggests the creation of analysis categories. Chelimsky (1989) considers categories to be the "heart" of content analysis, as they guarantee the structuring of the information subject to analysis and this was the base for the creation of this research´s categories.

Information Literacy and sustainability

Silva (2008), in his approach to the issue of information literacy, reports that it arrived to Information Science from other sources and approaches such as business management, human resources, Pedagogy and

Didactics and its intersection with Educational Psychology and Sociology. So, from the 70s of the 20th century, it became pertinent to identify and promote personal skills for carrying out a set of tasks and activities.

The first to mention the term Information Competence was Paul Zurkowski in 1974, when he presented the report "The information service environment relationships and priorities" to the National Commission on Libraries and Information Science (NCLIS), which addressed social changes influenced by growing and remarkable technological development that put American citizens in great difficulties in using the technological resources available until that time, due to a lack of appropriate skills to the context (Furtado, Cavalcante, & Santos, 2022).

From then on, it was essential to invest in the creation and promotion of appropriate skills for professionals through training programs aimed at employment, with the aim of facilitating the search and retrieval of information to respond to various demands.

This new approach was easily welcomed by librarians and archivists from the perspective that Library, Documentation Center and Archive users need to be guided in the search of information (Silva, 2008).

The information professional began to assume a dual role ("teacher" and facilitator). As teachers, working on information literacy and as facilitators, guiding users within the information system, whether conventional or a digital system. However, in the current context, that of the post-custodial, informational and scientific paradigm, has been marked by major technological advances, where hardware and software change rapidly and, all of this, requires constant adaptation, more contextualized and not oriented to rigid criteria work.

In this sense, analytical and critical qualities are required from the information professional in their performance, satisfying all the nuances of information literacy and ensuring that the usufruct of citizenship, as well as the decision-making process take place in an effective and unequivocal manner.

It is in this context that Johnston and Webber (2006) give high importance and consider information literacy as a relevant discipline that can mitigate the phenomena arising from digital transformation and recover the narrative of analytical and critical qualities to define an information-competent person as social and self-aware person and not a simple repository of skills and knowledge.

Information literacy is conceptualized by Deepmala and Upadhyay (2021) as "[…] the set of skills to search and understand the sources that will provide accurate information (facts, knowledge, data)." (p.2). And, for IFLA (2006)

information literacy is assumed to be the knowledge and skills necessary to correctly identify information needed to perform a specific task or solve a problem, cost-efficiently search for information, organize or reorganize it, interpret and analyze it once it is found and retrieved (e.g. downloaded), evaluate the accuracy and reliability of the information, including ethically acknowledging the sources from whence it was obtained, communicate and present the results of analyzing and interpreting it to others if necessary, and then utilize it for achieving actions and results. (p.17)

Different from information literacy, digital literacy is understood by IFLA (2006) as "Knowledge and skills required to understand information and communications technologies (ICT), including hardware, software, systems, networks (both local area networks and the Internet) and all other components of computer and telecommunications systems." (p.2).

Information and digital literacy constitute continuous learning throughout professional life, taking into account that the information and the digital context are characterized by constant and increasingly rapid changes. All of this creates a deeply complex, challenging and very demanding scenario regarding the attitudes of archivists.

Looking at information literacy and the digital transformation of public administration, the question of analytical and critical qualities is even deeper, since most of the state archival information is created and accumulated in public institutions as records resulting from activities that

testify the exercise of state power, as well as activities linked to fulfilling the duties and citizens´ rights.

Information managers, as well as archivists are called to work within the framework of archival intelligence which, according to Furtado, Cavalcante and Santos (2022) is based on three dimensions:

> (i) Knowledge of archival theory, practice and procedures – Includes skills to understand archival terminologies; the interpretation of primary sources and their copies; internalization of the rules of archival institutions; understanding of their own level of knowledge domain and other areas.
>
> (ii) Strategies to reduce uncertainty and ambiguity – Considers that the uncertainty and ambiguity of questions and answers in research with primary sources makes the process difficult. In the mediation process, the archivist needs to obtain accurate information from the researcher to be able to meet their needs while the researcher must formulate clear questions to be able to effectively and efficiently use the archive.
>
> (iii) Intellectual skills – This is an essential characteristic for an excellent archivist, as it allows you to develop search strategies using the principle of provenance and interpret archival materials. It is also essential for the researcher, as it allows the association of original archival material and its representations.

