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# Investigating Optimal Feature Selection Method to Improve the Performance of Amharic Text Document Classification

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## Abstract

*Feature selection is one of the famous solutions to reduce high dimensionality problem of text categorisation. In text categorisation, selection of good features (terms) plays a crucial role in improving accuracy, effectiveness and computational efficiency. Due to the nature of the language, Amharic documents suffered from high dimensionality feature space that degrades the performance of the classifier and increases the computational cost. This paper investigates optimal feature selection methods for Amharic Text Document Categorisation among various feature selection techniques such as Term Frequency*Inverse Document Frequency (tf*idf), Information Gain (IG), Mutual Information (MI), Chi-Square (-$X^2$), and Term Strength (TS) using Support Vector Machine (SVM) classifiers. Experimentations carried out based on the collected datasets showed that $X^2$ and IG method performed consistently well on Amharic document Texts among other methods. Using both methods, the SVM classifier showed a significant improvement of the classification accuracy and computational efficiency.*

**Keywords:** Feature selection, Amharic, SVM, Classification

## Introduction

Amharic is the working language of the Federal Government of Ethiopia. It is the native language of people living in the north central part of Ethiopia. The language is also spoken as a second language in many parts of the country. Significant number of immigrants in the Middle East, Asia, Western Europe and North America also speak Amharic (Solomon and Menzel, 2007). Amharic is written from left to right similar to English unlike other Semitic languages, such as Arabic and Hebrew. Amharic language has its own writing system that uses the Ge'ez alphabet. The Amharic writing system consists of a core of thirty three characters each of which occur in basic form and in six other forms called orders (Alemu, 2010).

Due to the advancement of technology, there are numerous electronic documents produced and stored in Amharic. As most of information is stored in the form of texts, text mining has gained paramount importance. With the high availability of information from diverse sources, the task of automatic categorisation of documents has become a vital method for managing, organising vast amount of information and knowledge discovery. Text classification is the task of assigning predefined categories to documents. With the increasing availability of text documents in electronic form, it is of great importance to label the contents with a predefined set of thematic categories in an automatic way, what is also known as automated text categorisation. In the last decades, a growing number of advanced machine learning algorithms have been developed to address this challenging task by formulating it as a classification problem (Yiming and Pedersen, 2015; Bo, 2016; Thorsten, 1998). Commonly, an automatic text classifier is built with a learning process from a set of pre-labelled documents.

Documents need to be represented in a way that is suitable for a general learning process. The most widely used representation is "the bag of words": a document is represented by a vector of features, each of which corresponds to a term or a phrase in a vocabulary collected from a particular dataset. The value of each feature element represents the importance of the term in the document according to a specific feature measurement (Schütze, Hull, and Pedersen. (1995). A big challenge in text categorisation is the learning from high dimensional data. On one hand, tens and hundreds of thousands terms in a document may lead to a high computational burden for the learning process. On the other hand, some irrelevant and redundant features may hurt predictive performance of classifiers for text categorisation. To avoid the issue of the "curse of dimensionality" and to speed up the learning process, it is necessary to perform feature reduction to reduce the size of features. A common feature reduction approach for text categorisation is feature selection. Feature selection is the process of selecting a specific subset of the terms occurring in the training set and using only this subset as features in the classification algorithm. The feature selection process takes place before the training of the classifier and serves two main purposes. First, it makes training and applying a classifier more efficient by decreasing the size of the effective vocabulary. Second, feature selection often increases classification accuracy by eliminating noise features (Monica and Yiming, 2002; Honavar, 1998).

In the last decades, a number of feature selection methods have been proposed, which can be usually categorised into the following five types of approach: each of which a term – goodness criterion threshold – has been taken to achieve a desired degree of term elimination from the full vocabulary of a document corpus. These methods are: document frequency (DF), information gain (IG), mutual information (MI), $X^2$ statistic (CHI), term strength (TS) (Yiming and Pedersen, 2015; and Jan, 2016). The purpose of feature selection is to improve the performance of the text classification task by reducing high dimensionality of feature space and identifying a subset of the most useful features from the original entire set of features. Hence, it aimed at making text document classifiers more efficient and accurate. It also provides a way of reducing computation time, improving prediction performance, and a better understanding of the data.

The main focus of this research is to investigate an optimal feature selection method for large Amharic document classification. While feature selection in text categorisation is considered, it is only two feature selection techniques that have been tried for Amharic text. i.e. tf*idf and DF (Zelalem, 2001; Surafel, 2003; Yohannes, 2007; Worku, 2009; Alemu, 2010). However, Automatic text categorisation through many feature selection methods has never been carried out for large Amharic text categorisation problems. The main objective of this study was to investigate the optimal feature selection method using SVM that can improve the performance of the classifier in the process of Amharic text document classification. The study also examined the feature selection methods used in document classification, tested the classifier using testing data set, evaluated and selected an optimal feature selection method that shows high performance in classification accuracy. Thus, we sought answers to the following questions with empirical evidence:

- To what extent can feature selection improve the accuracy of a classifier?
- How much of the document vocabulary can be reduced without losing useful information in category prediction?
- Which feature selection methods are both computationally scalable and high-performing across classifiers and collections?

## Literature Review

Feature selection for text classification is a well-studied problem in England and China; its goals are improving classification effectiveness, computational efficiency, or both. Aggressive reduction of the feature space has been repeatedly shown to lead to little accuracy loss, and to a performance gain in many cases. Lewis and Ringuette (1994) used an information gain measure to aggressively reduce the document vocabulary in a naïve Bayes model and a decision-tree approach to binary classification. In this research, the authors present empirical results on the performance of a Bayesian classier and a decision tree learning algorithm on two text categorisation datasets. The results showed that both algorithms achieve reasonable performance and allow controlled trade-offs between false positives and false negatives. Wiener, Pedersen and Weigend (1995) used mutual information and $X^2$ statistic to select features for input to neural networks. The results indicate that term selection and modified latent semantic indexing (LSI) representations lead to similar topic spotting performance, and that this performance is equal to or better than other published results on the same corpus. In the test of the Expert Network method on CACM documents, for example, an 87% removal of unique words reduced the vocabulary of documents from 8,002 distinct words to 1,045 words, which resulted in a 63% time savings and a 74% memory savings in the computation of category ranking, with a 10% precision improvement on average over not using word removal. Yang (1999) and Schutze et al. (1995) used principal component analysis to find orthogonal dimensions in the vector space of documents. Yang and Wilbur (1995) used document clustering techniques to estimate probabilistic term strength and used to reduce the variables in linear regression and nearest neighbour classification. Moulinier et al. (1996) used an inductive learning algorithm to obtain features in disjunctive normal form of news story categorisation. Lang (1995) used a minimum description length principle to select terms for Netnews categorisation. The results showed that a learning algorithm based on the Minimum Description Length (MDL) principle was able to raise the percentage of interesting articles to be shown to users from 14% to 52% on average. Asker, Argar, Gamback, Asfeha and Habte (2009) made experiments to investigate the effect of operations such as stemming and part-of-speech tagging using Self-organizing Maps (SOM) for classifying Amharic web news. In their findings, the best accuracy was achieved using the full text as representation. Sahlemariam, M., Yacob, D. and Libsie, M. (2009) proposed a framework that automatically categorises Amharic documents into predefined categories using concepts. The finding in this research shows that the use of concepts for an Amharic document categorises results in 92.9% accuracy. Abate and Assabie (2014) proposed a supervised data-driven experimental approach to develop Amharic morphological analyser. The researchers use a memory-based supervised machine learning method which extrapolates new unseen classes based on previous examples in memory. As the result in this study showed that the performance of the model is evaluated using 10-fold cross-validation with IB1 and IGtree algorithms resulting in the overall accuracy of 93.6% and 82.3% respectively.

Haliu and Assabie (2016) presents a system that categorises Amharic documents based on the frequency of item sets obtained after analysing the morphology of the language. The researchers selected seven categories into which a given document is to be classified. In this research work, the task of categorisation is achieved by employing an extended version of *a priori* algorithm to implement the proposed system. The results in their research work show that the proposed item-sets-based method has superior performance over other methods tested so far for Amharic text categorisation.

In recent years, text categorisation has been studied in other languages such as Amharic. As several researchers studied (Zelalem, 2001; Surafel, 2003; Yohannes, 2007; Worku, 2009; Alemu, 2010), the problem is attempted with different machine learning and statistical methods but with a common feature selection method – document frequency method (DF). As far as the knowledge of the researchers, other feature selection methods have never been used for the dimensionality reduction of the feature space in Amharic text documents, which is the concern of this paper. Hence, the results of classification accuracy showed minimal similarity with texts which used other feature selection methods in categorisation despite the challenges of the languages and machine learning methods. Only one research (Alemu, 2010) showed better result in hierarchical classification since dimensionality of the feature space is reduced along with the hierarchy, and the classifier is focused on features that are relevant to the classification problem at hand.

## Research Methodology

### Data Source and Data Collection Methods

The data used in this study were collected from different sources such as news agencies, corporations and sites which are assumed to produce and store large amount of Amharic text documents. To collect electronic Amharic text data, Ethiopia

Television (EBC), Ethiopia Radio, Ethiopian News Agency (ENA), Walta TV, Amhara Radio, sport media agencies/enterprises have been consulted and about 52,300 data for the study have been collected. The data from TV and radio stations were collected by tracing manually their websites after they published it on their websites for further access once the news is being broadcasted to the public.

### Implementation Tools

LibSVM$^{multiclass}$ is a tool used for experimentation. The study was performed using eight document classes, i.e. Economy, Business, Agriculture, Sport, Politics, Culture and Tourism, Weather and Climate, and Entertainment. After the data pre-processing was finalised and relevant features generated, the data was classified into training and testing data where these data were prepared using Python 3.7 according to the format that the LibSVM$^{multiclass}$ tool required.

### Experimental Setup and Evaluation Procedures

The experiment followed five major activities: pre-processing, feature selection, input preparation, building the classifier, testing and evaluation. The first step, document preprocessing procedures, included the following tasks. These are:

- Data pre-processing (data cleaning, normalization, stop word removal, stemming and exception handling, and term weighting);
- Transform (prepare) the data to the format of an LibSVM package;
- Systematically try a few kernels and parameters and select the one which performs best; and
- Using the best parameter to train the whole training set and at the end test the classifier.

For stemming Amharic words, the researchers used successor variety stemming algorithm (method). This is because it has the advantage of avoiding the need of affix removal rules that are based on the morphological structure of a language. Once document pre-processing activities has been applied, the number of document features has been reduced. As far as the knowledge of the researchers, there is no general list of stop words for the Amharic language. But stop words in Amharic have the following properties:

- They are non-informative words if they are used alone.
- They occur frequently in documents.
- There are important for the structure of the language not important for the semantics purpose.
- Most of the time they can be adjectives, pronouns, articles.
- General words for the language are not domain specific.

The second step, feature selection was tried to apply feature selection algorithms over the 38,500 documents. From these, different methods generate different numbers of features. Of these features, input data was prepared as a third step. In fourth and fifth steps, the classifier was built using training data and tested for its performance using a test data respectively. Finally, evaluation and analysis was made using the five feature selection method to select the one that showed optimal performance of the classifier. To evaluate the classification performance, the researchers used accuracy, precision and recall as metrics. The accuracy metric is widely used in machine learning fields, which indicates the overall classification performance. The precision is the percentage of documents that are correctly classified as positive out of all the documents that are classified as positive, and the recall is the percentage of documents that are correctly classified as positive out of all the documents that are actually positive. The metrics of accuracy, precision and recall are defined as:

$$\text{Accuracy} = \frac{\begin{array}{c}\text{The number of correctly classified documents}\\ \text{determined by the classifier}\end{array}}{\begin{array}{c}\text{The number of expected text documents}\\ \text{stored in the database}\end{array}} \quad (1)$$

$$\text{Precision} = \frac{TP}{TP + FP} \quad (2)$$

$$\text{Recall} = \frac{TP}{TP + FN} \quad (3)$$

Where TP denotes the number of true positive, FP denotes the number of false positive, and FN denotes the number of false negative. These two metrics have an inverse relationship between each other. In other words, increasing the precision is at the cost of reducing the recall, and vice versa. Among those measures that attempt to combine precision and recall as one single measure, the F1 measure is one of the most popular, which is defined by

$$F1 = \frac{2 * \text{precission} * \text{recall}}{\text{precision} + \text{Recall}} \quad (4)$$

The metrics of precision, recall and F1 measure are originally defined for binary class. For multi-class classification, we followed several other studies (Yiming, 2015; J.R., 1986) in which binary classifiers are built for each individual class and a global F1 measure is obtained by averaging the F1 measure of each class weighted by the class prior.

## Types of Feature Selection Methods

Feature selection methods are used to remove trivial terms and reduce high dimension of feature set to optimise the categorisation efficiency and effectiveness. In the following section, we briefly describe the following feature selection methods: six methods are included in this study, each of which uses a term – goodness criterion threshold – to achieve a desired degree of term elimination from the full vocabulary of a document corpus. These criteria are: document frequency (DF), information gain (IG), mutual information (MI), $X^2$ statistic (CHI), tf*idf and term strength (TS).

***Document Frequency:-*** Document frequency (DF) is the number of documents in which a term occurs. The researchers computed the document frequency for each unique term in the training corpus and removed from the feature space those terms whose document frequency was less than some predetermined threshold. The basic assumption is that rare terms are either non-informative for category prediction or not influential in global performance. In either case, removal of rare terms reduces the dimensionality of the feature space. Improvement in categorisation accuracy is also possible in rare terms which happen to be noise terms. DF thresholding is the simplest technique for vocabulary reduction. It easily scales to very large corpora, with a computational complexity approximately linear in the number of training documents. However, it is usually considered an ad hoc approach to improve efficiency, not a principled criterion for selecting predictive features. Also, DF is typically not used for aggressive term removal because of a widely perceived assumption in information retrieval. That is, low-DF terms are assumed to be relatively informative and therefore should not be removed aggressively.

***Information Gain (IG):*** Information gain is frequently employed as a term – goodness criterion – in the field of machine learning (Liu, and Setiono, 1995; Yang, and Honavar, 1998). It measures the number of bits to find information obtained for category prediction by knowing the presence or absence of a term in a document. Information Gain (IG) measures the number of bits of information obtained for category prediction and by knowing presence or absence of a term in a document (Schutze et al., 1995). The idea behind IG is to select features that reveal the most related information about the classes. IG reaches its maximum value if a term is an ideal indicator for class association, i.e., if the term is present in a document if and only if the document belongs to the respective class. The IG method fails to identify discriminatory features, particularly when they are distributed over multiple classes (Song, Liu, and Yang, Song, 2005; Jing, Huang, and Shi, 2002).

***Mutual Information (MI):*** Mutual information is a criterion commonly used in statistical language modelling of word associations and related applications. MI measures how much information presence or absence and term contribution to make the correct categorisation decision on a category.

***Chi-Squared:*** Chi-Square ($-X^2$) is a statistical feature selection method (Asker et. al., 2009). $-X^2$ is used to measure the association between a term and category in text categorisation. It also used to test whether the occurrence of a specific term and the occurrence of a specific category are independent. Thus, we estimate the quantity for each term and we rank them by their score. If a term is close to more categories, then the score of that term is higher. High scores on -$X^2$ indicate that the null hypothesis of independence should be rejected and thus that the occurrence of the term and category are dependent. If they are dependent, then we select the feature for the text categorisation. Feature Selection via chi square ($X^2$) test is another very commonly used method (Koller and Sahami, 1996). Chi-squared attribute evaluation evaluates the worth of a feature by computing the value of the chi-squared statistic with respect to the class. Where $O_{ij}$ is the observed frequency and $E_{ij}$ is the expected (theoretical) frequency, asserted by the null hypothesis. The greater the value of $X^2$, the greater the evidence against the hypothesis $H_0$ is.

***Term Strength (TS):*** This method estimates term importance based on how commonly a term is likely to appear in "closely related" documents (Lam et al., 1999). It uses a training set of documents to derive document pairs whose similarity (measured using the cosine value of the two document vectors) is above a threshold. Term strength is then computed, based on the estimated conditional probability that a term occurs in the second half of a pair of related documents given that it occurs in the first half.

***Term Frequency-Inverse Document Frequency (tf*idf):*** This method is commonly used technique for term weighting in the field of text classification (Jing et al., 2002). It determines the relative frequency of terms in a specific document through an inverse proportion of the term over the entire document corpus (Sahlemariam, Libsie and Yacob, 2009). The tf*idf weight is composed by two conditions: the first condition computes the normalised term frequency tf, and the second condition is the inverse document frequency (idf). The term frequency (tf) measures the number of times a term occurs in a document, and it is used to calculate the describing ability of the term.

**General Feature Selection Structure**

From most of the feature selection algorithms, the following general architecture can be arrived with four basic steps:

***Subset Generation:*** Subset generation is a search procedure; it generates subsets of features for evaluation. The total number of candidate subsets is 2N, where N is the number of features in the original data set, which makes exhaustive search through the feature space infeasible with even moderate N. Non-deterministic search like evolutionary search is often used to build the subsets (Mukras, Wiratunga, Lothian, Chakraborti and Harper (2007). It is also possible to use heuristic search methods. There are two main families of these methods: forward addition (Qu, Wang, and Zou, 2008) (starting with an empty subset, we add features after features by local search) or backward elimination (the opposite).

***Subset Evaluation:*** Each subset generated by the generation procedure needs to be evaluated by a certain evaluation criterion and compared with the previous best subset with respect to this criterion. If it is found to be better, then it replaces the previous best subset. A simple method for evaluating a subset is to consider the performance of the classifier algorithm when it runs with that subset. The method is classified as a wrapper, because in this case, the classifier algorithm is wrapped in the loop. In contrast, filter methods do not rely on the classifier algorithm, but use other criteria based on correlation notions (Liu and Setiono, 1995).

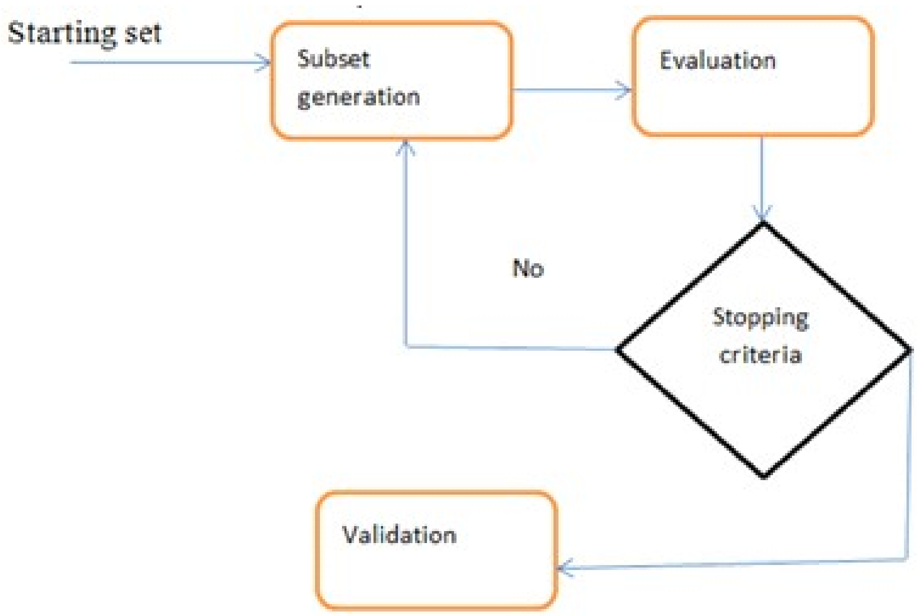


**Fig. 1:** General feature selection structure

***Stopping Criteria:*** Without a suitable stopping criterion, the feature selection process may run exhaustively before it stops. A feature selection process may stop under one of the following reasonable criteria: (1) a predefined number of features are selected, (2) a predefined number of iterations are reached, (3) in case the addition (or deletion) of a feature fails to produce a better subset, (4) an optimal subset according to the evaluation criterion is obtained.

***Validation:*** The selected best feature subset needs to be validated by carrying out different tests on both the selected subset and the original set and comparing the results using artificial data sets and/ or real-world data sets. A feature selection process may stop under one of the following reasonable criteria (Mcallum, and Nigam, 1998).

i. A pre-defined number of features are selected
ii. A pre-defined number of iterations are reached
iii. In case the addition or deletion of a feature fails to produce a better subset
iv. Obtained an optimal subset according to the evaluation criterion.

## Discussion and Results

For this study, about 52,300 documents were used and processed according to text processing techniques. After pre-processing, about 38,500 documents were generated. Among these documents, feature selection techniques were applied. Table1 showed the result generated by respective feature selection techniques.

**Table 1: Generated features as the result of different feature selection techniques**

| Methods | Cutting threshold (%) | Generated features |
|---|---|---|
| Tf*idf | >=0.5 | 50,000 |
| DF | >=0.5 | 60,000 |
| X2 | >=0.5 | 37,000 |
| IG | >=0.5 | 35,000 |
| MI | >=0.5 | 75,000 |
| TS | >=0.5 | 25,000 |

During the experimentation, SVM classifier is built based on the hierarchical approach (Alemu, 2010). The hierarchical classification approach considers the structural relationship among a given category. In such a hierarchical structure, document types become more specific as we go down in the hierarchy. The generated features are set to be used for training and testing data sets. The classifier is built using the document features selected by the respective feature selection technique as shown in Table 1. Although there are many Machine learning algorithms used to predict the features of documents in the test data set, such as Support Vector Machine (SVM), Decision Tree, Naïve Bayes and Artificial Neural Network used for hierarchical text classification, SVM was selected for this study. This is due to its capability of providing a number of benefits as compared to other algorithms (Alemu, 2010). Classifying documents for training and testing is taken based on 70/30 principle (Sebastiani, 2002). As the result, Table 2 below showed that the performance of the classifier based on document features selected by various feature selection techniques.

