



**A COMPARATIVE ANALYSIS OF SUBSCRIPTION AND OPEN ACCESS JOURNALS AT A  
SELECTED UNIVERSITY IN CAPE TOWN**

by

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## ABSTRACT

In the past, the custodians of information have been libraries, but with the advent of online-only journal publishing, the choice of publishing model by researchers has had an impact on the exposure and accessibility of the research output published. This has led to the growing number of academic researchers to publish in open access journals despite the risk that their work is freely available online.

Open access is an alternative to subscription or closed access; as soon as the research work is available online, it can be accessed by anyone who wants to use it. In doing so, researchers may create opportunities for collaboration and wider recognition, especially in their field of study.

The main aim of the study was to explore the advantages of open access over subscription-based publications or academic journals in supporting publication decisions and choosing journals in which researchers can publish. This is a qualitative study using semi-structured interview questions. The target group was 15 researchers identified in the Department of Business Information and Administration in a selected university in Cape Town. The interview questions were mostly done online for the convenience of the respondents. Furthermore, the Scopus database was considered as a secondary source, and systematic literature review (SLR) methodology was applied.

The interview data collection tool consisted of two sections, namely semi-structured questions and open-ended question. The aim was to find out which method of journal subscription is favoured by the target group of researchers.

The results showed that researchers have a choice of publishing in any journal as long as that journal has a high impact. Recommendations include a platform to offer a publishing model preferred by researchers, and a publishing model that will help researchers to have an impact on the exposure and accessibility of their research output. This study is important to all researchers and Universities who are experiencing economic crisis and this study will help improve researchers' understanding of their decisions and become aware of the financial and non-financial cost, particularly in South Africa. The recommendations will help researchers to discover the latest research findings globally and possible promotion and collaboration with researchers globally.

**Keywords:** Directory of Open Access Journal (DJOA), Gold Open Access, Green Open Access, impact factor (IF), institutional repository (IR), open access (OA), traditional publishing (TP)

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## DEDICATION

My late parents Stanley and Delphina Nondandatho Zulu who did not witness the completion of my thesis, I owe this to you, Ndabezitha, and I believe my advancement to higher learning brings joy and pride. You were the best parents I could ever ask for.

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## List of acronyms

APCs	Article processing charges
CHEC	Cape Higher Education Consortium
CPUT	Cape Peninsula University of Technology
CAQDAS	Computer-assisted qualitative data analysis software
DHET	Department of Higher Education and Training
DOAJ	Directory of Open Access Journals
FBMS	Faculty of Business of Business and Management Sciences
IF	Impact factor
IR	Institutional repository
MDPI	Multidisciplinary Digital Publishing Institute
NRF	National Research Foundation
OERs	Online educational resources
OA	Open access
RDM	Research Data Management
ROAD	Directory of Open Access Scholarly Resources
SLR	Systematic literature review
TP	Traditional publishing
TA	Transformation agreement

# CHAPTER ONE

## 1.1 Introduction

This study intends to investigate the choice of publishing model by university researchers that has an impact on the exposure and accessibility of the research output. Therefore, it was important to conduct this study on subscription and open access journal to support publication decisions and the use of published academic papers by readers' and researchers. Furthermore, it intends to encourage researchers to upload their research outputs into relevant repositories in order to make their work visible and thereby enhance their research profile. It is envisaged that the results of the study will add to the body of knowledge and assist other researchers with similar interests especially in higher academic institutions. The research objectives to address the aim of this study were:

- To determine the differences and similarities in subscription and open access journals
- To determine to which OA repositories researchers upload their research outputs to increase their visibility;

Both qualitative and quantitative methods are used, namely an interview guide and content analysis using the Scopus database to which the Cape Peninsula University of Technology (at which this study was undertaken) subscribes. Furthermore, an Excel spreadsheet was used as a tool to assist in analysing data as the researcher collected it. The outcomes of this study aided in drawing conclusions and recommendations that publishers and the government, higher education institutions, and policy makers can apply to overcome challenges faced by researchers and academic libraries in Cape Town. Authorisation from the university where the study took place was obtained. The study was conducted according to the research ethics of the university. It is important to conduct the study to support publication decisions as they are different publishing models that are cost a lot of money when it comes to publishing academic papers. Researchers will be able to identify journals and databases for publishing purposes by searching on their library databases where to find journal articles and ask for assistance if needed.

Traditionally, the custodians of information have been libraries, but with the advent of online-only journal publishing, the choice of publishing model by the researcher has an impact on the exposure and accessibility of the research output published (Warren, 2003:401). The study begins by introducing the background to the research problem and with an analysis of the problem statement. A qualitative method in the form of an online questionnaire was used,

together with a systematic literature review. Scopus, a database to which the university subscribes, was used for collecting data. The research questions and research objectives are clarified against this backdrop. An overview of literature which pertains to a comparative analysis of subscription and open access journals in a selected university in Cape Town is presented, followed by discussion of the research design and methods that were used. The chapter further provides reasons for the selection and use of the research methods. In addition, the sampling procedures, methods of data collection and data analysis are also discussed, while the scope, plans and timescale for the research are outlined.

Finally, the rationale of the research project, and the contributions that this study will make are provided. The next section describes the rationale of the research, and an overview of the research problem, its background history and reasons for the study.

## 1.2 Rationale

### 1.2.1 Background

Traditionally, the only way publishers could distribute journals and recover the cost was to sell journals on subscription to libraries and researchers in universities. In the age of hard copy, this was the only model available to publishers to disseminate journals and retrieve the cost (Poynder, 2012:3). Unfortunately, this meant that only researchers in institutions that could afford to pay the subscription charges were able to read journal articles. Even these universities could only afford a fraction of the world's research literature, which was a major weakness of this model (Antelman, 2004).

With the increasingly rapid advances in computer and networking technologies, information transfer has been faster and cheaper and that has made it easier for authors to disseminate material and for readers to receive information, which is consequently more intensively used. Eve (2014) defines open access research as research that is electronically accessible to readers at no monetary rate, which is why open access has come about, thus allowing universities which are financially disadvantaged to access research literature that they would otherwise not be able to.

Research is about discovering new information and distributing that information everywhere. The principle of Open Access (OA) is that it is shared and freely usable and accessible to all. However, there are many myths about OA, especially among researchers who are uncertain when it comes to questions of quality and peer review. It is a researcher's choice to publish their work in any journal of their choice. The most feared possibility is that of a society of few

specialist researchers read published work on subscription journals whereas on open access the work is freely available online and in different databases.

According to Björk and Solomon (2012:3), in traditional publishing, researchers' work is widely available and authors receive royalties on their work; however, researchers' work is available through publishers. This will mean that a reader cannot access any material for research purposes without paying for an article even if the reader is only interested in a portion of the whole material.

The most useful databases that a university of technology subscribes to are subscription journals, for example, Elsevier, Wiley, and Emerald. These databases increase their subscription fees annually in order to keep their resources operational.

According to Björk et al. (2010: 2), the Directory of Open Access Journals (DOAJ) contains basic information about open access scholarly journals. It currently contains information about almost 5,000 journals, of which around two thirds are also included in Ulrich's Open Access Journals. However, Möller (2006: 69) in her study states that there were 1,888 journals in the DOAJ, which shows the growth in the number of journals hosted by DOAJ.

The main aim of publishing is to have an impact, quantified as the impact factor, so that when applying for promotions, researchers are considered for possible collaboration with other researchers globally as well as publishing in Scopus Indexed Journals, for example. Researchers should take ownership by ensuring that their work is accessible and visible on various research services (Times Higher Education, 2019; Webometrics, 2019). According to Sharma et al. (2014: 12), the impact factor refers to certain indicators for rating articles in research journals. However, impact can be variable; for example, according to CPUT (2017), the impact factor of the Bioresource Engineering Research Group at Cape Peninsula University of Technology is low not because their work is poor but because their material is not widely available on diverse platforms.

### 1.2.2 Statement of the problem

Given the state of the SA economy and weakened rand, universities are struggling to maintain subscription-based publications, hence the move to open access publication. This study is important because researchers continue to publish in traditional journals because it is the norm. This comparative analysis of subscription and open access journals is conducted and used to support publication decisions for researchers when choosing what journal to select for

publishing academic papers. Fourie and Chiware (2016) note that the increase of value added tax to 15% and the exchange rate has made it difficult for South African universities to maintain the level of e-resources and subscription-based publications.

In addition, the choice of publishing model by university researchers has an impact on the exposure and accessibility of the research output. Therefore, it should be established which model is more lucrative for the researcher in terms of intellectual capital.

This study intends to encourage researchers to upload their research outputs to relevant repositories in order to make their work visible and thereby enhance their research profile. It is envisaged that the results of the study will add to the body of knowledge and assist other researchers with similar interests especially in higher academic institutions.

### 1.2.3 Aim and objectives of the study

The aim of the study is to describe the benefits of open access over subscription-based publications or academic journals, to support publication decisions when it comes to publishing academic papers. Therefore, the research objectives to address the aim of this study were:

1. To determine the differences and similarities in subscription and open access journals;
2. To determine to which OA repositories researchers upload their research outputs in order to increase their visibility;
3. To advocate that research output be deposited uploaded to relevant repositories in order to make their work visible.
4. To propose general benefit guidelines for use of open access by researchers

### 1.2.4 Research Questions

The following research questions were used to meet the stated objectives:

1. What publishing model is preferred by researchers in publishing?
2. How knowledgeable are researchers about OA?
3. To which OA repositories do researchers upload their research outputs to increase their visibility?
4. What is the impact on researchers who publish in predatory journals?
5. What general benefit guidelines will encourage the use of open access by researchers?

## 1.3 Overview of research approach and methodology

### 1.3.1 Underpinning philosophical assumptions

According to Jokonya (2016) there are three research philosophies most used, namely pragmatism, positivism, and interpretivism. A research philosophy is the framework a researcher uses to collect, analyse and apply data to address research questions (Jokonya, 2016; du Plooy-Cilliers et al. (2014). This study will follow the positivist philosophy, thus quantitative and qualitative methods will be used to collect and analyse data in line with Silverman (2000:10-11).

Due to the objectivity of the phenomenon, it was appropriate to adopt a positivist approach to describe in detail the advantages and disadvantages of academic publishing in open access journals. The objectivity of the phenomenon emanates from the fact that there is existing knowledge or understanding (du Plooy-Cilliers et al. 2014:25) of benefits associated with publishing in open access journals (Hacker and Corrao, 2017).

### 1.3.2 Sampling Methods

The study adopted convenience sampling of researchers and academics as these respondents were easily accessible for the research and to avoid unnecessary traveling expenses. Furthermore, some scholars argue that in these techniques, members of the target population should be easily accessible and available and show interest in participating when requested (Tryfos, 2001:2; Kumar, 2011:193; Etikan et al. 2016:2-4). Acharya et al. (2013:332) reports that convenience sampling can be used in both qualitative and quantitative methods hence the use of questionnaire and content analysis in this the study.

### 1.3.3 Research instrument

The research instrument used enables the gathering of data in a manner that provides valid and reliable information for a study (Annum, 2016).

This study utilised quantitative methods in order to obtain valid and reliable results (Maree, 2007:80) and because it is the most appropriate approach, the study measured the degree of value, belief, attitude, and opinion (Kumar, 2011:104-105).

### 1.3.4 Reliability and validity

To ensure that the instrument was reliable, it was necessary for the researcher to consult the Research Directorate in order determine the number of researchers who submitted their published work, in order to compare with the number of active researchers on Scopus. In

doing so, the researcher wanted to have an idea of unexpected challenges a researcher might encounter. Concerning validity, a questionnaire was developed by the researcher and shared with respondents to ensure validity.

Reliability means that there is accuracy and consistency in measurements whereas validity refers to truthful measurements (Goddard and Melville, 2007). Therefore, it is significant to determine the degree of validity before a researcher can conduct a study and analyse data statistically.

### 1.3.5 Reliability

An instrument is reliable when it eliminates any threats that can cause bias, and random error (Mitchell & Jolley, 2007:113). This view differs from that of Goddard and Melville (2007), who argue that an instrument is reliable if it consistently gives the same results. However, it is compulsory for a scientific investigator to document his or her procedures. Therefore, a questionnaire is given to a statistician before the main study and data are collected to ensure whether the instruments the researcher will use are reliable.

### 1.3.6 Validity

The researcher developed a questionnaire and submitted it to the university statistician to ensure that the data can be analysed effectively later (Goddard and Melville, 2007). According to Mitchell and Jolley (2007:159), an instrument is valid if it measures what is expected. Furthermore, validity measures what is done by comparing two different assessments and when the results are the same, the instrument used to measure the construct is appropriate and the validity is considered high. However, according to Blanche et al. (2006:90), there are five types of validity. However, the study will focus on measurement, interpretative and statistical validity as discussed in the next chapter.

### 1.3.7 Data analysis

Respondents' comments from the interview guide were prepared for import into ATLAS.ti. However, due to the software licence not being renewed it was necessary that remarks were coded and then analysed for patterns using an Excel spreadsheet and its mechanisms for exploring data and data patterns. Data analysis involves the interpretation of responses obtained in a survey (Fink, 2013:115), hence the researcher's findings were displayed in the form of a diagram showing relations.

## 1.4 Significance of the study

Due to rapid changes in technology, it was important to conduct the study to investigate publication decisions by researchers and choosing journals of their choice. Researchers are able to identify journals and databases for publishing purposes by searching on their library databases where to find journal articles and ask for assistance if needed.

The findings and recommendations will help readers to discover the latest research findings globally. Researchers choose whether to publish in open access journals or subscription journals. It is unlikely that the university will support researchers if they are going to choose the latter as subscriptions increase their fees every year.

This study highlighted decisions taken by the researchers whether to use the traditional publishing method or the open access method, based on the publishers' author guidelines, as these guidelines, which include open access charges, differ from publisher to publisher. The distribution of electronic journal articles depends on each publisher as each publisher has its own policy. Hence, a researcher has to be cautious and read the policy of the publisher, which is usually available on their website. Scholars argue that despite researchers being the authors, they do not have free permission to distribute copies of their work, as copyright resides with the publisher (Leary et al. 2012; Hubbard, 2007).

This study is important because researchers continue to publish in subscription journals because it is a norm. This is shown in Scopus which shows that most researchers at CPUT publish more in traditional publishing journals than in open access.

## 1.5 Limitations of the study

This study was limited to academics and researchers at the Faculty of Business and Management Sciences (FBMS). FBMS has 15 academic departments and academic units of which each has its own unique field of study (CPUT, 2017). The department of Business and Information Administration, known as Office Management and Technology, was chosen for the study. Fifteen researchers participated in the study were purposively selected, however; academics were reluctant to respond to an interview guide. The intention was never to generalise, hence the selection. Consequently, the ultimate results of the questionnaire were not very good. This study might therefore not be fully representative of all researchers in the FBMS. Further, because the university does not have a full package of Scopus that limits the scope of the study to compare and benchmark the performance of researchers at the university where the study conducted. Another limitation is that although most of the CPUT



research output is placed on SCOPUS, it does not mean that all researchers publish their work on Scopus.

## 1.6 Ethical considerations

For this study, the researcher obtained authorisation from the university where the study took place. The study was conducted according to the research ethics policy of the university. This is also confirmed by Oliver (2010) who argues that research, which involves human beings, must conform to a high moral standard. When conducting research, it was imperative to consider ethical issues and the use of terminology, therefore in this study the use of terminology was taken into consideration during the data collection process. This was done in order to make it easier for participants, hence an ethical clearance certificate was obtained before the beginning of the study. Ethics is useful when it comes to protection from any legal consequences (Mauthener, M. et al; 2002:17).

Participants were informed that the questionnaire was voluntary and it included a confidentiality statement that read, "Information supplied will be used for stated purpose of academic research only and will be kept in strict professional confidence"; anonymity was also ensured. Respondents were also informed of the benefits of participating in the study. At the end of the survey the researcher provided training, objectives, and a summary of the study and also thanked the respondents for their contribution to the study.

Copies of completed questionnaires were available only to the research team for maintaining confidentiality. Any electronic copies containing respondents' information were stored in a password-protected computer and the password was only be available to the research team. In the thesis and any publication arising from it, all forms of identification were to be removed.

## 1.7 Outline of the study

The layout of the study is organised as follows:

**Chapter 1** gives a background of the problem, and motivates the research and the purpose of conducting the research.

**Chapter 2** is a literature review and provides definition of the concepts and discussion of previous research on the topic.

**Chapter 3** gives a detailed account of the methodologies followed in the study.

**Chapter 4** covers data analysis and interpretation of results.

**Chapter 5** presents the findings, conclusions and recommendations.

## 1.8 Summary

An introduction and background to the problem statement was provided. Research questions and aims and objectives were highlighted. This research follows qualitative and quantitative methods to collect and analyse data so that reliable and valid results can be obtained. The significance of this research was presented, and the choices were discussed that researchers have to publish either in open access or subscription journals.