Taking into account that this study is aimed at public administration, it is important to understand that the main users of archival information are the various professionals who carry out administrative tasks within a legal framework that gives them such power and formalizes their actions and legitimize the decision-making process. And, in the background, there is society in general (citizens) who, within the legal limits established by the laws on the right/access to information, may have access to ostensible documents.

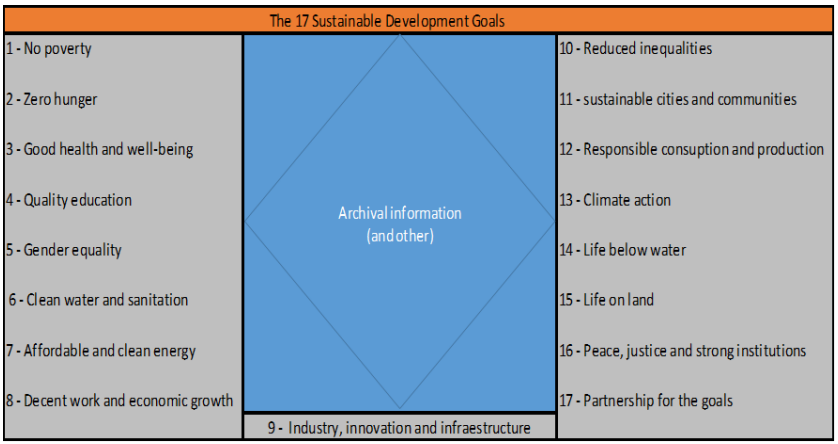
However, the idea of the fundamental role of the archivist or information manager is recovered in order to create the necessary conditions

so that access to information (traditional or digital, with adequate and balanced mechanisms) is a reality and the institution is aligned with the goals of sustainable development, set out in the 2030 agenda. It should be noted that, in order to achieve all the goals set out in the 2030 agenda, archival (and other) information plays a fundamental role, as it is at the center of the decision-making process.

Now, for example, the sustainability of major decisions that are taken by governments or administrations largely depend on the quality of information that is retrieved, accessed and used, meaning that a sustainable decision-making process is only possible in the presence of professionals with information literacy and who promote adequate document processing, correct disposal practices, positive information culture and oriented towards access to information.

Only under full conditions of information literacy and digital preservation of archival documents, the 17 (seventeen) sustainable development goals can be effectively and directly achieved, especially the goal 16. This means that all goals and the data and information that are necessary for their achievement can be found in several sources, but mainly in public institutions archives as shown in the figure 1 below.

Figure 1: Importance of information for sustainability



Source: Authors

Digital Preservation of archives in the Public Sector

Within the framework of technological transformations taking place in various dimensions and spheres, including in Public Administration (for a digital public administration), great concerns arise regarding the guarantee and fulfillment of citizens' fundamental rights, taking into account that Public Administration is the meeting point between government actions (exercise of power) and citizens' aspirations.

These citizens obviously expect to be served by high-quality professionals who can offer procedural speed, efficiency, effectiveness and precision in retrieving information that is of interest to them for various purposes and in the provision of services in general.

In this context, there is a public investment in the use of increasingly modern information and communication technologies (ICT), which allow the production and processing of electronic administrative processes, seeking to reduce bureaucracy; increase transparency, control, agility, equality and other elements associated with the assumptions of the social contract between the state and citizens.

However, Schiefler, Cristóvam and Sousa (2020) draw attention to the negative consequences that may arise from these advances in the adoption of electronic administrative processes, raising aspects linked to inclusion and exclusion, as "there are cases in which the virtualization of administrative activity may be responsible for deepening inequality between citizens", taking into account inequalities in access to digital platforms.

Furthermore, an approach to digital preservation proves to be indispensable for understanding the actions of Public Administration professionals aimed at sustainable development and it is, therefore, essential that these professionals' present capabilities and qualities integrated into information literacy or competence, especially those who deal with archival information.

As stated by Santos (2012), technology has demonstrated a new paradigm for the management and preservation of archival records, as "the

document is no longer an indissoluble unit between information and its recording support.".

In this new paradigm, all practices that circumscribe the document throughout its life cycle have changed, or in other words, demand new approaches, capabilities and professional skills based on collaborative work.