**Table 2: Performance of the classifier based on different feature selection methods**

| Feature selection Techniques | Accuracy in % | Recall in % | Precision in % |
|---|---|---|---|
| IG | 83.6 | 79.5 | 64.2 |
| Tf*idf | 70.5 | 72 | 57.5 |
| $X^2$ | 87.33 | 82 | 67 |
| MI | 68 | 71 | 54.6 |
| DF | 64.5 | 73.6 | 51 |
| TS | 75 | 69 | 55 |

As shown in the Table 2 above, IG and $X^2$ showed highest performance for accuracy and both precision and recall. . In terms of recall, this research achieved a very good result in IG and $X^2$. But precision is somewhat lower compared to the recall value. This is because of the trade-off between precision and recall and small number of classes.

In the experimentation, we also tried to investigate the performance of the classifier for a collection with various number of features selected in these techniques. Figure 2 shows that both IG and $X^2$ increase the performance of the classifier as the number of documents and document features increases. This shows that both IG and $X^2$ are working well when we have more documents and more document features.

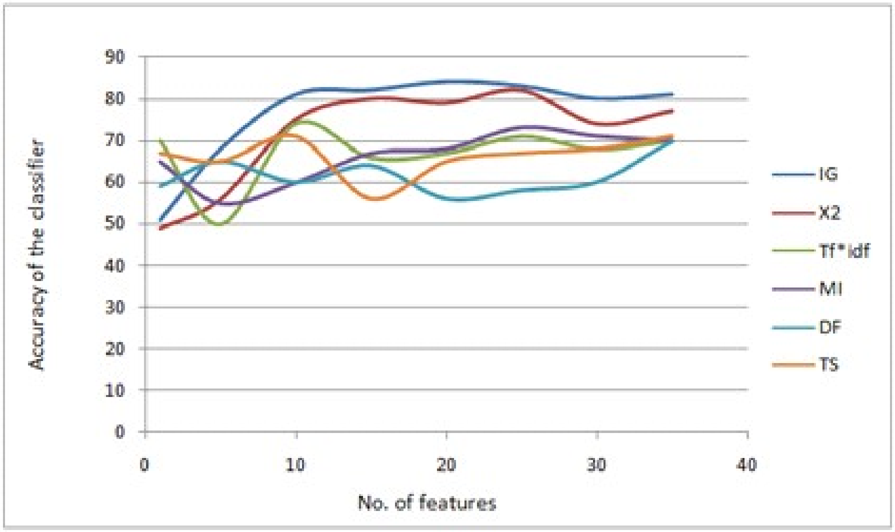


**Fig 2(a):** Performance of the classifiers based on the five feature selection methods

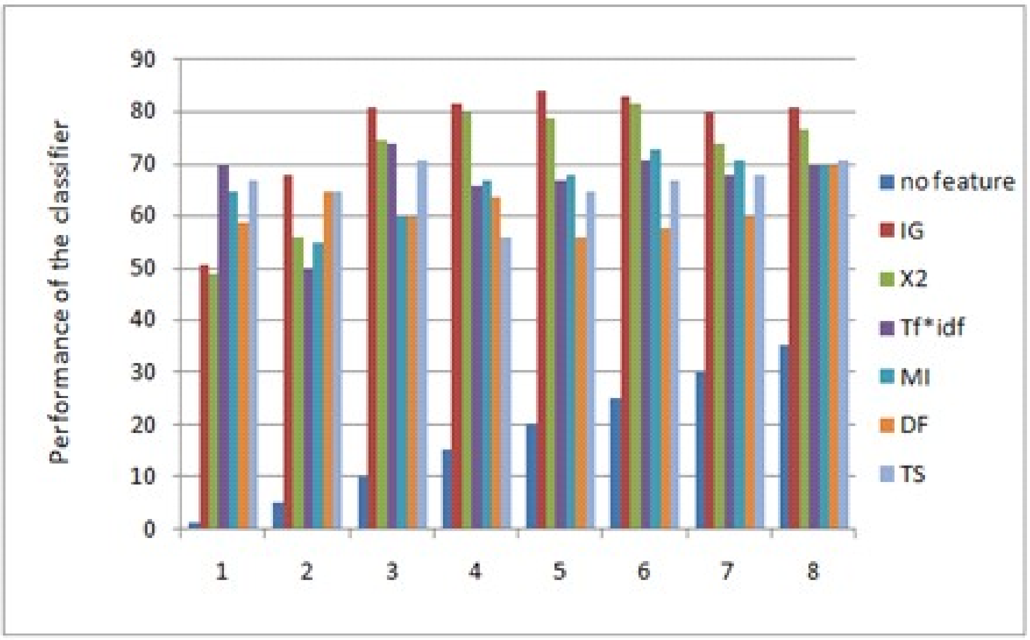


**Fig 2(b)**: Performance of the classifiers based on the five feature selection methods

As shown in Figures 1 and 2 above, as the number of document and document features increases, the classification accuracy based IG and $X^2$ increases.

## Conclusion and Future Work

In text categorisation, high dimensionality of feature space is about critical issues. These issues are resolved by using various feature selection approaches, which increases the efficiency of text categorisation. In this paper, we reported an experimental evaluation on the most widely used text feature selection methods using SVM classifiers, to categorise text documents. In the experiments, $X^2$ and IG method performed consistently well on all the other methods using the datasets with SVM classifier. The evaluation demonstrated that the $X^2$ method has tremendous influence on improving the categorisation accuracy. In the future, it is also intended to work on the computational complexity of various feature selection methods (FSM) using different classifiers.

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# Citation Analysis of Master Dissertations at the Central University of Technology, South Africa

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## Abstract

*Data must be given context to become information. Information must be given meaning to become knowledge. Knowledge, in turn, can only become wisdom if applied correctly. Data from postgraduate dissertations, including an analysis of the types of citations used, can give rise to information that can subsequently contribute to knowledge and wisdom. This type of analysis is warranted, as it has been reported that poor references are a common fault in dissertations. The purpose of this article is to analyse 157 Master dissertations from 19 different disciplines that were completed over a 10-year period at one university in order to identify the types and the trends of the citations used in order to highlight any major concerns with regard to credibility. An ex-post facto study is used where citation analysis is used to obtain quantitative data. Results reveal that 17063 citations were used in total, where the disciplines of Electrical Engineering and Information Technology had the highest number of internet-based sources, as compared to journal articles and books. Engineering postgraduate students also used a fewer number of citations (average of 60 per dissertation) as compared to students in Humanities (103 citations per dissertation), Environmental Sciences (138 citations per dissertation) and Management (121 citations per dissertation). The use of Wikipedia was limited to 79 citations, of which almost 50% was found in Electrical Engineering. An important implication of this research is that it may help postgraduate students to select more credible sources for their citations, formatting them more correctly so as to easily identify their types. This in turn may have a bearing on improving the quality of their dissertations that may ease the examination process.*

**Keywords:** Internet, Journals, Conferences, Disciplines, Bibliometrics

## Introduction

"I hope that, in the future, data is used to empower people and not just for marketing purposes" (Brainy Quote, 2019). These words, by Hilary Mason, a 20th Century English actress, conveys the idea that data should be used to enrich the lives of people, or empower them, rather than just being used for statistical, or marketing, purposes. However, this data needs to be transformed into information, by adding context, and then into knowledge, by adding meaning. Finally, it must be applied in the correct way to enable the acquisition of wisdom that truly enriches or empowers a person.

Applying knowledge in the correct way may well be equated to "putting knowledge to work" or "fusing theory with practice" or "practising knowledge". This has been advocated for many years, and especially within the field of higher education. Engineering curricula must include this fusion (Swart, 2010) as must academic writing. It has been stated that students must practise academic writing and referencing skills in advance to prevent plagiarism (Girard, 2004) and to achieve academic success. This is especially applicable to postgraduate students who need to apply knowledge about academic writing in the correct way so as to ensure that their dissertations meet an acceptable level of quality.

Why, though, gather data from completed postgraduate dissertations? Swart (2018) mentioned a number of reasons, including the fact that postgraduate students struggle to structure their dissertation correctly (Schulze, 2012). The structure of a dissertation encompasses a number of variables, including the title page, the various chapters, the references and the annexures (Flamez et al., 2017). It has been noted that poor references are a common fault of dissertations (Atkinson and Johns, 2001) that may be construed as unscholarly practice (Mutula, 2015). Postgraduate students should be made aware of what common referencing mistakes exist in order to avoid them so that they may enhance their scholarly practice. It can also create awareness of the number and types of citations that have been used by postgraduate students in different disciplines. This type of awareness may help postgraduate students through their academic writing journey (Azkah et al., 2016), as they continue to put into practice acquired knowledge. It has been noted that efforts to address poor referencing practice should be focused on during the early years of undergraduate programmes, at which point students are still honing their academic skills (Brown et al., 2018).

One way to hone academic writing skills is to read and cite academic journal articles. In fact, academic journals are the best sources to use for academic writing (Johnson, 2016). However, in recent years, the growth of the Internet has enabled students to access information more easily (Nadzir and Puteh, 2017), giving rise to more Internet-based sources being used for citations. However, these sources are not always credible. Scholarly information on the web is no longer limited to a finite number of publishers whose role as gatekeepers of knowledge has remained virtually the same in online and traditional publications. Within this new digital landscape, everyone can be a producer as well as a consumer of information that introduces unique issues of trust for researchers (Tenopir et al., 2016).

The research question thus arises "What types of citations have been used by postgraduate students over a 10-year period where the Internet has gained prominence? This relates to credibility in two ways: first, what types of sources are being used; second, have the citations been formatted correctly. Previous studies have sought to determine the types of source that were cited during pre-web and post-web periods (Condic, 2015), reporting the number of different types of citations and citation age (Eckel, 2009; Swanepoel, 2010; Becker and Chiware, 2015; Chande-Mallya and Sife, 2015; Ahmadieh et al., 2016; Sinha et al., 2016; Poplašen and Romiæ, 2018; Fasae and Aladeniyi, 2019; Nishat et al., 2019). However, many of these studies were limited to specific disciplines where light was not shed on the trend of usage between a number of disciplines.

The purpose of this article is to analyse 157 Master dissertations from 19 different disciplines that were completed over a 10-year period at one university in order to identify the types and the trends of the citations used in order to highlight any major concerns with regard to credibility. These dissertations are sourced from the institution's online repository and analysed using citation analysis. The tree of informetrics is firstly reviewed along with a brief list of credible citations, followed by the context of this study. The methodology, the results and the discussion are then presented, followed by succinct conclusions.

## The Family Tree of Informetrics and a Brief List of Credible Sources

Informetrics is used and/or applied across many disciplines, which include library management, the sociology of science, history of science, information retrieval, and biometrics, econometrics, chemometrics, sociometrics, and quantitative linguistics (Onyancha, 2014). It has also been applied to different disciplines within Engineering, Humanities, Management and Environmental Sciences when considering postgraduate dissertations (Swart, 2018). The basic tree of informetrics is shown in Figure 1, where citation analysis falls under Bibliometrics. Citation analysis has been defined as "a bibliometric technique in which works cited in publications are examined to determine patterns of scholarly communication; for example, the comparative importance of books versus journals, or of current versus retrospective sources, in one or more academic disciplines" (Reitz, 2004). Citation analysis can be used to:

- assess the performance of scientists (Garfield and Sher, 1963);
- illustrate the influence of a particular research, researcher, or field on a selected publication (Jeung et al., 2011);
- determine the most influential scientific papers

in specific fields (Wrafter et al., 2016);

- to understand the uptake and spread of a theoretical framework (Boyko et al., 2016);
- assess the aptitude of researchers towards the learning resources they usually read and cite during the conduction of their research (Ullah et al., 2018);
- examine any type of writing which includes citations and/or source lists and for research into student writing abilities (Weaver and Barnard, 2019); and
- to examine research trends, patterns and interactions (Leung et al., 2019).

In this study, citation analysis is used to determine the types and the trends of the citations used by 157 postgraduate students across 19 different disciplines who completed a Master's Degree between 2005 and 2014. This may provide insight into the aptitude of these students as to what sources they read and cite while also highlighting any possible research trends with regard to the use of internet-based sources. It may also help establish if postgraduate students are consistently formatting their citations correctly in their academic writing.

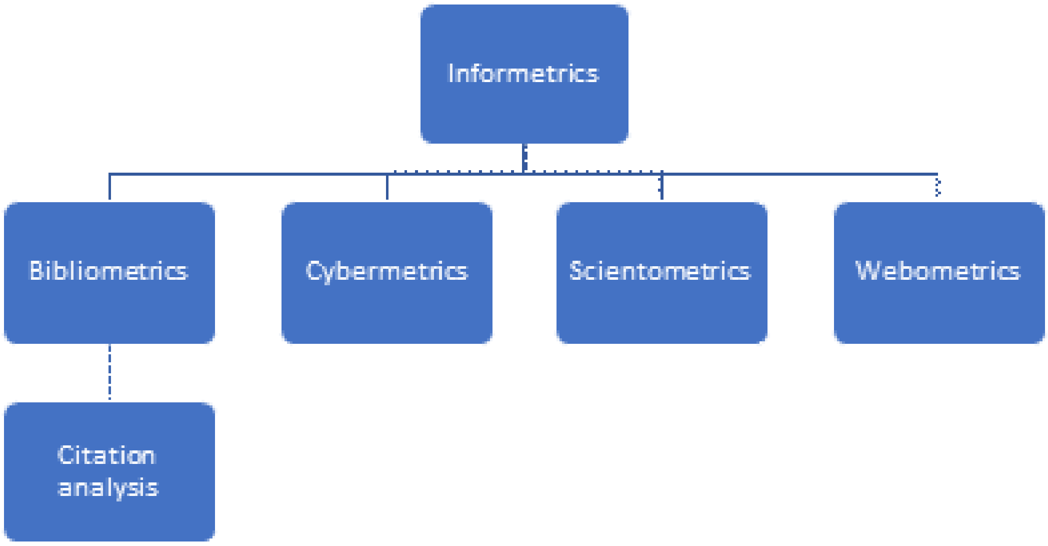


**Figure 1:** Informetrics family tree (Swart, 2018)

Credible sources for citations must include academic journals, peer-reviewed conference papers, peer-reviewed books, and book chapters and dissertations (see Table 1). These types of citations have been peer-reviewed by experts in their relevant fields, having been accepted as valid and reliable. Schmied (2018) states that credibility in academic writing requires evaluation by peer-review. In academia, research visibility and quality research have largely been seen from the vantage point of research publications that appear in peer refereed journals (Ocholla, Mostert and Rotich, 2016).

Non-credible sources would include specific Internet websites. For example, Vallely (2015) states that uncritical quoting of weak sources, like Wikipedia, by students in the field of music has been found. Many academics oppose the use of Wikipedia completely, whereas others hold that it may be used as a jump page to find a credible source, as it is a tertiary source where writers with no credibility can make a contribution (Schmied, 2018).

**Table 1: Brief list of credible sources according to priority**

| Priority | Source | Advice |
|---|---|---|
| 1. | Journal articles | Seek peer-reviewed journals from non-predatory publishers |
| 2. | Conference papers | Seek full conference papers that have been peer-reviewed and NOT abstracts alone |
| 3. | Dissertations | Seek dissertations from university repositories that have also been examined |
| 4. | Books and book chapters | Seek ones that have been reviewed or that have been published by reputable publishers |
| 5. | Internet websites | Seek .org or university based or research foundation based URLs |

Wikipedia has been called the encyclopaedia 'anyone can edit' (Ross, 2018). It must be emphasised that any source of information that has not been peer-reviewed cannot be accepted as being scientifically sound. In fact, peer review is fundamental to scientific advancement where the acquisition of wisdom through science can inspire confidence in the knowledge gained (Desselle et al., 2019). Table 1 is not exhaustive in its list of credible sources. There are manuals, handbooks, policies, government documents, reports, newspapers interviews, etc. In determining which sources to use, postgraduate students should try to consider the time it was published and if there is any evidence of peer review.

## Study Context

The Central University of Technology (CUT) is located in the Central Region of South Africa (Central University of Technology, 2017), being one of six universities of technology in the country (Swart, 2015). It was originally designated as the Free State Technikon in 1981. Technikon's specialised in offering diploma and certificate courses that were geared to the needs of industry (Sehoole and Ojo, 2015). In 2004, it was re-designated as a university of technology, being called CUT. This type of university has a strong vocation-driven teaching mandate with some strong applicable research focus (Pitso, 2013). CUT registered a number of Master degrees (called the MTech degree (Magister Technologiae)) with the Council on Higher Education as a NQF (National Qualifications Framework) level 9 qualification. These postgraduate degrees would be offered by all four faculties at CUT (see Table 2 for a concise overview).

**Table 2: Faculties, number of departments and staff members at CUT during 2015 (Swart, 2018)**

| Faculty Name | Number of Departments | Number of Academic Staff Student | Number of Undergraduate Students | Staff to Students Ratio | Number of Postgraduate Students |
|---|---|---|---|---|---|
| Engineering and Information Technology (FEIT) | 6 | 86 | 4465 | 51.9 | 216 |
| Humanities (FH) | 5 | 74 | 3645 | 49.2 | 588 |
| Health and Environmental Sciences (FHES) | 4 | 55 | 1642 | 29.8 | 38 |
| Management Sciences (FMS) | 6 | 80 | 4419 | 55.2 | 83 |

The overview of the four faculties at CUT indicates that the Faculty of Health and Environmental Sciences (FHES) has the least number of academic staff (55), while the Faculty of Engineering and Information Technology (FEIT) has the largest number (86). The largest number of postgraduate students (588) resides in the Faculty of Humanities (FH), while the Faculty of Management Science (FMS) has the largest staff to student ratio (1:55.2). These statistics help to better contextualize the results of this study that were obtained using the following research methodology.

## Research Methodology

An ex-post facto study is employed where citation analysis is used to obtain quantitative data. An ex-post facto study has certain limitations, including an inherent lack of control of the independent variable or variables; no randomisation of the sample; and difficulties in establishing the direction of causality (one cannot ascertain cause and effect, only correlation) (Sabo and Thornburg, 2015). However, in this research, no control is exerted and no randomisation is required, as all the dissertations on the institution's repository were analysed (this equals the corpus of this study which totals 157 Master dissertations from 19 different disciplines). No causality is required, as only the number and types of citations used over this period is required in order to highlight any major concerns with regard to credibility.

The quantitative data was extracted using a software program that was specifically developed for this purpose by a contracted software developer. The software program automatically downloads the dissertations (which are in PDF format) from the institutions online repository (termed the DSpace Repository (Central University of Technology, 2019)). The program then extracts all the citations from each PDF and inserts them into an online database for further analysis. Using specific field codes, it extracts different types of citations (see Figure 3 for a list of these types of citations). For example, consider books. The software program scans all the citations for the following words: edition, Press, publisher, publishing, st ed, number+nd ed, rd ed, number+th ed. Similar specific field codes are used for the other types of references.

The reliability of the data was determined using an inter-rater reliability test. This was achieved by using purposive sampling. Purposive sampling involves drawing a sample composed of cases that fulfil prior criteria chosen by the researcher (Maestripieri et al., 2019). In this case, an entire discipline must be covered, as the software program can be set to extract data per student, per discipline and per faculty. One discipline per faculty was chosen that had around 5 dissertations. These included Civil Engineering (3), Language Practice (5), Radiography (5) and Business Administration (5) – the number in brackets indicates the number of dissertations that were physically analysed per discipline. This provided a purposive sample of 18 Master dissertations which were physically reviewed (PDF format used) by the researchers where the number and types of citations used were categorised and recorded in an MS EXCEL sheet.

Reference types with counts higher than 8% of the total references per discipline were considered. This eliminates scenarios where reference types with low counts may negatively influence the reliability score. For example, a reference type may be counted as 1 by the software program and as 3 by the rater, giving rise to reliability score of only 33%. The manual examination of citations using hard copes (or prints) in order to conduct a citation analysis can also be very tedious and sometimes inaccurate (Onyancha, 2009). The results of this analysis are shown in Table 3, which gives rise to the three highest number of reference types per discipline. An average reliability score of 95,6%, 86,5% and 93,2% was observed for the three highest number of reference types. Scores higher than 80% are considered to indicate very high reliability (Wagenaar et al., 2005). The extracted data was then analysed in MS EXCEL, with the results presented next.

**Table 3: Reliability scores for the inter-rater reliability test**

| Reference Type | Analysis Type | Radiography | Business Admin. | Language Practice | Civil Eng. | Average Reliability Score |
|---|---|---|---|---|---|---|
| Books | Software analysis | 24% | 24% | 35% | 9% | 95,6% |
| | Rater analysis | 24% | 24% | 34% | 10% | |
| Internet | Software analysis | 11% | 26% | 26% | 9% | 86,5% |
| | Rater analysis | 10% | 23% | 23% | 7% | |
| Journals | Software analysis | 47% | 37% | 19% | 61% | 93,2% |
| | Rater analysis | 43% | 38% | 17% | 65% | |

## Results and Discussions

Figure 2 highlights the number of dissertations (17063 in total) produced over the 10-year period that were available to the public on the online repository of CUT. No dissertations exist prior to 2005, due to the fact that the institution was a Technikon, with no real research focus. Since becoming a university of technology in 2004, a window of the institutions research needed to be provided to the outside world, which dissertations can provide according to Baro and Oriode (2014). A peak number of postgraduate students completed their Master's degree in 2013 (being 34), with the lowest number in 2005 (being 2). The low numbers are indicative of the transformation from a Technikon to a university of technology, as well as of the small number of qualified supervisors that would have to hold a minimum of a Master's degree. The dominant qualification of academic staff at a Technikon would have been a Bachelor's degree or a Higher Diploma. Figure 3 shows the different types of reference sources used over the 10-year period, with their individual number of counts or occurrences.