In this study it is revealed that open access use is growing amongst academic researchers. However researchers feel threatened that their work is freely available online although they work hard in order to get their work published. There are benefits to both open access and subscription journals which will be discussed on the next chapter.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

The previous chapter introduced the research, provided background, addressed objectives and methodological approach to the study. This chapter is a clear indication of the research done on the topic of open access and subscription journals and its outcomes, which can perhaps guide this study.

Traditionally, journals sold on subscription to libraries and researchers in universities and that was the only way publishers could distribute journals and recover the cost (Bjork et al., 2010). The evolution of internet has made it possible for knowledge and information to be shared and accessed openly. As such, through open access journals, readers are gaining by being able to access information that they would otherwise be charged for. Open access (OA) is defined as a literature that is digital, online, free of charge, and free of most copyright and licensing restrictions (Crawford, 2011; Suber, 2012:4). Over the past decades when it comes to publishing either on subscription or open access journals, researchers have the right to choose which academic journal to consider.

Currently researchers encounter two economic models of academic publishing, namely open access journals and subscription journals. The choice of model by the researcher has an impact on the exposure and accessibility of the research output published. Therefore it should be established which model is more lucrative to the researcher in terms of intellectual capital (Lamb, 2004).

The purpose of this chapter is to conduct a comparative analysis of subscription and open access journal so that the outcome can be used to support publication decisions and access to published academic papers. Higher education Institutions in South Africa are encouraged to formulate policies on providing OA to research publications funded by the National Research Foundation (NRF) (NRF: 2017). This is to encourage researchers to disseminate their intellectual output to a wider community.

To ensure that the work of CPUT researchers is made accessible for public re-use and long-term preservation using CPUT Institutional Repository, the library offer support to researchers by creating researcher profile accounts and importing publications from one system to another. Furthermore, in June 2014, the promotion of open access within CPUT led to the development

of Open Access and Research Data Management (RDM) Policies that were approved by Council (Fourie and Chiware, 2016).

## 2.2 Open Access and Subscription journals

According to Eve (2014), any researched paper is open access if it is electronically accessible to readers at no cost. It is for this reason there open access was established a few decade ago to remove price and permission barriers. Traditionally, journals are made available on subscription to libraries based on their affordability. In the age of print, this was the only model available that enabled publishers to disseminate journals and retrieve the cost (Poynder, 2012:3). Unfortunately, this meant that only researchers in institutions that could afford to pay the subscription charges were able to read journal articles. Even those universities could only afford a fraction of the world's research literature hence, the resultant situation where the author would have to pay to view his or her own published work is a major weakness of this model (Antelman, 2004).

## 2.3 Types of Journal

It is stipulated in the CPUT Research Output Policy that a research article published in an approved journal will be subsidised hence the Department of Higher Education and Training maintains a list of accredited journals (Research Outputs Policy, No. 188 of 2015:5-6).

There are, however, different types of journal a researcher considers when publishing articles. At times, researchers take advantage of publishing in predatory journal for their own benefit (Beall, 2015). This means that researchers can take any journal that promises to publish their work in order to beef up their curriculum vitae for career advancement. Predatory journals publish work without proper peer review and charge scholars an enormous sum for publication (Cobey et al. 2018).

### 2.3.1 Open Access Journal

According to Suber (2012:4); Björk et al. (2010) open access (OA) is a literature that is digital, online, free of charge, and free of most copyright and licensing restrictions. This is supported by the work of Czerniewicz and Goodier (2014:1) who point out that “open access publishing is based on legally open licences” whereby an author retains copyright permission and therefore the author is free to post their article on either an Institutional Repository (IR) or personal websites. Information and materials posted on the website are openly accessible to readers with no requirements for authentication or payment and can be downloaded and

distributed, for example. However, some scholars argue that by making materials freely available, a researcher is inviting poverty. Suber (2013) argues that when a researcher's work is on the internet, his or her work is reviewed multiple times whereas in traditional publication attracts a much smaller audience.

By definition, in OA a reader has an opportunity to receive information quickly from a researcher's work without restriction of copyright and payment. On the other hand, researchers might only be cited but not receive any rewards for OA and TP; however there are benefits when choosing open access. However, the author pays for publication, which can be more than R7000 depending on the journal. One has to pay print fees for many traditional journals. This is not the case with subscription journals where a reader pays and not the author (Solomon and Björk: 2012).

Open access is an alternative to subscription or closed access. Traditionally, journals were sold on subscription to libraries, as this was the only model that enabled publishers to disseminate material to recover the charges. According to Swan et al. (2010), open access publication means that researchers do not have to spend time looking for articles, which are not available in their library. Researchers can easily access researched work immediately as soon as it is available or even preprint online thus creating opportunities for collaboration and recognition by a wider audience especially in one's field of study. This is also true with closed access however, it takes longer for an article to reach to the readers. The following image represent briefly benefits of open access



Figure 2.1: Benefits of open access (Lloyd Sealy Library, 2015)

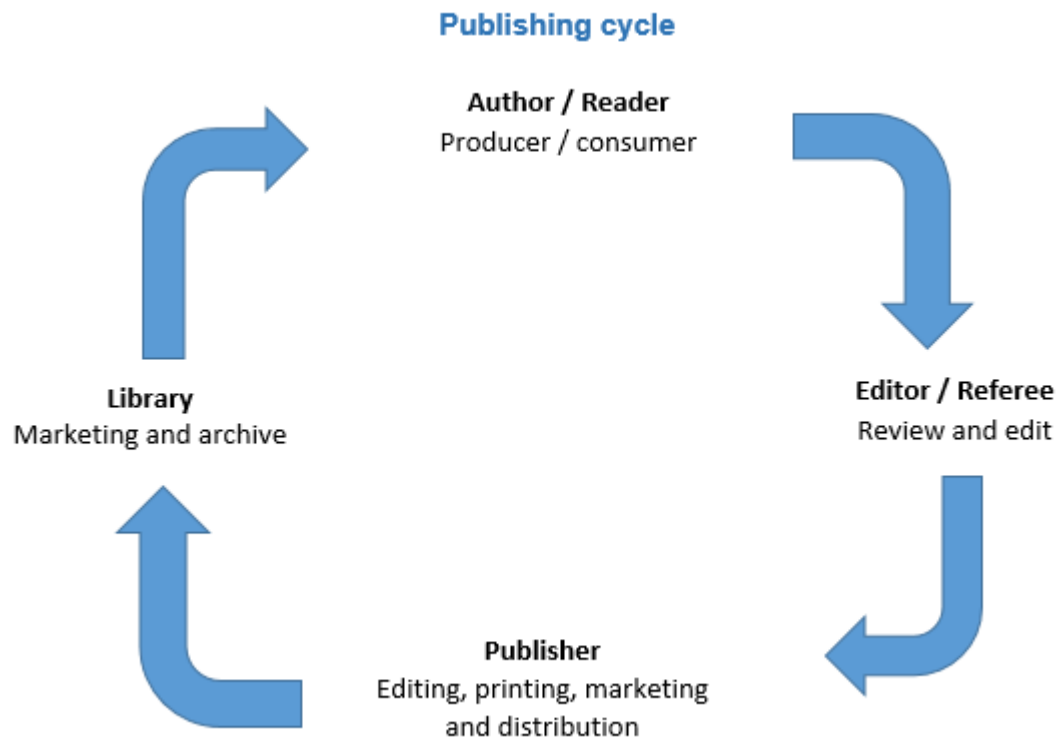
Before the work is published, readers and authors access research work online free and immediately instead of waiting for a couple of months. Readers benefit more because journals are freely available online and in that way, their work is visible and cited worldwide. According

to Eve (2014:2), OA was not feasible before the age of technology, as it requires internet and digital settings.

It is evident that Africa has made remarkable improvement in terms of emerging and creating platforms to make African research output more accessible and visible. Researchers get to be cited more when publishing in OA. The main aim of publishing is to have a high impact factor. According to Garfield (2003: 398), impact factor refers to an indicator for rating articles in research journals. However, according to Keating (2015) in an article titled The Impact Factor of the Bioresource Engineering Research Group in the Faculty of Applied Sciences, the impact of this research group is low not because their work is poor but because their material is not widely available on diverse platforms.

### 2.3.2 Traditional Journal

Throughout this thesis, the term 'journal' refers to scholarly publication covering articles written by researchers, professors and other experts (University of Victoria Libraries, 2020). Therefore they are usually peer reviewed (Crow, 2002). There are different types of journals, for example the *Journal of Business and Management Sciences*; in that journal, there are different articles and it can be published monthly or quarterly depending on the publishers. In a traditional model, most publishers allow authors to publish at no cost, however they generate their earnings by charging readers or universities libraries subscription fees (Crow, 2002). Figure 2.2 represents the traditional publishing cycle.



*Figure 2.2: Traditional publishing cycle (Adapted from Kansas Geological Survey)*

Looking at the traditional publishing cycle, the authors writes manuscripts and submit them to the editors to review and edit. According to Crow (2002), the author receives feedback from the editors and make corrections. Then manuscripts are sent to the publisher who will in turn review it. The process might take longer as the reviewers take their time. Once it reaches the publisher, they will in turn edit an authors' manuscript, advertise it and distribute it to university libraries provided they pay a subscription fee to that particular journal. Papers published in subscription journals are usually accessible only to researchers whose institutional libraries have subscriptions to those journals (Björk and Solomon, 2012). Secondly, when a journal of high quality accepts a manuscript, it adds value to the author and to the research outputs in universities (Research Outputs Policy, No. 188 of 2015:7).

This traditional publication process ends with the publisher taking complete responsibility for the entire work, given the prevalent practice of authors signing away their copyright to the publisher. It is easy to see that this journal publication model is a self-sustaining author-driven process. The quality of scientific papers and progress made increases dramatically when authors have access to all the published work in a field at a given time. Authors as creators of papers, submit their work to editors of their choice for review and editing leading to the paper production process. The publisher then assumes the core functions of marketing and

distribution of the finished journal. At this stage, libraries market the finished journal which is added to the library collections to be utilized and the content evaluated by an author's peers.

### 2.3.3 Open Educational Resources (OERs)

The term Open Educational Resources refers to any material that is useful for teaching, learning, educational, assessment and research purposes that resides in a public domain (Dichev and Dicheva, 2012). It is argued that these materials can be reused and distributed at no cost with no or limited restrictions. As important as it is to upload articles on IR at CPUT, it is also important to upload OERs on IR to support teaching and learning. However, there was a low uptake from most faculties in uploading OER during the time when the study was conducted (CPUT, 2019). It is the duty of the Faculty Librarians to promote and motivate the academics in their departments to collaborate with the library in uploading the outputs on IR.

Undergraduate students saved a lot of more money on buying textbooks by using OA journals and Open Educational Resources, as they were available online (Gibney, 2019). This has brought awareness of the cost of books to students and the Faculty during the International Open Access week held in October that universities celebrate every year.

## 2. 4 Traditional versus Open Access publishing

The difference between traditional publishing and OA is that with TP, researchers' work is widely available and they receive royalties on their work (Björk and Solomon: 2012) whereas with OA, researchers' work is available through publishers as well as online for readers. However, Xiao and Askin (2012) argue that both traditional and open access journal offer certain benefits and every research article is unique, so it is vital to consider which option will be suitable for dissemination of one's manuscript. The difference between traditional and open access is shown in the following Table 2.1



Table 2.1: Differences between traditional publishing and open access

<b>Traditional Publishing</b>	<b>Open Access</b>
<ul style="list-style-type: none"> <li>- Traditional Publishing (TP) is where researchers' work is available through publishers and authors receive royalties on their work. This will mean that a reader has to pay for an article even if the reader will not read the whole material (Björk and Solomon, 2012:3).</li> <li>- The distribution of electronic journal articles depends on each publisher as each publisher has its own policy. It is advisable for a researcher to be cautious and read the policy of the publisher that is usually available on its website. Furthermore, authors cannot freely distribute a pdf copy of their work as copyright resides with the publisher (Melero et al, 2014)</li> <li>- Subscription fee is essential. Individuals and Institutions subscribe to journals for an annual fee (Kleyn, 2018).</li> <li>- Few articles are cited and low impact factor.</li> <li>- Traditional publications are not free to use and reuse because of the copyright policy.</li> </ul>	<ul style="list-style-type: none"> <li>- Open Access is where researchers work is widely available freely online to all readers who are interested in researchers' work. However, in most cases researchers have to pay publishers in order to have their work reviewed, and to cover the cost of publication (Kleyn, 2018, Suber, 2014).</li> <li>- The distribution of researched work is electronic and available to anyone who is interested in reading it (Harnad, 2014).</li> <li>- Subscription fee is not essential but is linked to a university (Kleyn and Nicholson, 2018).</li> <li>- More articles are cited and that improves the impact factor</li> <li>- Open access is often free to use and reuse.</li> </ul>

With regard to open access, it is easier to access information at first hand online whereas with a subscription journal a reader is fortunate to get a full-text article (Harnad, 2014). Technology has made it possible for readers and researchers to easily access information online. It is evident that Higher Education Institutions cannot afford to subscribe to all journals because they increase their subscription every year, hence researchers upload their published article on their Institutional repository and that is referred to as self-archiving. Self-archiving therefore will mean that a researcher can upload their researched work on their personal website or institutional repository, for example (Cerejo, 2013). It is argued that establishing and then operating a repository differs extensively from case to case and funders also incur repository-related costs where they have to as there is greater chance of visibility and greater impact for

the funded research (Swan, 2016:3). However, there are many myths about open access journals that are discussed in the next paragraph.

#### 2.4.1 Myths about open access journals

Transitioning from traditional to open access journal has never been easier for researchers but there are misunderstandings and myths regarding open access. According to Suber (2013), there are 6 myths which will be discussed.

- a) All or most Open access journals charge publication fees.
- b) All Open access is gold, even for peer-reviewed journal.
- c) Open access journals are not peer reviewed.
- d) Authors pay publication fees.
- e) OA are naturally low in quality.
- f) OA mandates infringe on academic freedom.

According to Suber (2013), most researchers believe that when a researcher wants to publish an article, they should select an open access journal that is in the Directory of Open Access Journal (DOAJ). For any researcher who publishes in a journal, it has to go through peer review practises, as opposed to publishing in a predatory journal (Beall, 2015; Shen and Björk, 2015). As mentioned in 2.3 .2, publishers charge authors in order to recover the cost and to disseminate information. With regards to Open access, the costs include paying their editors and reviewers as well, however it is not known how much they pay their editors. Therefore, it is necessary to pay for “article processing charges” (Solomon and Björk, 2016). In order to avoid being a victim of predatory journal, researchers should consider some factors of publishing in traditional and open access journal.

#### 2.4.2 Factors to consider when publishing in open access and traditional journals

Previous studies show that authors find it difficult to reach a decision on whether to publish in open access or subscription journals (Conte, 2019). According to Shaikh (2016), most journals of higher quality have a policy of waiving the article processing charges for authors from developing countries. A researcher writes to achieve a high impact factor, for example by publishing in journals that have a high impact factor and are listed on the Department of Higher Education and Training (DHET) list as this will bring money to the institution for which the researcher is working (Garfield, 2003).

According to Cain (2016), authors are more interested in dissemination of their work to a wider audience for citation purposes. Therefore, it is the researchers' responsibility to upload their work in different platforms other than an institutional repository. In doing so, they will be discovered easily by other researchers and readers who may use their work for their research, and possible citation.

## 2.5 Different databases

There are different databases owned by Elsevier, namely Mendeley, Scopus, Science Direct, to which CPUT subscribes. Elsevier is a subscription-based research and abstract citation analysis database widely used in ranking systems (Elsevier, 2018). Elsevier is a publisher and Scopus is a database owned by Elsevier (CPUT; 2018). All institutions within the Cape Higher Education Consortium (CHEC) environment subscribe to Scopus and the bulk of CPUT research output sits in Elsevier. This academic consortium comprises the four public universities in the Western Cape, namely the University of the Western Cape, University of Stellenbosch, University of Cape Town and the Cape Peninsula University of Technology. All of the universities are within a 40-minute range of each other and share a single electronic library system. According to Tshikotshi (2012: 3), the NRF uses Scopus in ranking ratings for researchers from different universities and by making their research work, universities increase their visibility and can positively impact their rating and status.

OA journals covered by Scopus are indicated as Open Access and listed in the Directory of Open Access Journals (DOAJ) and/or the Directory of Open Access Scholarly Resources (ROAD). Publishing on open access is a struggle because there is a cost involved and because of the article processing charges (APC) that delay the publishing process as researchers have to find funding in different departments, for example the NRF or research funds from their universities. In the meantime, articles are in the process of being accepted or not. That is why all authors, before submitting an article, are required to sign an author's warranty stating that the materials are original and unpublished elsewhere.

