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Collaboration between libraries, archives and museums in South Africa

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Background: Many libraries, archives and museums (LAMs) all over the world have begun digitising their collections, and with a good number of these institutions failing to sustain their digitisation projects because they cannot afford to, it is best to find ways to lessen the financial burden that comes with digitisation.

Objectives: The aim of this study was to determine the possible benefits and challenges if LAMs in South Africa were to collaborate on digitisation efforts.

Method: A mono-method qualitative study was undertaken. The objectives were addressed by making use of a literature review and by conducting non-standardised, semi-structured interviews with 21 interviewees located at different LAMs.

Results: It was found that funding for digitisation projects was a major problem, while collaboration between LAMs would involve sharing the financial burden among several institutions. In addition, reasons preventing LAMs from forming collaborative partnerships for the purpose of digitisation were also identified. A lack of collaborative digitisation policies and funding, both internally and between LAMs, was found to be a major obstacle for the formation of such partnerships. In determining the relevance of the research, it was important to determine whether or not LAMs in South Africa were open to collaboration and responses to this question were positive. It can thus be concluded that the results of this study can be used to motivate and guide collaboration partnerships for the purpose of digitisation between South African LAMs.

Conclusion: It was concluded that collaboration could indeed appreciably alleviate problems related to digitisation, the most prominent being the cost associated with such endeavours.

Keywords: libraries; archives; museums; LAMs; collaboration; digitisation.

Introduction

Digitisation can be useful in Africa as it can assist in decreasing the digital divide and developing the digital skills of Africans (World Economic Forum 2020). Mutula (2013) stated that there was an increase in awareness of digital preservation in Eastern and Southern Africa with the focus being on finding solutions to securing immaterial cultural heritage. Following global trends, the University of Malawi also began digitising its valuable resources for preservation purposes by developing repositories (Mapulanga 2013).

Digitisation in the province of Mpumalanga, South Africa, was suggested as an effort to improve access to archival collections (Netshakhuma 2020).

Many academic libraries all over the world have begun digitising their collections (Rafiq & Ameen 2013), and with a good number of these institutions failing to sustain their digitisation projects because they cannot afford it as a result of funding issues (De la Porte & Higgs 2019), it is best to find ways to lessen the financial burden of digitisation. The coronavirus disease 2019 (COVID-19) pandemic did not help in this matter as some businesses (potential donors) and libraries, archives and museums (LAMs) were forced to shut down to maintain social distancing (Kennedy 2020:15). This potentially had a negative impact on the already unfavourable funding issue surrounding LAMs in South Africa. Institutions that were able to function in virtual spaces continued to operate (Tam 2020:40), thereby illustrating the importance of digitisation.

Collaboration for digitisation is the identified solution for this study. There are many benefits of successful collaboration, a major one being shared cost (Dodgson 1994), easing financial burdens (Biazar 2020) and working together to raise funds to satisfy shared interests (West 2018). Dodgson

(1994) additionally stated that through collaboration that enabled sharing costs, the financial risk that comes with being innovative can also be reduced.

Keeping innovation in mind, it is important to know that digital repositories were needed 50 years prior to them being developed (Kirchhoff, Schweibenz & Sieglerschmidt 2009). As the World Wide Web became open to graphical images being displayed on the internet, librarians began scanning archived documents, records as well as pictures in order to make these materials easily accessible (Verheusen 2008), for instance, access to historical knowledge that was previously inaccessible (Herther 2019), and rare books (Correa 2017). Enabling easy access is possibly the most palpable reason for organisations to digitise their collections, as digitisation encourages and allows for open access (John 2016; Kimball 2017).

Nkondo et al. (2014) define digitisation as being the conversion of images, characters or sounds into digital codes that allow for information to be processed or preserved by a computer system, leading to platform transition (Sandberg, Holmström & Lyytinen 2020), moving from physical to digital spaces. With this definition, it can be concluded that digitisation offers an electronic approach to the access, storage and organisation of digital assets (Singh et al. 2019). Another reason that digitisation is essential is that it helps with the preservation of information (Mapulanga 2013; Zuberi & Declercq 2018).