The volume of documents has increased due to the ease of production and circulation of information, but major challenges remain linked to control, security, authenticity and integrity, which can only be properly addressed based on the implementation of long-term digital preservation. This scenario may be more striking in Public Administration, taking into account its dynamics, routines.

Therefore, digital preservation is fundamental and unavoidable in the current context of the information and knowledge society. Elves (2012) states that the history of digital files is intrinsically or completely linked to the history of computers and, in a linear way, a connection can be made to the very concept of digital records which refers to a record produced in a computational environment, characterized by binary digits, which can only be read using computational devices. Furthermore, the entire life cycle of these records takes place in this computational environment.

This is why Formenton and Gracioso (2020) state that the main difficulties of digital preservation arise from the peculiarities that characterize digital objects, whether they are born digital or digitized, as these particularities reflect on issues of reliability, authenticity and integrity of the records in their management, archiving and long-term access.

The challenges of digital preservation are not just technical ones, other factors influence the increase in complexity surrounding the matter. Evidently, there is also the influence of capitalism, a factor that leads companies that manufacture technologies to compete with each other and accelerate new inventions to sell and satisfy the increasingly informed and demanding user, as well as to establish their positions in the business world, without necessarily worrying about observing archival peculiarities (Elves, 2012).

In this sense, it is essential that archivists keep up with technological developments and equip themselves in order to effectively integrate and respond to the demands placed on them, guaranteeing the maintenance of the authenticity and integrity of digital objects, as well as its access (the focus of all their actions).

Ruusalepp (2005) warns that digital preservation is still seen as a not completely resolved subject, its practice in archives (of public administration) is in its infancy and the techniques and methods are still under discussion, this is because the theory itself around of digital preservation had to be considered. It was destroyed after the fact and its consolidation has always proved to be quite difficult due to the constant change in technology and other elements associated with the peculiarities of archival documents.

In terms of conceptualization, Tavares and Freire (2021) state that Digital Preservation is a set of practices applied to digital documents as a way of maintaining continued access to that document, so that the information remains authentic and capable of being interpreted in the future.

Grácio et al. (2013) specified this concept and added other elements, considering Digital Preservation as an organizational management process that encompasses several activities necessary to ensure that a digital object can be accessed, recovered and used in the future, based on Information and Communication Technologies (ICT) existing at the time and with guarantees of authenticity.

It should be noted that authenticity is based on the guarantee that the digital object is authentic, meaning that, it reflects the original content of its creation/production. The authors emphasize that the issue of authenticity is central and, therefore, is practically mentioned in all concepts of digital preservation, as digital documents attract a set of problems or risks that, if not properly controlled, can easily alter the authenticity and the integrity of digital objects (Cabsela & Macie, 2022).

The risks mentioned above are associated with the dependence of these types of documents on the technological environment resulting on

direct consequences such as obsolescence, degradation and other situations (Cabsela & Macie, 2022).

Márdero Arellano (2008) suggests that the archival perspective of preservation starts from the integral understanding of the limits, meanings and all the aspects surrounding documents (authenticity, proof/evidence quality, integrity of information, context of production, maintenance and more), emphasizing that organizations and archival institutions that create and are responsible for the permanent custody of these documents must carry out to keep digital objects authentic.

It is worth highlighting that archival documents have defining characteristics (fixity, organicity, naturalness, uniqueness, authenticity and impartiality) and it is essential that these are respected, as they are fundamental for the acceptance of documents as records of actions carried out by a given institution or person and they can exercise their evidentiary function without any suspicion or limitations (Santos, 2012).

Now, the loss of some of the characteristics mentioned above leads to the loss of the (probative) value of archival documents, which has consequences for the continuity of institutional actions, negatively interfering with the constitution of memory and the usufruct of citizenship. The digital preservation concepts presented refer to a combination of efforts that aim to keep documents unchanged (authentic and intact), within their production context and accessible in the future using media and formats different from those at the time of creation, therefore, it is important that digital preservation is complete, planned, coordinated, evaluated and controlled.

To guarantee this plenitude of digital preservation, Grácio et al. (2013) suggest that it must, firstly, be based on a policy, which observes the combination of three fundamental elements, the legal, technical and organizational aspects, that is, preservation cannot be implemented without there being a formal instrument that instructs and indicates the guidelines for professionals to act, the scope of preservation, the infrastructural and technological conditions, the models and standards and other guidelines

that will allow the maintenance of the essential characteristics and safeguard the longevity of public administration documents.