## 2.6 Benefits of Open Access

According to Suber (2013:6), Holm and Chernoff (2019) and Martin Eve (2014), scholars, academic institutions, and society as a whole benefit from open access as opposed to subscription journals. The biggest consumers and producers of research are academics and researchers, therefore the aim is to publish in a high quality journal and that should motivate researchers and academics to publish their work on open access to reach a wider audience

so that they can secure promotion and grant-funding access. This implies that Open access journals are higher quality than Traditional publishing. The more visibility and accessible their work is online, the greater the impact of their work. Academic institutions get credit and respect for their researchers for their citation. Subsequently, society benefits when researchers are more cited, hence they receive public funding.

### **Sherpa Romeo publishing colours**

According to Melero et al. (2014) “Sherpa Romeo uses a colour-coding system to classify publishers according to their self-archiving policy” that defines the publishers’ policy on authors sharing their work. Once an author gives a publisher permission to publish his or her paper, it means that a reader may only be able to read an article before it is peer reviewed, or a rough draft of the article before it is formally published, depending on the sharing status identified in by Sherpa Romeo. According to Holm and Chernoff (2019), there are different versions in which open access works:

- a) **Green Open Access** – this refers to researchers uploading their work in institutional repositories and it is available to users for download, reading or printing (Pinfield, 2015).
- b) **Gold Open Access** – where an author publishes an article that is openly accessible by the publisher (Pinfield, 2015).
- c) **Delayed Open Access** - is when authors or the institutions publish their work on their Institutional Repository but place an embargo on it for a certain period. Scholars note that some researchers embargo their work for more than a year, especially if the author is going to publish more papers from his or her thesis (Laakso and Björk, 2013).
- d) **Black Open Access or illegal** – According to Björk (2017), the provision of a large amount of academic work which cannot be found in institutional repositories or even subscription journals are breaking the law and infringing copyright when uploading researchers’ work on their site like on Twitter #icanhazPDF. Furthermore, Black Open Access is pirated and readers upload and access research articles without paying a subscription fee (Björk, 2017).

*Table 2.2: Publishing and archiving (Adapted from Hubbard, 2007:3)*

<b>Gold</b>	<b>Open Access publishing</b>
<b>Green</b>	<b>Can archive pre-print and post-print</b>
<b>Blue</b>	<b>Can archive post-print (i.e. final draft post-refereeing)</b>

<b>Yellow</b>	<b>Can archive pre-print (i.e. pre-refereeing)</b>
<b>White</b>	<b>Archiving not formally supported</b>

What stands out in Table 2.2 is that Sherpa Romeo gives a general picture of the different rights that are retained by authors and presents a standardised approach to the different rights, permissions, and restrictions that are imposed by different publishers. However, publishers do not allow authors to publish their published version, especially if it is green (Melero et al. 2014).

## 2.7 Publishing charges

A publisher refers to a company that prepares and issue journals, books or music for sale (Kleyn, 2019), a connection between authors and public provided by a company refers to a publisher. Therefore, it is the responsibility of a publisher to advertise and oversee a journal and it may own more than one journal. Scholars argues that publishers charge a lot of money and make profit from these journals by either charging a membership fee for viewing, by charging authors, or through advertisements for third parties. Overall, within a publishing firm, editors run the day-to-day processes and achieve long-term goals of individual journals.

Elsevier, Springer, Wiley-Blackwell, Taylor & Francis and Sage control more than 50% Of the academic papers and their subscription increases every year by 75%. These increases led to more academic institutions not renew their subscriptions to save money and use it for other needs, as Krisch (2015) and Hawkins (2017) claim. This study would have been more interesting if authors like Hawkins (2017) and Krisch (2015) included the issue of currency, for example, at what percentage they should increase journal subscription per country, and why they charge the same for an article that has 15 pages as for an article that has five pages.

Because of the high cost of subscription journals annually, in 2009 South Africa joined SciELO (Scientific Electronic Library Online) programme which is a database that covers all peer reviewed South African scholarly journals (Parker, 2009).

### 2.7.1 Budapest Open Access 2002

According to Suber (2013), in the 2002 Budapest Open Access was established in order to make research free online to anyone who wants to read it. This was favourable for researchers who wanted to share their knowledge with any person who wanted to read their work. Furthermore, it would fast-track their research work since it was openly available online without cost; most importantly for the Budapest initiative was to remove the price barriers, giving

readers power to find research work easily and for researchers to increase their visibility and possible collaboration with other researchers in their field.

Two recommendations made Budapest open access work, namely self-archiving and open access journals (Suber, 2012). This meant that researchers could deposit their work online, for example on their Institutional repository or social media; however, researchers would need assistance and tools to be able to perform such functions. On the other hand, because price is a barrier, open access journals would no longer charge subscription fees. Instead, researchers would receive funds either from funders or from governments.

Suber refers to Budapest, Bethesda and Berlin as “BBB” that supports open access initiatives (Suber, 2012).

### 2.7.1 University in-house journal publication

Journal publishing at a university in South African has made it possible for researchers to share their work on the internet to a wider audience through the adoption of open access. However, there is a lack of appropriate information around open access and fees being charged for publishing in South Africa (Suber, 2013). This happens when universities and researchers for example require subscriptions to journals or purchase books outside of South Africa and they have to use foreign currency. The problem is that as researchers have to pay for multiples copies of articles because they may not know which one is relevant until they have read the whole article.

According to Petersen et al. (2018), there are more than 2.5 million scientific articles published each year, therefore it is not fair to charge users a large amount of money when they have to access researched work, especially if the paper for example, is written in South Africa and published overseas. Figure 2.3 below shows the cost of an article published in a university of technology in South Africa and published in United Kingdom.

149 Views  
6 Crossref citations to date  
0 Altmetric

Original Articles

## Effects of Pool Size on Free-Choice Selections by Atlantic Bottlenosed Dolphins at One Zoo Facility

Melissa R. Shyan, David Merritt, Nicole M. Kohlmeier, Keri Barton & Jessica Tenge  
Pages 215-225 | Published online: 04 Jun 2010  
Download citation | [https://doi.org/10.1207/s15327604jaws0503\\_05](https://doi.org/10.1207/s15327604jaws0503_05)

Citations Metrics Reprints & Permissions Get access

### Abstract

Dolphin pool design often derives from the concept that cetaceans are ocean based and ipso facto should live in open, deep, watery spaces. This emotionally appealing rationale is not data driven. Researchers report that in the wild, some populations of Atlantic bottlenosed dolphins (*Tursiops truncatus*) reside in shallower areas (approximately 2 m deep) and move to deeper areas only when resources become scarce. This study observed a well-established pod of 7 Atlantic bottlenosed dolphins at the Indianapolis Zoo and tested the hypothesis that they would select areas similar to their natural habitat and avoid areas of significantly larger volumes of water (in captivity, a combination of depth and surface area). This hypothesis was confirmed. When given free choice, the dolphins used moderate areas 67.8% of the time, smaller areas 36% of the time, and larger areas 2.9% of the time. This study evaluated the choices using 4 models based on surface area, volume (in gallons), depth, and location preferences, respectively. Choices of pool and area were significantly different from surface area, volume, depth, and location preference null hypothesis predictions suggesting that larger pools in captive facilities may not be the preferred environment for dolphins.

**Login options**

- > Log in
- > Shibboleth
- > OpenAthens

**Restore content access**

- > Restore content access for purchases made as guest

**Purchase** Save for later

Online

Article Purchase  
24 hours to view or download: USD 50.00  
[Add to cart](#)

Issue Purchase  
30 days to view or download: USD 247.00  
[Add to cart](#)

\* Local tax will be added as applicable

Figure 2.3: Original article published online (Shyan et al., 2002)

Researchers spend too much time writing journal articles yet when they publish, their students in their country have to pay in a different currency in order to access the research work. Furthermore, researchers have to pay to read other people's work in their discipline. This is the case when publishing in subscription journal as well as in an open access journal. Figure 2.3 is a typical example of an article published on an open access journal in one of the big five publishers, as previously mentioned by Krisch (2015). The question is how publishers decide on the price of the paper and why authors write articles and then are charged for the work they have done irrespective of the exchange rates. Different publishers charge different rates but fail to take into consideration that authors come from different countries where currency is not the same. Therefore, it is not practical for publishers to charge more than what authors can afford although they decide to publish in an international journal. Authors publish locally so that their research work is disseminated worldwide.

### 2.7.2 Article Processing Charges (APCs)

According to Pinhasi et al. (2018) “authors have a choice of publishing their researched work on OA at no charge to them”; however, a number of vouchers for APCs have been authorised by Emerald to offer counties and organizations who qualified to receive such. The latest report on open access (Elsevier, 2019) indicates that APCs are paid by authors or are paid on their behalf by the institutions or funding body. This is the case with South African organisations as they are not eligible for Open Access vouchers from Emerald Publishing.

As with all journals published in scholarly journal, OA journals undergo peer review. This would mean that APCs are only charged for articles that pass the pre-publication checks and are published (Elsevier, 2018).

Frier (2019) states that under the subscription model, libraries pay fees for access to journal packages, and authors wishing to publish in open access or in a closed subscription, or hybrid journal pay article (APCs). Hybrid open access journals were launched by Springer Open Choice and Wiley Online Open in 2004 (Rettberg, 2018). As soon as the authors make payment for an article once published, they are allowed to make individual articles gold open access. However, Hinchliffe, (2019) argues that Transformative Agreements with publishers is everywhere and has received attention particularly in North America where they require that authors retain copyright and not transfer to the publishers. The Transformation Agreement (TA) is described as Read-and-Publish or Publish-and-Read. With Transformative Agreement, authors no longer pay APCs instead; their institutions (via their libraries) repurpose former subscription expenditures to remunerate publishers for their editorial services associated with the open access publication of accepted articles.

### 2.7.3 Multidisciplinary Digital Publishing Institute (MDPI)

The MDPI offers institutions full access and full control over articles submitted by affiliated authors and published papers, for example (MDPI, 2019). CPUT has established an Institutional membership with MDPI and is now a member of the MDPI Institutional Open Access Program (IOAP). Because of its membership, authors may receive discount and not pay APCs. The Institute is dedicated to providing free access to the latest research (CPUT, 2019).



#### 2.7.4 Figshare

During the Open Access week in 2019, Figshare held a month-long competition for researchers to upload their work on Figshare. This was an opportunity for researchers to share their research data and stand a chance to win prizes. According to Kishor (2013), Figshare is an online open access repository where researchers can preserve and share their research outputs, including figures, datasets, images, and videos (Kishor, 2013).

#### 2.8 CPUT's Policy Development

Different universities have their own policy when it comes to open access as does CPUT. This policy aims at making their scholarly output accessible in the Institutional Repository, whether it is published or unpublished. Uploading of scholarly output is done to increase the visibility of authors in the university; however, the policy is implemented in compliance with the Copyright Act 98 of 1978 (CPUT, 2015). The policy states that although the library sources research outputs, it is also the authors' responsibility to deposit their work in the Institutional Repository.

Although the intention of the policy is to grant immediate access to the public and increase visibility, it fails to address the issue of authors who have published in closed access and those research works that have been embargoed more than two years or more. The library has to make sure that researchers receive guidance and advice regarding publishers' requirements (CPUT, 2014).

Furthermore, librarians need to engage the university community and encourage them to publish in open access journals to improve visibility even if nobody knows that there is an institutional repository in their institution.

#### 2.9 South Africa's OA initiatives

South African researchers encounter challenges when it comes to distribution, visibility and funding of their research work (Goodier and Czerniewicz, 2014:3). However, a statement was made by the NRF in 2015 that fully or partially funded researchers should deposit their final peer reviewed work in institutional repositories (NRF: 2015). In doing so their work would be easily accessible online and researchers would be cited more often. However when researchers decide to put an embargo in place, it should not be more than 12 months.

Universities in South Africa will do well to follow the example of developed countries such as Sweden, Denmark, Finland, Iceland and Norway that are actively supporting their local journals to become online and open access (Björk, 2019).

### 2.9.2 Berlin Declaration 2003

The Max-Planck-Gesellschaft hosted a conference that led to the 2003 Berlin Declaration. It subsequently was endorsed by many large research organisations internationally. Although the Berlin Declaration agreement was formulated in order for scientific publications to be freely available online and anywhere in the world however CPUT signed the Berlin Declaration on open access sciences and humanities on 15<sup>th</sup> March 2016 (CPUT, 2015). This was the result of the annual increase in cost of information sources for university libraries and the 14% VAT introduced on electronic resources. This was not easy for universities in South Africa (CPUT, 2015). It led amongst other factors to FeesMustFall whereby most university students embarked on strikes to stop increases and to pressurise the South African government to fund students (Quintal, 2016). Accordingly CPUT Libraries signed the Declaration to ensure that the research community had access to open access resources.

The goal of OA is to disseminate knowledge and make it available via the internet for better visibility and usability (Max-Planck-Gesellschaft, 2013). However, commercial publishers argue that OA is a threat that undermines the profitable foundation of traditional journals in favour of an unconfirmed open access plan (Robinson, 2006) even though some publications are available only for a short period before access is restricted.

### 2.10 Copyright and Creative Commons licenses

According to Flynn and Tusi (2019) and Nichol森 (2019), the South African Copyright Act No.98 of 1978 has not been revised since its promulgation and a lot has happened in the publishing sector as well as in terms of laws in South Africa. Therefore, it is time for authors to have a say regarding their published work.

There are series of licences designed to allow the reuse of material under fair use and fair dealing and the most common is the Creative Commons license. However, Creative Commons does facilitate commercial reuse of academic work (Eve, 2014). This means that the copyright for the work remains solely with the author(s) of the article.

### 2.10.1 Retaining copyright

The distribution of electronic journal articles depends on each publisher as each publisher has its own policy. It is advisable for a researcher to be cautious and read the policy of the publisher that is usually available on their website. Researchers argue that even the authors do not have free permission to distribute copies of their work, as copyright resides with the publisher (Collier-Reed, et.al. 2012).

### 2.10.2 Copyright Amendment Bill

It is necessary in this thesis to clarify the term 'copyright' as defined by Collier-Reed et al. (2012: 291) as the laws protect the legal right of the owner of the intellectual property. In South Africa, the Copyright Act 98 of 1978 has not been amended and is poorly drafted need to be destroyed (SABC Digital News, 2019); since 1978 a lot has happened in academia for example, that required change, particularly with regard to the digital age. The new Copyright Amendment Bill currently under consideration introduces the doctrine of fair use that allows people like educationists to copy the material without permission from the author. It is argued that once the bill passed it will have an impact on the economy of South Africa.

### 2.10.3 Fair use

Fair use will encourage human rights (Flynn, 2019). If any reader or researcher wants to use information from another source for the purpose of criticising that source, that is an instance of fair use. Fair use also defends against piracy by outlining which uses are fair. Therefore, students will benefit from the new Copyright Amendment Bill because lecturers will be able to make materials students can afford. With that in mind, copyright is a special right assigned to the owner.

According to Hugh Malamdowitz (2019), there are two principles of copyright: one that licenses and grants access to the work, and the other implies the ownership of the work. This therefore will mean that if the author writes an article and publishes it in a journal, whether open access or traditional, a reader who wants to re-use the article will need permission to from the author, or whoever owns the copyright. In this case, the author/copyright owner might choose to give permission or not, hence the embargo.

Copyright in South Africa lasts for 50 years whereas in other countries like the United States of America it lasts for 50 to 100 after the author's death (Fouche, 2014).

Pearson SA says the new Copyright Amendment Bill will have a negative impact on education by allowing anyone to make copies for academic purposes (Wasserfall: 2019). Infringements of copyright are on the rise, therefore the Copyright Amendment Bill states that it is a criminal offence if infringement was committed for personal gain.

### 2.11 Summary

The literature review discusses open access and subscription journals. Differences, myths and factors are mentioned and universities will save a lot of money by adopting open access instead of subscribing to journals, as subscriptions increase every year. Discussions around researchers' work and the visibility of their work online increase their chances of their work being cited more often, however, researchers continue to publish in subscription journals. Subscription-based society journals might also be considered to be at risk as a result of researchers self-archiving their articles in open access platforms. Librarians at CPUT offer support to researchers to upload their work on different platforms for high impact and for possible ranking of the university and collaboration with international and national authors.