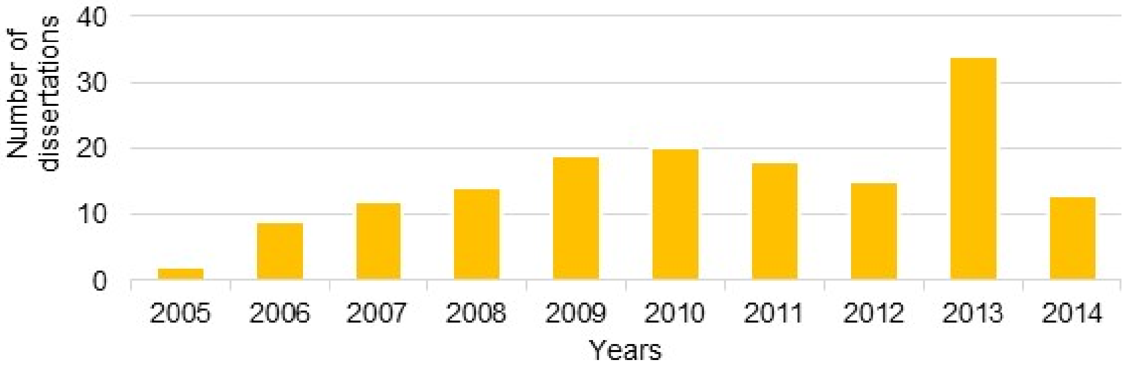


**Figure 2:** Number of dissertations produced per year over a 10-year period

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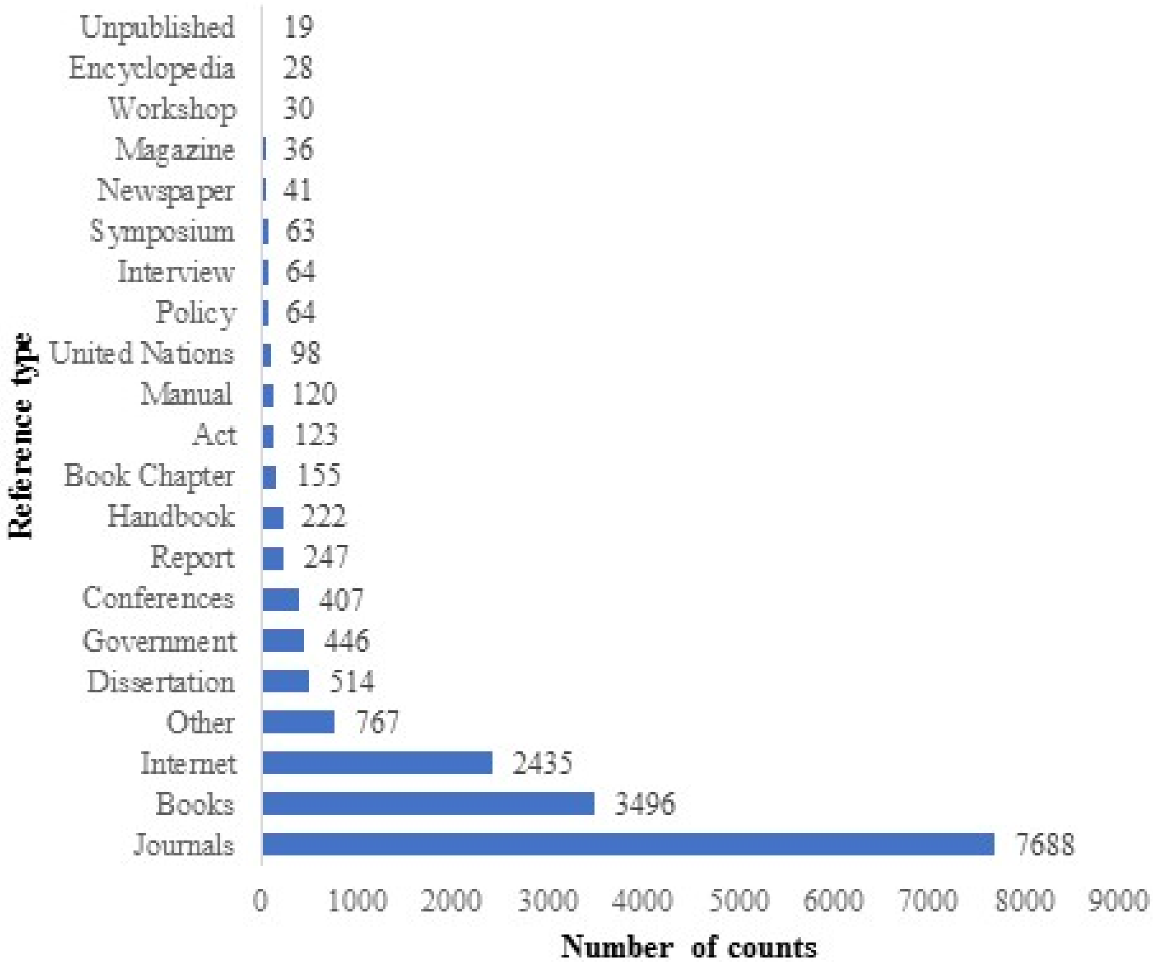


**Figure 3:** Types of citations used along with their number of counts out of a total of 17063

considered citation patterns in Master's dissertations submitted at the Assam University, Silchar between 2012 and 2013 (Sinha et al., 2016). However, that study did not report on the differences between disciplines. Internet-based sources accounted for 2435 citations, while the number that could not be categorised tallied 767 (Other). This suggests that many of the postgraduate students have acquired the aptitude of reading and citing credible sources, as journals and book sources represent 65,5% of all the citations (17063).

Figure 4 presents a breakdown of the top three reference types with regard to their years of publication. This analysis is given to highlight the relevance of the citations to the time period of interest, being from 2005 through 2014. The top three reference types used by postgraduate students that were published after 1999 represent 53% of the total citations (17063). This same time period was covered by a study that analysed citation patterns of postgraduate dissertations in the Faculty of Engineering at the Cape Peninsula University of Technology (Becker and Chiware, 2015). However, it was also limited to just one field of study, being Engineering.

Figure 6 contrasts the 19 disciplines from the four main faculties with regard to the three main

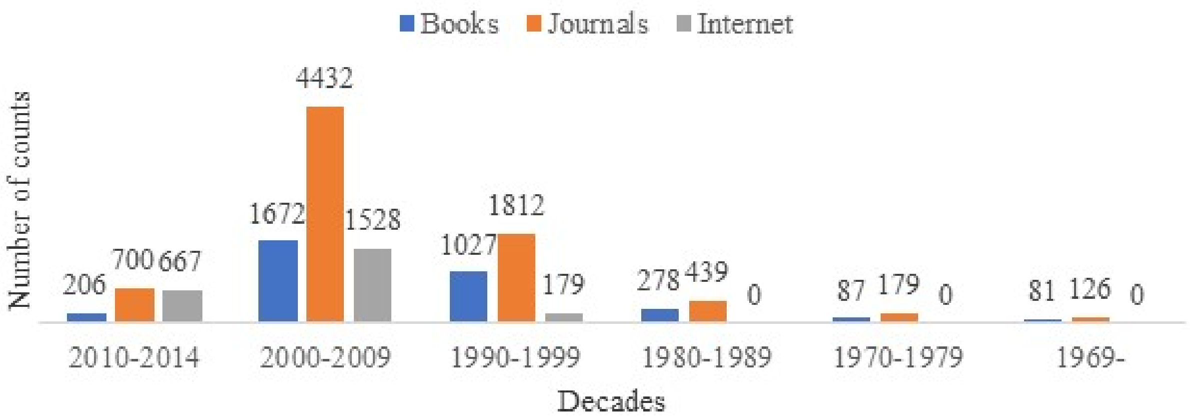


**Figure 4:** Top three types of citations used over the past decades

This is further confirmed when considering Figure 5 that shows the percentage of the total number of citations with regard to their years of publication. The majority of sources that were read and cited by the postgraduate students were originally published between 2000 and 2009 (representing 58%) with a further 10% occurring between 2010 and 2014. This suggests that postgraduate students acquired the aptitude of reading and citing sources that were not older than 15 years, thereby indicating their relevance to their research topics. The results are similar to another study that sought to determine and compare the type (13 identified) and age (average of 14 years) of cited literature in master's theses of three academic disciplines at the American University of Beirut (AUB), Lebanon (Ahmadieh et al., 2016). However, that study was limited to the disciplines of biology, mechanical engineering and political science.

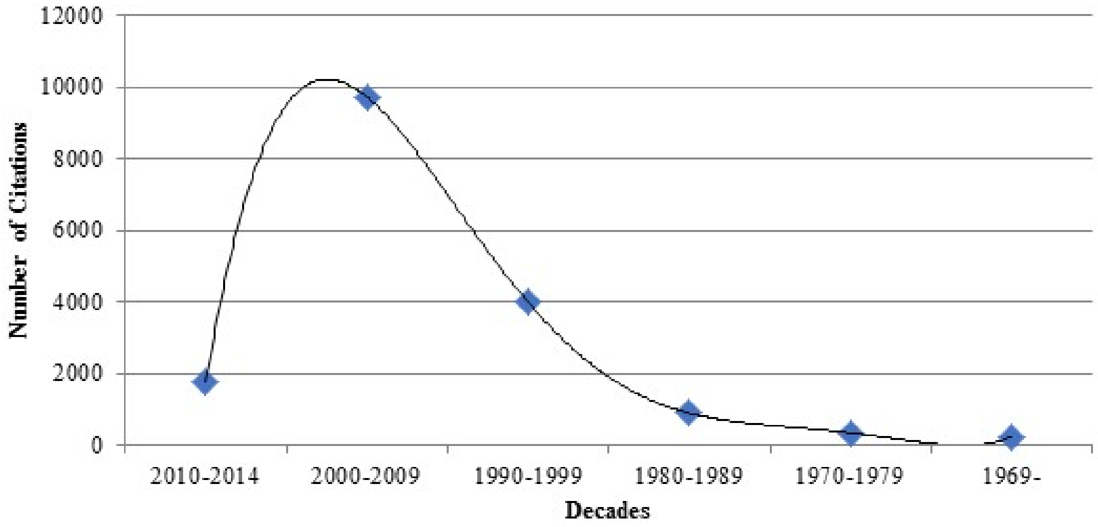


**Figure 5:** Citations emanating from different decades (total equals 17063)

(the citation type, Other, is also included). Students from Arts and Culture, Education, Marketing and Photography used more book sources as compared to journals and the Internet. Students from Agriculture, Biomedical Technology, Civil Engineering, Clinical Technology, Environmental Health, Graphic Design and Radiography cited more journal articles as compared to books and the internet. Internet-based sources accounted for the highest number of citations by students in Electrical Engineering and Information Technology. This is different from a study done in Nigeria, where internet-based sources accounted for the fourth highest number of citations in Electrical Engineering (Fasae and Aladeniyi, 2019).

The finding that more Internet-based sources are used in Information Technology is similar to a study conducted at the Tshwane University of

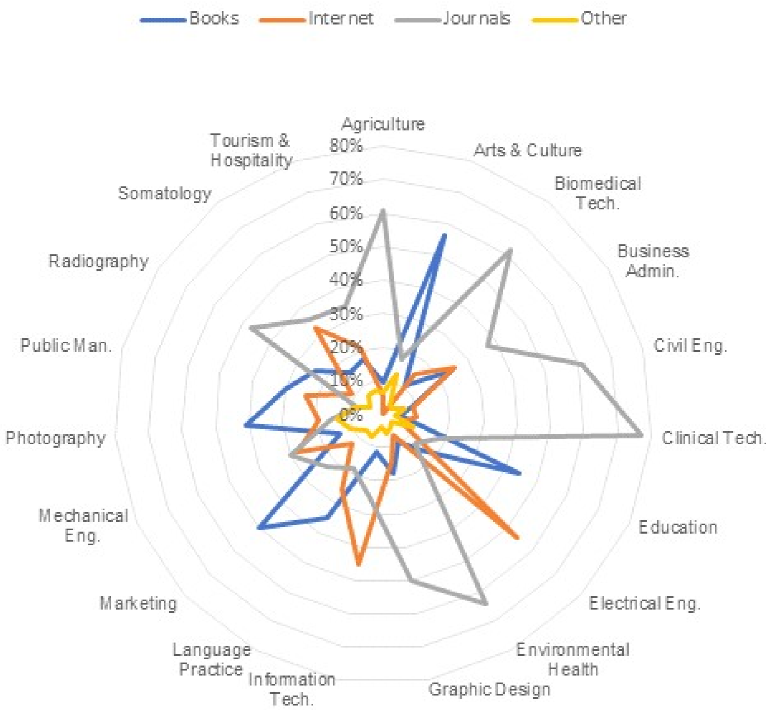


**Figure 6:** Field disciplines with their reference count percentages for Journals, Books and Internet-based sources

Technology in SA (Swanepoel, 2010). That study also revealed what types of information sources postgraduate students use most often and how their patterns of use differ across seven different faculties. However, it did not provide an average number of citations per discipline.

Figure 7 illustrates the average number of citations per dissertation per discipline (bar column). Tourism and Hospitality had the highest number of citations per dissertation, being 194. The discipline of Electrical Engineering had the lowest number of citations per dissertation, being 51. This is much higher than the 31 citations per dissertation that were found at the Western Michigan University (Eckel, 2009) that only considered disciplines in engineering.

Students from the FEIT had the lowest number of average citations per dissertation (60.2) with the highest percentage of Internet-based sources (41%

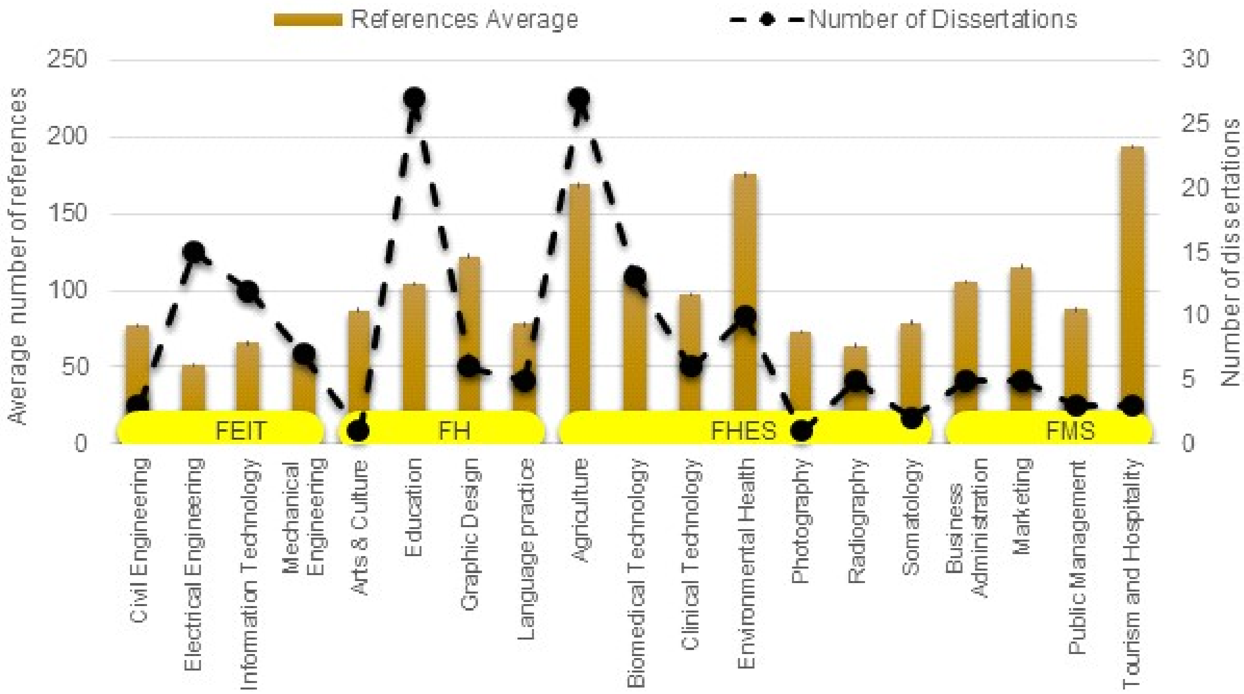


**Figure 7:** Average number of citations per dissertation per discipline

Figure 8 gives a breakdown of the number of dissertations per discipline (area graph) as a percentage of the 157 dissertations. It also provides the number of citations per discipline as a percentage of the 17063 citations. The disciplines of Education and Agriculture account for 34% of all the dissertations with Arts and Culture and Photography contributing less than 4%. What is evident is that the citations as a percentage of their total are consistently lower than the dissertations as a percentage of their total for the Faculty of Engineering and Information Technology (FEIT). This is further discerned in Table 4 that shows the overall differences between the four faculties in terms of the number and type of citations used by the postgraduate students.

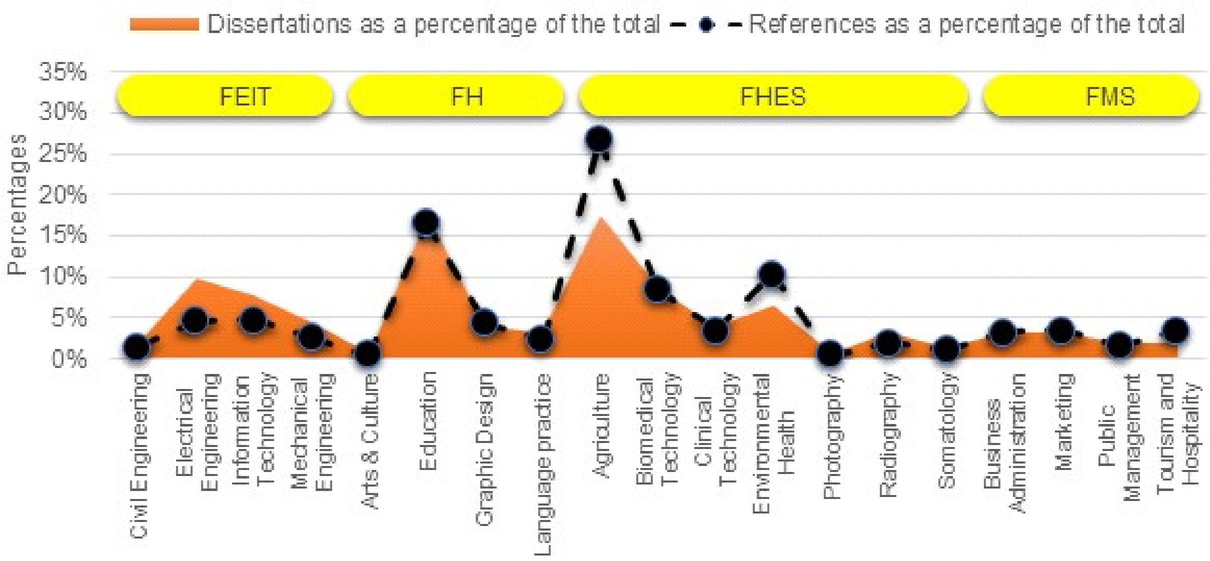


**Figure 8:** Dissertations and citations as percentages of the total count

of 2229). Students from the Faculty of Health and Environmental Sciences (FHES) had the highest number of average citations per dissertation (138,4), while citing the highest percentage of journals (61% of 8857). Students from the Faculty of Humanities (FH) cited the highest number of books (40% of 4028) with students from the FMS in second place (31% of 1949). Journals, books and Internet-based sources make up 80% of the citations in the FEIT and 81% in the FHES. The study done at Tshwane University of Technology in SA revealed that citations to journals and books add up to almost 70% of all citations (Swanepoel, 2010).

The citation analysis from this study revealed six key aspects, as summarised in Table 4. Firstly, the high number of Internet-based sources in the FEIT suggests that students from that faculty have not really acquired the aptitude of reading and citing

**Table 4: Overall differences between the four Faculties in terms of the number and the main type of citations used in student dissertations**

| Data | FEIT | FH | FHES | FMS |
|---|---|---|---|---|
| Number of dissertations | 37 | 39 | 64 | 16 |
| Number of citations | 2229 | 4028 | 8857 | 1949 |
| Journals | 26% | 24% | **61%** | 28% |
| Books | 14% | **40%** | 11% | **31%** |
| Internet | **41%** | 9% | 8% | 20% |
| Other | **5%** | **9%** | 6% | 6% |
| Top 3 as a percentage | 80% | 73% | 81% | 79% |
| Citations per dissertation | **60,2** | 103,3 | **138,4** | 121,8 |

credible sources. They seem to be primarily scanning the Internet for information and not really engaging with journals or books in their postgraduate studies. This is concerning as everyone can be a producer as well as a consumer of information in this digital age (Tenopir, Levine, Christian, Volentine, Boehm, Nichols, Nicholas, Jamali, and Herman, 2016) casting doubts over the credibility of the sources. Note that Internet-based sources were categorised after journals, books and conference papers have been categorised by the software program, and can therefore not include any of these reference types.

Secondly, the high number of citations from book sources occurs in the FH and in the FMS, suggesting that students from those faculties have acquired the aptitude of reading and citing more credible sources. This may also indicate why students from these faculties produce dissertations with the highest number of words, as noted by Swart (2018).

Thirdly, students in the FHES are reading and citing more than double the number of journals than students from other faculties are citing, being 61% of all the citations in that faculty. Another study revealed that journals were the most preferred source of information used by the students in the field of nursing (part of Health Sciences) accounting for 56% of all their citations (Poplašen and Romiæ, 2018). Moreover, in the field of environmental science, journal citations are the key to significant research (Dovers, Carter and Ross, 2018).

Fourthly, the average number of citations per dissertation exceeded 100 in the FH, the FHES, and the FMS, with the FEIT having an average number of 60 citations per dissertation. This is much higher than an analysis of 549 master dissertations that yielded a total of 30405 references with an saverage of 55.4 references per dissertation at the Muhimbili University of Health and Allied Sciences in Tanzania (Chande-Mallya and Sife, 2015). It is also higher than another study that considered a total of 6935 references in 136 dissertations that equaled 51 average citations per dissertation (Nishat et al., 2019). However, those studies did not consider the trend between a number of disciplines or faculties.

Fifthly, the number of citations that could not be categorised (termed Other) ranged from 5% to 9%. This suggests that a number of students are not always formatting their citations correctly. Inaccurate or incomplete citation and reference data as recorded by graduate students were also noted and listed as a limitation in a study of master dissertations theses at the American University of Beirut, Lebanon (Ahmadieh et al., 2016). That same study concluded that it is evident that students need more help and guidance in creating their reference lists and properly formatting their citations.

Lastly, journals, books and Internet-based sources make up around 78% of all the citations at the university. It has been stated that a more democratised perspective on knowledge has gained greater exposure through scholarly journals, books, and the Internet (Rowell and Hong, 2017). Furthermore, around 68% of all citations originated after 1999, resulting in a citation age of less than 15 years for more than two-thirds of all the citations (last dissertation that was analysed was submitted in 2014).