The foundation of preservation in a policy is, among other aspects, important to ensure that the life cycle of documents takes place in an uninterrupted chain of custody, guaranteeing completeness, efficiency and effectiveness in the recovery of information, moving towards integral support to sustainable development that is based on the availability and quality of information. It should be noted that it will not be the operating systems that guarantee the achievement of these elements, but rather the actions of competent professionals who work in institutions committed to promoting information literacy (without leaving aside digital literacy) in favor of sustainability and other purposes.

Advancing to a digital perspective cannot mean abandoning traditional archives, as these still predominate in institutions and need special attention. The digital transformation itself is truly conditioned by the way in which physical documents are stored and retrieved.

The Records Management National System (e-SNGD) and sustainability

The e-SNGD reveals itself as the first sign (attempt) aimed at implementing the digital preservation of archival documents in the Mozambican Public Administration.

The system arises in the context of an attempt to overcome the challenges imposed by COVID 19 and in the spirit of modernizing Public Administration to simplify procedures and processes and, thus, respond to the various challenges linked to the provision of services provided by public institutions, although computerization of such services is not yet effective (MAEFP et al., 2022a).

Regarding the implementation methodology, two phases are planned, the pilot and the expansion. At the moment, the implementation of this system is in the pilot phase, involving only the Ministry of State Administration and Public Service (MAEFP); the Mozambique

Documentation and Information Center (CEDIMO); the National Institute of Electronic Government (INAGE); the Historical Archive of Mozambique (AHM); the Commission for the Implementation of State Secrecy (CPISE). These institutions are involved in the development of the e-SNGD and the management of the National State Archives System (SNAE) (MAEFP et al., 2022a).

As presented by MAEFP et al. (2022b), in the "Terms of Reference for the operationalization of e-SNGD", the central objective of this system is "to provide the Public Administration with technological mechanisms for monitoring the processes of managing State documents and archives." (p.3). To achieve this objective, the system will observe two phases of implementation, first, the pilot phase that integrates the institutions mentioned above and, second, the expansion phase that will cover the entire Public Administration.

In the implementation process, it is planned to carry out a set of contacts to exchange experiences in the Southern African region with member countries of the Eastern and Southern Africa Regional Branch of the International Council on Archives (ESARBICA) and in other countries with experience in electronic records management such as South Africa, Botswana, Tanzania, Malawi, Malaysia, Portugal, Brazil, and Canada, as well as exchanging experience at local level, in the municipalities of Dondo (Sofala) and Quissico (Inhambane) to consolidate the gains achieved in the development of e-SNGD and minimize future errors.

These experience exchange meetings are necessary in this process, because as suggested by Grácio et al. (2020) the search for partnerships with other institutions that work in the area of digital preservation is essential, as these processes cannot be developed in an environment of complete isolation. Partnerships allow the exchange of knowledge and experiences for the multidisciplinary team designated as responsible for implementing digital preservation, which will provide the team with knowledge about international models, norms and standards.

It should be noted that e-SNGD includes two subsystems, CloudGov and e-Doc. According to MAEFP et al. (2022), cloudGov was designed

to function as a permanent archive and is hosted on the Government's internal network (GovNet) and the eDoc is a records management subsystem oriented to each institution's internal processes and essentially aims to guarantee interaction between users and public institutions.

Taking into account that item nr. 8 of the "Information on the Development of the e-SNGD" states that it is designed with maturity for future modifications and communication with other systems, ensuring interoperability. It is essential to explore this element and the necessary conditions must be created for the parallel installation of more systems that will serve to provide access, which could be AtoM, as it is a well-known system in Mozambique and public servants and citizens can operate it with some ease.

The issue of internet penetration, as well as literacy or digital literacy, is also crucial for access to information and the exercise of citizenship, in this context, according to the National Institute of Statistics, in the sense of 2007 – 2017, only 8.1% of men had access to the internet and for women the percentage was 5.3%, which reveals an extremely challenging picture.

More current data indicate a slight increase, but still far from the most favorable proportions and according to the Ministry of Science and Technology (2023), the highest rate of access to ICT and the internet is concentrated in the city of Maputo, the capital of the country, with 87.9% of the country and the remaining 2.1% provinces ranging from 0.4% to 3.1% are distributed across the remaining provinces of the country. There are few direct actions aimed at mass access to the internet and ICTs in general.