## CHAPTER THREE

### RESEARCH APPROACH AND METHODOLOGY

#### 3.1 Introduction

The previous chapter presented a literature review with reference to subscription and open access journals in the context of a comparative analysis. The focus of this chapter is on the research design and methodology used for the study, and highlights the need for the corrective mediation of open access and subscription journal. The study's objectives were to make a comparison between open access and subscription journals to identify their differences and similarities; and to encourage researchers to publish in high impact factor journals. Activities carried out to conduct this study are provided and the following are underlined in this chapter; the philosophical foundation of the study, the research design and the methodological approach used, the setting, sampling and sample size, ethical considerations and data collection, management and analysis.

#### 3.2 Research Philosophy

This study was an appropriate philosophical paradigm guiding this research. The objective was not to have a better understanding of subscription and open access journal at tertiary institutions in Cape Town but to identify the differences and similarities in subscription and open access journals and to raise researcher's awareness about predatory journals so that the outcome be used to support publication decision and the usage of published academic papers. It is arguable that researchers have a choice to publish either on open access journal or on non-subscription journal. However, it is important to consider the journal's visibility, the cost of publication, the IF (or "prestige") of the journal, and the speed of publication (Conte, 2019).

The research philosophy guided the methodology for collecting, analysing and applying data to answer the research questions to address the phenomenon. The study chose the research philosophy because it encloses significance of assumption that defines how the study views the world. These assumptions influenced the methodology and methods used to conduct the research (Saunders et al. 2016; Rouhani et al. 2015:3).

Žukauskas et al. (2018: 124) identifies three major philosophical paradigms: positivism, constructivism (interpretivism), and pragmatism. Pragmatism combines both positivism and interpretivism (Saunders et al., 2009). Positivism believes in the existence of reality in natural science that can be discovered scientifically and measured; in contrast, interpretivism believes that social science differs from natural science. Given the subject nature of the study, the assumption is that its reality is dynamic. Thus, the study adopted interpretivism because, interpretivists gain knowledge of reality through analysing the words, gestures of people by means of observation, and try to give a meaning to what is observed. Interpretivism is often associated with qualitative methodology (Creswell, 2003:8-9; Bryman & Bell, 2015:28) which can be more useful to obtain further in-depth information on the phenomenon being addressed.

Firstly, the scope of this study was limited to researchers and academics at a selected University in Cape Town. The study focused on academics in the department of Business and Information Administration in the Faculty of Business and Management Sciences. This department played a very important role in the research output; however, it does not mean that other departments would not if given an opportunity.

### 3.3 Research design

Research design is a “plan of an anticipated research work” that details how the researcher will conduct study, collect and analyse data to reach results that answer research questions and reach objectives (Boros, 2018; see also Akhtar, 2016). This plan influences the whole study, and the validity and reliability of results. It facilitates interaction between research components therefore it is necessary in developing a worthy and meaningful research study (Toledo-Pereyra, 2012).

Brynard et al. (2014: 50) refer to research methodology as a procedure of selecting research methods and the strategy that is used for sampling, data collection and data analysis to reach the research results. Therefore, the role of research methodology in the research process is to bring together material, knowledge, and strategy to carry out research design (Mouton, 2001:55-57). du Plooy-Cilliers et al. (2014: 33) state that there are three methods to use to reach to better understanding and new knowledge of a phenomenon under study. These are qualitative, quantitative, and mixed methods.

It was decided that the best method to conduct for this study was the qualitative method, chosen as a strategic approach that would lead to answering the research questions. More

information may be collected in dissimilar approaches about a phenomenon than in a single method (Giddings and Grant, 2006:5). Therefore, an interview guide confirms that the researcher's subjects of interest are thoroughly exposed (Morgan and Guevara, 2008). An interview guide was used whereby academics and researchers were interviewed in a selected university to collect data has some elements of open-ended questions in it. Fifteen researchers were chosen in the department who were willing to work with the researcher. Qualitative research was chosen because it is appropriate when responding to questions that will lead to the analysis of a small number of cases (Scott & Garner, 2013: 9).

The Questionnaire was utilised in order to gather numerical data from researchers in the department of Business and Information Administration as this is a qualitative research with limited number of structured or closed questions. The research question upon which this thesis is based can only be answered by means of interaction with various stakeholder groups in the university where the study is conducted.

Although this study is a qualitative study, it has some quantitative aspects from the semi-structured interview questions in it hence questionnaire was used as the data collection instrument. In this study there are two methods of gathering data. An open-ended questions were used with the researchers in the department of Business and Information Administration with the aim of finding out which method of journal subscription they were familiar with or are using.

The design of the interview guide was a qualitative one using semi-structured interview questions most of which were done online for the convenience of the respondents. The reason for using a questionnaire was to make sure that the participants understood the questions and would also be able to write in their own words. Data was analysed using ATLAS.ti. ATLAS.ti is a software tool that allows a researcher to label a text that can be retrieved later according to the codes applied (Eriksson, 2019). That computer tool is computer-assisted qualitative data analysis software (CAQDAS). However the tool does not analyse the data for as such, but it assists in organising and analysing data as the researcher collects it.

In order to use the software proficiently, it was necessary to attend training with a recommended ATLAS.ti specialist. ATLAS.ti was chosen for the purpose of analysing and coding in-depth data and drawing connections in networks. According to du Preez (2018:110), ATLAS.ti allows other possible data sources to be analysed. Although ATLAS.ti was initially used to capture literature sources for the study and later exported into spreadsheet.

Knowing that this study is qualitative but has some quantitative aspects in it, it was necessary to collect data from the secondary source using Scopus databases to answer research questions. It was necessary to include quantitative method to gather and analyse data from Scopus therefore a quantitative approach was assumed to be the way to convey quantities or amounts (Schwandt, 2015:60). The study dealt with a number of researchers and the amount of documents published on either subscription journals or open access journals and this is discussed in the next paragraph.

### 3.3.1 Questionnaire

A questionnaire was designed and discussed with a statistician at the university where the study was conducted, namely CPUT. It was then submitted to supervisors who confirmed that it was accurate and relevant for the study. A questionnaire was sent to the CPUT ethics committee to ensure ethical considerations, validity and reliability. Thereafter, selected participants were presented with the ethics certificate and informed about the research project and its nature beforehand. Respondents' informed consent and a consent letter from the Director of the Library was emailed to the selected participants allowing research to be conducted. Informed consent was provided to the participants with a detailed information of the study. Participants had the right to contribute to the research or not without giving any explanation as participation was voluntary. The data collected was anonymised by replacing the participants' names with ascending code numbers (see Appendix B) in the order of the initial interviews

The questionnaire featured different types of questions. It was important that respondents were given a variety of response options, which authorised them to respond both positively and negatively. For the purpose of this study, the interview guide for collecting data was developed by the researcher. As defined by Saunders et al. (2009, 360) a questionnaire refers to a list of questions used to study the respondents' opinion toward a phenomenon under study that is attained through respondents answering questions. For the purpose of this study, detailed background information was provided to the participants about the research and the interview questions before distributing it to respondents. Furthermore, the variety of questions is significant because it allows for the questions to be expressed to follow a certain wording to maximize reliability (Willemse, 2009).

### 3.3.2 Applying the questionnaire

Depending on the nature of questions, a questionnaire can be both qualitative and quantitative in nature. However, questionnaires have certain disadvantages such as selection of random



answer choices by respondents without properly reading the question (Dudovskiy: 2016). It is argued that respondents may find it difficult to add additional thoughts about a subject to the limitations of questions asked. For the purpose of the study, the design of the interview guide was three pages long and was divided into 3 sections; Section A, B and C. The study used semi-structured interviews. Section A covered the biographical questions and interrogative construction questions that expect 'yes' or 'no' as answer (Nordquist, 2018). Section B focused on respondents' opinions and views on various issues in the literature and why one journal is better than another. In Section C, respondents had to select either "Yes" or "No" to probe their views and perceptions regarding open access and subscription journals. Some of these questions overlapped with earlier questions. The intention of the overlap was to validate the data as triangulation would have done to confirm or contradict possible findings. The intention of this approach was to allow room for any burning issues not covered in previous questions to be addressed. This was done in order to provide meaning to the numbers.

For this study, the database used to identify open access and subscription journals was Scopus. Only Scopus was chosen for this study because most of the university research output is on Scopus; however this does not mean that there are no research outputs in other databases that the university subscribe to.

### 3.3.3 The Case

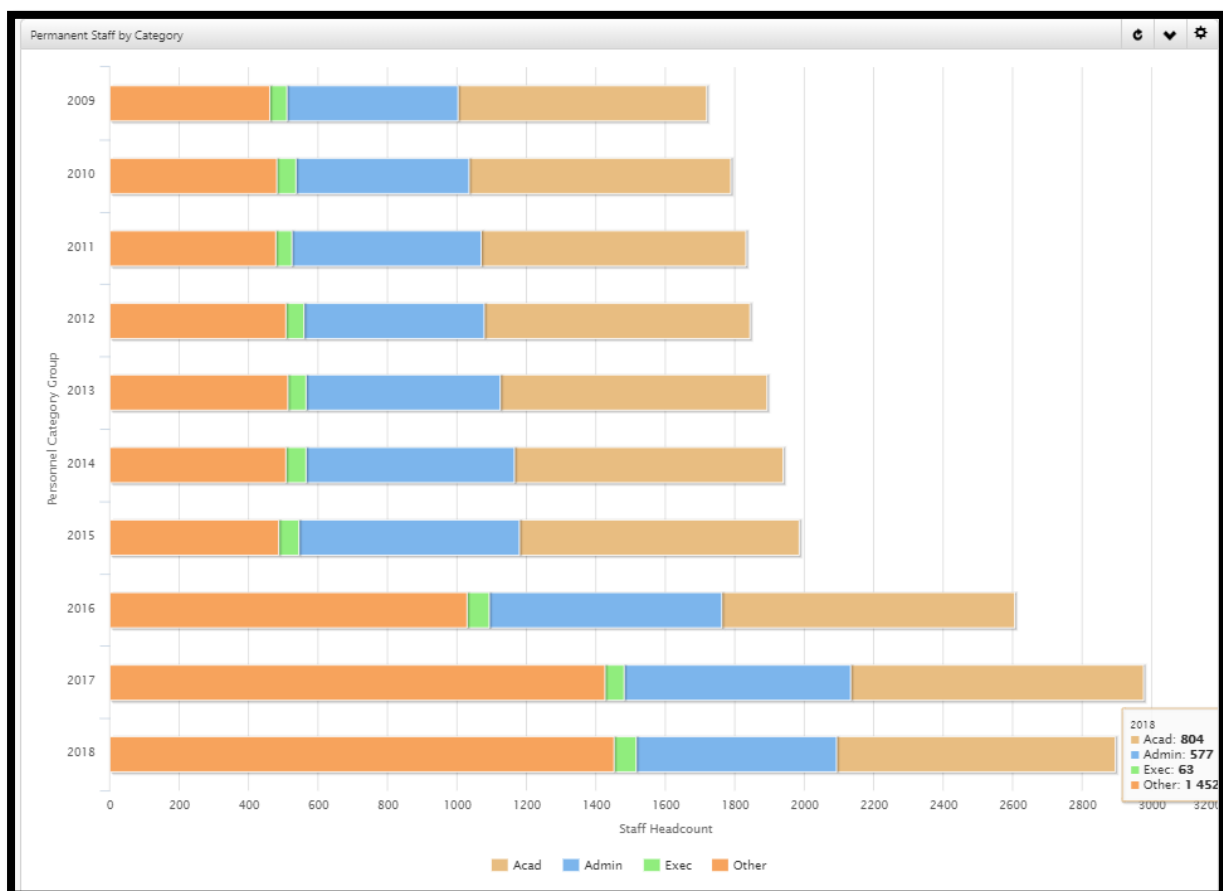
The purpose is to conduct a comparative analysis of subscription and open access journals so that the outcome can be used to support publication decisions and the usage of published academic papers. As a result of the annual increase in subscription journal costs and affordability, researchers have resorted to open access (Krisch, 2015). Librarians at a university of technology reacted to an NRF statement (NRF, 2015) by supporting researchers to deposit their research output is deposited into relevant repositories in order to make their work visible and to propose general benefit guidelines of use of open access journals by researchers. For this study, the scope was limited to a specific case and the intention was never to generalise because the study adopted convenience sampling of researchers and academics as these respondents were easily accessible for the research and indeed to avoid unnecessary traveling expenses.

### 3.3.4 Target population, sampling and sample size

As a strategy to cover a wide range of intended groups of participants, the maximum variation sample was deliberated. The target group was both male and female, which includes both academic staff in the Department of Business and Information Administration. It is argued that

within a department there are lecturing staff and academic researchers who happen to assist students with their personal or group projects (Molefe, 2012). Scholars suggested that lecturing staff need knowledge and skills in order to meet the demands of high quality training in future. Therefore, lecturing staff, academics, and researchers in this study are academics as shown in the Higher Education Data Analyzer (HEDA) and researchers as required by the university.

PowerHEDA is a site that provides summary data relating to CPUT's student enrolments, student success, and staff profile (HEDA, 2019). For the purpose of the study the following figure was retrieved from HEDA website via CPUT website in order highlight the number of academics employed in 2018. This will be summarised in Figure 3.3



**Figure 3.3: Permanent Staff members employed at CPUT by category: HEDA 2019**

Closer inspection of this figure shows that there is a trend of increase year after year when it comes to academic employment. However, the data does not show how many academics for each Faculty and for each campus since the university has eight campuses. Furthermore, there is no evidence of whether all academics at the university do research although it is expected that all academics at the institutions of higher learning do research (HEDA, 2019).

According to Higher Education Data Analyzer (2019), academics employed at CPUT in the following years are displayed on the following table 3.1

**Table 3.1: Academics employed between 2016 and 2018 (Adapted from HEDA, 2019)**

Year	Academics
2016	842
2017	843
2018	804

However, Scopus shows that 1174 authors submitted their papers. This is not to say that all 1174 authors were researchers or academics but postgraduate students may have written articles together with a supervisor or alone. According to Elsevier (2018), between 2016 and 2018 there were 36 researchers who published their work on open access, while 179 published their work in subscription journals. However there were 72 lecturers for the Faculty of Business who submitted their proof of published papers to the Research Directorate. The report received in a form of a spreadsheet did not include full publication data including the journals.

### 3.3.5 Convenience sampling

For the purpose of this study, convenience sampling was adopted, as researchers were easily accessible as previously mentioned in chapter one. Sampling is a tool used in order to take a small portion from a population in order to generalise about the population. There are a number of methods of identifying and selecting a sample according to what a study aims to achieve. The purposive sampling was drawn from accessible researchers at CPUT. Purposive sampling used as a sampling method. The reason for choosing this method is that it allows the researcher to use her own judgement in choosing the specific sample units, for example, one researcher is a sample unit. However, it can be difficult to convince the reader that the judgement used to select units to study was appropriate. For this reason, it can also be difficult to convince the reader that research using purposive sampling has achieved theoretical/analytic/logical generalisation (Dudovskiy, 2016).

Between 2016 and 2018, researchers from the Faculty of Business and Management Science published work and submitted the publication details to the Research Directorate. The Research Directorate is a “strategic department of CPUT charged with executing one of the three main functions of a university, namely research and innovation management” (CPUT, 2019). Purposive sampling is used in qualitative research and was used for the purpose of the

study; participants were selected based on specific characteristics that are suitable for the study (Cohen, Manion and Morrison, 2013). In this case, participants were qualified lecturers with varied experience of research who already published on different types of journals. The following table 3.2 depicts the number of researchers who submitted their work for funding at the Research Directorate.

Table 3.2 FBMS submission of articles at the Research Directorate between 2016 and 2018

	2016	2017	2018
Staff	154	73	72
Students	27	25	23
OMT	7	1	1

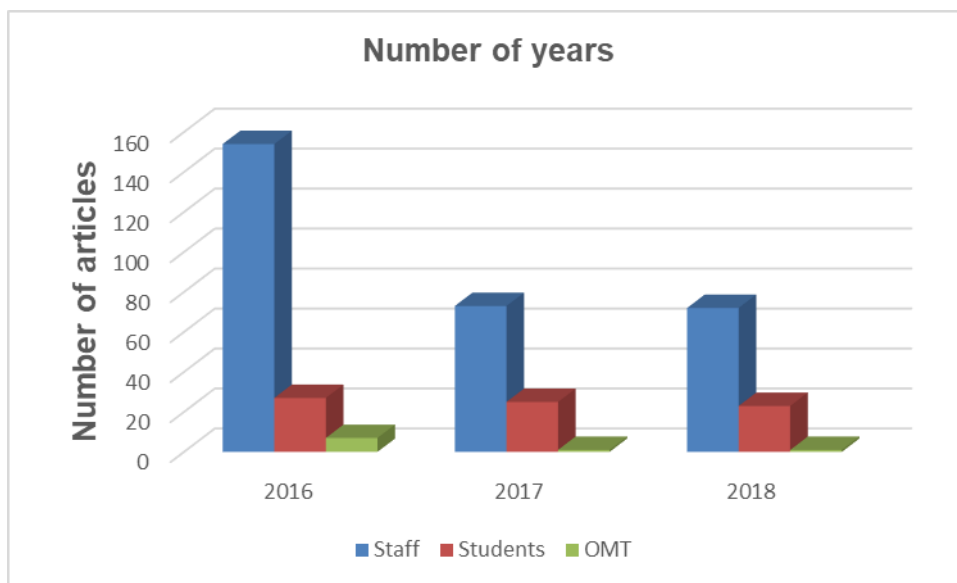


Figure 3.4: Articles submitted by students and staff from 2016 to 2018 from OMT

It is clear that the number of researchers in the Faculty of Business and Management Sciences who have submitted their work to the Research Directorate is decreasing. There are different reasons why there is a decline in the number of research output. In simple random sampling, each member of population is equally likely to be chosen as part of the sample. This is done “to remove bias from the selection procedure and should result in representative samples”. It is argued that simple random sampling is easy to understand in theory, but difficult to perform in practice (Gravetter and Forzano, 2011).