## Conclusion

The original research question stated "What types of citations have been used by postgraduate students over a 10-year period where the Internet has gained prominence? The results indicate that journals, books and Internet-based sources account for 78% of the total references (17063). The Faculty of Health and Environmental Sciences had the highest number of journal citations (61% of their total number), while the Faculty of Engineering and Information Technology had the largest number of Internet-based sources (41% of their total number). Books featured predominately in the Faculty of Humanities and the Faculty of Management Sciences. Over two-thirds of all the citations have a citation age of less than 15 years, while the average citations per faculty range from 60,2 (Engineering and Information Technology) to 138,4 (Health and Environmental Sciences).

Students in the disciplines of Arts and Culture, Education, Marketing and Photography used more book sources while students in Agriculture, Biomedical Technology, Civil Engineering, Clinical Technology, Environmental Health, Graphic Design and Radiography cited more journal articles. Students in the disciplines of Electrical Engineering and Information Technology read and cited more internet-based sources. Other citations (ones that could not be categorised due to formatting issues) tallied 767, representing between 5% and 9% within the faculties.

The results of this study have established the main types of citations used by 157 master students over a 10-year period across 19 disciplines. It has also established the trend of the citations during the advent of the Internet, where only two disciplines were found to have more Internet-based sources. It is recommended that these results, and particularly Table 4, be shared with all postgraduate students, so that they may be better equipped to choose more credible sources for their references that they always need to format consistently. Indeed, consistency is often a mark of quality.

Gathered information must be processed in regard to what is already known so that it can help to create meaning or improve understanding of specific phenomena. In this way, further meaning and understanding may be fostered that can lead to the acquisition of wisdom that can truly enrich, or empower, postgraduate students to complete their dissertation with more credible references.

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# An Exploratory Investigation of Students' Use of Social Networking Sites and their Individual and Social Needs: A Case Study of the University of Botswana Undergraduates

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## Abstract

*Globally, tertiary institutions, as it is the case with the University of Botswana, provide students with free access to social networking sites for educational purposes. However, not much research has been done on students' individual and social needs that are gratified by using social networking sites. This study therefore sought to fill this gap by investigating the University of Botswana undergraduate students' use of social networking sites and the individual and social needs that are gratified by using social networking sites. This exploratory study adopted an interpretivist approach and is qualitative. The study used Media Systems Dependency Theory to guide the investigation. The research data was obtained through semi-structured interviews with undergraduate students at the University of Botswana. The findings of the study show that undergraduate students depend on social networking sites to meet several individual and social needs. The findings also show that students' culture placed a constraint on how they used media.*

**Keywords:** Personal Mass Media Dependency Factors; Social Mass Media Dependency Factors; Social Networks Usage; Undergraduates; Cyberbullying

## Introduction

Digital technologies are continuing to have a tremendous impact on teaching and learning in universities (Ernst and Young, 2012). As a result, universities worldwide, including the University of Botswana, have, in addition to face-to-face contact for teaching and learning, adopted the use of technologies such as Learning Management Systems (LMSs) and other information technology tools such as smartphones for teaching and learning. In addition, the growing popularity and versatility of social networking sites (SNS) have led to their adoption as teaching and learning platforms (Severin and Tankard, 2001). SNS enable collaboration and are touted to have enormous potential to enhance teaching and learning. The platforms create opportunities for students to discuss class work, submit assignments and communicate with lecturers whilst physically apart (Lau, 2017; Al Musawi and Ammar, 2015; Eke, Omekwu and Odoh, 2014; Idakwo, 2011). Social networking sites, according to Essoungou (2010), allow everyone to send and retrieve information from the sites irrespective of geographical location. There are several types of SNS according to uses. These are:

- micro-blogging social media platforms such as Facebook, Twitter, Google Plus
- fully fledged blogging social media platforms such as WordPress, Tumblr, Blogger
- Image sharing social media platforms such as Snapchat, Pinterest, Instagram.
- Video sharing social media platforms such as Vine, YouTube.
- audio programs/podcasts like iTunes, Stitcher
- Synchronous communication tools like Skype, Google Hangouts, Second Life (Robbins and Singer, 2014).

Whilst universities provide students with access to SNS for teaching and learning, not much is really known about students' individual and social needs that are gratified by the usage of SNS. This is because there are very few studies conducted in universities that investigate students' individual and social needs gratification by the usage of SNS. Predominantly, studies conducted in universities on SNS focus on establishing popularity of social networking sites amongst university students, the amount of time students spend on these sites and use (Hussain and Rubab, 2014; Eke et al, 2014; Mesole, 2014; Ryan, 2014; Almarabeh, Majdalawi, Mohammad, 2016; Ogaji et al, 2017). Lineberry (2011) investigated how students' perceived value of social capital motivated them in the generation of user created content in SNS while Ryan (2014) investigated Facebook addiction amongst undergraduate students.

Similarly, studies on Internet access and use conducted on the University of Botswana students include, amongst others, studies by *Ojedokun* (2001) who investigated access and usage of the Internet by the University of Botswana students. Batane (2010) investigated plagiarism amongst the University of Botswana students, whilst Magogwe and Ntereke (2014) investigated the use of Facebook for teaching and learning. Kebaetse, Nkomazana and Haverkamp (2014) investigated the strategies used to implement eLearning at the University of Botswana School of Medicine. Umunnakwe and Sello (2016) investigated effective utilisation of information and communication technology (ICT) by first-year undergraduates of the University of Botswana in their reading and writing skills, whilst Witt et al (2016) investigated the perception of undergraduate medical students of the usefulness of tablets in medical education. Tsholetso, Maunganidze and Faimau (2017) established that, just like undergraduate students elsewhere, most undergraduate students at the University of Botswana who were SNS users spent more time on these sites than on their studies. However, their study did not investigate what students did whilst online and the needs that were met by these activities.

It is in recognition of the dearth of information on gratification of individual and social needs of students through the usage of social networking sites (SNS) that this exploratory study was carried out on undergraduates at the University of Botswana. It is important to investigate this as media choice is said to be dependent on gratification fulfilment and potential to satisfying needs (Rubin, 2002). In addition, the study investigated how and what undergraduate students at the University of Botswana use SNS for and their mobile phone involvement and security practices whilst online. Investigating students' online security practices whilst using SNS was deemed important as Chin, Etudo and Harris (2016) have established that university students whilst on campus gain access to the Internet services provided by universities with privately owned technologies that do not have some of the security features installed in university ICT resources. They further established that students did not exercise caution when going online (Chin, Etudo and Harris, 2016). Similarly, Androulidakis and Kandus (2011) also established that university students are not adequately informed about security issues in regard to their mobile phones' options and technical characteristics, and they fail to follow proper security measures and practices.

The study was guided by the following research questions:

- *What are the individual and social needs of undergraduate students that are gratified by the usage of SNS?*
- *How do social conditions influence selection and usage of media?*
- *What security precautions do undergraduate students practise whilst online?*

The paper is organised as follows: a literature review on issues around SNS use by university students is presented first. The methodology used for the study is then described, followed by a discussion of the findings. The paper is then concluded.

## Theoretical Framework

This study used the Media Systems Dependency Theory (MSD) by Ball-Rokeach and DeFleur (1976) which posits that media, individuals, their interpersonal environment, and the social environment are co-dependent. The theory was deemed suitable as it outlines conditions and relationships that influence media users' preferences and enables one to establish the gratifications that media resources offer to individuals, which is the focus of this study. The theory claims that people depend on media to gain access to:

- Information about their social world
- Information that enables them to act meaningfully and effectively in the society
- Entertainment (Ball-Rokeach and DeFleur, 1976).

Establishing these relationships is in line with what this study sought to investigate. The theory further states that whilst people depend on media information to meet certain needs and achieve certain goals, this dependence is not spread out equally across all media as dependence is influenced by the extent to which a given media meets a number of their needs (Ball-Rokeach and DeFleur, 1976). Furthermore, whilst an individual might be considered to be in control of determining which media to use to meet his or her needs, it is important to note that this decision is shaped by culture and other social conditions, which are not necessarily controlled by an individual. This places constraint on what and how media can be used. The availability of other non-media alternatives is also a critical factor in individual's decision to use or not to use a given media (Ball-Rokeach and DeFleur, 1976).

Ball-Rokeach and DeFleur (1976) further posit that based on prevailing power structures, mass media systems can be classified as either asymmetrical or symmetrical based. In the context of this study, the Internet and SNS platforms are regarded as symmetrical in that each bona fide student has "free" and equal rights or access to the Internet, thus each student has equal power with no student having no control over more resources than the other.

Although the theory states that there are the macro level of the social environment and media systems, the micro level and the meso level, this study only discussed and investigated the micro level which deals with individuals' media dependencies and only derived claims from the theory pertaining to those. Adopting this approach is supported by DeFleur and Ball-Rokeach (1989) who state that an examination using MSD does not necessarily need to encompass the entire media structure since it is bound to be a mammoth task, thus next to impossible to conduct. They further state that "… depending on the problem under investigation, MSD relations may be conceived to involve the whole media system or one of its empirical parts (e.g., television, radio, etc.)" (DeFleur and Ball Rokeach,1989, pg 16).

## Research Methodology

Given that this study is interpretive and qualitative in nature, the chosen research strategy was a case study to enable an investigation within a real-life context (Yin, 1994). This approach enabled the study to get in-depth understanding of the phenomenon within its context (Cavaye, 1996; Benbasat, Goldstein and Mead, 1987). Semi-structured interview questions were formulated based on the themes derived from the theoretical framework.

The selected study location was the University of Botswana. It is a government-funded institution in Gaborone, Botswana. The University has a student population of 12, 800 students, out of which 1850 are postgraduates. The University comprises eight faculties, namely Business, Education, Engineering and Technology, Health Sciences, Humanities, Medicine, Science, and Social Science (UB Annual Report, 2017). The study sample comprised 100 randomly selected undergraduate students drawn from the Faculty of Humanities. Selecting undergraduates as a sample population was influenced by an assertion that, predominantly, young people in Botswana mainly gain access to SNS in college campuses (Batane, 2013). In order to conceal the identity of the participants, respondents were coded as SN1 up to SN100.

A pilot study was carried out during the month of February 2018 with the aim of highlighting any potential problems in language usage in the research instruments, scope of questions asked, sequencing and format of the questions, thus improving the internal validity of the instruments (van Teijlingen and Hundley, 2001). The pilot semi-structured interviews were administered to three randomly selected Faculty of Humanities undergraduate students who were excluded from the full-scale study. The primary data was collected by the lead researcher during the months of March 2018 to May 2018. Semi-structured interviews were chosen because, according to Denzin and Lincoln (2005), they allow one to explore issues better as they are guided by set of issues that the researcher would like to highlight during the interview, whilst allowing one to follow up on issues as and when they emerge during the interviews. Data analysis was done iteratively, and emerging patterns consistent with concepts and relationships derived from the research questions and theoretical framework were established (Fereday and Muir-Cochrane, 2006).

## Findings

This section presents findings on the University of Botswana undergraduate students' use of social networking sites and the individual and social needs that are gratified by using the sites.

### University of Botswana Undergraduate Students Use of Social Networking Sites

Although students stated that they used Facebook, Twitter, Instagram, WhatsApp, Tumbler, LinkedIn, Eskime, Snapchat, V.com, the study established that about 85 percent of the undergraduate students predominantly used Facebook, WhatsApp, Twitter and Instagram. These findings lead the study to conclude that the claim that although people depend on media information to meet certain needs and achieve certain goals, dependence is not spread out equally across all media is valid (Ball-Rokeach and DeFleur, 1976). Similarly, Alhabash and Ma (2017) and Mahadi et al (2016), Kim, Sin, and Yoo-Lee (2014) also established that students have platforms they preferred over others and that they mostly used Facebook, WhatsApp, Twitter and Instagram.

Whilst students were not asked which ICTs they used for accessing SNS, when asked about their involvement with their cellphone, they indicated that they were attached to their mobile phones as most of them reported that they often think about their phones when they are not using them. In addition, they stated that whenever they were contacted on their mobile phones, they interrupted whatever else they were doing. The students stated that the thought of being without their mobile phones made them distressed. They said that they used their mobile whether they were with friends or amongst strangers. This study concludes that undergraduates are attached to their mobile phones as these are tools with which they maintain and manage their relationships. According to Taroor et al. (2014), cell phone attachment is a bond connecting a person's self and the device. The findings are similar to the ones by Mei et al. (2018), Akinleke and Omowunmi, (2017), Taroor et al. (2014), who also established that students were possessively and emotionally attached to their devices. However, Emmanuel et al. (2015 p. 2) state that 'people are not addicted to their smartphones, they are addicted to the information, entertainment, and personal connections they deliver' as they "provide a portable, instant way to stay informed, entertained, and connected".

### Individual and Social Needs of Undergraduate Students Gratified by the Usage of SNS

This section presents findings related to the types of information needs met by the use of SNS, the relationships that undergraduate students create through SNS, as well as its use for entertainment.

#### *Types of Information needs met by SNS*

Students clarified that SNS allow them to be connected to other users to exchange information directly or indirectly. At a more personal level, students stated that they go online to gain access to information on upcoming social events, fashion trends, political information, gossip, relationship challenges, and health information, to advertise items for sale, job adverts and assignments. Students stated that they also obtained information that enabled them to understand others and how to interact with others in social settings. In addition, the students stated instances where they had to deal with a situation which they were unsure of how to deal with, such as going on a date or any social event they would go to Youtube to see how it is done rather than ask friends.

The participants also stated that they used SNS to access *information about* belief systems, *people and places.* Whilst students reported that they used SNS for learning purposes, they stated that they did not communicate with their lecturers via SNS. They preferred going online for information because it is a cheaper way of getting information. In addition, the information is usually more current and is accessible irrespective of geographic location, time or activities they are engaged in. SNS also enables students to keep close to colleagues and acquaintances who in turn provide them with access to information and opportunities that might not be available amongst their families or close friends.

Based on the empirical results, this study therefore concludes that indeed individuals develop dependency on SNS due to their need to get information that enables them to understand themselves, guide them in terms of how to behave and entertainment. Similarly, Wickramanayake and Jika (2018); Ikachoi (2017); Emmanuel et al. (2014) Eke, Omekwu, and Odoh (2014); Kim, Sin, and Yoo-Lee (2014) also established that, mostly, students use social networking sites to access online information, entertainment and to interact with friends, colleagues, acquaintances and family members.

***Relationships in Social Networking Sites***

This study established that relationships were important for students on SNS platforms, as they stated that they meet people online with the intention of meeting them offline. Students indicated that they liked having connections with family and close friends on SNS, as it means there is always someone they can talk to, especially when they feel lonely or stressed, thus assuring them emotional support. In addition, they stated that they used SNS to be free of everyday life responsibilities and to avoid being bored. Whilst students regarded knowing a person in real life as important in their selection of friends/followers, they did report that they had friends they had not met offline and stated that relationships that start on SNS sometimes evolve into meaningful relationships in real life. A person's country of origin, political views, values, norms and beliefs were also cited as important in selection of friends/followers in SNS, whilst ethnicity and religion were not considered as important in the selection of friends and/or followers.

Students stated that it was important for them to become members of like-minded groups on SNS. They stated that they mainly post, share and comment on sites accessible to or maintained by other in-group members or engage in discussions about issues that express group membership, and that they find these groups educational. They preferred taking part in such groups as they have information that they feel is beneficial. It was important to do so as one student stated, *"I do it because I like interacting with people as well as engaging in talks with them as well as discussions" (*SN4). They also stated that participating in group discussions enables them to clarify issues without fear. One of the students explained that "*sensitive people online are sentimental about issues posted, so I refrain from them to avoid unnecessary fights or disagreements"* (SN3). However, other students such as SN9 mentioned that *"most groups do not usually maintain the purpose they were created for, so I avoid joining them"* while another felt that it was important to provide information freely not just to groups as *"everyone even people outside the group need to get information' (SN17).* Most students reported that they each had between 20 and around 2000 friends or followers on various SNS accounts. They stated that they have those numbers of followers because they are outgoing, enjoy chatting and they post '*too much'* in SNS. Others stated that it is because they were well known, as their friends and followers were mainly people who they knew. When asked who they thought viewed their profiles, the students stated that they thought their classmates, people they went to school with, people in their social circles, and members of their family did. They stated that they did not think their lecturers looked at their profiles. The students stated that it was important to always interact and be friendly with friends or followers on SNS. Some of the students believed that their "*online reputation extends to my reputation in my social circle*" (SN3). Having many followers and friends is also considered to *"boost your morale and confidence"* (SN3). They stated that more followers or friends meant that one *"gets exposed to more information" (SN5).* The students further stated that SNS friends, followers encourage them and give "*tips on health matters, motherhood, and relationships" and "keep me entertained and well informed"* (SN4).

The students also reported that friends also shared information and liked pictures and comments, and that it was important to have many likes and retweets, as it means that they are popular. Some of the students believed that *"It shows that my posts are of any interest to other people"* (SN18). The students stated that it was important for them to maintain continued interest of their friends and followers in their posts. They stated that they did the following to maintain continued interest in their posts:

- Updating and changing status frequently
- Getting involved in posts of their followers' chats to keep communication ongoing

- Sharing and re-posting whatever is current and of interest to me and others.

Students reported that it made them "*very happy*", "*joyful*" if what they had posted was liked or they were followed by someone they looked up to on SNS. One student (SN89) stated, *"It felt really good because, like they recognize me*" and that "*I felt so humbled when a certain celebrity followed me and it made me feel important"* (SN7). However, other students did not regard it important to have likes as SN16 stated, "*Likes are a bad influence as those who post dirty things get more likes".* Other factors motivating students to connect with others online include the need to boost popularity. When asked what makes others popular on SNS, the students listed the following:

- Beauty
- Power from outside SNS
- Money
- Family wealth
- Coming from expensive schools
- Ability to express emotions.

The participants indicated that education was not necessary for one to be popular on SNS. To most of the students, it was important to have lots of friends or followers and likes, thus students engaged in activities that ensured that they keep the numbers of followers and likes they get. This is because in the instance of mediated communication, users tend to rely on whatever limited cues may be "given off" by the audience; in the case of SNS, likes and followers are important determinants of how others view the individual (Goffman, 1959). Similarly, Cheung, Chiu and Lee (2011) also established that social presence was one of the key factors that determined students' usage of Facebook.

### *Solitary Play*

In terms of solitary play, students stated that they used SNS for entertainment. They also used SNS to post pictures of themselves in restaurants and other places. They clarified that selfies are important because they use them to express themselves and they allow them to publicize their experiences.

This study therefore concludes that individuals develop dependency on SNS as they enable them to establish relationships and to understand themselves and others. The information students get from SNS also guides them in terms of how to do things and act and play in social settings. This study also concludes that relationships with those with similar interests, values, norms and beliefs are important for students on SNS platforms. Ajello (2012) also drew the same conclusion that SNS users with similar interests are more likely to be friends. Students also reported that they used the platforms for entertainment and self-documentation. This is not surprising as SNS is mainly driven by situational activities, such as chatting and exhibitions whereby one posts status updates and photos for an imagined audience (Hogan, 2010). Students also stated that they did not use SNS for academic learning. This is not surprising as Veglis (2014) established that students prefer to keep social networks and learning situations apart. Clark et al. (2009) termed this digital dissonance.

### *Social Conditions Which Place Constraint on What and How SNS Can Be Used*

Students were asked if their parents or elders had access to their SNS accounts. Predominantly, students stated that their parents did not. Very few students allowed their parents access to their SNS accounts, with most students stating that they had blocked them. This extended to any other user students felt uncomfortable with. Students reported that they used privacy settings on their accounts to exclude certain users from viewing parts their profiles.

The reasons given for excluding parents include "*No, they will stalk on me and I won't like it*" (SN1). Most students stated that their SNS accounts are private. One of the students (SN1) stated, "*I am an adult*". They stated that if their parents had access to their SNS accounts, they would not post or watch some of the content they posted and watched. One student stated "*Nope, the things I share or watch are not what they understand at their age. They're a different generation*" (SN23) whilst another stated, "*No because there are some conversation that are for peers not elderly*" (SN20). The few students who allowed their parents access to their SNS accounts stated that "*Yes, there is nothing wrong with what I post on SNS" because "I feel it is user-friendly and so they* *won't be ashamed or shocked*" (SN9). The study therefore concludes that those who consider themselves careful users of SNS are the ones who allow their parents access, as SN26 stated "*Yes I will do because there is nothing wrong with whatever I post or talk about*".

This leads the studyto establish that whilst parents might be privy to undergraduate students' activities online, students do not consider them to be part of their online audience. Students expressed the same sentiments towards their lecturers, as they stated that they did not communicate with their lecturers via SNS nor consider them to be part of their online audience. The study therefore draws a conclusion that the feeling of privacy from parents' eyes allows students to be freer to post or behave differently from how they would otherwise do if elders or parents were privy to the content. Litt (2011) states that in order to help control the impressions others form, individuals interact and adapt their behaviour based on who is in the actual audience (Goffman, 1959).

This study also established that culture placed a constraint on what and how media can be used. Predominantly, students stated that their culture influences what they post online. One student, SN10, responded, *"Yes, it does, being a Mosotho girl with morals, it comes as a responsibility*" whilst SN7 stated, "*Yes, as a Motswana woman; I am conservative. I cannot do my laundry in public. I have to protect the image of my culture and represent where I'm coming from*". Another student stated, "*I normally post about things that would not humiliate my family name in any way*" (SN6). Another student, SN13, said, "*My culture influences what I post online, things which are culturally wrong should not be posted online (at least by me*)." This assertion was supported by their answers when asked if they thought it was wrong to post pictures of newborn babies online. Most students responded yes. This is supported by culture, as newborn babies are not seen in public until after a certain time. In addition, the students stated that it was wrong to post sexually explicit content, nude pictures, accident scenes with car information and car crash victims' names online. Students stated that their gender and social status did not determine how they behave and act on social networks, thus giving them freedom to be anything they wanted. Acar and Ayaka (2013) also established that there was a relationship between culture and Twitter use, as they established differences in usage that they attributed to culture.

***Online Security Practices of Undergraduate Students***

With respect to online security, undergraduate students stated that they did not share personal details, such as phone numbers and home addresses online. In addition, students reported that they used privacy settings on their accounts to exclude certain users from viewing parts of their profiles. Similarly, Kenny and Johnson (2016) established that most of the students in their study used privacy settings especially on Facebook where students reported using privacy settings "to limit their audience".