The Kinsey Institute preserves its most important collections by making use of digitisation as a way of making the collections available and ready for use in the future (Kinsey Today 2012). Digitisation helps with keeping old collections easily usable and accessible (Tîrziman 2013), which provides true value to knowledge organisations. In support of this statement, Zuberi and Declercq (2018) and Sutton (2004) note that, in most cases, archiving systems are created to stop electronic materials from becoming obsolete. By prolonging the lifetime of electronic materials, a digital archiving system provides organisations with a better return on investment (ROI) on acquiring such a system (Liebetrau & Mitchell 2010). Additionally, preserving collections through digitisation allows organisations to make use of their collections in different ways, for example, from using them in basic catalogues or cross-border digital exhibitions (Tîrziman 2013).

Most of the records today are created electronically, and once created, there is a need to identify how those records will be stored, located and then used in the long term (Sundberg 2013). According to Yakel (2005), preserving different types of records, for example, objects, pictures or text, makes it necessary for collaboration between the public, researchers as well as the cultural asset workforce to occur. This is the reason Cocciolo (2014) realised that there is an expansion in archival studies, which now covers work related to born-digital archiving.

There are various digitisation projects, for example, small projects run by miniature departments with no money coming from external sources: medium-sized digitisation projects receiving money from private sector organisations or the public sector and projects that are large and involve several parties and are funded by them (Johnson 2000). The proposed study aimed to determine the possible benefits and challenges if LAMs in South Africa were to collaborate on digitisation efforts.

For resolving the research question, 16 institutions were identified to gather data on whether collaboration could help reduce the costs related to digitisation. Managers and assistant managers participated by answering questions asked during semi-structured interviews. With the assistance of both the findings and relevant literature, recommendations will be made to indicate the importance of collaboration for digitisation purposes.

Literature review
Challenges facing digitisation initiatives at libraries, archives and museums

Libraries in Africa are experiencing noteworthy challenges regarding digital preservation as the continent is yet to completely integrate the utilisation of emerging information technologies (Anyaoku, Echedom & Baro 2019). While institutions in developed countries are able to overcome the challenges that come with preserving critical information (through digitisation), the same cannot be said of African institutions in 2012 (Mapulanga 2013). Based on the results of this study, this holds true even today. Universities in Africa are also not ready to take on digitisation projects as they lack the skills and knowledge required to embark on these projects. Not only that, but they also lack in funding, Information Technology (IT) infrastructure (hardware, software and interconnected network components) (Red Hat, 2021) African content to be digitised, Internet connectivity and commitment from university staff or management (Anyaoku et al. 2019).

In 2013, digitisation projects in Nigeria were barely existent (Baro, Oyeniran & Ateboh 2013). This is an indication of how behind some, if not most, African countries are in terms of digitisation. For example, during this time, only three of the eight universities located in South Eastern Nigeria were working on digitisation projects. As with many African countries, these projects were had numerous challenges – there was no awareness of digital preservation standards, technical skills and skilled staff, equipment and funding (Baro et al. 2013).

Regardless of the benefits that come with digitising collections, there are LAM workers who regret having ever started a digitisation project because of the challenges it comes with (Asogwa 2011). The funding of digitisation projects is expensive, and this also has a negative impact on the capability of LAMs to be able to send staff for

training (Asogwa 2011; Pandey & Misra 2014). One of the most expensive aspects of digitisation is the acquiring of the necessary equipment (Vrana 2010); these include equipment such as scanners, optical character recognition (OCR) software and editing software (Bandi, Angadi & Shivarama 2015); because of the size of digitisation projects, special scanners are required, for example, large format scanners, digital cameras, digital recorders and duplex scanners, among others (Government of Northwest territories 2018).