Purposive sampling provides a wide range of non-probability sampling techniques for the study to draw on. An advantage of purposive sampling to the study was the use of existing knowledge of the researchers as the unit of study to identify a sample likely to provide data relevant to the aims of the research (Sharma 2017:751 and Acharya et al. 2013)

### 3.7 Methodology description: a systematic literature review

A systematic literature review (SLR) methodology was applied. According to Petticrew and Roberts (2006: 2) an “SLR is a method of making sense of large bodies of information and a means of contributing to answers to questions about what works and what does not” with the aim in this case of discovering new information regarding open access and subscription journals and also to expand and verify existing knowledge. Therefore, using Scopus was essential for a better understanding of the research problem and for extracting more data. Furthermore, Scopus is one of the largest databases that gives a good analysis of content per affiliation and has a tool that tracks research work irrespective of who published it; data was drawn from it and analysed using content analysis.

For this study, journal articles were searched using the Scopus database. The search was limited to English journal articles published between 2016 and 2018. The reason for choosing the publication year 2016 to 2018 was because CPUT researchers started publishing in open access journals in 2016 hence the selection. According to Nadkarni (2017:34) the process of an SLR is divided into three parts: data collection, data analysis and data synthesis

#### 3.7.1 Data collection

In order to present a description of the phenomenon being observed, it was crucial to collect qualitative data for this study (Du Plooy-Cilliers et al. 2014: 193). It is argued that the process of collecting data includes gaining access to the subject, data collection techniques and procedures used, dates and settings of data gathering (Mouton, 2013:123). There were two methods used to collect data for this study i.e. primary data and secondary data. For primary data, an interview guide was used as discussed in 3.5.1. After the data was received from each individual participant, it was then saved in a folder to be analysed at a later stage. An Excel spreadsheet was created and labelled. It was essential to draw columns and label them accordingly so that the data collected would be readable.

For primary data, the most appropriate source for data collection was the articles published on open access and on subscription journals for review. It was difficult to decide on what to extract from Scopus as some of the literature was published in subscription journals and then later on in open access journals (Elsevier, 2018). The following Figure 3.5 summarises the searched articles identified on Scopus.

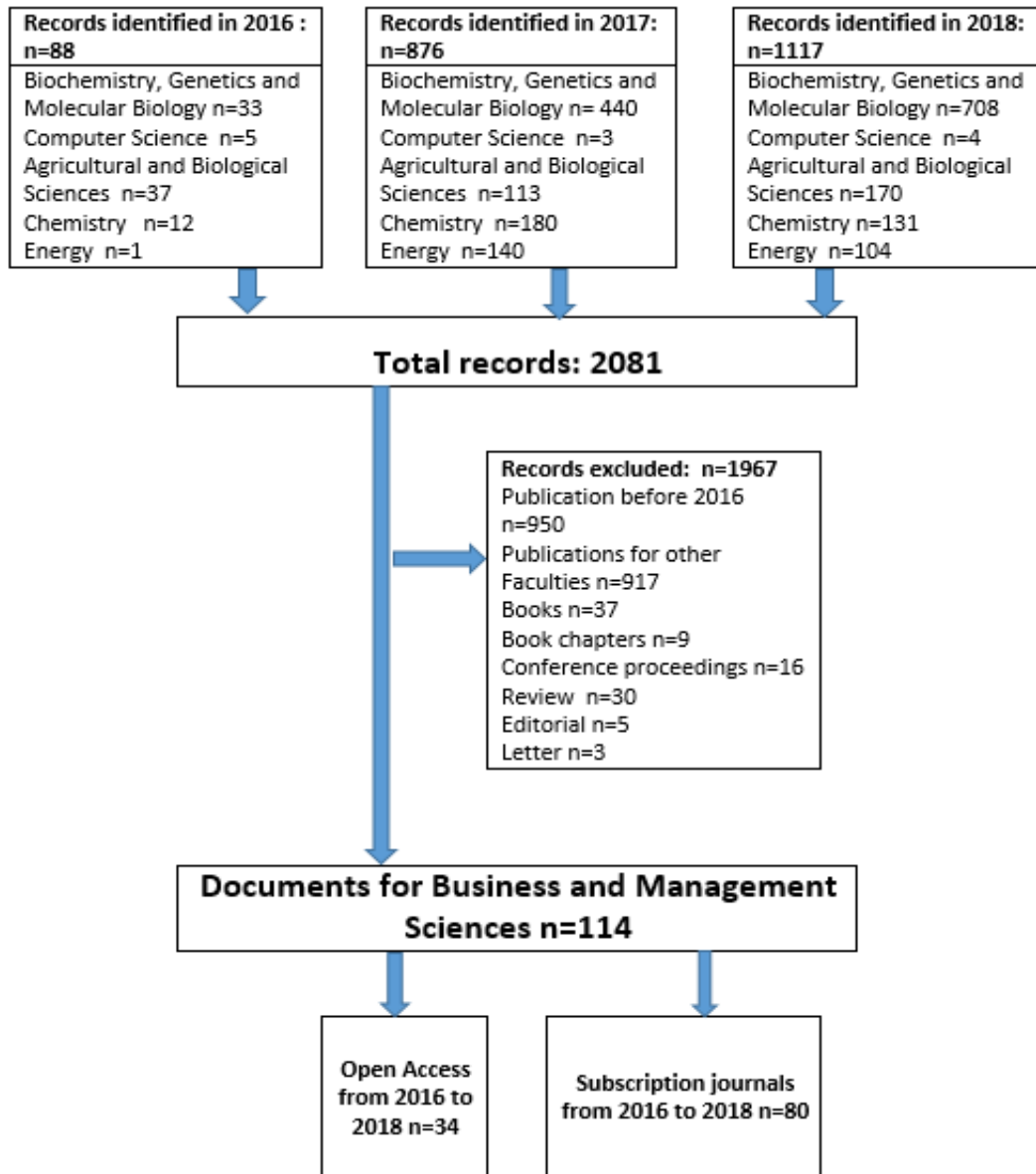


Figure 3.5: Flow chart of article selection (Adapted from Mueller et al. BMC Medical Research Methodology 2018:4)

### 3.7.2 Content Analysis

Content analysis involves the process of organising communication content according to codes which may then be subjected to either quantitative or qualitative analysis, or both (Kondracki, Wellman and Amundson, 2002). Furthermore, Scopus shows all documents published on open access as well as on subscription journals. In addition to Scopus, ATLAS.ti was used.

For the purpose of the study, the analysis of the data was performed regarding published documents. When Scopus was accessed in 2018, there were 2081 documents published on Scopus by CPUT researchers. The type of documents included articles, conference papers,

reviews, book chapters, etc. The researcher then limited the search to subject area and selected Business Management and Accounting and lastly the period selected was from 2016 to 2018. It was found that there were 114 documents published by CPUT researchers in the Faculty of Business between 2016 and 2018. Furthermore, the study resulted in two types of journal which are on open access and subscription journal.

### 3.7.3 Data synthesis

A requirement to synthesising the data was to gather the data, and summarise and analyse it on an EXCEL spreadsheet. The spreadsheet was divided into categories, namely, open access, 'other' (subscription journal), for the years 2016, 2017 and 2018. These categories are present in Scopus.

Scopus is one of the databases owned Elsevier and CPUT subscribe to it hence the data was easily accessible for the study. Although all institutions within the Cape Higher Education Consortium subscribe to Scopus, for the purpose of the study it was important to look for researchers under CPUT and documents exclusively published in the Scopus database. Because, the attention was on the faculty of Business and management Sciences, the author selected documents by subject area between the year 2016 and 2018.

## 3.7 Summary

This chapter discussed in detail the research philosophy, strategy and methodology and explains the reasons for the methods used. The interview method was used to gather data. An interview guide was utilised in order to gather numerical data from researchers in the department of Business and Information Administration. Purposive sampling was used as a sampling method. The following chapter will cover data presentation and discussion of findings.

## CHAPTER FOUR

### DATA PRESENTATION AND DISCUSSION

#### 4.1 Introduction

The previous chapter discussed the research design and methodology which guided this study. It also attempted to explain the anticipated findings and sketched how the findings were interpreted to determine whether the research questions were answered. Essentially, the study concerns the use of subscription and open access journals in a selected university in Cape Town: it is a comparative analysis. Chapter Four discusses how the empirical investigation answered the following research questions;

- How knowledgeable are researchers about online access?
- Which method of journal subscription is favoured by the researchers in Faculty of Business and Management Sciences?
- What is the publishing model preferred by researchers in publishing?
- Which online access repositories do researchers upload their research outputs to increase their visibility?

Discussion of findings answers research questions which are based on research objectives. According to the University of Southern California (2018) “the objectives of discussing the findings is to interpret and explain the importance of your findings in light of what was already known about the research problem being investigated and to explain any new understanding or insights that emerged as a result of your study of the problem”. Therefore, in this study findings were analysed in frequencies and percentages, as presented in Figure 4.1 below.

The challenges and benefits associated with open access and subscription journals have been presented and have been shown, and where uncertainty remains in terms of publishing. This study presents an analysis of the data collected for the study from the questionnaire that was completed by the sample population. Then the raw data was analysed and the results are presented in the subsequent sections below. Chapter four is divided into two sections: secondary data collected from Scopus, and primary data collected from the respondents.

#### 4.2 Data presentation

Data presentation refers to the organisation of data into tables (Ocenar, 2014). Therefore, in the study, the data was presented using graphs, text and tables to make easier for easy reading, interpretation and understanding. The essential question investigated is the choice of publishing model by university researchers that have an impact on the exposure and accessibility of the research output at the Cape Peninsula University of Technology. Out of 21



questionnaire circulated to the respondents, only 15 were received, giving a usable rate of 71%.

#### 4.2.1 Qualitative Data Presentation

The qualitative data collected from the open-ended questions were captured into ATLAS.ti for presentation, analysis and interpretation. There were two related methods used by the researcher. The first one was a structured questionnaire developed by the researcher and distributed to participants. The second one used was Scopus because this study focuses on open access and subscription journals. Between 2016 and 2018, 114 articles were retrieved from Scopus. There were 34 documents retrieved from open access and 80 documents from subscription journals. The method used to collect data was both quantitative and qualitative. In order to give a quick and easy picture to reader's raw data was gathered and also summarised on an ATLAS.ti and later to Excel spreadsheet as the author of the thesis did not have enough knowledge of ATLAS.ti. The aim was to attain a representative sample from the researchers in the Faculty of Business and Management Sciences.

The interview data collection tool was in two sections – semi-structured questions and open-ended questions, presented in a questionnaire to researchers in the Department of Business and Information Administration of the Faculty of Business and Management Sciences, with the aim of finding out which method of journal subscription was favoured by them. In addition, after the data was cleaned, it was presented in graphs and tables for stress-free reading.

Secondly, data gathered from the open-ended interviews was completed by the sample population. There are three sections to the questionnaire, with various subsections. Section A covered demographical information, followed by Section B with open-ended and opinion questions, covering open access and other databases, differences between subscription and open access journals, benefits of open access. Section C contained follow-up questions, which formed part of the qualitative data (Annexure A).

#### 4.2.2 Initial coding

The initial qualitative online interviews gathered a large amount of data. Qualitative data includes any form of human communication hence respondents had a choice to answer the questions online or in person and the majority chose online (Gibbs, 2018:3)

This took place over a period of eight weeks. Respondents were reminded by email followed up by a telephone call to complete the questions. All the comments were filed and kept safe on a folder for those participants who answered their questions online and emailed them for

the records. However, with regard to researchers who chose to answer the questions in person, their answers were scanned and saved on the folder separately. There were 9 received online and 7 completed by participants in the presence of the researcher. Table 4.1 below indicates survey data imported from Excel to ATLAS.ti prior to being coded (see Appendix B).

Table 4.1: Survey data imported from Excel prior to review

A. Particip	Are yo	Are	What U	If yo	If you	Depart	If an academic,	B. Publi	Do y	If yes, wh	Who pays	Are	Do y	What app	Have you	What is yc	Does	Why do you think re	C. Conclus	If I ha	Wou	If yes, please provid	
A	N	Y	CPUT	6	MON	Busine	Business Administration	Y	Scopus	journal	Research	Y	Y	Y	Impact, Q	Y	Freely acc	Y	By publishing in a closed access	Y	Y	Email provided	
B	N	Y	CPUT	8	yrs	BIA	Information Technology	Y	General	From rese	Y	Y	Y	Impact, Q	Y	A journal	Y	Readers have no money to pay	N	N	No email		
C	N	Y	CPUT	6	yrs	BIA	Communication	N	Scopus	Research	Y	Y	Y	Ranking, I	Y	Free to all	Not su	As payment requires to access	Y	Y	No email		
D	N	Y	CPUT	10	yrs	BIA	Accounting1	Y	General	University	Y	Y	Y	Ranking, I	Y	Free and	Not su	Because it requires payment	Y	Y	Email provided		
E	Y	Y	CPUT	4th	3yrs	BIA	Communication	Y	Scopus	My super	Y	Y	Y	Ranking, I	Y	It's free	or	Because subscription journals	N	N	No email		
F	N	Y	CPUT	15	yrs	BIA	Communication	Y	General	Research	Y	Y	Y	Impact, Q	Y	Easily acc	Y	You have to pay for the article	Y	Y	Email provided		
G	N	Y	CPUT	3	yrs	BIA	Auditing	Y	Scopus	an	Research	Y	Y	Y	Ranking, I	Y	Free to all	Y	Because subscription journals	Y	N	Email provided	
H	N	Y	CPUT	10	yrs	BIA		Y	Accredite	Resear	ch	Y	Y	Y	Ranking, I	Y	You can ge	Y	If the university does not subs	Y	Y	Email provided	
I	Y	Y	CPUT	4th	5yrs	BIA		Y	Scopus	Resrach	D	Y	Y	Y	Ranking, I	Y	Freely av	Y	Requires payment	Y	Y	Email provided	
J	N	Y	CPUT	3	yrs	BIA		Y	Accredite	NRF	Y	Y	Y	Impact, Q	Y	No payme	Y	Subscription is expensive and	Y	Y	No email		
K	N	Y	CPUT	7	yrs	BIA		Y	Scopus	Research	Y	Y	N	Ranking, C	Y	Free to all	Y	Readers have to pay a lot of m	Y	N	Email provided		
L	N	Y	CPUT	10	yrs	BIA		Y	General	Research	Y	Y	Y	Ranking, I	Y	Free to all	Y	Articles are expensive	Y	N	No email		
M	N	Y	CPUT	5	yra	BIA		Y	Accredite	Research	Y	Y	Y	Impact, Q	Y	No payme	Y	Accessing the journals article is	Y	Y	Email provided		
N	N	Y	CPUT	3	yrs	BIA		Y	Accredite	University	Y	Y	N	Ranking, I	Y	No payme	Y	You have to pay a lot of money	Y	Y	Email provided		
O	N	Y	CPUT	11	yrs	BIA		Y	Scopus	Research	Y	Y	Y	Impact, Q	Y	Free to all	Y	Payment is necessary for read	Y	Y	No email		

The data and results presented in Excel spreadsheet are based on the responses collected and received from the 15 respondents as documented by the researcher. In the interest of obtaining a fuller disclosure, respondents were not forced to give email addresses or to mention subjects they teach. This was imported to ATLAS.ti for analysis. The frequencies and percentages are divided into three sub-sections under the following headings: Section A, Section B and Section C as discussed in section 3.3.2.

### Section A: Demographic characteristics of respondents

Section A, gathered demographic information from researchers in the Department of Business and Information Administration. The aim of section A was to provide knowledge of the sample population, and to contribute to their qualification or disqualification in participation in interview questions.