## Conclusion

The results of this study show that SNS use by undergraduate students is driven by different needs. The study also shows that being popular online is important to students. There is need for studies to investigate how individuals who are popular on SNS accrue this strong social presence. Overlooking this tends to downplay the fact that relationships that exist on SNS are not at the same level. Whilst it may be accurate to assume that everybody on SNS is on equal footing, the truth is that some wield more power than others when it comes to presence or followers. This is because there are differences in SNS use and users. Predominantly, there are two main types of SNS users: posters and followers. Posters who are alternatively referred to as Influencers are those who actively participate in the content generation of SNS, thus reinforcing interest and activity (Grabowicz et al, 2012). Followers, on the other hand, are those who track the updates, view the contents, and typically take a passive role in SNS participation.

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# Ghana's Cultural Records in Diaspora: Perspectives from Papers held at the Schomburg Center for Research in Black Culture, New York

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## Abstract

*This paper examines two manuscript collections housed at the Schomburg Center for Research in Black Culture in New York City which were created in Ghana by two African-Americans during the heady post-independence days there. These archival collections offer unparalleled views into the newly independent nation's strides to fulfil its socioeconomic agenda; sadly, these are perspectives generally unavailable to the research community within Ghana for a number of reasons. Thus, the paper considers some questions regarding access to cultural patrimony raised by these papers and, as such, seeks to contribute to the debate on the repatriation of cultural records, be they artifacts, artworks or archives, and to offer other paradigms through which we might analyse the issues involved. Using these collections, the paper shows how the interconnections between continental and diasporic Africans that played out in the independence era complicate the notions of cultural patrimony and rights of ownership that often arise during debates on repatriating cultural records. As such, the paper contends that for archives created in diaspora, often out of multiple locations and cultural contexts, the questions of ownership and patrimony are not easily answered.*

**Keywords:** Migrated Archives; Mutual Cultural Heritage; Diaspora; Ghana; Schomburg Center for Research in Black Culture

## Introduction

This paper examines two manuscript collections housed at the Schomburg Center for Research in Black Culture in New York City. These personal archives were created in Ghana by African-Americans – an academic and a businessman – during the heady days of newly-gained independence in Ghana. Their contents pertain wholly or partially to Ghana or Ghanaian subjects and offer unparalleled views into the newly independent state's strides to fulfil its socioeconomic agenda from the eyes of private and official individuals, both Ghanaian and non-Ghanaian. Sadly, these are perspectives generally unavailable to the research community within Ghana for a number of reasons, chief among them being the destruction of public records at Nkrumah's downfall, a dearth of personal papers at Ghana's Public Records and Archives Administration Department (PRAAD), the neglect of a policy to actively collect these, as well as the general absence of a culture of preserving private papers. Thus, beyond using the papers at the Schomburg Center to portrait Ghana sixty years ago, this study considers some questions regarding access to cultural patrimony raised by these papers and, as such, seeks to contribute to the debate on the repatriation of cultural records, be they artifacts, artworks or archives, and to offer other paradigms through which we might analyse the issues involved.

To frame its discussion on the Ghana-related materials at the Schomburg Center, the article initially reviews the literature on repatriated and migrated (or displaced) archives. It then considers perspectives from Kenya and South Africa, the two African countries that have particularly grappled with the issue of migrated archives, following which it discusses the Ghana-related papers at the Schomburg Center. Using these collections, the paper shows how the interconnections between continental and diasporic Africans that played out in the independence era complicate the notions of cultural patrimony and rights of ownership that often arise during debates on repatriating cultural records. It suggests that these collections containing Ghana-related materials, like other papers of African, African-American and Caribbean individuals, businesses and organisations, often reflect the roots and routes of diaspora; that is, they often reveal the affinities between continental and diasporan Africans that were born of a shared heritage and the connections made as they discovered each other whilst traversing Africa, Europe and the Americas as artists, educators, students, entertainers, business people, soldiers, activists and religious leaders, among other things. As such, the paper contends that for archives created in diaspora, often out of multiple locations and cultural contexts, the questions of ownership and patrimony are not easily answered.

## The Repatriation Debate on Art, Artefacts and Bodies

The terms repatriation, restitution and return are used synonymously in this essay to indicate the means by which cultural property removed from one cultural or national context, mostly by illegal or unethical means, are returned to their place of origin. This choice is made while acknowledging that some authors differentiate between the terms. Kowalski, for example, determines that restitution pertains specifically to redress of wartime plunder or theft, repatriation to the territorial attachment of the heritage in cases where territory has been ceded or there has been a breakdown of multinational states; and return where property taken from former colonies or illegally exported are restored to the country of origin.

The imposing mummies and towering Greek and Egyptian sculptures are must-see for most visitors to the British Museum in London and the Metropolitan Museum of Art in New York City. While captivated by the Greek Elgin marbles at London's British Museum, the sacred Yoruba masks at the Brooklyn Museum in New York, or the Egyptian obelisk that has pride of place on Paris's Place de la Concorde, the average tourist has likely never asked how those pieces came to reside at these sites so far away from their lands of creation. Yet, in the last few decades, it is precisely that question that has generated debate over the repatriation of works removed during colonial rule by theft (of course, some would categorise removal during colonial rule this way) or war. This has, in some cases, even seen the return of some of these works to their patrimonial homes. Still, this has not happened without controversy.

A number of recent international pacts against the smuggling of antiquities have brought about a shift in ethics which has resulted in many regarding such repatriations as rightful returns. On the other hand, there are those like Philippe de Montebello, the director of New York's Metropolitan Museum of Art who oversaw the return to Italy of an ancient Greek vase stolen from a tomb in Rome, who question the validity of returning "objects from ancient civilizations back to modern nations that didn't exist when the art was created" (de Montebello quoted in McGuigan, Murr and Nadeau, 2007; Hallote, 2011). Still, some argue that more financially endowed cultural institutions in the West can take better care of the items than their countries of origin while still others make the case for "universal museums" or advance the notion of a shared universal heritage, the "patrimony of all mankind" (Carpenter and Sandford, 2003; McGuigan, Murr and Nadeau, 2007; Cuno, 2014).

While the popular conversation and reports surrounding the more controversial repatriation cases have often focused on art, artefacts and bodies, as in the case of the return of Ramses I's mummy to Egypt and that of Sarah Baartman, the so-called Venus Hottentot, to South Africa, the issue also pertains to archival materials. UNESCO's Intergovernmental Committee for Promoting the Return of Cultural Property to its Countries of Origin or Its Restitution in Case of Illicit Appropriation, for example, primarily focuses on dispossessed museum antiquities and also acknowledges the cultural significance of archives (2010). In his 2015 consideration of the inalienability principle, Montgomery traces the development of modern protocols and legal frameworks governing the restitution of cultural property, especially after wars. Importantly, Montgomery's review notes the failure of these conventions in defining captured state records and archives as cultural heritage and proposes an initial conceptual framework to reconcile the inalienability principle with the conventions of war which permit the seizure of enemies' public records by foreign forces and impose no obligation of return. To accomplish the latter aim, Montgomery suggests public records seized under the laws of war be considered "the eventual inalienable cultural patrimony of the country of provenance and that, as such, seized wartime records should be repatriated when they are no longer needed by the capturing state for strategic military operations, intelligence, occupation, or diplomatic advantage at the end of hostilities" (2015). Under this framework, captured state records would not be left to post-war diplomacy as is the case now and has been for centuries.

Decades earlier the International Council on Archives (ICA) addressed a more pressing issue – that of archives migrated due to decolonisation. As the United States-based African Studies Association (ASA) noted, the changes in territorial boundaries and political sovereignty deprived many countries partially of their rightful archival heritage. The ICA's 1976 Universal Declaration on Archives recognised archives as an essential part of national heritage, providing documentation of countries' historical, cultural, and economic development, providing a basis for national identity, as well as providing the evidence needed to assert individual citizenship rights. The United Nations, in the following decade, also attempted to resolve the matter of migrated archives, formulating the Vienna Convention on the Law of Succession on State Property, Archives and Debts; however, Western powers, largely, did not ratify this 1983 convention (http://legal.un.org/ilc/texts/instruments/english/conventions/3_3_1983.pdf).

The term 'displaced archives' has come to be applied to diplomatic, military, administrative, historical archives displaced by war, seized in occupied territories or, as particularly concerned the ICA, through colonial rule. The term was used as early as 1960 by Ernst Posner who, from 1943, had assisted Solon Justus Buck, Archivist of the United States to promote programmes to protect archives in Europe and Asia threatened by war and to establish collection centres for displaced archives to be returned to their rightful owners (Ketelaar, 2017: viii). According to Lowry (2017), "migrated archives" is the preferred term in Commonwealth countries, although the term has recently become associated with a particular cache of Foreign and Commonwealth Office (FCO) records that have been partially transferred to the UK National Archives; these are discussed below. The Society of American Archivists (2005) Glossary of Archival and Records Terminology defines migrated archives as "the archives of a country that have moved from the country where they were originally accumulated; removed archives". To Nsibandze (1996) quoted in Mnjama and Lowry (2015) migrated archives are archives in exile or archives unjustly transferred (removed) from one country to another. Garaba (2011) argued that "whether one employs the term "fugitive archival material," or "missing documents", "migrated archives", "removed" or "displaced archives", the common factor is that they are not where they are supposed to be, in their rightful place of custody.

Yet, beyond the fairly complex matters of national sovereignty and the loss of rightful ownership, other crucial consequences of archival displacement have been noted. Mnjama (2015), for example, notes that migrated archives constitute a vital historical resource which should be readily available in their countries of origin. To the Botswana National Archives, migrated archives are important as they bridge gaps in national documentary heritage, provide insight into the history and development of the country which may not have been previously known, and increase the diversity of the national archives and local research base. This last point raised by the Botswana National Archives is especially pertinent. In giving their support to the ICA's resolution, the Archives-Libraries Committee of the African Studies Association highlighted the need to provide local scholars, students and citizens free access to documentation on their national past as a particular concern of government archivists in African countries. The Kenya case, particularly, brings this issue into sharp relief.

## Migrated Archives: The Foreign and Commonwealth Office Kenya Documents

As the gruesomely violent Kenyan independence struggle tapered to its inevitable end, and the British colonial government prepared to hand over the reins of government, the British Foreign and Commonwealth Office (FCO) sought to sanitise the archival record of the brutalities the colonial government meted out to counter the Kenyan resistance. Some documents were destroyed outright. Others were covertly sent to London with the complicit knowledge of the FCO (Banton, 2012a and 2012b). Indeed, the Secretary of State for the Colonies ordered the colonial authorities to send documents that they did not want to hand over to the newly independent governments (Badger, 2012). The FCO policy was that records that might embarrass the UK government and public servants should not be ceded to successor governments (Mnjama and Lowry, 2017: 102) and so a 3 May 1961 Colonial Office guidance telegram laid down criteria for documents that were to be migrated. These were those that: might embarrass Her Majesty's Government or local government; might embarrass members of the police, military forces, public servants and others such as informers; and, might be used unethically by ministers in the successor government (Badger, 2012). Over a period of 30 years, these papers of varying volume totaling some 8,800 files arrived in London from 37 colonies, including 1500 files in "readily identifiable series" relating to Kenya (Banton, 2012a; Anderson, 2011).

For almost twenty years, between 1967 and 1982, the Kenyan government unsuccessfully requested the return of these documents. The British government maintained that the records were their property and would not be returned. But in 1982, England's Public Records Office (PRO), now National Archives, argued that the records were not actually UK public records in the meaning of the Public Records Act (Badger, 2012). In the interim, Kenya's government and citizens had effectively been denied access to materials documenting their own history.[1]

In April 1982, an office was opened at the Kenya High Commission specifically to copy Kenyan records held in the UK which had been identified through various surveys. The office was closed in 1989 when funding to support the full time staff from the Kenya National Archives was drastically reduced.

However, the British government's guilty secret was to be exposed by a case brought against them by Mau Mau veterans who, alleging torture and abuse by the British colonial government, sued it for compensation (Anderson, 2011). The prosecution defending the former resistance fighters unearthed these migrated documents which had not been seen since 1963 and discovered they supported their clients' claims. In the controversy that ensued, which saw the FCO ordered by the courts to open the archives under Freedom of Information provisions, questions were raised about whether the British, by migrating and hiding colonial records, had sought to manipulate and censor history to their advantage. As some wondered, what else might they have to hide? (Anderson, 2015).

The Kenya migrated archives case is exactly the sort of circumstance that concerned Montgomery when developing his inalienability thesis and is a situation covered under the ICA declaration. Absent from the ICA Declaration and Montgomery's argument, however, is a consideration of private papers and other contexts in which what might rightfully be considered the cultural patrimony of one country ends up in another, and where the ensuing legal conflict could foreseeably be, not between nations, but between a nation and an individual or estate, or between a nation and a private entity such as a library, archive and auction house. Beyond these scenarios, this paper is particularly interested in one other – what obligations should national or private libraries and archives that hold records created by private individuals or groups be under when the papers in question could possibly have competing heritage or national claims? The South African liberation archives offer one way some have settled this question.

## Repatriated Archives: South Africa's Liberation Archives

The decades long black South African struggle to gain liberation and full civil rights created a substantial body of cultural records of enduring value. These archival materials created by the African National Congress (ANC), Pan-African Congress, Black Consciousness Movement of Azania and other exiled liberation movement groups comprised manuscripts, newsletters, posters, photographs, tapes, video recordings and interview transcripts. The majority of these records have been repatriated from countries including Algeria, Botswana, Lesotho, Tanzania and Zimbabwe in which the groups, especially ANC, the largest, operated. (Dewah and Feni-Fete, 2014; Garaba, 2011). The ANC archives have been repatriated from Tanzania to South Africa's Fort Hare University Archives which was designated the official repository for the papers (Garaba, 2011). The East and Southern Africa Regional Branch of the International Council on Archives (ESARBICA) has recognised liberation archives as valuable part of Africa's heritage and a national asset (Garaba, 2011: 28), a significant declaration particularly in light of the fact that these records survived the threats or actuality of raids on liberation movements' offices and destruction of records by pro-apartheid South African state forces.

While the migrated colonial archives held at the British National Archives clearly fall within the parameters of the inalienability doctrine and should rightfully be repatriated to the former colonies' successor nations, it can be argued that, despite their erstwhile restitution to South Africa, the case for the liberation archives is actually less so. Created in the midst of battles staged from satellite theaters of war across eastern and southern Africa, the liberation archives display some of the characteristics identified below for the Ghana-related manuscript collections at the Schomburg Center. They were born out of political activism targeted against oppression at home; yet, their operational success owed much to the fraternity and support of the African nations in which freedom fighters found themselves exiled and dispersed. The liberation papers record these underground networks and pan-African alliances formed with like-minded individuals and organisations, some involved in similar anti-imperialist and anti-colonial political struggles. So, as much as the liberation archives document the fight against apartheid in South Africa, they also speak to the varied pan-African assistance that supported this struggle.

Still, the liberation archives were produced by South African nationalists fighting for a liberated nation. Some of these individuals ascended to public positions in the new South Africa. On the surface, it seems only right that the documentation of this struggle be repatriated to South Africa, although it was not the nation of the archives' creation. These archives actually present an interesting angle to the discussion on repatriation and displaced archives, provoking the question: which carries greater patrimonial/ownership weight – the country of creation (provenance), especially if it is also the subject of the collection, or the creator and their place of origin? Mnjama (2005) quoted in Garaba, 2011) believes countries where the freedom fighters had been in exile have a moral duty to repatriate records to the fighters' countries of origin. Yet, such a stance could prove to be a double-edged sword for African archivists, as European countries also argue the logic of creators' country of origin and base their refusal to return embarrassing colonial archives to successor governments on their view that the records are in actuality European archives, a vestige of their imperial heritage (Mnjama and Lowry, 2017).

The ensuing sections will discuss personal papers pertaining to Ghana that were created in Ghana by non-Ghanaians and eventually archived outside Ghana to consider how these papers might inform the repatriation debate.

## The Schomburg Center's Ghana Documents

The Schomburg Center for Research in Black Culture is one of the New York Public Library's (NYPL) four research libraries. It began in 1925 as a special collection, the Division of Negro Literature, History and Prints, of NYPL's 135th Street Branch Library. A year later, the library acquired the massive private collection of distinguished black Puerto Rican scholar and bibliophile Arturo Schomburg, totaling more than 5,000 books, 3,000 manuscripts, 2,000 etchings and paintings, and several thousand pamphlets. Schomburg would serve as the Division's curator from 1932 until 1938 when he passed away suddenly. Two years later, the Division was renamed in his honour. In 1972, the Schomburg Collection of Negro Literature, History and Prints was designated as one of NYPL's research libraries and was renamed the Schomburg Center for Research in Black Culture. The Center has five divisions: Art and Artefacts; Manuscripts, Archives and Rare Books; Moving Image and Recorded Sound; Photographs and Prints; and Research and Reference. Today, with over ten million items in its collections, the Schomburg Center is recognised worldwide as a premiere repository for the preservation of materials on African, African-American and African diasporan experiences and histories.

The Schomburg Center holds a number of collections relating to Ghana in all of its divisions. Its Manuscripts, Archives and Rare Books Division particularly offered this study a number of collections and personal papers which it could have explored, including the Kwame Nkrumah Research Collection, the Laura Adorkor Kofey Research Collection, the Clarence Holte Papers (these three collections are described briefly below), the William Alphaeus Hunton Papers (contains correspondence with Kwame Nkrumah and materials relating to the Encyclopedia Africana Project the President commissioned), the Julian Mayfield Papers (apart from an 18 -page letter from Silvia Boone discussing the aftermath of the coup and how it affected the African diasporic expatriate community, the Ghana materials are largely printed matter concerning the coup as the writer's personal papers were confiscated by the National Liberation Council), and the Franklin Williams Papers (United States ambassador to Ghana at the time of the coup, his papers include, among other things, a diplomat's description and view of the coup and its aftermath). Other Ghana-related archival materials at MARB are: four manuscript documents in the artificial Africa Miscellaneous Collection, including a slave trade document, land lease documents, and letters from and to W. E. Amartey, a Jamestown, Accra merchant, and a folder of masonic letters from a lodge member in Kumasi found in the Henry Albro Williamson Papers.

Some of the manuscript collections have corresponding collections in the other divisions, for example, the Julian Mayfield Photograph Collection. Detailed collection guides, including information on materials that have been separated to other divisions, may be accessed through archives.nypl.org. A brief description of some of the above-mentioned collections will serve to provide a sense of the scope of the Schomburg Center's materials relating to Ghana.

The Nkrumah Collection is research notes, interviews and correspondence relating to Nkrumah that researcher Marika Sherwood compiled for her book *Kwame Nkrumah: The Years Abroad, 1935-1947*. Similarly, the Kofey Collection consists of, among other things, research notes, correspondence relating to the research, news clippings, pamphlets, and copies of telegrams concerning Kofey between Universal Negro Improvement Association (UNIA) officials and their leader Marcus Garvey were created by Richard Newman for his chapter on Kofey in his 1987 book *Black Power and Black Religion: Essays and Reviews*. Kofey was born outside Accra in 1875 and claimed to be the daughter of King Knesipi (possibly Nii Shippii?) who wanted to encourage African-American migration to the then Gold Coast. The collection outlines Kofey's sojourn in the United States, her rise through the ranks of the UNIA, and her eventual split from, and suspected assassination by, the organization.

Clarence Leroy Holte was an African-American bibliophile who collected books pertaining to Africa and the African diaspora. He was a Lincoln University classmate of Kwame Nkrumah, a relationship documented in his papers which also reflects his desire to educate people about black history and culture, and reveals his attempts to assist with the economic development of Nigeria, Ghana and Liberia through an advertising company he represented. The Holte papers also include files pertaining to Holte's role in hosting Nkrumah's 1951 visit to the United States, sponsored by Lincoln University.

## At Home in Diaspora: The Drake and Freeman Papers

Although many of the above-mentioned collections show the multifaceted connections between Africans in diaspora and on the continent and demonstrate the perspective of roots and routes germane to the argument being offered here, upon reflection, it was decided not to include them in the analysis. Rather, for the purposes of the discussion, what was chosen were collections that had been organically created by one individual who had sojourned in Ghana for a substantial amount of time.

### St. Clair Drake Papers

St. Clair Drake was a social scientist and activist born in 1911 in Suffolk, Virginia. After graduating from the historically-black college Hampton Institute, now Hampton University, in 1931 and prior to pursuing his PhD, Drake taught at high schools and colleges, joining the faculty of Roosevelt College in Chicago as an assistant professor in sociology and anthropology in 1945. There, he helped organise an African studies programme. He conducted research on black communities in England's sea ports in 1947-48 for his PhD. Degree; and while in England, he became acquainted with George Padmore, Kwame Nkrumah, and other leaders of the Pan-African movement. As an educator and social anthropologist, Drake worked and conducted research in West Africa intermittently between 1954 and 1965 as a visiting professor at the University of Liberia in 1954 and a Ford Foundation Fellow in Nigeria in 1955. It was under the auspices of the Ford Foundation that Drake first went to Ghana in 1954, returning there in 1958 to lecture in the Sociology Department at the University College of Ghana in Achimota. He was subsequently appointed acting head of that department between 1958 and 1961. During this time, Drake became an adviser to the Nkrumah government on the development of the former fishing village of Tema into an industrial town with a deep harbor. He also assisted in the implementation of Peace Corps programmes in Ghana and Sierra Leone.

### Scope of the Drake Papers

The Drake papers, spanning the years 1935 to 1990 when Drake passed away, were donated to the Schomburg Center by Drake and his estate in seven accessions, beginning in 1989. In totality, the papers measure 48 linear feet, comprising 27 cartons and 76 boxes, and are divided into 18 series, including Personal Papers, Correspondence, Subject Files, Ghana, Kenya, Nigeria and other African countries. The Ghana series is 5.4 linear feet and is arranged into five sub-series: Correspondence, Diaries, Manuscripts, Tema, Politics and Government. Represented in the correspondence are matters relating to Drake's appointment and tenure at the University College of Ghana, his efforts to secure financial assistance for West African students in the United States, and letters to and from Kofi Busia, whom Drake had replaced as head of the Department of Sociology at the University College of Ghana, Legon when the former became a leader of the opposition. Also included are diaries and notes dating from 1954 and 1959. The mostly unpublished anthropological writings in this section are listed by title. His office files at the Department of Sociology fall broadly into the following categories: sociological surveys of student life, family background and career orientation; student papers, examinations and curriculum material; research projects related to Ghana; an outline for a PhD programme and Drake's recommendations for the growth of a modern university in Ghana.