Certain digitisation tools work only with the Apple Mac Operating System, which according to Carstens (2017) is an extremely expensive product. Furthermore, it is important to note that acquiring money to sustain digitisation projects is by itself a big difficulty (Jaswal 2016).

Digitisation projects in LAMs suffer from an absence of financial backing, whether it is to buy the required technology or maintain it (Jagboro, Omotayo & Aboyade 2012). In fact, many institutions do not regard digitisation to be a matter of urgency or high importance, as such budgets are not drawn in a manner that fully supports digitisation projects and resources are not prioritised to fulfil digitisation needs and sustain digitisation projects (Jaswal 2016). This does not help as Vrana (2010) puts forth the fact that the cost of the technology required to digitise is one of the challenges organisations face.

In South Africa, there is an absence of digitisation policies, and this makes it difficult to manage digitisation projects, as without having policies, effective plans cannot be developed, and regulations and priorities cannot be set; developing these is a challenge on its own (Fabunmi, Paris & Fabunmi 2009). Asogwa (2011) further argues that Africa lacks policymakers who are fully knowledgeable of what digitisation projects need for successful completion, thereby making it a challenge to develop effective digitisation policies. However, through collaboration and dialogue with institutions that have existing policies, it is possible to develop digitisation policies (Fabunmi et al. 2009). In a similar fashion, the digitisation project initiated by the Premier of the Mpumalanga province in South Africa was faced with the problem that there were not enough funds to implement the project at a desirable scale, which meant that the project was undermanned. However, collaboration eradicated this problem to an extent (Netshakhuma 2020).

Defining collaboration

Collaboration can be referred to as working with external stakeholders and/or fellow employees on things such as project plans, documents or reports with the end goal of achieving the final stage of that project or record (Dimensional Research 2015). Dodgson (1994), on the other hand, considers collaboration as being any task that has partners working on it and providing different resources and skills to attain a certain goal. Because of the continuously increasing competition in

industries as well as the speedily fluctuating market environment, organisations are required to collaborate to develop central capabilities (Al-Hakim & Lu 2017).

An African benchmark for the collaborative digitisation policy by Network for Information and Digital Access

Libraries, archives and museums in South Africa need to work together in developing a policy that will enable them to collaborate successfully on digitisation projects. An example of such a policy is that developed by the Network for Information and Digital Access (NIDA). The aim of the NIDA policy is to enhance education in Namibia by creating easy access to information through digitisation (NIDA 2011). The country realised that for this to be a possibility, the library and information sector needed to be committed to working on policies that already existed to make certain that the digitisation project is a success.

The policy encompassed a number of key strategic compartments, including the following: leadership, endorsing and managing the sector – The Namibian Library and Information Council (NLIC) and the Namibia Library and Archives Service (NLAS) are charged with advising the Minister of Education as well as being responsible for budgetary duties, respectively, with the aim of achieving decentralisation; legislation – the focus here is on issues such as copyrights and ensuring the legality of providing open access; human resources – the aim here is to deal with the lack of digitisation skills available in Namibia; information resources for Library and Information Services (LIS) – this section deals with identifying and getting different partners to contribute to the digitisation project whether it is through providing content or funding to acquire resources; content – discussions here are on copyrights as well as Intellectual Property Rights and improving the usage of content protected by these laws; funding – the main focus here is on obtaining more funding and increasing the budget; and information and communication technology (ICT) – with technology being a central figure in digitisation, it is important to obtain sponsorships to acquire the necessary equipment, which was the aim here.

This policy by NIDA, together with other digitisation policies, can be used as a benchmark by LAMs in South Africa. The NIDA policy is especially important as it was developed in the African context. This policy can help LAMs in South Africa realise what needs to be undertaken to fulfil both their digitisation and collaboration needs as well as learn from the results of the implementation.