## Section B: Semi-structured interview

### Publishing knowledge of open access and subscription journals

Table 4.2: The funders

Who pays for your publication?	Funders	Frequency	Percentage
	Research funds	7	46.7
	Research Directorate	3	20
	University	2	13.3
	Research	1	6.7
	Supervisor	1	6.7
	NRF	1	6.7
		<b>Total: 15</b>	<b>100</b>

The question was posed to find out where academics get their research grants from in order to publish. There are different funders reported by participants on the question of who pays for the publication. 46.75% indicated that research funds were used; 20% of participants indicated that the Research Directorate paid for their publication; 13.3% indicated that university funds were used; 6.7% indicated that their funders were Research however, it was not clear what participants meant by research and research funds; 6.7% indicated that funds came from their supervisor; and 6.7% indicated that NRF paid for their publication, which makes a total of one hundred percent (100.1%). The results show that the majority of academics in the Business and Information Administration receive funds from research funds. Table 4.3 reports on the results of journals where participants publish.

Table 4.3: Name of a journal

Do you publish? If yes, where?	Name of a journal	Frequency	Percentages
	<i>Mousaion: South African Journal of Information Studies</i>	1	5.9
	General	3	17.6
	Accredited journals	6	35
	Scopus	7	41.2
		<b>Total: 17</b>	<b>100.0</b>

The question was asked to determine different types of journals academics use. In descending order, the participants reported that they publish their articles in the following types of journal: Mousaion: South African Journal of Information Studies (5.9%), General (17.6%), accredited journals (35%) and Scopus (41.2%). In the case of Scopus, participants indicated they publish on Scopus but did not indicate journals that are featured on Scopus. The majority of these publication are in line with the annual report of CPUT (2019) that the bulk of CPUT research output is on Elsevier. Table 4.4 reports on what to consider when choosing a journal.

Table 4.4: Factors to consider when choosing the right journal

	<b>Factors</b>	<b>Frequency</b>	<b>Percentage</b>
<b>What appeals most when choosing a journal? (Please choose the top 3)</b>	Impact	14	34.1
	Turnaround time	12	29.3
	Ranking	9	22.0
	Quality feedback	6	14.6
		<b>Total: 41</b>	<b>100.0</b>

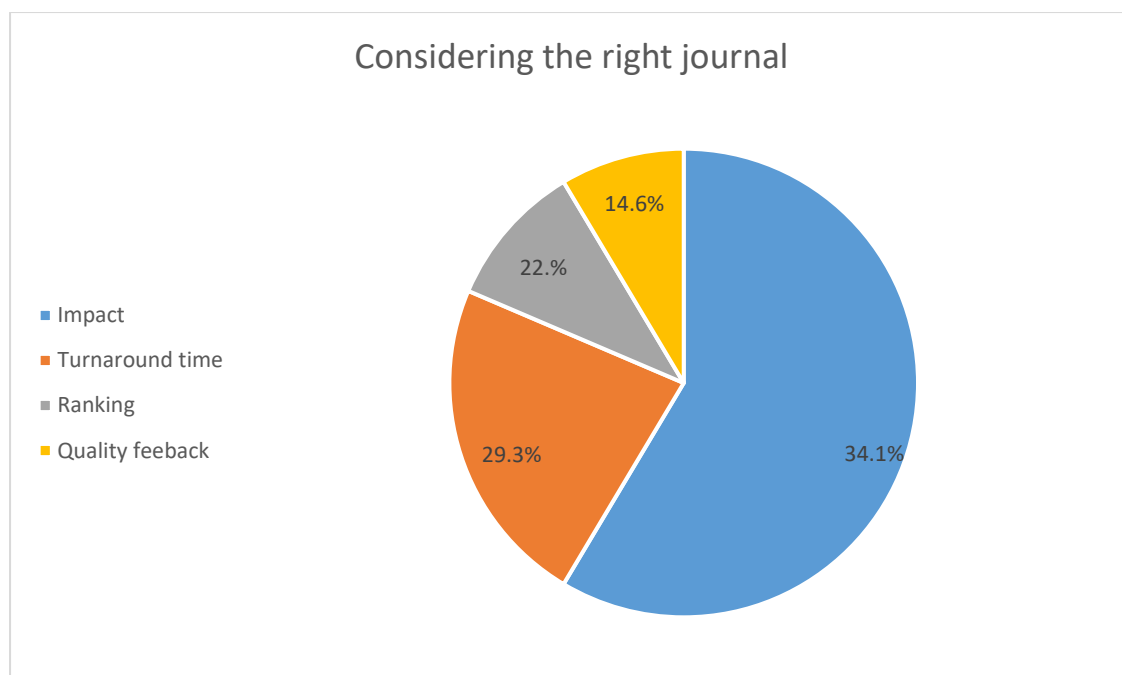


Figure 4.1: Factors to consider when choosing the right journal

For comparison purposes, it was interesting to see a low percentage when it comes quality feedback from publishers. In ascending order, the participants reported what to consider when choosing the right journal for publication as follows: impact at 34.1%, turnaround time 29.3%, ranking 22% and quality feedback 14.6%. Table 4.5 reports respondents' answers regarding why researchers' work is not as visible on subscription journals as it is on open access.

Table 4.5: Responses on why researchers' work is not visible on subscription as it is on Open Access journals

	<b>Responses</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Why do you think researchers' work is not as visible on subscription journals as it is on open access journals? Please explain.</b>	Payment is required to access a journal that you might not use	4	27
	Subscription journals are expensive.	4	27
	If universities or organisations do not subscribe to a particular journal users have no access and a researcher cannot publish.	4	27
	Accessing a journal article is expensive	3	13.33
	Readers use other alternatives like Inter-library loans (ILL)	2	20
		<b>Total: 17</b>	<b>114.33</b>

In Figure 4.2, the question was posed in order to see if respondents understood the difference between open access and subscription journals. The data is summarised as follows; 27% pointed out that payment is required for accessing the journal one may not use, 27% mentioned that subscription journals are expensive, 27% mentioned that one must belong to the university or organisation to access a journal or to publish in that particular journal, 13.33% indicated that accessing a journal articles is expensive and 20% pointed out that readers use other resources like inter-library loans to access materials.

In accordance with the present results, previous studies demonstrated that with subscription journals a reader must pay a lot of money to access an article that she might need and subscription increases annually hence the move to open access (Solomon and Björk, 2012; Suber, 2013; Frier 2019). Figure 4.2 below reports on participants understanding of open access. The questions enquired respondents to explain their understanding of open access journals.

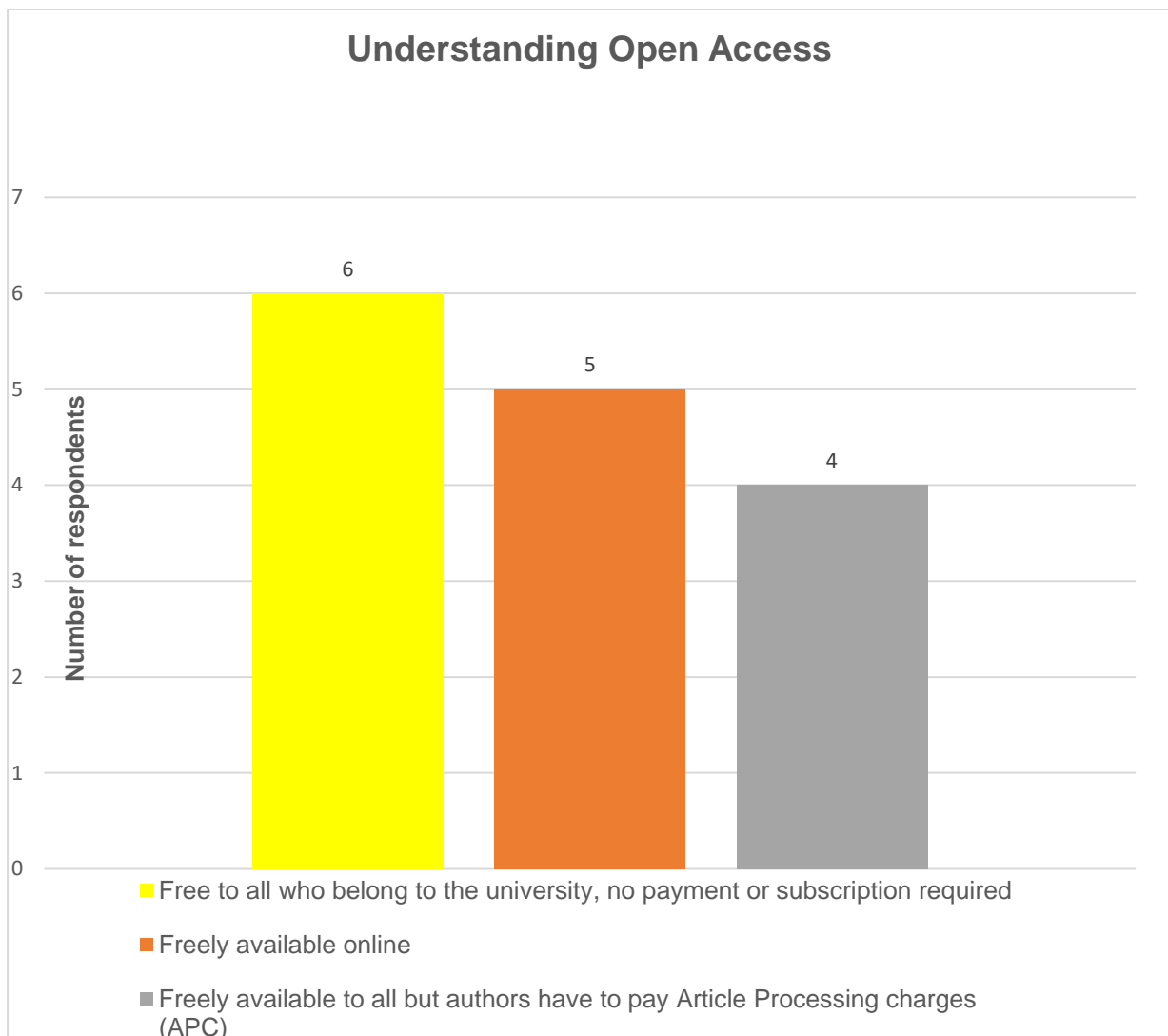


Figure 4.2: Understanding Open Access

The data summarises respondents understanding of open access as follows: 40% indicated open access is free to all who belong to the university, no payment or subscription required. Thirty-three percent (33.3%) indicated that open access is freely available online while 27% indicated that it is freely available to all but authors have to pay article (APC). The Table 4.7 below reports on participants' additional information.

## Section C

Table 4.6: close-ended questions

Further Information	Percentage	
	Yes	No
Are you required to publish by your university? Y/N	100	
Does your university require social science and business related PhD students to publish?	87	33.3
Have you heard about open access journal? Y/N	100	
Are you aware of the benefits of open access?	100	
Do you know the difference between subscription and open access journals? Y/N	87	13.3
Would you like to receive more information on open access and other Databases that we subscribe to? Y/N	67	33.3
If yes, please provide with your email address	60	40
If I have further questions, may I contact you again? Y/N	87	13.3

In this Table 4.6, out of 15 participants 15 (100%) agreed that they are required to publish; 13 (87%) agreed that social science and business related PhD students are required to publish while 2 (33.3%) disagree; 15 (100%) had heard about open access; 15 (100%) indicated that they are aware of the benefits of open access; 13 (87%) know the difference between open access and subscription journals while 2 (13.3%) don't know the difference; 13 (87%) wished to be contacted for further questions while 2 (33.3%) did not want to be contacted; 10 (67%) stated that they would like to receive more information about open access and other databases that the university subscribed to while 5 (33.3) showed no interest; 9 (60%) provided email addresses while 6 (40%) did not; and lastly, 13 (87%) wanted to be contacted for any additional questions and 2 (13.3%) did not want to be contacted. It is apparent that the majority of researchers were interested in knowing more about open access journals and wish to be consulted after the research was completed.

### 4.3 Discussion of findings

The findings are discussed in the following sections.

#### 4.3.1 How knowledgeable are researchers about OA?

The answers to this question comes from the data collected in the online interview questions. As shown in Figure 4.2, 100% of respondents indicated that they are aware of open access. What this revealed is that although 100% understand what OA is, it doesn't mean they all publish in OA journals. Furthermore, as shown in Figure 4.2, 100.3% of respondents explained what open access is but surprisingly in Table 4.6, only 13.3% indicated that they know the difference between OA and subscription journals.

Researchers upload their research outputs into relevant repositories in order to make their work visible and thereby enhance their research profile. What is striking about the results in Table 4.4 is the assumption that if a researcher is published in high impact journals that probably says something about the general quality of her paper, but there is no guarantee that you will be cited. 34.1% of the respondents chose Impact as one of their top 3 journals which makes a high percentage. This is in line with Garfield (2003), Sharma et al. (2014) and Shaikh (2016) who argue that researchers choose journals that have high impact for exposure and ratings.

#### 4.3.2 What publishing model is preferred by researchers?

The answer to this question comes from the data collected from Scopus between 2016 and 2018. The researchers continue to publish in traditional journals because it is a norm. Between the year 2016 and 2018 there were more articles on subscription journals than on open access journals. Table 4.8 shows a decline in articles uploaded on open access journals from 44% to 18% over a period of 3 years although, in 2016 Scopus started to cover articles for CPUT. However, the percentage of articles uploaded to subscription journals increased from 24% to 41%. Furthermore, the low percentage of articles on open access does not mean that researchers were not publishing in other journals but because, Scopus is Elsevier's abstract and citation database used by CPUT.

It is evident that choice of an individual to publish in open access or subscription journals is based on the publishers' author guidelines (Leary et al. 2012; Hubbard, 2007). The choice of publishing model by university researchers has an impact on the exposure and accessibility of the research output. As Table 4.3 indicates, 41.2% of respondents indicated that researchers published on Scopus but did not indicate which journal as Scopus is a database of abstracts and citation. Therefore this was an indication that the majority of researchers



prefer journals features by Scopus compared to other accredited journals at 36.3% and choosing accredited journals does not necessarily refer to one journal, it could be journals like Taylor and Francis, Wiley, Emerald, etc. and a list goes on. According to CPUT (2018), accredited journals are journals that are recognised by the South African Department of Higher Education and Training (DHET) for funding purposes. Only 1 (5.9%) chose *Mousaion: South African Journal of Information Studies*, which is the lowest percentage compared to other journals. That shows a big gap between the ones who chose journals that are featured on Scopus and *Mousaion: South African Journal of Information Studies* which tells us that the choice of publishing amongst academics differs from researcher to researcher.

The findings in this study collaborate with the argument of Conte (2013) that researchers are more reluctant to publish in open access journals because they might not be cited as much as on other reputable journals. There were 100% of articles published in subscription journals and 98% of articles published in open access. This, however is not an indication that subscription journal is the only model preferred by researchers since it was the only database used as an example.

The findings in Table 4.4 indicate that 34.1% of respondents consider journals that have impact as one of the factors to consider when choosing the right journal. Researchers have a choice to publish in any journal because it is easier to get accepted. There are possible explanations for this results, namely:

- One is likely to be cited (NRF, 2015).
- Possible collaboration with other researchers (Suber, 2012).
- The more visibility and accessibility of your research work the higher the impact of your work (Garfield, 2003).
- Possible high ranking of the university where the researcher is working as the NRF uses Scopus in ranking ratings for researchers.

There were three models that were identified in Chapter 2, namely subscription, hybrid and open access journals (Antelman, 2004). With a hybrid journal a researcher can choice whether to make their work closed or open access.

There is nothing stopping universities from having their own university journal for scholarly articles and identifying or employing staff who are qualified to do the job, for example an editor-in-chief and reviewers. In doing so, universities will save a lot of money by not paying publishers which increases their rate annually. At CPUT, the Faculty of Business and

Management Sciences its own Journal of Business and Management Dynamics but the problem is that it does not appear on the DHET accredited list.

#### 4.3.3 To which OA repositories do researchers upload their research outputs to increase their visibility?

Although this question was not specifically asked, in Table 4.3 the results show that 100.0% of respondents do publish in different journals and those journals might be open access or closed access. In 2019, CPUT had a competition for researchers to share their research data on Figshare so that it would be shareable and citable. The response was overwhelmingly clear that there were more researchers who came to ask for assistance to the Library and started uploading their research work on Figshare than in previous years; however, it is not clear whether the number of research outputs went up because of the competition. In Chapter 2 it was identified that the library assists researchers to upload their research work on the institutional repository for example.

Cerejo (2013) believes that researchers must upload their research work on their personal websites to increase visibility and possible citation. In 2015, the NRF made a statement that fully or partially funded researchers should deposit their work on open access but that's not the case in South Africa because of article processing charges. The findings shows that researchers choose journals that have high impact whether they are open or closed access.