The Tema sub-series documents the Nkrumah government's undertaking to complete the Tema harbour project as well as the University of Ghana's Department of Sociology's involvement in a research group that explored the projected educational, cultural and socioeconomic problems intrinsic to an industrial project of that scale, drafts of a report on Tema, and material collected by Drake for a major article on the new town.

The Ghana - Politics and Government sub-series includes materials on Nkrumah's 1958 visit to Chicago, miscellaneous material on George Padmore and the Convention People's Party, the 1965 coup that overthrew Nkrumah, and miscellaneous writings by Drake on Nkrumah.

Other series in the papers also contain material related to Ghana. For example, speeches on Ghana, including radio talks, may be found in the Lecture Notes series; the Correspondence series contains letters from E. S. Attuquayefio, Kojo Botsio and Kofi Tetteh while the Writings series, in addition to reflecting Drake's interest in pan-Africanism, sub-Saharan Africa and black studies, also includes writings from Ghanaians Opoku Agyeman and Kofi Tetteh.

The documents in the Drake Papers are, unfortunately, likely not represented in the University of Ghana Archives or PRAAD collections.

### Robert Freeman Papers

Robert Turner Freeman Jr. was born in New York City in 1918. He attended Lincoln University at the time Kwame Nkrumah and Nnamdi Azikiwe were also students and was acquainted with both men. Freeman had majored in Mathematics at Lincoln and entered the life insurance industry in 1945 as the vice-president and actuary for United Mutual Life Insurance, an African-American insurance company. Nine years later, Freeman learned that Britain intended to grant its Gold Coast colony independence and that Nkrumah would be the new nation's leader. He reached out to his former Lincoln University classmate to propose setting up a life insurance company there. This he and his two partners accomplished in 1956. The Gold Coast Insurance Company recruited the colony's first insurance agents and gave them a two-week training course. By 1959, their number had grown from twenty-five to 150-strong and the company had opened branch offices in other major Ghanaian towns. During that time, Freeman and his partner Vertner W. Tandy Jr. also formed the first domestic property and casualty company in Ghana, the Ghana General Insurance Company, to sell automobile and fire insurance. Three years later, President Nkrumah incorporated both companies into his newly established State Insurance Corporation (SIC). Nkrumah requested that Freeman remain on board as the Managing Director of the SIC (Nkrumah to Freeman, October 10, 1962). Freeman also helped with the creation of the social security system in Ghana. In 1965, Freeman resigned his post at SIC and returned to the United States. However, he would continue to return to Africa over the ensuing years, helping a number of countries establish insurance or social security systems. He died in 2001.

### Scope of the Freeman Papers

The Freeman Papers were donated to the Schomburg Center by his son, Robert Freeman III, in 2007. A small collection (0.8 linear feet) of two archival boxes, the Freeman Papers consist of two series, Personal and Professional. The papers not only offer insight into the establishment of the companies that would be incorporated into Ghana's State Insurance Company (SIC), but also offer insights into the activities and opinions of Ghana's first president. For instance, in his letter to Nkrumah following up on the proposal for setting up the insurance company, Freeman recalls that the future anti-colonialist leader often attended Lincoln University student programs where he "presented interesting narrations concerning the culture and music of Africa".

Among correspondence to family in the Personal series is a letter describing Ghana's Independence Day festivities and the Freeman's experience meeting American invitees such as Richard Nixon and Adam Powell, discussed in some detail in the following section. The first three folders of correspondence in the Ghana Insurance and Ghana General Insurance sub-series of the Professional papers trace the establishment of the Ghana Insurance Company and the challenges encountered in the process, namely red tape, settling in Ghana, and overcoming the populace's suspicions about the workings of insurance. Nkrumah himself was alleged to have thought insurance "a racket" (David Jones letter, 1956).

Some of the documents relating to SIC operational matters available in the Freeman papers might be represented in SIC Archives. However, earlier and private correspondence between the partners relating to the preceding companies' set-up and operations which give a fuller picture of SIC's history most likely are not.

## Ghana's Cultural Records in Diaspora: Concluding Perspectives

The Schomburg Center's archival collections reflect Arturo Schomburg's philosophical leanings and richly document the histories and cultural productions of Africa and its diaspora as well as the varied interconnections between their peoples. Robert Freeman's associations with Nkrumah and Nigeria's Azikiwe serve as one example of these ties frequently recorded in the Schomburg Center's collections. The men met while they were all students in college, prior to the latter two becoming political stalwarts, and then years later renewed their affiliation with Freeman as a businessman who contributed immensely to the development of the two leaders' nations. Beyond these "top level" associations, there are also records documenting more "ordinary" interactions, such as those between Drake, his colleagues and assistants in the Tema project or Ambassador Williams' visits to local schools.

These archival records relating to the Ghanaian past at the Schomburg Center are an intangible heritage that can, as Jimerson (2003) suggests, convey emotional and intellectual links to people and events of previous eras. And these records are of immense value not only to Ghanaians, but also to their counterparts in the African Diaspora. Indeed, the documents do not simply record significant events from Ghana's past but relate how diasporic Africans experienced them. For example, Mary Freeman's detailed letter to their family in the States about Ghana's Independence festivities exudes with excitement and pride about the landmark achievement (Freeman to family, 10 March 1957). In the car behind the Governor and the Duchess of Kent, she wrote, "[was] Dr. Nkrumah and I was so excited I wanted to see him and not through the lens of a camera." Nkrumah and Ghana symbolised the realisation of pan-African liberation ambitions and offered a standard and hope for other black struggles, including African-Americans' own fight for civil rights in the United States. It was little wonder that diasporic Africans flocked to the continent of their heritage for the momentous occasion. Mary Freeman's list of attendees reads like a who's who: "… Mr. and Mrs. Johnson of Ebony, Simon Booker of Jet… you never saw so many Negroes outside of Harlem. There must have been 150-200 of them here… Dr. Ralph Bunche, Adam Powell, Rev. and Mrs. Martin Luther King, A. Philip Randolph, Norman Manley, Mrs. Louis Armstrong…"

Mary Freeman's letter relates other interesting vignettes from the day: "The first affair of Independence was Monday afternoon at the stadium – Welcome ceremony to the Duchess. I took lots of pictures and hope, above all that the picture of 1,000 school children dressed in yellow, green and red and representing the Ghana flag comes out. *It was a very inspiring picture and beautifully done*" (emphasis added). Then, "Wednesday was the big day, but first let me tell you *the most important thing that happened prior to Wednesday. At midnight March 6 the Union Jack was taken down and the flag of Ghana was hoisted.* This took place at the Legislative Assembly and there were thousands of people witnessing this most historic event" (emphasis added).

Apart from the views of Independence Day festivities and her highlighting of those aspects that particularly resonated with her, Mary Freeman's letter also reveals the sense of pride and satisfaction there was that diasporic Africans were making significant contributions to Ghana's progress and development. She reports that the African-American press that had come to Ghana to cover the event "really took pictures of us and the office". The press was not simply interested in featuring African-Americans in Ghana, but wanted to report on their involvement in the nation's economy and society as well, perhaps seeing it as a way their readers could also feel a part of the bourgeoning pan-African project.

That was certainly the import of Mary Freeman's letter to her family. Significantly, the last words of this letter written so that family members back in the United States could vicariously participate in the celebrations of the first African country to gain independence were "don't forget Ghana". This admonition invited them to do more than insert themselves in the festivities. It tasked them with remembering the nation, actively making it a part of their consciousness, perhaps so they or their friends could evoke it and its promise in their own activist struggles.

And yet, the feeling of diasporic affinity was not unidirectional. While expressing his "considerable pride" at Nkrumah's political progress and Gold Coast's advancement towards independence in his proposal to Nkrumah about setting up the Ghana Insurance Company, Robert Freeman also referred to the success of black-owned insurance companies in the United States, appealing to the Ghanaian leader's pan-Africanist sensibilities (Freeman to Nkrumah, 13 September 1954). Decades later, when Nkrumah associate, Kojo Botsio, was organising a Kwame Nkrumah Foundation, he seriously considered its presence in the United States so that friends like Drake "…so vibrant with the spirit of pan-Africanism" (Botsio to Drake, January 19, 1987) could continue the work of Nkrumah and his diasporic aides and confidantes George Padmore and W. E. B. DuBois (see Figure 2 for a compilation of Nkrumah's aides from the African Diaspora).

There are parallels that can be drawn between these papers at the Schomburg Center which speak to the Ghanaian past and the repatriated South African liberation archives. The latter records document as much about the countries that hosted the freedom fighters as they do about the anti-apartheid struggle itself. In other words, contained in these archives are records about a significant period in the histories of these countries, noting both official governmental contributions and those of their citizens, as well as political backlash faced from the South African government. Subsequently, claiming unequivocally that these archives belong to and in South Africa seems to disregard their complicated origins and contexts. Could a case not be made against their restitution? Indeed, could their restitution not be considered something of an interruption to the narrative of pan-African cooperation that contributed to the success of the anti-apartheid struggle? Furthermore, does the restitution of the liberation archives to South Africa not blur the interconnectedness of Africa's histories and political trajectories in general, and that of the anti-apartheid and anti-colonial struggles in southern Africa in particular? These questions are pertinent to the Ghana-related archival materials at the Schomburg Center and myriad other records there and in other repositories across North America and Europe. Any solution to them is predictably complicated and fraught.

In 2016, the Lutheran School of Theology (LSTC) at Chicago returned Codex 1424, a ninth century New Testament manuscript, to the Greek Kosinitza monastery where it resided for centuries prior to being sacked by soldiers during the Balkan Wars in 1917. The manuscript, which forms the basis of the official version of the New Testament used by the Greek Orthodox Church, eventually found its way into the hands of a book dealer who sold it to a LSTC president in 1920. The current president of LSTC confirmed that the purchase had been legal under international antiquities laws then and now, but that the school realised the manuscript's return was a moral, not legal, question: "what do we do with something that is obviously ill-got gains? We didn't gain it illegally, but somebody did. What do you do when you have the opportunity to set that right?" (Seminary returns rare manuscript to Greek Orthodox, *Christian Century*, December 21, 2016). Earlier in the year, *Christian Century* reported the return to an Ethiopian monastery of sacred manuscripts by Howard University Divinity School (February 17, 2016).

Auer (2017) suggests that bilateral negotiations such as the ones that saw the return of these rare manuscripts to Greece and Ethiopia remain the most effective method of resolving archival claims while Karabinos (2017) and Cox (2017) believe that shared heritage arrangements also warrant consideration. Both solutions might incorporate copying which, Mnjama and Lowry, following the lead of the ICA, proffer as a solution where the restitution of archival materials faces inaction (Mnjama and Lowry, 2017). It might be argued that these preceding solutions are born out of conceptualising displaced archives as an undifferentiated whole that need an all-encompassing and definitive arrangement. However, this might needlessly complicate matters. A helpful strategy offered in the literature to resolve disputes over displaced archives is to review them on a case-by-case basis. One such pragmatic solution would be to temporarily put aside questions of provenance and the rightful place of the archives and instead focus on facilitating access to them (Ketelaar, 2017). In Australia, the focus on access has driven the repatriation of song recordings from archives and private collections to communities of origin as a way to attain cultural equity, to revitalise song traditions, to redress colonial research legacies, and to ensure that cultural stakeholders in Australia's aboriginal communities have access to the results of past and present research (Treloyn, Martin and Charles, 2016). For the Caribbean area, the Association for Cultural Equity (ACE) has undertaken a digital repatriation project, providing Caribbean repositories with the digital copies of the works of Alan Lomax, author, anthropologists and record producer who in the 1960s travelled around the Caribbean recording folksongs and oral traditions. The ACE project's main objective is to make these intangible cultural heritage resources accessible to present and future generations (Lyons and Sands, 2009). In the United Kingdom, access is the course of action that the British Library has pursued for the Moroccan and Somali audio archives in its collections (Landau, 2012; Brinkhurst, 2012). Both studies have demonstrated that proactive archivism that reaches out to diasporic communities whose cultures and histories are represented in archival holdings far from home might be one way to mitigate the charges of displacement because, as Landau (2012) notes, these archives have multifaceted significance for users from the communities; they serve as: tools to evoke memories and reconnect to the 'homeland'; valuable historical documents; tools to rediscover cultural heritage; and tools to reinforce a sense of identity.

Thus, outreach programmes that facilitate access might be the most useful framework to apply in cases like the Schomburg Center's Ghana-related materials which can be considered shared heritage or cultural property and therefore do not warrant repatriation. The Ghanaian community in the Bronx is only a short subway ride away from the Schomburg Center, and there are several outreach possibilities that could create opportunities for them to meaningfully engage with documents of their past. Such outreach programmes could also be a vehicle for acquisitions, where community members, now aware of the proximity of historical documents pertaining to their national story, might donate materials. This would ensure that their own diasporic stories, vital to the telling of full histories of both their nations of origin and settlement, get preserved in the place they have made their home away from home. Although their diasporic home of creation was not where the Drake and Freeman papers remained, their availability to Ghanaians in diaspora, as well as to other Africans, African-Americans and African-Caribbeans, contributes to vital socio-cultural understandings between African-descended peoples that continue the vital interconnections these historical actors experienced and which have been recorded in their papers for posterity.

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# A Survey of Career Intentions and Entrepreneurial Competencies Needs of Library and Information Science (LIS) Students in Delta and Edo States, Nigeria.

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## Abstract

This study investigated the career intentions and entrepreneurial competencies needs of Library and Information Science students in Delta and Edo States of Nigeria. Specifically, the study determined students' awareness of entrepreneurship opportunities available in librarianship, career intentions and entrepreneurial competencies needs of the students. The study covered level 400 LIS students in Delta and Edo States of Nigeria. Data were collected using a self-administered questionnaire which was distributed to 196 respondents using the accidental sampling technique. Results showed an awareness of entrepreneurship opportunities among the students. It also revealed a high level of intention to get paid employment in the LIS profession by the LIS students. There was a perceived need for entrepreneurial competencies, mostly in the areas of marketing and information technology skills. Among others, the study recommended that entrepreneurship re-orientation should be given especially to final year students to help them become more interested in entrepreneurship in LIS.

**Keywords:** Entrepreneurship, Career Intentions, Competencies Needs, Library and Information Science (LIS) Students

## Introduction

Entrepreneurship has been identified as a powerful engine for economic growth and crucial for improving the quality and employment opportunities in any economy. The drivers of this powerful engine are entrepreneurs. Nwosu (2014) defined entrepreneurship as the process of using initiative to transform business concepts into new ventures and diversifying existing ventures or enterprises to high growing venture potentials. Similarly, Ogar, Nkanu, and Eyo (2014) simply identified it as the bedrock of industrial development throughout the world.

In Nigeria, there is the common opinion that the country has not been able to prepare her workforce for the challenges of the rapidly changing global economy. This is because the emphasis of education has been more on paper qualification than on the acquisition of skills for self-empowerment (Ogar, Nkanu and Eyo, 2014). For this reason, in 2006, the Federal Government of Nigeria introduced entrepreneurial education as a compulsory course for all disciplines in universities. The goal was to prepare graduates for entrepreneurial success while at the same time changing the popular notion that the nation's tertiary institutions are mills for job seekers rather than job creators (Ojiefo, 2012).

While there is the urgent need to curb unemployment by encouraging entrepreneurship, it is believed that successful entrepreneurship relies on the exhibition of certain competencies and skills. As pointed out in the report by the Organisation for Economic Co-operation and Development (OECD) (2005), individuals are required to have competencies that will enable them to survive in today's society. Ugwu and Ezeani (2012) also noted that it is expedient for LIS undergraduates to acquire basic professional and entrepreneurial competencies, attitudes and values that are deemed critical for achieving self-development.

Hence, the entrepreneurship courses as contained in the LIS curriculum at different levels of study in both institutions under study aim to prepare students for entrepreneurial activities after graduation. At the Delta State University, entrepreneurship course starts in second semester of Level 200. The course titled "Entrepreneurship and Innovation" is a two-unit course with a core course status. Again, in second semester of Level 300, the students are exposed to another entrepreneurship course titled "Entrepreneurship Studies (Business Creation and Growth)." This is also a two-unit core course. At the University of Benin, the entrepreneurship course is given in the second semester of Level 300 entitled "Entrepreneurial Development". The aim of the course is to develop entrepreneurial orientation and skills in the students. It also exposes the students to the opportunities in entrepreneurship and the basic characteristics required for successful practice as entrepreneurs. The essence of these courses is not only to expose the students to viable entrepreneurship opportunities in the LIS field, but also to instil in them some of the required competencies and skills in entrepreneurship. It is against this background that the paper attempts to survey the career intentions and entrepreneurial competencies need of the LIS students.

### Statement of the Problem

The statistics of unemployment in Nigeria are high. In an attempt to curb this trend, the Federal Government of Nigeria introduced entrepreneurial education as a compulsory course for all disciplines in universities. LIS as a field of study is not left out. LIS schools across the country give entrepreneurship courses at different levels. The aim is to train future librarians to become successful entrepreneurs. What is unclear is whether the entrepreneurial courses offered to LIS students are influencing their career intentions. Hence, the question to be answered is: What are the career intentions and entrepreneurial competencies need of LIS students in Delta and Edo States of Nigeria?

### Research Questions

1. What is the level of LIS students' awareness of entrepreneurship opportunities available in librarianship?
2. What is the perception of LIS students about the entrepreneurial competencies they need?
3. What are the career intentions of LIS students?

## Literature Review

During the last decades, the concept of entrepreneurship has become very important due to the need to overcome constant and increasing economic and developmental problems facing countries. According to Kristiansson and Jochumsen (2015), entrepreneurship is an increasingly central phenomenon in contemporary society because it seeks to prepare people, students in this case, to be responsible and to become enterprising individuals who have the attitudes, skills and knowledge necessary to achieve the goals they set for themselves. Thus, entrepreneurial competencies become an essential element for the adaptability of new labour markets (Sanchez, Ward, Hernández and Florez, 2017). Ejedafiru and Toyo (2015) also pointed out that entrepreneurship education seeks to embrace skill acquisition in creative thinking, product development, marketing, leadership training, and wealth creation. Entrepreneurship is the ability of an individual to rely on his/her own abilities and efforts; that is, the person is able to survive on his or her own in the business world (Idiaghe, 2011). Nwosu (2014) added his voice to the issue by echoing that entrepreneurship education is the process of instructing individuals on using their initiative to transform business concepts into new ventures, diversifying existing venture or enterprise to high growing venture potentials.

In relation to library science students, Inyang and Enuoh ((2009) defined entrepreneurship in librarianship as a programme that offers specific techniques for creating an entrepreneurial environment in library and information service. It is perhaps in this regard that Igwe, Uzuegbu Issa Aliyu and Adebayo (2015) stressed that young librarians have also been urged to pursue non-traditional careers and business in librarianship or to have niche knowledge and skills that will help them stay out of the job market. According to Campbell (2012), what makes entrepreneurship education for LIS graduates stand out clearly is the focus on realisation of opportunities with profit making as the ultimate.

Students' awareness about entrepreneurship is an integral part of this research. Awareness is believed to be an integral component of the students' choice of librarianship as a career. Swamiji (2014) defined awareness as that which manifests in all forms of perception, in all forms of knowing. A study to survey the awareness of students on the issue of entrepreneurship by Onyia and Agbawe (2017) reported that all the 118 respondents (100%) became aware of entrepreneurship because it was among the general courses offered in their departments. An earlier research by Ugwu and Ezeani (2012) showed that students were aware of entrepreneurship through the media and the general courses they took. In essence, the general courses in entrepreneurship did not satisfy the specific demands of LIS profession. The implication of that study was that the students did not acquire the relevant competencies and skills that can make them compatible with and accessible to the variety of entrepreneurship opportunities in the profession.

Career intentions are crucial to understanding the entrepreneurship process. Mhango (2006) explained that intentions are the degree of commitment towards specific target behaviour, such as a goal to start a business or to follow a certain career path. Entrepreneurial intention is defined by Palalic, Ramadani, Dilovic, Dizdarevic and Ratten (2017) as positing to owning a business or becoming self-employed. It is also the degree of commitment towards a goal to study and pursue a career in entrepreneurship. This definition shows that the students' behaviour is purposely planned as to what they want to do after their degree. Once the intended goal is identified, students can plan actions and behaviour to reach the target. That is to say that students decide what they really want to do with their course of study: either they want to practise as professional or they want to follow other career paths. Kennedy, Drennan, Renfrow, and Watson (2003) also indicated that intentions are affected by perceptions of desirability, perceived feasibility, and propensity to act on opportunity. An investigation by Ntui (2015) into the attitude of LIS students towards entrepreneurship at the University of Calabar revealed that only 40% of the LIS students have the intention to become entrepreneurs and only 37% of students have positive feelings about entrepreneurship. Their study implied that most of the LIS students at the University of Calabar did not have positive attitude towards entrepreneurship.

According to OECD (2005), competency is more than just knowledge and skills. It involves the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context. For example, the ability to communicate effectively is a competency that may draw on an individual's knowledge of language, practical IT skills and attitudes towards those with whom he or she is communicating. A similar definition was given by Man, Lau and Chan (2002) as the totality of one's ability as an entrepreneur to perform this role successfully. Ejedaferu and Toyo (2015) were of the opinion that would-be LIS graduates are expected to acquire necessary skills that will enable them to meet the needs of society. A study by Ugwu and Ezeani (2012) evaluated the awareness and skills among LIS students in universities in South East of Nigeria. Their findings showed that up to 70% of the students did not possess entrepreneurship and ICT competencies crucial for the entrepreneurship opportunities in LIS. Moreover, these students are yet to develop the culture and the mindset towards entrepreneurship because of some major challenges which have been identified as inadequate education and training resulting from lack of entrepreneurship and ICT courses in their curriculum, absence of qualified and suitable educators in entrepreneurship courses, unavailability of ICT facilities, lack of self-confidence and fear of failure among students, and high interest of graduates in paid employment.