Research design and methodology

A research design is a tool that enables researchers to indicate careful thought with regard to the tactics that are to be used in answering the main research question (Saunders, Lewis & Thornhill 2009). The research methodology, on the other hand, focuses on the theory of how the project should be implemented (Chitambo, Mabe & Potgieter 2016).

Research problem

Many academic libraries all over the world have begun digitising their collections (Rafiq & Ameen 2013), and with organisations failing to sustain their digitisation projects because they cannot afford to, it is best to find ways to lessen the financial burden of digitisation. Collaboration for digitisation is the identified solution for this study. There are many benefits to successful collaboration, a key one being shared cost (Dodgson 1994). Dodgson (1994) additionally states that as a result of collaboration enabling sharing costs, it can also help with reducing the financial risk that comes with being innovative.

Aim of the research

The aim of this study was to determine the possible benefits and challenges if LAMs in South Africa were to collaborate on digitisation efforts.

Objectives of study

The objectives of this study are:

- to determine the potential benefits of collaborating by sharing the costs of digitisation in LAMs in South Africa;
- to determine the potential challenges of collaborating by sharing the costs of digitisation in LAMs in South Africa.

Design and methods

Based on the research question, interpretivism made sense as a philosophical paradigm because of the focus of the study being on South African LAMs. Biedenbach and Müller (2011) describe interpretivism as a tool that allows for points of view on phenomena to be understood. A single-method qualitative approach is the research paradigm used for this study because of its association with interpretivism. Qualitative data analysis can be defined as evaluating the worth of data through interpreting literature and establishing theories as well as catalogues (Štrach & Everett 2008). It made sense for induction to be followed because of the investigative nature of this study, as Saunders et al. (2009) point out that induction aims to investigate phenomena in whichever context they occur. This study focused on multiple cases in order to investigate phenomena from multiple perspectives, 16 different institutions to be specific. The aim of investigating multiple cases is to gain an understanding of the similarities and differences amid the various cases (Gustafsson 2017). According to Bryman and Bell (2011), purposive sampling enables researchers to strategically select participants for their study. It is for this reason that it was selected as the sampling method for this study. The sample comprised 21 individuals who held knowledge with regard to not only digitisation but also collaboration. These individuals included managers and assistant managers from various South African LAMs. However, purposive sampling has the limitation of disallowing researchers to generalise data (Bryman & Bell 2011).

Albeit the case, purposive sampling provides the advantage of obtaining high-quality data directly from experts. Non-standardised, semi-structured interviews were the most suitable method of data collection for this study as there was a need to get responses from two individuals through email as well as to allow participants to expand on their thoughts and answers. A benefit of using semi-structured interviews is that they allow participants to reveal the essential and concealed factors of organisations (Qu & Dumay 2011).

Atlas.ti. was used as a tool for data analysis through the creation of codes. This was performed as a thematic analysis was required for this study, which, according to Ibrahim (2012), is a type of qualitative data analysis used not only to analyse categories but also to showcase themes found in the data collected. Ethical research refers to research that will not harm or defame participants in any way (Saunders et al. 2009).

Participants in the study were reassured that they would not be put in a position of disadvantage or embarrassment. This was done by providing a letter of informed consent detailing issues of confidentiality and the fact that the data gathered would only be utilised for research purposes, which, according to Wahyuni (2012), encourages participants to be open.

Results and discussion

Views on whether collaboration can help organisations save costs

Even though the majority of participants realised the importance of collaboration, a few held no real opinion about it. However, all participants suggested that through collaboration, organisations would be able to save costs. Participant 1 stipulated that:

> '[T]here is no doubt about it and I think it would be a way of making sure that the projects survive in that aspect by sharing equipment, not duplicating.' (P1, manager, male)

Several authors agree with this suggestion, namely Duff et al. (2013), Blackmore, Meklenburg and Kaplan (2011) and Robinson (2012). These authors state that collaborations make the sharing of costs a possibility, which, in turn, could reduce the financial stress of being inventive (Biazar 2020; Dodgson 1994).