#### 4.3.4 What is the impact on researchers of publishing in predatory journals?

The answer to this question was covered in Chapter 2. At CPUT researchers are encouraged to publish in accredited journals and the Department of Higher Education and Training provides a list. Beall (2015) mentions that researchers take advantage of publishing in predatory journal for their own benefit and the university will not get funds if they publish in predatory journals. It is well known that Beall was sued by some of these journals at several points in recent years (Wilson, 2013). So the best course of action is to check with the Directory of Open Access Journals (<https://doaj.org/>) as a reputable source of information.

As shown in in Figure 4.3, it was evident that though a majority of researchers still publish in subscription journal (see Figure 4.2), 40% of participants feel that open access is freely available online and no payment as required. 100% knew that open access is free; however, through consortia which share resources through an inter-library loan system, it is possible for users affiliated to such an agreement to have access to close subscription journals. This pertains to reading not publishing

The findings collaborate with the argument of Björk et al. (2010), Suber (2013) and Kleyn (2018) that open access is a literature that is digital, online and free of charge. However, when you belong to a university you can have access to closed access literature as long as the university subscribes to the particular journal or database.

The results in Table 4.3 indicate that 35% of participants published in accredited journals; however, 17.6% publish in the general category as it is not specific. One assumes that the general category could include both non-accredited and accredited journals.

Inexperienced researchers do fall victim to predatory journals and they end up paying a lot of money because the websites looks as original as the genuine ones. Furthermore, there are researchers who choose to publish with these sorts of outlets, with a full understanding of the journals' poor practices and lack of peer review. It is clear that when a research article is published in an approved journal, a researcher will receive subsidy from the DHET.

#### 4.3.5 What general benefit guidelines will encourage the use of open access by researchers?

The answer to this question was discussed in Chapter 2 (see Benefits of open access Figure 2.1). Suber (2013:6), Holm and Chernoff (2019) and Martin Eve (2014) discuss the benefits of open access and guidelines, as discussed in Chapter 2. In this study it was also discovered that CPUT libraries offer support to researchers by creating researcher profile accounts and importing publications from one system to another.

Furthermore, CPUT has its own Open access policy that researchers needs to observe and the policy is takes into account compliance with the Copyright Act 98 of 1978 (CPUT, 2015) as was mentioned in Chapter 2. Some of the guidelines differ from publisher to publisher.

### 4.4 Interpretation of findings

This section explains what the findings mean and answers the research questions.

#### 4.4.1 Data collected from Scopus

Data was analysed using content analysis on Scopus as it gives good analysis of contents per affiliation and has a tool that tracks researched work irrespective of who published it. The Scopus database was chosen because it shows all documents published in Scopus and also in subscription journal. However, open access journals have been covered by Scopus since 2016 while subscription journals have been covered by Scopus since 1991. For the purpose of the study, it was important to choose the years 2016 and 2018 for both journals to show

results in an interpretative form, visually or textually given Ocenar’s (2014) affirmation of data presented in 3 methods which are textual, tabular and graphical. Studies have shown that for data to be complete it should be presented in a clean and organised format (Kazmer and Xie, 2008). Table 4.7 below gives a picture of articles published on Scopus in open access and other journals between 2016 and 2018.

*Table 4.7: Publication of articles in Scopus by FMBS researchers*

Years	2016	2017	2018
OA	15	13	6
Other	19	28	33

Table 4.7 above displays the number of articles that appears on Scopus from the Faculty of Business and Management Sciences. However, it does not mean that, the researchers are not submitting their research output to other journals. As indicated on section 2.4, although the bulk of CPUT research output are registered on Scopus, this is not a true reflection of the research output from the Faculty of Business and Management Sciences between 2016 and 2018. Scopus database covers open access since 2016 hence the comparison for both open access and subscription journals. However, subscription journals for CPUT have been covered by Scopus database since 1991 (CPUT, 2018). This also confirms that most researchers submit on ‘Other’; in the case ‘Other’ refers to subscription as opposed to open access journals (Elsevier, 2017). In 2016, there were 15 publications on open access and 19 on other journals. However, in 2017 there were 13, articles on open access and 28% on subscription journals and in 2018, 6 articles on open access and 33 on subscription journals. Figure 4.3 below represents results of articles that are uploaded to Scopus for the Faculty of Business and Management Science.

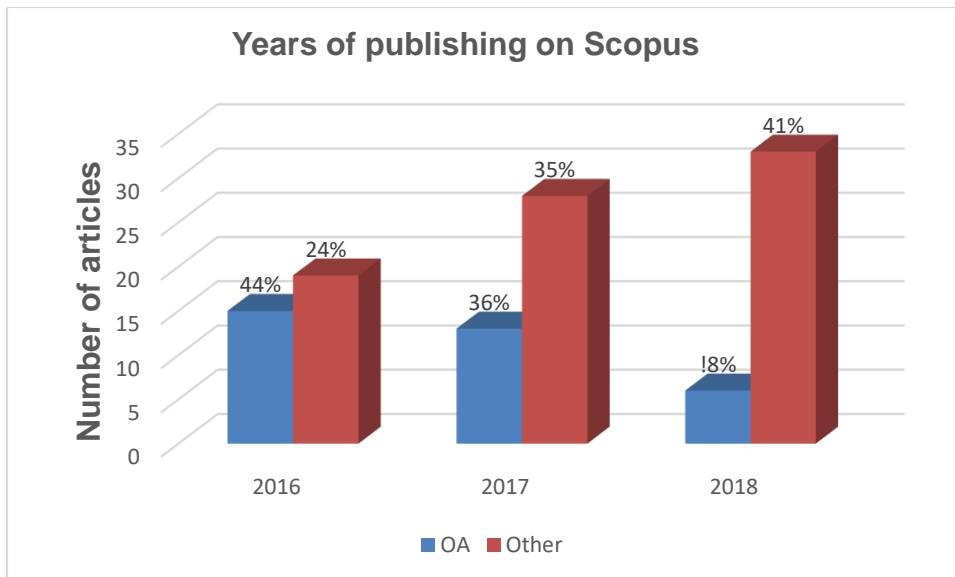


Figure 4.3 Publication of articles on Scopus by FBMS researchers

It was mentioned previously that for, Scopus began covering open access journals in 2016 but not that that some journals have both open access and subscription channels. It depends on the individual which journal is suitable for publication.

#### 4.5 Constraints and limitations

Several limitations were detected during the course of the study.

- **Training**

Although training was provided for the researcher and ATLAS.ti 8 software was installed, she had insufficient knowledge and skills to apply the knowledge.

- **Measure used to collect data**

As a learner in using ATLAS.ti 8 software for the analysis of the qualitative data, there was inadequate knowledge to collect data using a tool that might influence the analysis. This was a challenge however it prepared the researcher to be knowledgeable about both versions for future studies.

- **Time constraints**

Another limitation present in this study was time constraints. An online interview questionnaire was not returned on time, respondents had to be reminded telephonically to complete the questionnaires, and some returned incomplete ones.

- **Lack of reliable data**

Given the fact that the data was collected from a fairly small department (BIA) as a unit of analysis, a survey would support the findings to extend the study to the rest of the department within a shorter timeframe. It is believed that the opinions gained from individuals or a department of an organisation do not necessarily mean that these opinions extend to the rest of the organisation.

#### 4.6 Summary

Data was presented and results were interpreted. The results drawn from Scopus shows that there are more articles in subscription than in open access journals, although 100% indicated that they were aware of the benefits of open access publishing. However, these findings cannot be certain as the research was drawn from a small group in a single department, therefore there is a room for further studies. It was found that 100% of respondents in this study understood the concept of open access journals, it could be that most researchers had published in Open access. There are strongly positive comments in Table 4.5 about the visibility of research work, and the majority of respondents spoke positively about publishing in open access journals, and that subscription journals are expensive. Researchers can publish in a journal to which his/her university does not subscribe. However, other researchers at the same university cannot read it.

# CHAPTER FIVE

## CONCLUSION AND RECOMMENDATIONS

### 5.1 Introduction

The previous chapter focussed on data presentation and discussion of findings, whereas this chapter draws on conclusions and recommendations from findings in previous chapters. This section presents the conclusions, limitations and recommendations related to the analysis of open access and subscription journals at a selected university in Cape Town. The outcomes of this study could aid in drawing conclusions and recommendations that publishers, the government, higher education institutions, and policy makers can apply to overcome challenges faced by researchers and academic libraries in Cape Town.

### 5.2 Summary of preceding chapters

#### 5.2.1 Chapter 1

Chapter one introduced the research and provided the background of the research. The problem statement, research objective and research questions were discussed. Significance of the research was discussed and delineation of the study was addressed. The research design and methodology used to carry out the study were addressed and ethical considerations to follow during the process of research was highlighted. Reliability and validity were also emphasised, and finally an outline of the study was given.

#### 5.2.2 Chapter 2

Chapter two presented research done on the topic of open access and subscription journals and its outcomes. It reviewed and gave an overview of existing literature, and provided a definition of the concepts and discussion of previous research on the topic. However, in order to have a better understanding on the phenomena, the chapter gave insight into the choice of publishing model by university researchers that would have an impact on the exposure and accessibility of their research output.

Furthermore, this study highlighted decisions taken by the sample of researchers whether to use traditional publishing or open access methods based on the publishers' author guidelines. Different myths about open access and the fear of predatory journals was addressed, as was the growing number of researchers who are publishing in open access journals.

In addition, this chapter discussed different databases and the factors to consider when publishing either on open access and subscription journals. High impact journals were also discussed as most researchers publish in journals with a high impact factor. The benefits of OA publishing were addressed. CPUT's policy development was also discussed since

different universities have their own policies which aim at making their scholarly output accessible in their institutional repositories, whether it is published or unpublished.

Finally, observation was made of South African initiatives and the statements by the NRF in 2015 that fully or partially funded researchers should deposit their final peer revised work in institutional repositories. Copyright and Creative Commons licences were also discussed as there are a series of licences designed to allow the reuse of material under fair use and fair dealing and the most common licence is Creative Commons.

### 5.2.3 Chapter 3

This chapter discussed the research design and methodological approach used, the philosophical foundation of the study, the setting, sampling and sample size, ethical considerations and data collection, and management and analysis. Quantitative and qualitative methods used to carry out the research were described. The Cape Peninsula University of Technology as a study area was justified. The target population and how the sample size of 15 researchers participating in survey were selected and explained. Two methods, primary and secondary research, used to collect data for the study were discussed. The Questionnaire designed for the research and Scopus were described and discussed. Reliability and validity of study were discussed and finally, ethical considerations were addressed.

The Questionnaire was divided into three sections. Section A covered the biographical questions and probing construction questions. Section B focused on respondents' opinions and views on various issues in the literature such as the subjects they teach and why one journal was better than another, and finally in Section C a semi-structured interview was presented.

### 5.2.4 Chapter 4

In Chapter Four, data presentation, discussion of findings and interpretation of findings were addressed and discussed. Qualitative and quantitative data were analysed in line with research question and the research objectives addressed early in chapter one. Data was analysed using content analysis on Scopus in the form of tables and figures. Findings were interpreted and discussed in numerical, narrative, frequency and in percentage terms.

The literature review was used in comparing findings with existing knowledge on open access and subscription journals.

### 5.2.5 Chapter 5

This chapter concludes and addresses recommendations; the research objective are revisited and matched with findings. A relationship is shown between research question, research



objectives, findings, conclusion, and recommendations. Recommendations addressed are a platform to offer a better publishing model preferred by researchers, a publishing model that will help researchers to have impact on the exposure and accessibility of their research output. Further studies are proposed

### 5.3 Objectives and findings

The main objective was to determine the differences and similarities in subscription and open access journals that support publication decisions and the use of published academic papers. Four sub-objectives were: to determine the differences and similarities in subscription and open access journals; to determine to which OA repositories researchers upload their research outputs to increase their visibility; to advocate that the research output be deposited into relevant repositories in order to make their work visible; and to propose a general benefit guideline of use of open access by researchers. These objectives are presented below.

#### 5.3.1 Objective 1

The first objective was to determine the differences and similarities in subscription and open access journals. The findings revealed that 87% of respondents did understand the differences while 13% did not understand the differences. Also, researchers were more reluctant to publish in open access journals because they might not be cited as much as in other reputable journals.

#### 5.3.2 Objective 2

The second objective was to determine to which open access repositories researchers uploaded their research outputs to increase their visibility. The findings indicated that respondents preferred journals that have high impact whether they were open access or closed access. The preferred choice for 41% of the respondents was Scopus. In addition, in 2019 there was a competition for researchers to upload their research data on Figshare so that it can be citable and shareable. As a result, there were 346 research works that were uploaded in one month and the university moved from 20GB to 12.5TB of the storage space (Hardeman, 2019).

#### 5.3.3 Objective 3

The third objective was to advocate that the research output should be deposited into relevant repositories in order to make the researchers' work visible. In Chapter 2.1, it was mentioned that librarians at CPUT assist researchers by creating a researcher profile account and importing their publication from Google Scholar to the Institutional Repository. Also, the Department of Higher Education and Training (DHET) provides a list of accredited journals to universities to be used by researchers when selecting where to publish their research work.

#### 5.3.4 Objective 4

The fourth objective was to propose general benefit guidelines for the use of open access by researchers. In Chapter 2, it was mentioned that the library offered support and provided guidelines to researchers when they chose to publish in open access platforms. In addition, there are funds to support researchers for publication when needed. In Chapter 2, it was mentioned that funders like the National Research Foundation supports open access and encourages researchers to disseminate their work to a wider audience (NRF, 2015). Also, CPUT has its own policy that researchers need to observe and the policy is used in compliance with the Copyright Act 98 of 1978 (CPUT, 2015).

#### 5.4 Recommendations

The study's findings lead to certain recommendations for researchers at CPUT and other researchers in South Africa and maybe abroad. In the interests of enhancing the usability and visibility of South African publications, there is a need for funding to assist with print journals to be made available online and be accessible to everyone who wants to use them.

Although this study focussed on one department, if its findings could be compared with other department or similar institutions, it would be more meaningful.

It would also be interesting to conduct a similar study of postgraduate students who are not staff members.

#### 5.5 Limitation and future studies

While the study has answered the research questions as set out, there were limitations identified for future studies that could offer meaning to this study, as outlined below.

Initially the data that was imported to ATLAS.ti 8 for analysis, was later imported to an Excel spreadsheet because the researcher lacked the skills and knowledge to use the computer tool. Although the study was mainly qualitative in nature, it was necessary to learn more about a systematic literature review as the researcher was using Scopus database for a better understanding of a research problems and extracting more data. And also, given the fact that data was collected from a small group of researchers, an interview or survey should be extended to all researchers at the university, not just one department in order to obtain more views from other researchers in determining whether researchers at universities in the Western Cape or universities in South Africa preferred open access or closed access journals. The selection of the Department of Business of Information and Administration as a unit of

analysis presented a limitation in terms of generalisability and findings; however, the intention of the researcher was to obtain in-depth views from researchers in a small department.

Since the study was limited to only one department as a unit of analysis, a future study could consider the following:

- Research questions that could be asked includes the benefit of subscription journals.
- It is possible to conduct a more quantitative study, sending questionnaires to the whole Faculty of Business and Management Science in order to get richer data.
- Since the study was limited to researchers in the Department of Business Information and Administration, it would be interesting to consider a study aimed at all researchers at the Institution where the study was conducted.
- A study could focus on postgraduate students as it is a requirement to publish before graduating. This might give more depth to the findings.
- A comparison between university of technologies in South Africa or a comparison between universities in the Western Cape

## 5.6. Conclusion

In this study, the main objective was to determine the differences and similarities in subscription and open access journals that support publication decisions, and the usage of published academic papers. One of the most significant findings revealed in this study is that researchers publish in reputable and accredited journals and efforts have been made at the university to ensure that researched work is uploaded to the institutional repository so that it is easily accessible, shareable and cited.

Results that were collected from the 15 respondents showed that researchers chose to publish in journals with high impact; however that would not guarantee that a research paper would be cited. This study supports previous evidence from previous observations (see Garfield 2003; Swan, 2016) who argue that publishing in journals with high impact will attract funding for researchers regardless of journal's impact and status and that the researcher's work will be accessible and visible to a wider audience.

Open access and subscription journals have added different status, with many researchers arguing that OA has improved their chances of collaborating with international researchers in their field of study. The visibility of their research work improved enormously compared to when researchers had only one choice of model to choose from when publishing. However, on the other hand, some researchers are not happy that their work is freely available to readers

although they work so hard to have their work published. On the other hand, publishers make huge profits on for work researched. In most cases, researchers wait a long time to have their work published. For both open access and traditional publishing, there is concern over who owns the copyright. However, open access and traditional publishing of used correctly will not infringe copyright.