Onuma's (2016) study investigated the exposure of undergraduate students to entrepreneurial education for job creation when they graduate from higher institutions. The findings show that entrepreneurial education is relevant to students with regard to equipping them with skills and competencies for post-graduation job creation ability rather than job seeking. Igbeka (2008) also noted that evidence from the curricula of many institutions has shown that LIS courses are still traditional with no practical programmes on entrepreneurship and technological innovations. Olaleye (2007) observed that students need to acquire management competencies, planning, organising, supervising, directing, controlling and coordinating the business enterprise. Okpan (2006) also identified marketing competencies as requisite for entrepreneurship development to be able to capture and retain the attention of customers and to promote and sell the organisation.

Ekuoye (2007) listed entrepreneurial opportunities that include business services, consultancy, book repair, information brokerage, packaging information, etc. that LIS professionals can delve into as entrepreneurs. Igbeka (2008) identified information brokerage as an entrepreneurial opportunity for LIS professionals. In the opinion of Pun (2016), future librarians must be entrepreneurs who will pursue their own learning interests and goals beyond traditional approaches. A recent study by Okpokwasili (2019) to assess entrepreneurial skills and competencies expected of library and information science (LIS) students in Enugn State, Nigeria, revealed that out of the twenty items of entrepreneurial skills that were listed, the respondents rated highly the acquisition of exploiting opportunity skill, financial management skill and marketing skills. Using a cross-sectional design and a quantitative approach, students at the University of Malaysia Kelantan were examined to determine the effect of key entrepreneurial competencies on students' entrepreneurial intention. Findings revealed that the students' ability to recognise income-generating opportunities, entrepreneurial training and skills, innovativeness, and information-seeking competencies have a significant effect on their entrepreneurial intention (Mamun, Nawi, Dewiendren and Shamsudin, 2016). Several authors have carried out investigations into entrepreneurship awareness, competencies needs among LIS students; however, there is scarce information on the career intentions and entrepreneurial competencies needs of library and information science students in Delta and Edo States of Nigeria. This study intends to fill this gap.

## Methodology

The study was a descriptive study. The population consisted of all the level 400 LIS students in Delta State University, Abraka and the University of Benin, Benin (i.e. one federal university and one state university in Southern Nigeria). Records from the departmental offices for the 2018/2019 session for both institutions showed that there were 118 students from Delta State University and 98 from the University of Benin. This gave a population of 216 students. The reason for using only level 400 was because they had undergone entrepreneurship courses at the lower levels and were about to graduate and enter the Nigerian labour market. The accidental sampling technique was employed in this research. A questionnaire was used to collect the required data for this study. The questionnaire was designed using the Likert scale of strongly agreed (SA), Agreed (A), Disagreed (D), Strongly Disagreed (SD) and Undecided (U).

The questionnaire was self-administered to the respondents in their respective schools; and as such, after due permission was sought from the Heads of Department of both institutions, only students who were present in class were given the instrument to fill. Efforts were made to retrieve the instruments on the same day. The researchers were able to administer a total of 196 copies of the questionnaire. 147 were retrieved and found usable for the study, and this gave a response rate of 75%. This percentage is considered adequate for the study since the standard and acceptable response rate for most research studies is 60% and above (Morton, Bandara, Robinson and Carr, 2012). Data were analysed using frequencies for the bio-data of the respondents, statistical mean for answering research questions one to three which focused on the LIS students' awareness of entrepreneurship opportunities available, their perception about the entrepreneurial competencies they need, and their career intentions. This was done with a criterion mean placed at 3.00.

## Results

Out of the total of 143 respondents, 56.5% were from Delta State University while Edo State University was 43.5%. Only 38.1% of the respondents were male, while female students constituted 61.9%.

### Level of Awareness of Entrepreneurship Opportunities Available in Librarianship

Table 1 shows the students' level of awareness of entrepreneurship opportunities available in librarianship. According to the table, an aggregate mean of 3.05 was obtained. This is an indication of the students' awareness of entrepreneurship opportunities available. This implies that the level of

LIS students' awareness of entrepreneurship opportunities available in librarianship is high. A Mean score of 3.57 shows that they were more aware of entrepreneurship opportunities as consultancy service providers; this is followed by awareness of entrepreneurship opportunities as a researcher 3.56.

The low mean scores in the more technology-driven areas (e.g. web publisher, desktop publisher, database producer, etc.) are indicative of lack of awareness that there are entrepreneurial opportunities available in these areas. This is remarkable given that this is an age of technology and the impact it has had on library work.

**Table 1: Level of LIS Students' Awareness of Entrepreneurship Opportunities Available in Librarianship**

| I am aware of the following entrepreneurship opportunities available in librarianship: | SA | A | D | SD | U | Mean |
|---|---|---|---|---|---|---|
| As an information broker | 29 | 36 | 27 | 31 | 24 | 3.10 |
| As a library consultant | 47 | 21 | 26 | 42 | 11 | 3.35 |
| As a book publisher and trader | 35 | 39 | 16 | 28 | 29 | 3.16 |
| As an information specialist | 10 | 32 | 38 | 48 | 19 | 2.77 |
| As an information retailer | 9 | 17 | 66 | 43 | 12 | 2.78 |
| As a researcher | 48 | 43 | 20 | 16 | 20 | 3.56 |
| As a freelance indexer | 28 | 39 | 37 | 19 | 24 | 3.19 |
| As a freelance cataloguer | 31 | 37 | 31 | 26 | 22 | 3.20 |
| As a consultancy service provider | 43 | 45 | 25 | 21 | 13 | 3.57 |
| As a web publisher | 11 | 28 | 41 | 30 | 37 | 2.63 |
| As a desktop publisher | 15 | 36 | 38 | 39 | 19 | 2.93 |
| As a compiler of directories | 9 | 20 | 45 | 48 | 25 | 2.59 |
| As an information service provider to the visually impaired | 48 | 37 | 16 | 32 | 14 | 3.50 |
| As a database producer/distributor | 16 | 46 | 31 | 27 | 27 | 2.98 |
| As a research marketer | 21 | 12 | 36 | 48 | 30 | 2.63 |
| Vendor business | 12 | 18 | 52 | 55 | 10 | 2.78 |
| **Aggregate Mean** | | | | | | **3.05** |

**Criterion Mean** **3.00**

**Level of Students' Perception of Entrepreneurship Competencies**

**Table 2: Perception of Entrepreneurship Competencies Need by LIS Students**

| Perception of Entrepreneurship Competencies | SA | A | D | SD | U | Mean |
|---|---|---|---|---|---|---|
| Writing skills | 66 | 72 | 9 | – | – | 4.39 |
| Oral communication skills | 72 | 75 | – | – | – | 4.49 |
| Marketing skills | 103 | 44 | – | – | – | 4.70 |
| Organising skills | 47 | 100 | – | – | – | 4.32 |
| Managerial skills | 36 | 89 | – | 22 | – | 3.95 |
| Planning skills | 36 | 111 | – | – | – | 4.24 |
| Goal-setting skills | 39 | 101 | 7 | – | – | 4.22 |
| Accounting skills | 68 | 78 | 1 | – | – | 4.46 |
| Leadership abilities | 51 | 96 | – | – | – | 4.35 |
| Marketing of information products and services skills | 78 | 69 | – | – | – | 4.53 |
| Information technology skills | 91 | 56 | – | – | – | 4.62 |
| Network building/administration skills | 40 | 100 | 7 | – | – | 4.22 |
| Efficient use of search engines skills | 20 | 122 | 5 | – | – | 4.10 |
| Digitisation skills | 44 | 99 | – | 4 | – | 4.24 |
| Ability to use common office ICT tools | 36 | 111 | – | – | – | 4.24 |
| Information literacy skills | 33 | 108 | 6 | – | – | 4.18 |
| **Aggregate Mean** | | | | | | **4.33** |
| **Criterion Mean** | | | | | **3.00** | |

Table 2 shows that there is a high perception of entrepreneurship competencies need among the LIS students. This is seen in a high aggregate mean score of 4.33. A closer look shows that the students perceived the highest need in marketing skills with a mean score of 4.70; this is closely followed by information technology skills with a mean score of 4.62. With all the items on the list having a mean score of above 3.00, it is evident that the students' perception of their entrepreneurship competencies need is very high.

**Level of Students' Career Intention Perception of Entrepreneurship Competencies**

**Table 3: Career Intention of LIS Students**

| Career Intention | Frequency | Percentage (%) |
|---|---|---|
| It is my intention to become an entrepreneur in the LIS profession. | 82 | 53.7 |
| It is my intention to become an entrepreneur in other professions outside LIS. | 90 | 61.2 |
| Becoming an entrepreneur in LIS is totally unattractive to me. | 59 | 40.1 |
| It is not my intention to become an entrepreneur at all. | 85 | 58 |
| It is my intention to get paid employment in the LIS profession. | 103 | 70 |
| It is my intention to get paid employment in any area that I find work. | 61 | 41.4 |

From Table 3, the career intention of LIS students were to get paid employment in the LIS profession 103 (70%), to become an entrepreneur in other professions outside LIS 90 (61.2%), and 85 (58%) indicated that they do not want to become an entrepreneur at all. From this data, the LIS students' career intention is to get paid employment in the LIS profession.

## Discussion of Findings

The findings show that the LIS students were aware of an assortment of entrepreneurship opportunities available in the profession. It is interesting to observe from this result that consultancy service provision awareness was very high. This result is an indication that the LIS students were aware that consultants in service provision are specialists who give experts information/advice on library and information needs. There is also awareness for other entrepreneurship opportunities in areas such as information broking, library consultancy services, book publishing and trading, freelance indexing and cataloguing. On the other hand, there was obvious lesser awareness in technology-related areas, such as web publisher, desktop publisher, and database producer. Seen from this perspective, it can be said that the students were more aware of opportunities in the traditional aspects of the profession. This finding is in agreement with the result of Onyia and Agbawe (2017), and Ugwu and Ezeani (2012) that the LIS students in Nigeria were aware of entrepreneurship opportunities in librarianship. Similarly, the finding from this study agrees with the result of Anyanwu (2013) that identified publishing as the first entrepreneurial opportunity open to LIS graduates. However, the result does not support Adimorah (2002) who asserted that most LIS graduates wish to become information consultants.

The LIS students perceived a need for entrepreneurship competencies in marketing and information technology skills. It is believed that for every 21st century business to survive, there is the need for marketing abilities and information technology skills on the part of the entrepreneur; hence the choices for these competencies by the LIS students are understandable. This finding supports the conclusion reached by Iroaganachi and lwu (2013) that LIS graduates must be well equipped with the necessary entrepreneurial skills and marketing strategies training to enable them succeed in the 21st Century job market. This result confirms the recent findings presented by Okpokwasili (2019) that LIS student in Enugu State required marketing skills to a great extent.

The aim of the third research question was to find out the career intentions of the LIS students. The finding revealed that the intensions of LIS student is to get paid employment in the LIS profession and those that expressed an intention to become entrepreneurs wanted to do so in other professions. This result suggests that the entrepreneurship courses being offered may not be influencing the career intentions of the students. This result confirms earlier findings by Cubico, de Oliveira, Bellotto, Formicuzzi, and Sartori (2015) that only 13% of the sampled respondents expressed interest to start a business after completion of their course of study. Similarly, this result supports the finding of Ntui (2015), who also indicated that only 28% indicated an intention to start their business. Cano, Tabares and Alvarez (2017) observed that only 12% of students in the short-term want to be entrepreneurs, while 30% of them want to be employees.

## Conclusion and Recommendations

The career intentions and entrepreneurial competencies needs of Library and Information Science students in Delta and Edo States of Nigeria were ascertained. From the results, it is possible to conclude that LIS students were aware of entrepreneurship opportunities available in librarianship and clearly expressed entrepreneurial need for marketing and information technology skills, while their career intentions are more towards getting paid employment.

This study has shown to both curriculum planners and LIS school administrators that there is urgent need to make entrepreneurship education more robust, so that entrepreneurship courses can have a more positive influence on the career intention of the students. There is need for further research into the exposure given to the students about entrepreneurship opportunities, as well as the overall adequacy of entrepreneurship courses taught in LIS schools across Nigeria.

The following recommendations have been made in light of the findings:

- Entrepreneurship courses should be expanded to focus on ICT-driven entrepreneurial opportunity areas, such as web publishing, desktop publishing and database-producing courses, this will enhance the awareness of the students to want to pursue careers in these areas.
- In order to improve the career intentions of the LIS students, entrepreneurship re-orientation should be given, especially to final-year students to further help them become more interested in entrepreneurship in LIS.

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# Framework for Medical and Health Records Management Skills and Competency Development in Limpopo Public Hospitals to Support Healthcare Service Delivery in the Digital Era

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## Abstract

*Skills and competency are vital for successful performance of any business function or activity in any organisation. The medical and health records management functions and activities in the public hospitals are no exception. If medical and health records are managed without appropriate skills and competency, they become inaccessible/non-locatable, are damaged or stolen, go missing or are misfiled, altered and even falsified. This eventually results in a chaotic healthcare service or even an inability by healthcare providers to render healthcare services. This study sought to develop a framework that may be applied to map-out standard requirements for officials responsible for medical and health records management to ensure that they are sufficiently capacitated with skills and competencies to effectively support public healthcare service in the digital age in Limpopo public hospitals. Data was collected using a questionnaire, as well as observations and interviews. The study discovered that the training and capacity building of records management staff in the public hospitals of Limpopo, South Africa, is lacking to such an extent that healthcare services are compromised. The study recommends a framework for medical and health records management skills and competency development to support public healthcare service delivery and ensure provision of the necessary resources.*

**Keywords:** Medical Records, Health Records, Framework, Skills and Competency, Public Health, Service Delivery

## Introduction and Background to the Study

This paper is concerned with the skills and competency for management of medical and health records in the healthcare institutions of Limpopo province, South Africa. The two concepts 'medical records' and 'health records' are used together rather than interchangeably in this paper since they are different and both records are managed, accessed, required and packaged together in the healthcare institutions. Besides, it is important to show the distinctions between the two concepts to the readers before going deeper into the content of the paper. Medical records and health records like Electronic Medical Records (EMR) and Electronic Health Records (EHR) are often used interchangeably though not exactly the same. It is often too difficult to show a distinction between the two since together they render documentation of patient health and medical histories for healthcare practitioners. First thing that makes a distinction is the use of the words "medical" and the word "health". Medical records covers information about diagnosis and treatment of patients medically and may be managed with

Electronic Medical Records (EMR) system. Medical records contain information about 'medical history, diagnoses, medications, immunisations, and allergies' of a particular patient. Health records cover detailed information about patients' health overall and may be managed using Electronic Health Records (EHR) system (Finance online 2019; Garrett and Seidman 2011). This implies that health record is higher than the medical records since it talks to the overall information about the patients' health and care provided. Hence, both health records and medical records need skills and competency for their proper management.

One of the key investments for proper records and archives management is identification of key training or skills gaps and funding for training and development. In the post-colonial regime in African countries, there was no systematic archives and records management programme (Asogwa 2012a; Ngoepe 2014; Nengomasha 2013). There was a lack of interest in investing in proper records management by the post-colonial regime until African countries gained independence. This lack of interest to develop proper records and archives management also led to people becoming discouraged to consider archives and records management as a career (Asogwa 2012a). For instance, the study by Adjei (2011) discovered that Accra Psychiatric hospital in Ghana experiences a lot of problems relating to mental healthcare recordkeeping for patients, that included inadequate policies and procedure, insufficient resources, unqualified officials and uncoordinated records management programs. In his study about training and development needs of medical records staff at the Korle-Bu Teaching Hospital, Adjei (2013) came to realise that "one of the key areas of neglect has been training and staff development". The medical records service has never received any attention in terms of training and development for years in the public healthcare services of Ghana at Korle-Bu Teaching Hospital, which eventually impact negatively on the healthcare service rendered to patients (Adjei 2013).

After independence, African countries such as Uganda, Kenya, Malawi, Botswana, Zimbabwe (Mutiti 2002) and Nigeria (Asoga 2012a, 2012b) tried to establish records and archives management; however, due to a scarcity of competent and skilled staff, inexperienced personnel were promoted to manage records and archives. For instance, the study by Adjei and Mensah (2016) revealed that at Ghana Korle-Bu Teaching Hospital, educational qualifications for medical records management officials who participated in the study were not relevant to medical records management. In their findings, 26% (29) respondents had diploma, 16% (18) had Education certificate, 5% (6) had basic education certificate, 13% (15) middle school leavers certificates, 15% (17) had senior secondary certificates and 11% (12) had other qualifications. Looking at the entire report, no single qualification is closely or exactly suitable for records management skills and competency.

Interest in records management as a career, deteriorated due to limited or no training opportunities in managing records, which gave rise to low staff morale, low status and poor remuneration (Asogwa 2012a; Boonstra and Broekhuis 2010; Mensah and Adjei). At Ghana Korle-Bu Teaching Hospital (KBTH) management never recognised or valued records management services due to low educational qualifications of the records management officials. These officials were also never awarded any opportunity to participate in decision-making about issues that affect their records management services and performance. Elderly staff members working in the records management unit were never being replaced when they leave the organisation for pension until the vacancy rate in the unit is 50%, which eventually brought staff morale down (Mensah and Adjei 2015).

For instance, the Australian National Archives was successful in the implementation of proper records and archives management, since they prioritised records management in their budget, with 80% of it dedicated to records management training of staff, especially in electronic records management (Asogwa 2012a). Looking at the African situation, in Yaounde city of Cameroon, the International Council on Archives (ICA) offered a two days training on "Digital Recordkeeping" from 29 to 30 November 2018 after their annual conference held in the country. The course was intended to capacitate delegates with clear understanding of challenges associated with keeping records digitally, digital records characteristics, and costs effective ways of managing digital records. The course charges were €50 per delegate, and each person who attended was to be issued with a certificate of completion (ICA 2018). Asogwa (2012a) has the view that:

> The practical situation today is that there are few or no countries in sub-Saharan Africa where archivists and records managers have acquired all the basic skills and competences in readiness for electronic records management now. The reason was that, while information technologies have brought enormous benefits to organisations, they have simultaneously introduced a number of challenges and difficulties and, consequently, increased the risks of losing data and records; risks to reliability and authenticity of e-records; loss of security and privacy, increased costs of managing record and decentralization of information; increased need for information technology specialists.

Records management professionals and employees need to be trained continuously in order to be capable and competent at all times, even as recordkeeping technology changes. It is usually due to incapable and incompetent records management officials that most of the recordkeeping systems collapse or become dysfunctional and complicated. The organisation may have an adequate and advanced recordkeeping system in place, but it may not have the necessary skills/capacity and competencies to operate and manage the records and the system (Asogwa 2012a; Ismail and Jamaludin 2009). Records management professionals and other officials need to acquire (a) records and archives competencies and (b) related skills (Ismail and Jamaludin 2009). The National Archives and Records Services of South Africa (NARSSA) (2006) gives guidance on what qualifications and experience records managers employed in government institutions, should have. According to NARSSA (2006), records managers must possess the records management equivalent of a bachelor's degree qualification in records management or information management and professional knowledge and experience of paper-based records management as well as electronic records management.

The records manager must ensure that all records management officials are trained in records management and that the organisation's staff is trained in records awareness. At the commencement of the training, records management practices need to be audited in accordance with legislative framework and the organisation's records management policy. Skills and competency requirements for records management staff need to be identified, to compile the competency framework in records management. Then the records manager must implement a training programme for records management, which must include records awareness and usage of the filing plan or referencing. If the registry procedure manual is compiled properly, in other words, it covers the entire scope of records management, including electronic records, it can be used as a training manual (NARSSA 2006b: 8-9).

## Specific Records Management and Archiving Competency

Lack of skills and competency for records and archives management is still a big challenge in Africa. Most records managers and archivists in Africa were not professionally trained in records management, but were recruited, despite, for instance, only having a secondary school-leaving certificate and, over time, they were promoted to the position of records manager. Proper records management needs recruitment of qualified staff, who are also experienced in records and archives management to establish and implement effective and efficient policies and infrastructure, and adequate and regular training for personnel (Asogwa 2012a; Ndenje-Sichalwe, Ngulube and Stilwell 2011). For instance, in some African government institutions, such as in Malawi, Kenya, Botswana, Tanzania and Zimbabwe, records and archives management committees are established with members who lack training, knowledge and skills about archives and records management. The worst part is that these committees are also given the power to make decisions and enforce the implementation of key records management activities such as disposal of records files, and documents (Asogwa 2012a; Ndenje-Sichalwe, Ngulube and Stilwell 2011). Training will ensure that records management professionals are capable of rendering information and able to deliver a records management service programme as required (Ismail and Jamaludin 2009; Ndenje-Sichalwe, Ngulube and Stilwell 2011). The officials are also required to have the capacity and competency in the following areas: capturing information and records; organising and describing information and records; providing access to information and records; storing and protecting information and records; disposing of information and records; and providing electronic services (Ismail and Jamaludin 2009).

Overall, the records manager must have an understanding of the business systems used for rendering business services and records creation and management, such as the transaction processing systems, database management systems, management information systems, electronic document management systems, electronic records management systems and data warehouses. They also need to have an understanding of metadata (National Archives and Records Service of South Africa 2006). The records manager must also have practical knowledge of managing information and records, maintain appropriate standards, be knowledgeable about the legislative framework mandating the function of the government institution and be familiar with proper records management, which is still a scare skill in Africa (NARSSA 2006b; Asogwa 2012a; Ndenje-Sichalwe, Ngulube and Stilwell 2011). Nonetheless, international standards on records management need to be fully understood by the records and archives personnel (Asogwa 2012a), especially the records manager, as this can assist him/her in developing some of the policy guidelines and advising the top management in developing legislative framework for records management as required by parliament or the legislature.

The researcher's viewpoint is that the records manager is also responsible for the training of the overall records management staff with regard to basic understanding and knowledge of management and administration of records in different formats and media. The records management personnel also need to be properly trained on issues relating to records capturing and management (NARSSA 2006), and about the available electronic systems and technology, to understand its implementation and the impact it has on service delivery. Their skills levels also have to be assessed to inform re-skilling and deployment issues (Asogwa 2012a; NARSSA 2006; Ndenje-Sichalwe, Ngulube and Stilwell 2011), especially among older employees, since they are more inclined to experience technophobia (Asogwa 2012a).