Sharing technology

More than a third of the participants stated that it only makes sense for LAMs to collaborate for digitisation purposes. These participants relayed that instead of having multiple digitisation projects in which the same technology would be purchased by the different institutions, it would be better to have one digitisation project where all the institutions contribute to attaining the digitisation needs of all institutions involved. An example provided by a participant was that instead of all institutions owning five distinct scanners that

would only be utilised for a short period of time, it is better to work together to avoid the duplication of resources, which would result in costs being saved and the attainment of more equipment. This thinking is supported by Allen and Bishoff (2015), who point out that collaboration is not only necessary to help alleviate matters related to finance, but also to create opportunities for technology infrastructure to be shared.

Access to resources

With the exception of two participants, all participants pointed to funding as being a worry for LAMs in South Africa. The two participants are from a wealthy private institution as such funding is not an issue for them; however, they did acknowledge the fact that digitisation is expensive. This view is shared by scholars such as Tanner (2006) and Verheusen (2008) who repeatedly mention how expensive digitisation is and related funding issues (De la Porte & Higgs 2019). Additionally, Shampa and Sashi (2014) indicate that a challenging factor regarding digitisation is the high financial cost.

A participant did mention that their yearly budget for digitisation is more than a million rands. This could be indicative of one reason that several participants linked their institutions' incapability to secure digitisation tools to the absence of the required funds. Tanackoviæ and Badurina (2008) take it one step further by stating that the absence of adequate funding is one of the main impediments to collaboration between LAMs as institutions do not have the financial power to contribute towards acquiring the necessary equipment. In the literature, Tanackoviæ and Badurina (2008) explain that the main hindrance to collaboration between LAMs is the lack of funding, where none of the institutions have the financial means to contribute to purchasing the necessary hardware. Carstens (2017) asserts that in South Africa, funding for high-end digitisation equipment is limited. Participant 3 shared that:

> 'I think there are a few obvious advantages (to sharing resources), in our practical case, two municipalities merging, we can now share databases, we can extend our services to our users and we are basically improving our networks and access to our networks to a greater portion of our communities.' (P3, manager, female)

The challenges faced
Inefficient use of resources

The participants stood firm in their belief that resources were going to be wasted as there is a duplication of digitisation endeavours as well as through the acquiring of the same digitisation technologies. Participant 4 states that there is:

> '[P]ossible duplication of efforts (public and private sector) and interoperability challenges (fragmentation).' (P4, manager, male)

A participant stated that money is being wasted and could be used more efficiently. It is important to use money wisely as Jaswal (2016) puts forth that acquiring funding for digitisation is a major challenge. Three additional participants stipulated that there is not only a duplication of digitisation equipment but also a duplication of digitised content that is also a waste of resources as there is no need for the same content to be digitised more than once, leading to a waste of resources as well as time.

These problems can be alleviated as collaboration allows you to know what others are doing, which can help institutions save money.

External funding

The funding of digitisation projects is expensive, and this also has a negative impact on the capability of LAMs being able to send staff for training (Asogwa 2011; Pandey & Misra 2014). Based on this same notion, six participants pointed out that their institutions' digitisation project will not survive without funding from outside sources. It can therefore be concluded that these institutions cannot survive on their own and that their digitisation projects will not come to completion if outside funding were to end. Ilesanmi (2012) justifies this notion by providing that even when an institution has received enough funding, no institution can survive while working in isolation.

Unwillingness and inability to share funding

An interviewee stated that although people are willing to share what they know through streams such as seminars and/or conferences, these facilities merely become talk shop as the institutions do not have the financial muscle to implement the ideas generated. When it comes to digitisation, institutions are not given adequate funding (Fourie & Meyer 2016). Adding to that, digitisation is an expensive endeavour, it is not only about digitising collections, but also maintaining the systems that are used to store the digitised material (Verheusen 2008).