However, this framework needs to be improved and ensure that interoperability is a reality. Interoperability is a crucial element in terms of literacy, as employees who are not fully qualified cannot be able to deal with the various intercommunications between the systems and in the meantime, the chain of custody may be broken, compromising authenticity and reliability.

As Formenton and Gracioso (2020) warn, maintaining authenticity and reliability is essential. Therefore, we understand that inauthentic and unreliable documents cannot guarantee any institutional stability or sustainability, but they could contribute to making wrong decisions that contradict the goals of sustainable development, especially objectives 9 and 16.

In the e-SNGD project, many of the essentially archival elements, such as standards and norms, are not presented, as it is moving forward in a context in which there are no digital preservation policies and, in the project, there is no guidance for institutions to develop their policies to later implement the e-SNGD in an environment that provides the necessary security and trust.

As Macie, Madio and Grácio (2023) point out, even in the absence of a national digital preservation policy, nothing prevents institutions from developing their own policies and, in this regard, there are considerable success stories around the world that can serve models for policy making.

Furthermore, it is the fact that no mention is made of the elements of security, validity, authenticity, integrity of archival documents or metadata management, that is, time stamps or electronic/digital signatures are not addressed, elements that are basic and indispensable for a process of this nature.

Therefore, carrying out the analysis of the recovered texts and documents and considering the categories that involve information literacy in public administration, the e-SNGD does not configure a mechanism that is aligned with this perspective. The training and professional training actions that have been carried out do not focus on archival assumptions, they are focused on the use/handling of systems, it means that the focus is particularly technological.

With this situation, there could easily be a development from the perspective of digital literacy and not necessarily from the perspective of information literacy, which will not help much in solving problems and could compromise informational balance or sustainability.

Conclusion

It is clear from the bibliographic research that information literacy, combined with a balanced digital preservation, must involve a deep concern with the digital archives throughout its life cycle. Digital records need to be handled by competent professionals, who can easily understand that documents need to be stored in appropriate environments for each moment of the life cycle in order to ensure that they are not altered or modified and the chain of custody is not broken, thus maintaining a balance at various levels.

Specifically, it was found that the Mozambican Public Administration is still not properly equipped with quality human resources in terms of information and digital literacy. There is still a lot of investment needed to train human resources and provide them with essential qualities and tools to operate in records management and long-term digital preservation environments for records.

Likewise, it was found that citizens have not benefited from concrete training programs in order to be able to easily access information that can respond to their demands. Internet penetration is weak, as is the availability of technological resources. All these are concentrated in the capital city and this reality immediately excludes citizens from benefiting from the right to information access and active participation in public life and, thus, creates an imbalance in terms of sustainability emanating from the goals of sustainable development.

It is clear that there is a need for a robust investment in the public administration sector, in order to create the necessary conditions for the implementation of the e-SNGD, respecting all the elements that will allow the desired success to be achieved regarding long-term digital preservation. Furthermore, there will be no point in digitally equipping public administration without including citizens in training packages, as well as investing in the expansion of technological infrastructures.

Another important element is that the e-SNGD needs to be adapted to the precepts of systemic digital preservation, which involves observing internationally accepted norms and standards and their full

implementation, guaranteeing the overcoming of technological problems that affect the authenticity and integrity of archival digital documents.

If all these aspects are successfully considered, Mozambican public sector will be able to actively contribute to the achievement of the Sustainable Development Goals, manly the goal 16, because the information ecosystem will be working in the proper way.

References

Bardin, L. (2009). *Análise de conteúdo* (4a ed.). Edições 70.

Bardin, L. (2011). *Análise de conteúdo*. Edições 70.

Cabsela, C. P., & Macie, G. C. (2022). Políticas de preservação digital: Mapeamento dos aspectos legais em Brasil e Moçambique. *Revista EDICIC, 2*(1), 1-15. http://ojs.edicic.org/index.php/revistaedicic/article/view/1500.

Chelimsky, E. (1989). *Content analysis: A methodology for structuring and analyzing written material*. United States General Accounting Office.