The researcher's view is that the records manager must have more advanced knowledge such as "database management, file/document tracking, imaging and scanning, electronic document management, workflow and electronic records management" (NARSSA 2006), that will enable him/her to develop the records management employees with basic or intermediate competencies and skills. All the records management staff need to be properly trained in effective records management (NARSSA 2006), especially electronic records management, as this is the modern way of managing records (Ndenje-Sichalwe, Ngulube and Stilwell 2011).

## Other Records Management-Related Skills and Competency

When records managers plan to acquire new skills, they must understand that their focus should always be on records management. They should acquire skills that will enable them to understand issues related to or affecting records management, such as information technology, information systems, data and information management and basic business process description and modelling (NARSSA 2006b). The records management professionals must also be capable of delivering their services using an electronic system and be able to analyse and develop records and information management systems. Records management professionals also need to be developed and capacitated to be competent in terms of "business and management skills, interpersonal and personal skills" (Ismail and Jamaludin 2009). The records manager and records personnel, employed in government, need to be equipped with the knowledge about the government environment, and the history and functions of the government institution in question (NARSSA 2006). The other skills required from the records managers and supervisory records management officials, include, but are not limited to, communication skills; teamwork; planning and time management; performance management; people management; project management; change management; business systems analysis and process mapping; and information systems design and process (NARSSA 2006). They may use these skills to work as a team, to regularly plan, communicate the necessary improvements in their forums, and discharge implementation of changes as planned; properly manage staff and projects without high risk to failure. In addition, officials, especially the records manager, must have training in presentation skills, public speaking, business systems analysis, knowledge management, information strategy and policy, document management, information audits, management skills and supervisory skills (NARSSA 2006).

### The Management of Medical and Health Records

In healthcare organisations, an Electronic Health Records (HER) system like Enterprise Content management (ECM) is required to improve the management of medical records. The introduction of Information Communication Technology (ICT) in records management led to changes in the way people practice their records management processes and procedures in organisations (Asogwa 2012a; Boonstra and Broekhuis 2010). People now manage their records using computers and other electronic technologies, like scanners and the internet, rather than written information.

Due to the complexity of the human mind-set, or traditional ways of thinking, and the work culture within the organisation, the EHR is complex to implement and the identification and implementation of an electronic patient records system needs effective change management strategies. If there is no proper records management education or skills development and training of staff in the healthcare institutions, when electronic records management system is introduced officials may be reluctant to adopt or implement it since operating the system may be challenging or impossible to them without the necessary skills and competency. However, the implementation of ICTs is the best solution to the challenges relating to healthcare records management in the healthcare sector (Weeks 2013).

Medical records management is a vital function for the successful delivery of healthcare service delivery to an extent that when it fails, it is either impossible to render healthcare services or service may be rendered improperly (Luthuli 2017; Marutha 2018; Marutha and Ngulube 2012). The competency and skills of the official responsible for the management of medical records is also fundamental to successful management of these records to make sure they are kept and maintained in good order at all the times (Luthuli 2017; Marutha 2018). Lack of appropriate skills and competency are some of the key contributing factors to mismanagement of records, particularly medical records (Marutha 2016; Adjei 2013). Mismanagement of records usually results in records not being properly classified or secured, misfiled or going completely missing (Luthuli 2017:51; Marutha and Ngoepe 2017). As a result, records become difficult or impossible to locate, which eventually leads to healthcare providers waiting too long to receive the medical history of patients or not being able to access the medical records (Olufemi and Olatunde 2016; Luthuli and Kalusopa 2017; Luthuli 2017; Marutha 2016). Alternatively, some of the records may be accessible, but the information recorded is incomplete, concealed, altered, amended, and/or information was added. These challenges manifest due to the conditions under which records are kept and the strategies used to manage them. This may delay the service or even result in poor healthcare service to patients (Luthuli 2017; Marutha 2011; Marutha and Ngoepe 2017). This study focused on developing a framework to assist in mapping medical records management skills and competency development to support public healthcare service delivery in the current digital age.

The purpose of this paper was to conceptualise a framework for medical and health records management skills and competency development with the view to support public healthcare service delivery in Limpopo Province of South Africa. Healthcare providers struggle to access patients medical/health history since management of patients medical and health records are not being properly discharged due to among other things, lack of skills and competency. The objectives of the study were to propose a framework that may be applied for medical and health records management skills and competency development in the digital age in Limpopo, South Africa

## Research Methodology

The questionnaire for this quantitative study was directed to records management practitioners in 40 hospitals in Limpopo province, South Africa. The total number of practitioners was 622, to which a sample of 306 (49%) was drawn. The stratified random sampling method was used to select participants working in the records management units in the respective hospitals, because they were responsible for management and access control to medical and health records. The stratified random sampling was applied by separating participants into groups that are not overlapping according to their districts and post levels. Then participants were selected randomly as stratified per respective hospital in each district. The subgroups or subdivision of such population is known as stratus (Burton, Croce, Masri, Bartholomew and Yefremian 2005; Bless and Smith 1995; Fink 2013; Johnson and Christensen 2008; Fuller 1993; Krathwohl 2009). The paper used stratified random sampling since it assists the study to cover the entire population as categorised (Fuller 1993). It gives the study an opportunity to reduce standard errors in the data collection since stratified random sampling method controls variance proportions (Sapsford 1999). In stratified random sampling, all elements in the population have an equal opportunity of being included in the study sample to participate, and that is why it is classified as a probability sampling method (Oppenheim 1992). One of the other key benefits in this kind of sampling method is that it brings about population representativeness that is enhanced and in different stratus sampled elements are balanced (Brewerton and Millward 2001). The response rate to the questionnaire was 71% (217). The sample drawn was adequate, as guided by the Raosoft sample size calculator, with a confidence level of more than 95% and 4% margin of error.

## Presentation of Results

### Records Management Skills and Competencies in the Healthcare Institutions

The respondents were requested to state whether they strongly agreed, agreed, were unsure, disagreed or strongly disagreed with certain statements about their skills and competencies. The results are presented in Table 1. A large number of the respondents either disagreed or strongly disagreed with the statements on skills and competence as most of them lacked the ability to manage medical and health records effectively.

**Table 1: Rating of Skills and Competencies (N=217)**

| Skills and Competencies | | Ratings | | | | |
|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Unsure | Disagree | Strongly Disagree |
| (1) I am familiar with and can implement the principles of records management. | NO | 17 | 52 | 13 | 77 | 58 |
| | % | 7.8 | 24.0 | 6.0 | 35.5 | 26.7 |
| (2) I can manage medical and health records throughout its life span. | NO | 38 | 42 | 11 | 68 | 58 |
| | % | 17.5 | 19.4 | 5.1 | 31.3 | 26.7 |
| (3) I can effectively manage medical and health records electronically throughout its life span. | NO | 8 | 31 | 40 | 74 | 64 |
| | % | 3.7 | 14.3 | 18.4 | 34.1 | 29.5 |
| (4) I have adequate experience in electronic records management. | NO | 6 | 34 | 30 | 72 | 75 |
| | % | 2.8 | 15.7 | 13.8 | 33.2 | 34.6 |
| (5) I am competent and skilled for all records management operational and functional requirements. | NO | 29 | 52 | 12 | 63 | 61 |
| | % | 13.4 | 24.0 | 5.5 | 29.0 | 28.1 |

**NOTE:** NO = Number % = Percentage

These findings are not surprising as majority of the respondents obtained a certificate 61.3% (133) and none of them had either a bachelors, masters or doctoral degrees in medical and health records as shown in Table 2.

**Table 2: Respondents' Highest Level of Records Management Qualifications Achieved (N=217)**

| Highest Level of Records Management Qualifications Achieved | Responses | |
|---|---|---|
| | Number | Percentage |
| • Certificate | 133 | 61.3 |
| • Higher certificate | 27 | 12.4 |
| • Diploma | 8 | 3.7 |
| • Undergraduate degree | 14 | 6.5 |
| • Honours degree | 1 | 0.5 |
| • Master's degree | 0 | 0 |
| • Doctoral degree | 0 | 0 |
| • No response | 34 | 15.7 |

### In-House Records Management Training and Workshops

The researcher also established whether the institutions were conducting in-house records management training and workshops. Out of all respondents, 35.9% (78) said yes; 56.7% (123) said no and 7.4% (16) did not reply. When the researcher established whether the institution was conducting in-house records awareness workshops to all staff in the institution, 22.1% (48) answered yes, 70% (152) no and 7.8% (17) did not answer. According to the document analysis on records management inspection reports, most, if not all, of the hospitals were not conducting in-house records awareness workshops in their institution. The researcher also established whether the in-house records awareness training and workshops are conducted regularly and, to that, 2.8% (6) said yes, 32.3% (70) said no and 65% (141) did not reply. Those who did not reply possibly included respondents who said in-house records awareness training and workshops were not being conducted. This report is presented in table 3.

### Records Management Work Experience

The records management experience, in general, was also established, to which 5.1% (11) of the respondents responded that they had less than 1 year of experience; 18% (39) said they had 1 to 2 years of experience; 48.8% (106) stated that they had 3 to 5 years of experience; 26.3% (57) had more than 5 years of experience and 1.8% (4) did not answer the question. This report is presented in table 4.

The findings with respect to medical and health records management work experience, 3.7% (8) said they had less than 1 year of experience; 14.7% (32) had 1 to 2 years of experience; 46.1% (100) had 3 to 5 years of experience and 25.3% (55) had more than 5 years of experience, whereas 10.1% (22) did not answer the question.

When the respondents were asked their electronic records management work experience, 85.7% (186) stated they did not have any experience in electronic records management; 1.8% (4) stated they had less than 1 year of experience; 1.4% (3) stated 1 to 2 years of experience; 0.5% (1) said 3 to 5 years of experience; 0% (0) said more than 5 years of experience and 10.6% (23) did not answer the question.

The researcher also wanted to find out what respondents may consider to be solutions to the lack of skills and competency for records management. Respondents stated that all officials need to be provided with regular in-house training (79.3% (172)); external training on basic to advanced records management course (86.6% (188)). Other officials stated that institutions need to offer bursaries to study relevant degrees for records management (82.5% (179)). Additionally, respondents stated that the institutions also need to start with the appointment of records managers who are already developed to take charge of the responsibility to develop all the other junior officials focusing on proper records management vision.

## Discussion of the Results

In this section, the findings of the study from the literature and empirical data are discussed. Lack of skills and competency in records and archive management are still a great challenge in Africa. Historically, most records managers and archivists in Africa were not trained professionally in records management (Asogwa 2012; Ndenje-Sichalwe, Ngulube and Stilwell 2011). This also applied to the records management officials operating in the Limpopo healthcare institutions, as most of the employees were not familiar with and did not implement the principles of records management, as confirmed by 35.5% (77) of respondents. The majority of employees in the healthcare institutions had no confidence that they could manage medical and health records throughout its life span, as confirmed by 31.3% (68) of respondents. Moreover, the majority (34% (74)) employees also lacked confidence and knowledge of how to effectively manage medical and health records electronically throughout its life span. This may be due to the fact that the majority of employees had no adequate experience in electronic records management, as confirmed by 34.6% (75) of respondents. The majority of employees employed in these healthcare institutions were not competent and skilled in all records management operational and functional requirements, as confirmed by 29% (63) of respondents. Respondents added that the best way to improve skills and competency in records management officials is to ensure that all officials are trained through regular in-house training (79.3% (172)), and external basic to advanced records management course (86.6% (188)). Furthermore, offer bursary to study relevant degree for records management (82.5% (179)).They further added that some of the things need adequate budget and appointment of qualified record manager with proper records management vision to improve the situation, and capacitating his or her records management staff.

In sub-Saharan Africa, records managers and archivist training and experience are still not adequate enough to eradicate the prevailing challenges such as poor records management applications, a lack of records management policies and applicable legislation, the absence of an effective organisational framework, and scant development of ICT skills and competencies (Asogwa 2012; Nengomasha 2013). The records management professionals and other officials need to acquire records and archives competency and related skills (Ismail and Jamaludin 2009). For instance, the highest qualification achieved by most of the respondents in all the health institutions in the province is a certificate, as confirmed by 34.1% (74) of respondents. This may be a senior certificate and/or a certificate attained through a short learning programme, organised by the healthcare institutions. The highest level of records management qualification achieved by the majority of the respondents was also a certificate, as confirmed by 61.3% (133) of respondents. The highest level of certificate qualification in records management achieved was very basic, as confirmed by 79.3% (172) of respondents. This means that only a few achieved the intermediate and advanced certificate courses. This finding is not exclusive to the Limpopo healthcare institutions. Hence, the records management professionals and employees need to be trained regularly to be capable, competent and current, specifically because recordkeeping technology or techniques change from time to time. It is usually due to incapable and incompetent records management officials that most of the recordkeeping systems collapse or become dysfunctional and complicated. The organisation may have a good and advanced recordkeeping system, but without the necessary skills/capacity and competencies of officials to operate and manage the records and system, the system will be worthless (Asogwa 2012; Ismail and Jamaludin 2009). In the healthcare institutions in Limpopo, the situation was a concern, since the institutions were not conducting in-house records management training and workshops, as confirmed by 56.7% (123) of respondents. The institutions were also not conducting in-house records awareness workshops to all staff, as attested by 70% (152) of respondents. This was also confirmed by the records management inspection reports, in which most, if not all, of the hospitals were not conducting in-house records awareness workshops in their institutions. In the case of the few institutions that claimed to have been conducting in-house records awareness training and workshops, these were not conducted regularly, as confirmed by 32.3% (70) of respondents.

On the other hand, effective records management needs qualified personnel, who are also experienced with records and archives management, to establish and implement policies and infrastructure, and ensure adequate and regular training for personnel (Asogwa 2012; Ndenje-Sichalwe, Ngulube and Stilwell 2011). Regarding work experience, the majority of medical and health records management staff employed in healthcare institutions, in Limpopo, had adequate experience, because most had 3 to 5 years of experience, as confirmed by 46.1% (100). The records management experience, in general, for the majority of employees was 3 to 5 years, as confirmed by 48.8% (106) of respondents.

Finally, the records management professionals must also be capable of delivering their service using an electronic system. The records management professionals also need to be developed and capacitated to be competent in terms of "business and management skills, interpersonal and personal skills" (Ismail and Jamaludin 2009). This was not the case at the Limpopo healthcare institutions, because the majority of employees in the healthcare institutions did not have any experience in electronic records management at all, as confirmed by 85.7% (186) of respondents.

## Conclusion and Recommendations

The healthcare institutions need to identify and map out key performance areas for each post before developing current officials and recruiting people who are suitably qualified to improve the service. The posts requirements for the healthcare records manager, deputy manager and senior administrative officer should be, at a minimum, a suitable degree in records management or information management with extensive experience in records management. The chief registry clerk should, at least, hold a relevant diploma in records management or information management, with two years relevant experience in records management. The registry clerks, should have a senior certificate or higher certificate in records management and related knowledge and experience. The queue and file movement controllers should have a senior certificate, with at least knowledge of records management and its importance, with at least recommended customer care certificate. The institutions must also provide professional training for currently appointed staff, who does not meet the post qualification requirements, and relocate those who may not be trainable or are not willing to acquire the knowledge as required for the post occupied.

However, a well-structured medical and health records management unit, with suitably qualified officials must enable the institutions to conduct in-house records management training and workshops to capacitate officials in terms of proper records administration, handling, safety and security. The institutions must also be able to conduct an in-house records awareness workshop to all staff in the institution. The in-house records awareness training and workshops must be conducted regularly in the institutions. This must familiarise the majority of employees with the principles of effective records management and the implementation of thereof. The training must give the majority of records management employees at the healthcare institutions more confidence to manage medical and health records throughout its life span. Employees must have confidence in and knowledge of how they can effectively manage medical and health records electronically throughout its life span. To accomplish this, employees must be given adequate training and/ or experience in electronic records management. Hence, employees employed at healthcare institutions must be competent and skilled in the operations and functions of all records management requirements.

Finally, figure 1 presents a framework to which medical and health records management skills and competencies may be developed or improved. The framework is discussed in four dimensions, namely a skills audit, skills development, a competency review and reskilling and maintenance.

**A. Skills audit**

In an endeavour to develop skills and competencies, the organisation needs to conduct a skills audit. During the skills audit, the organisational records management functional needs are supposed to be outlined, to track the required skills and competencies for each functional activity. The skills and competency requirements must then be identified and grouped according to the operational level, in other words, managerial/supervisory and practitioner, as illustrated in figure 1. Then, existing staff or officials need to be audited to determine the skills and competencies they have acquired and those that are still lacking, to map better performance in their respective functional responsibilities. Competencies and skills categories need to be identified and allocated according to the job requirements for each level. For instance, the records manager and supervisors need skills and competencies to train and support records management practitioners; to plan, support and monitor records, and create effective workflow streams; and also to conduct records management awareness workshops for healthcare practitioners in the institutions. This will enable them to take proper care of records as they render healthcare services, since, as part of the process, they have to create new medical and health records, while still using old medical and health records created in the course of previous consultations and admissions. The records management practitioners need skills and competencies that will help them to administer records and support healthcare providers with access to records.

***B. Skills development***

This is the second stage. After identification of skills and competency gaps, in line with records management functional activities, at both managerial and practitioner level, the organisation should provide training for different officials, based on the gaps and needs discovered during the skills audit.

***C. Competency review***

After providing training and development to officials, officials' performance will need to be reviewed to check whether the training served the intended purpose of improving skills and competencies. This may be done by checking whether officials have improved in how they are working in terms of the processes and procedures in their day-to-day work activities such as the pace and quality of their outputs.

***D. Reskilling and maintenance***

After the competency review, there may still be those officials who are still struggling with their functional responsibilities. These officials need further training and development. In fact, training and development need to be provided on a lifelong basis, to an extent that people are trained from time to time in the form of refresher courses and workshops. The other purpose will be to update officials with new ways of working and on latest technology in the field.

It is evident that without proper records management skills and competencies, healthcare service delivery will always suffer in the healthcare institutions. This could be because records are not handled and administered properly after being created by the healthcare provider. This may result in medical and health records no longer existing or barriers to accessibility. Eventually, healthcare providers may not be able to access them and they may even not be able to render healthcare services or, if they do, they do it poorly. It is hoped that the proposed framework, in Figure 1, would help healthcare institutions to develop training programmes for records management in an endeavour to improve their records management staff skills and competencies.

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# Appendix

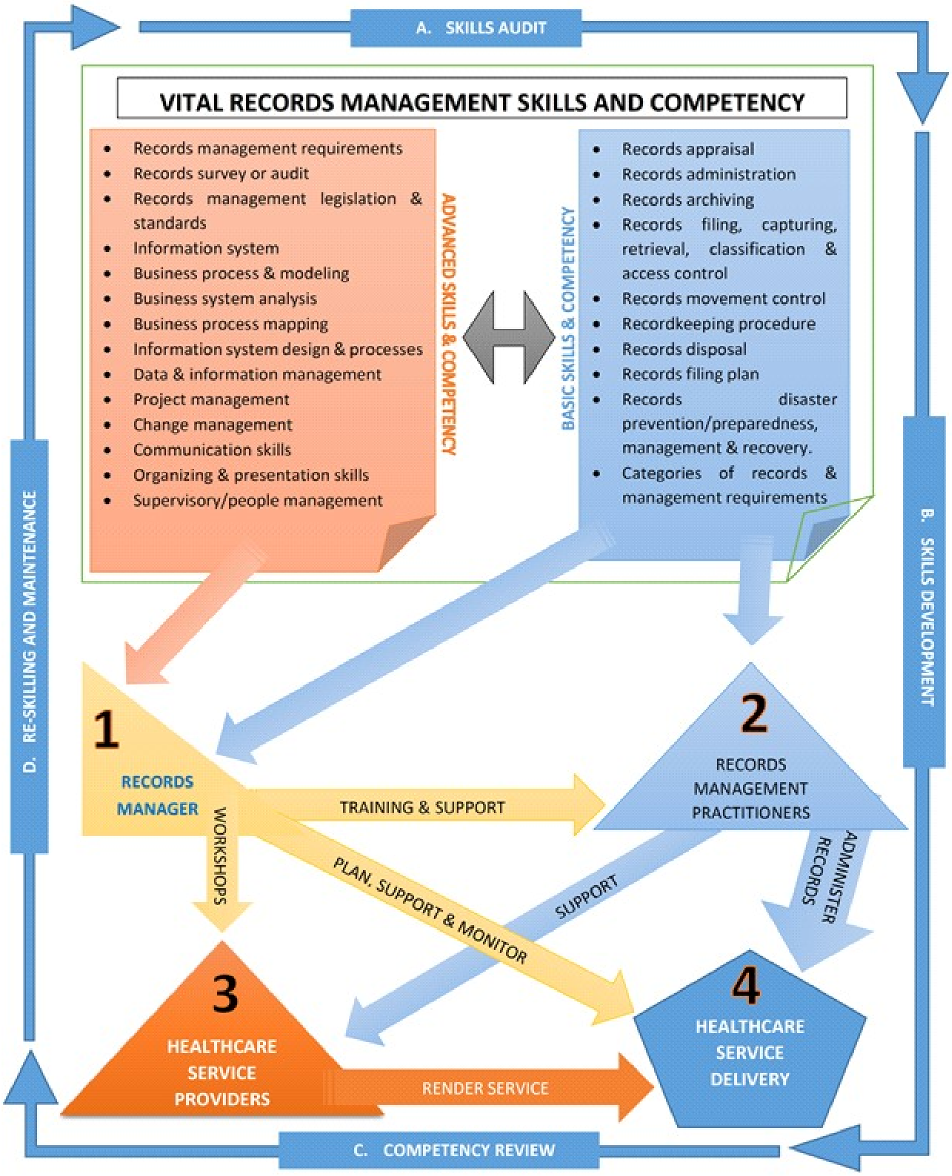


**Figure 1:** A framework to map medical and health records management skills and competency development to support healthcare service delivery in the healthcare institutions

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