Politics and policies

Two participants held the belief that South Africa lacks policy development with regard to digitisation. Policies that are meant to guide the digitisation mandate within and external to institutions. Additionally, one participant pointed to the lack of a national policy aimed at shepherding collaboration for digitisation purposes in LAMs as well as the absence of a chief digitisation association for the South African heritage sector. There is a:

> '[L]ack of a national policy/standards [*metadata*] and coordination of projects undertaken.' (P4, manager, male)

Having such a policy is important as it can assist in detailing processes that need to occur (Setlhabi 2008).

Two participants assert that institutional policies that exist and make collaborating difficult may take a while to change; however, altering them is a possibility. Two more participants working for non-governmental organisation (NGO) museums touched on the difficulties they faced when attempting to collaborate as the City of Johannesburg is only interested in

working with LAMs that are under 'the city'. This behaviour was predicted by Ocholla (2008) who argues that factors including inclusivity and exclusivity, political policies as well as distance are all challenges that LAMs might come across when attempting to collaborate.

Another participant claimed that with their institution not having an updated digitisation policy made motivating for digitisation funding even more difficult. Problems such as these could be alleviated with the collaborative development of a digitisation policy as the purpose of policies is to make available guidelines as well as goals for digitisation efforts (Pandey & Misra 2014). Adding to that, collaboration would enable every stakeholder to shape the policy optimally.

Being open to collaboration

For the most part, it was found that institutions are open to collaboration and there were instances where they did collaborate:

'Yes, the South African digitisation initiative was initiated by [*their organisation*] and we have invited any stakeholder that we could think of from government, even some private organisations certainly and universities. We are more than willing to share what we have and with the NRF project that would be assigned to an institution such as [*their organisation*]. We have an obligation to then continue sharing resources and knowledge, which is what we have been striving for in any case.' (P6, manager, female)

An interviewee also suggested for South African LAMs to consider using the Lots of Copies Keep Stuff Safe (LOCKSS) programme, which is a programme that assists with 'restoring libraries' capability to develop and preserve indigenous collections' (LOCKSS 2017). However, another interviewee pointed to collaboration being situational, stating that it all depended on what someone has to offer.

Conclusion

The key finding of the research was that collaboration could indeed save costs for LAMs in South Africa when working on their digitisation projects. Regardless of the benefits that come with digitising collections, there are LAM workers who regret ever starting a digitisation project because of the challenges involved. The funding of digitisation projects is expensive, and this also has a negative impact on the capability of LAMs to be able to send staff for training.

It was also found that resources are being wasted and that the lack of collaborative digitisation policies negatively impacts collaboration for digitisation. It is stated that in South Africa, there is an absence of digitisation policies, and this makes it difficult to manage digitisation projects, as without having policies, effective plans cannot be developed, and regulations and priorities cannot be set; developing these are challenges on their own. Africa lacks policymakers who are fully knowledgeable of what digitisation projects need to be completed successfully, thereby making it a challenge to develop effective digitisation policies. However,

through collaboration and dialogue with institutions that have existing policies, it is possible to develop digitisation policies. With the issue of policies addressed through the discussion of the NIDA policy, the issue of a lack of skills still needs to be addressed.

It is recommended that further research on the lack of digitisation skills in South Africa be conducted. The aim would be to address the digitisation skills challenge faced by LAMs in South Africa and to find solutions to the problem. Additional research should be conducted to uncover the impediments to collaboration. A lack of collaboration policy was one impediment that was identified, and more impediments need to be uncovered and resolved as well.

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The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

K.M. and A.P. contributed equally to the writing of the article.

Ethical considerations

This article followed all ethical standards for carrying out research.

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Data availability

The data that support the findings of this study are available from the corresponding author, K.M., upon reasonable request.

Disclaimer

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