Deepmala, S., & Upadhyay, A. K. (2021). Information literacy: An overview. *Ilkogretim Online - Elementary Education Online, 20*(1), 4227-4234. http://ilkogretim-online.org. https://doi.org/10.17051/ilkonline.2021.01.465

Elves, D. (2012). *Advocating electronic records: Archival and records management promotion of new approaches to long-term digital preservation* [Dissertação de Mestrado]. Universidade de Manitoba, Universidade de Winnipeg.

Formenton, D., & Gracioso, L. S. (2020). Digital preservation: Challenges, requirements and scientific output. *RDBCI: Revista Digital de Biblioteconomia e Ciência da Informação, 18*, e01808658868. https://doi.org/10.20396/rdbci.v018i0.8658868

Furtado, R. L., Cavalcante, C. R., & Santos, F. C. A. (2022). Competência arquivística e inteligência arquivística como vertentes da competência em informação no horizonte da arquivologia contemporânea. *Perspectivas em Ciência da Informação, 27*(2), 163-192.

Grácio, J. C. A., et al. (2020). Modelo para elaboração de políticas de preservação digital de documentos de arquivo por instituições de ensino superior: O caso da Unesp. *Reciis – Revista Eletrônica de Comunicação, Informação e Inovação em Saúde*. 14(3), 563-579. http://www.reciis.icict.fiocruz.br

Grácio, J. C. A., Fadel, B., & Valentim, M. L. P. (2013). Preservação digital nas instituições de ensino superior: Aspectos organizacionais, legais e técnicos. *Perspectivas em Ciência da Informação, 18*(3), 111-129.

International Federation of Library Associations and Institutions (IFLA). (2006). *Guidelines on information literacy for lifelong learning*. Boca del Rio, México.

Johnston, B., & Webber, S. (2006). As we may think: Information literacy as a discipline for the information age. *Research Strategies, 20*(3), 108-121.

Macie, G. C., Madio, T. C. C., & Grácio, J. C. A. (2023). Cultura informacional consentânea com a preservação digital de documentos arquivísticos: Uma viragem necessária no contexto moçambicano. *InCID: Revista de Ciência da Informação e Documentação, 14*(1), 173-191. https://doi.org/10.11606/issn.2178-2075.v14i1p173-191

Márdero Arellano, M. A. (2008). *Critérios para a preservação digital da informação científica* (Tese de doutorado, Universidade de Brasília).

Ministério da Administração Estatal e Função Pública (MAEFP) et al. (2022a). *Informação sobre o desenvolvimento do Sistema Nacional de Gestão Documental (e-SNGD)*. MAEFP.

Ministério da Administração Estatal e Função Pública (MAEFP) et al. (2022b). *Termos de referência para a operacionalização do Sistema Nacional de Gestão Documental (e-SNGD)*. MAEFP.

Ministério da Ciência, Tecnologia e Ensino Superior. (2023). *Indicadores de ciência e tecnologia em Moçambique 2022-2023*. MCTES.

Ruusalepp, R. (2005). *Digital preservation in archives: Overview of current research and practices*. National Archives of Sweden.

Santos, H. M., Ciocheta Mazuco, F., & Flores, D. (2020). Preservação sistêmica de documentos arquivísticos digitais: Uma perspectiva holística. *PerCursos, 21*(46), 244-271. https://doi.org/10.5965/1984724621462020244

Santos, V. B. (2012). Preservação de documentos arquivísticos digitais. *Ciência da Informação, 41*(1), 114-126.

Schiefler, E. A. C., Cristóvam, J. S. S., & Sousa, T. P. (2020). Administração pública digital e a problemática da desigualdade no acesso à tecnologia. *International Journal of Digital Law, 1*(2), 97-116.

Silva, A. M. (2008). Inclusão digital e literacia informacional em ciência da informação. *Prisma.com*.

Silva, E., & Valentim, M. L. P. (2019). Avaliação da aplicação do método 'análise de conteúdo' em pesquisa sobre processos de gestão da informação e do conhecimento como subsídios para a geração de inovação. *Informação & Informação, 24*(1), 326-355. http://www.uel.br/revistas/informacao

Tavares, A. L. L., & Freire, I. M. (2021). A frente de pesquisa sobre preservação digital no Brasil. In L. M. B. B. Toutain (Org.), *A ciência da informação em movimento: Memória, esquecimento e preservação digital* (pp. 135-172). Ed. da Universidade Federal da Bahia.