Although the study has demonstrated that researchers continue to publish in subscription journals because it is a norm, it has certain limitations in terms of the databases used to identify open access and subscription journals. Therefore, more information on other databases that host open access and subscription journal would help to establish a greater degree of accuracy on this matter.

Furthermore, when it comes to print materials, if the universities cancel subscription fees, they lose access to the material, unlike electronic subscriptions which are only leased to the library by means of a licence and that is a legal contract between the publisher and the subscribing library. This is a challenge to libraries as fees increase annually and libraries cannot afford them, hence the cancellation of journals. Not all researchers can afford to pay article processing charges and as long as publishers keep on increasing subscription fees on an annual basis, researcher will have limited access.

## 6 References

- Acharya, A.S., Prakash, A., Saxena, P. and Nigam, A., 2013. Sampling: Why and how of it. *Indian Journal of Medical Specialties*, 4(2), pp.330-333.
- Annum, G. 2016. Research instrument for data collection. Available: <http://wwwcampus.educadium.com> [27 April 2017].
- Antelman, K. 2004. Do open-access articles have a greater research impact? *College & Research Libraries*, 65(5):372–382. DOI: 10.5860/crl.65.5.372.
- Beall, J. 2015. Criteria for determining predatory open-access publishers. *Scholarly open access* (3):1–6. Available: <https://crescent.education/wp-content/uploads/2017/09/Criteria.pdf>.
- Björk, B.C., Welling, P., Laakso, M., Majlender, P., Hedlund, T. & Gudnason, G. 2010. Open Access To The Scientific Journal Literature: Situation 2009. *PLoS ONE*. 5(6). DOI: 10.1371/journal.pone.0011273.
- Björk, B.C. & Solomon, D. 2012. Open access versus subscription journals: A comparison of scientific impact. *BMC Medicine*. DOI: 10.1186/1741-7015-10-73.
- Björk, B.C., Laakso, M., Welling, P. & Paetau, P. 2014. Anatomy of green open access. *Journal of the American Society for Information Science and Technology*. 65(2):237–250. DOI: 10.1002/asi.22963.
- Blanche, M. T., Durrheim, K. and Painter, D. Eds. 2006. *Research in Practice : Applied Methods for the Social Sciences*. 2nd ed. Cape Town: Juta.Blanche
- Boros, P. 2018. Applying a total quality framework to qualitative research design : A Review. *The Qualitative Report*, 23 (1): 47–48.
- Bryman, A. & Bell, E. 2015. *Business Research Methods*. 4th ed. New York: Oxford University Press.
- Cain, G., 2016. "Publish or Perish"— A Brighter Future for Scholarly Authors? *The Journal of Publishing Culture*, (6)1. Insert page range.
- Cape Peninsula University of Technology. 2015. For Researchers: Open Access. Available: <https://libguides.library.cput.ac.za/c.php?g=628041&p=6853770&preview=6f2a18c4c5ecce6df1c1cf922f1f63af> [12 May 2018].
- Cape Peninsula University of Technology, 2017. Growing Research: Bioresource Engineering Research Group. Insert URL and access date.
- Cape Peninsula University of Technology.2018. DHET Accredited Publications. Available: <https://www.cput.ac.za/research-technology-and-innovation/directorate/publications>

[18 July 2018].

- Cape Peninsula University of Technology. 2019. Insert title of document. Available: <https://www.cput.ac.za/lib/research-support> [11 August 2017].
- Cerejo, C., 2013. How to make your paper more accessible through self-archiving. *Editage Insights* (04-11-2013). Available: <https://www.editage.com/insights/how-to-make-your-paper-more-accessible-through-self-archiving> [11 February 2019].
- Cobey, K. D., Lalu, M. M., Skidmore, B., Ahmadzai, N., Grudniewicz, A., & Moher, D. (2018). What is a predatory journal? A scoping review. *F1000Research*, 7, 1001. Available: <https://f1000research.com/articles/7-1001/v1> [13 May 2019].
- Cohen, L., Manion, L. and Morrison, K., 2013. *Research Methods in Education*. Routledge.
- Collier-Reed, D., Ncube, C and Schonwetter, T. 2012. Intellectual property. in Fouche M.A., (Ed.) *Legal Principles of Contracts and Commercial Law*. 7<sup>th</sup> ed. Durban: LexisNexis Butterworths: 289-306
- Conte, S., 2019. Making the Choice: Open Access vs. Traditional Journals. *AJE Scholar*. Available: <https://www.aje.com/arc/making-the-choice-open-access-vs-traditional-journals/> [20 September 2017].
- Czerniewicz, L. and Goodier, S., 2014. Open access in South Africa: A case study and reflections. *South African Journal of Science*, 110(9-10), pp.01-09. Available: <http://www.scielo.org.za/pdf/sajs/v110n9-10/10.pdf> [11 June 2018].
- Crawford, W. 2011. *Open Access: What You Need To Know Now*. Chicago: American Library Association.
- Creswell, J. W., 2003. *Research Design: Quantitative, Qualitative and Mixed Methods Approaches*. 2nd ed. Thousand Oaks: Sage.
- Crow, R., 2002. The case for institutional repositories: a SPARC position paper. *ARL Bimonthly Report* 223 August 2002. Available: [https://rc.library.uta.edu/uta-ir/bitstream/handle/10106/24350/Case%20for%20IRs\\_SPARC.pdf](https://rc.library.uta.edu/uta-ir/bitstream/handle/10106/24350/Case%20for%20IRs_SPARC.pdf) [19 July 2019].
- Department of Higher Education and Training. 2015. Research Outputs Policy, No. 188 of 2015. Pretoria: Government Gazette. 4(38552):3–27. Available: <http://www.dhet.gov.za/Policy%20and%20Development%20Support/Research%20Outputs%20policy%20gazette%202015.pdf> [17 March 2018].
- Dichev, C. and Dicheva, D., 2012, June. Is it time to change the OER repositories role? In Proceedings of the 12th ACM/IEEE-CS joint conference on Digital Libraries (31-34), insert place and institution. ACM.
- Dudovskiy, J., 2016. Purposive sampling. *Business Research Methodology*. Available: <http://research-methodology.net/sampling-in-primary-data-collection/purposive->

sampling/ [5 November 2018].

Du Plooy-Cilliers, F. et al. (Eds). 2014. *Research Matters*. Cape Town: Juta.

Du Preez, V. 2018 Online service design: a socio-technical perspective to engage an ageing population. Doctoral thesis, Cape Peninsula University of Technology.

Elsevier. 2017. Affiliation search. Available: <https://www-scopus-com.libproxy.cput.ac.za/search/form.uri?display=basic> [27 June 2018].

Etikan, I., Musa, S.A. and Alkassim, R.S., 2016. Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5 (1): 1-4.

Eriksson, V., 2019. Qualitative data and coding with Atlas.ti [lecture notes], Using Atlas.ti. to analyse data, Cape Peninsula University of Technology, delivered 01 August 2019.

Eve, M.P. 2014. *Open Access and the Humanities: Contexts, Controversies and the Future* Cambridge University Press DOI: 10.1017/cbo9781316161012.

Fink, A. 2013. *How to Conduct a Survey*. 5th ed. California: Sage

Flynn, S. 2019. Statement on South Africa's Copyright Amendment Bill [B13-2017]. *InfoJustice*. Available: <http://infojustice.org/archives/40951> [11 June 2019].

Flynn, S. and Tusi, N. 2019. The Copyright Amendment Bill will improve publishing, not destroy it. *Business Day*, 9 March 2019.

Fourie Louis C.H & Chiware E. 2016. *Signing of the Berlin Declaration*. Western Cape. Available: <http://digitalknowledge.cput.ac.za/handle/11189/3528> [2 March 2018].

Frier, S. 2019. Article Processing Charges. Cape Peninsula University of Technology Libraries. Cape Peninsula University of Technology. (Unpublished).

Garfield, E., 2003. The meaning of the impact factor. *International Journal of Clinical and Health Psychology*, 3(2), 363-369.

Gibbs, G. 2018. *Analysing Qualitative Data*. (2<sup>nd</sup> ed). Los Angeles: SAGE.

Gibney, M. 2019. Look at us now! Year three of our OER grant program and OA journals. Library Connect. Available: <https://libraryconnect.elsevier.com/articles/look-us-now-year-three-our-oer-grant-program-and-oa-journals> [22 October 2019].

Giddings, L. S. and Grant, B. M., 2006. Mixed methods research for the novice researcher. *Contemporary Nurse*, 23 (1): 3–11. Available: <http://www.tandfonline.com/doi/abs/10.5172/conu.2006.23.1.3>. [4 May 2020].

Goddard, W., and Melville, S. 2007. *Research Methodology: An Introduction*. (2nd ed.). Landsowne: Juta and Company Ltd.

- Goodier, S. and Czerniewicz, L. 2014. Academics' online presence: a four-step guide to taking control of your visibility. Available: <https://open.uct.ac.za/bitstream/handle/11427/2652/GoodierOnlinePresenceV3.pdf?sequence=11> [16 March 2017].
- Gravetter, F.J. and Forzano, L.B., 2011. *Research Methods for the Behavioural Sciences*. Stamford: Cengage Learning.
- Hacker, A. & Corrao, E. 2017. Laying tracks as the train approaches: Innovative open access book publishing at Heidelberg University from the editors' point of view. *Journal of Scholarly Publishing*, 48(2):76–89. DOI: 10.3138/jsp.48.2.76.
- Hardeman, M. 2019. *October upload competition* [Electronic mailing list, 5 November]. Available: [megan@figshare.com](mailto:megan@figshare.com) [2019, November 6].
- Harnad, S. 2014. Open access: what, where, when, how and why. *Ethics, Science, Technology and Engineering: an International Resource*. Available: <http://eprints.soton.ac.uk/361704/1/ESTEarticle-OA-Harnad.pdf>.
- Hawkins, V. 2017. Academic librarians and open access. Available: <https://medium.com/a-academic-librarians-thoughts-on-open-access/on-open-access-e7076cef1ecb> [20 October 2017].
- Higher Education Data Analyser, 2019. Welcome to CPUT's Facts & Stats Site. Available: <https://bi.cput.ac.za/PowerHEDA/Dashboard.aspx?authenticationCheck=1> [22 March 2019].
- Holm, J.A. and Chernoff, M. 2019. What is open access? Available: <https://opensource.com/resources/what-open-access> [11 February 2019]
- Hubbard, B., 2007. Green, Blue, Yellow, White & Gold: A Brief Guide to the Open Access Rainbow. Available: <http://www.sherpa.ac.uk/documents/sherpaplusdocs/Nottingham-colour-guide.pdf> [19 August 2017].
- Hinchliffe, L.J., 2019. Transformative Agreements: A Primer. *The Scholarly Kitchen*. Available: <https://scholarlykitchen.sspnet.org/2019/04/23/transformative-agreements/> [16 June 2019]
- Jokonya, O. 2016. The significance of mixed methods research in information systems research. In *Proceedings of the Eleventh Midwest Association for Information Systems Conference, Milwaukee, Wisconsin, May 19-20*. 1–5. DOI: 10.1002/jbm.a.32511.
- Kazmer, M.M. and Xie, B., 2008. Qualitative interviewing in internet studies: Playing with the media, playing with the method. *Information, Community and Society*, 11(2): 257-278.
- Keating, C. 2015. Bioresource Engineering Research Group. Available: <https://www.cput.ac.za/newsroom/news/article/2957/bioresource-engineering->



research-group [12May 2018].

Keele, S., 2007. Guidelines for performing systematic literature reviews in software engineering (Vol. 5). Technical Report, Ver. 2.3 EBSE Technical Report. EBSE.

Kleyn, L. 2018. Open access research publications and South African institutional repositories (IRS) In the context of intellectual property law and practices: an interdisciplinary study. Ph.D. Thesis. University of Pretoria.

Kondracki, N.L., Wellman, N.S. & Amundson, D.R. 2002. Content analysis: review of methods and their applications in nutrition education. *Journal of Nutrition Education and Behaviour*, 34(4): 224-230.

Krisch, J. A. 2015. These Five Corporations Control Academic Publishing. *Vocativ*. Available: <https://www.vocativ.com/culture/science/five-corporations-control-academic-publishing/index.html> [22 May 2018].

Kumar, R. 2011. *Research Methodology: A Step-By-Step Guide for Beginners*. 3rd ed. London: Sage.

Laakso, M. and Björk, B.C., 2013. Delayed open access: An overlooked high-impact category of openly available scientific literature. *Journal of the American Society for Information Science and Technology*, 64 (7): 1323-1329.

Lamb, C. 2004. Open access publishing models: opportunity or threat to scholarly and academic publishers? Available: <https://onlinelibrary.wiley.com/doi/pdf/10.1087/095315104322958526> [March 2018].

Leary, H., Lundstrom, K. and Martin, P.N., 2012. Copyright solutions for institutional repositories: a collaboration with subject librarians. *Journal Of Library Innovation*, 3 (1): 101-110.

Maree, K. 2007. *First Steps in Research*. Pretoria: Van Schaik.

Mauthner, M. L., Birch, M., Jessop, J. and Miller, T. (Eds). 2002. *Ethics in Qualitative Research*. London: Sage Publications.

Max-Planck-Gesellschaft. 2013. Mission statement at the Berlin 11 Open Access Conference of the Max Planck Society (20 November 2013)",. Available: [http://openaccess.mpg.de/mission-statement\\_en](http://openaccess.mpg.de/mission-statement_en) [11 May 2018].

Melamdowitz, H. 2019. Hugh Melamdowitz discusses the Copyright Amendment Bill on Kaya FM [Video File]. Available: <https://www.youtube.com/watch?v=XKi3IC32ivA> [13 March 2019].

Melero, R., Rodríguez-Gairín, J.M., Abad-García, F. and Abadal, E., 2014. Journal author rights and self-archiving: the case of Spanish journals. *Learned Publishing*, 27(2): 107-120.

- Mitchell, M. and Jolley, J. 2007. *Research Design Explained*. 6th ed. Belmont: Thomson.
- Molefe, G.N., 2010. Performance measurement dimensions for lecturers at selected universities: An international perspective. *SA Journal of Human Resource Management*, 8 (1): 13.
- Möller, A.M. 2006. The case for open access publishing, with special reference to open access journals and their prospects in South Africa. Doctoral dissertation, University of the Western Cape.
- Morgan, David L. and Guevara, H. 2008. *The Sage Encyclopedia of Qualitative Research Methods*, vol. 0. Thousand Oaks, CA : SAGE Publications, Inc. Available: <https://dx-doi-org.libproxy.cput.ac.za/10.4135/9781412963909.n238> [3 June 2020].
- Mouton, J. 2001. *How to succeed in your Master's & Doctoral Studies: A South African Guide and Resource Book*. Pretoria: Van Schaik
- Nadkarni, S., 2017. *The Relationship of Leadership and Innovation in Family Businesses: A Systematic Literature Review*. Springer.
- National Research Foundation. 2017. Statement on Open Access to Research Publications. Available: <https://www.nrf.ac.za/document/05-nrf-statement-open-access-publishing> [17 June 2018].
- Nicholson, D. 2019. Copyright and Related Issues: Copyright. Available: [https://libguides.wits.ac.za/Copyright\\_and\\_Related\\_Issues](https://libguides.wits.ac.za/Copyright_and_Related_Issues) [05 December 2019]
- Nordquist, R. 2018. The Yes-No Question in English. Available: <https://www.thoughtco.com/yes-no-question-grammar-1692617> [11 October 2018].
- Okwadi, J.T., Muhenda, M. and Kareija, G., 2016. Risk management and patients' vulnerability to clinical risks in Uganda: a case of Kibuli Police Dental Clinic. *International Journal of Technology and Management*, 1 (1): 1-10.
- Ocenar, R. 2014. Math 100: Presentation of Data. Available: <https://www.slideshare.net/rubyocenar/presentation-of-data-37973327> [22 May 2018].
- Oliver, P. 2010. *The Student's Guide to Research Ethics*. 2nd ed. Berkshire; Open University Press.
- Petticrew, M., and Roberts, H. 2006. *Systematic Reviews in the Social Sciences: A Practical Guide*. Malden, MA: Blackwell Publishing Ltd
- Pinfield, S., 2015. Making open access work: The "state-of-the-art" in providing open access to scholarly literature. *Online Information Review*, 39 (5): 604-636.

- Poynder, R. 2012. The OA Interviews: Michael Eisen, Co-Founder of the Public Library of Science. Available: <https://poynder.blogspot.com/2012/02/oa-interviews-michael-eisen-co-founder.html>.
- Quintal, G. 2016. Gauteng ANC in talks with students over #FeesMustFall. *TimesLIVE*. 21 January. Available: <https://www.timeslive.co.za/politics/2016-01-21-gauteng-anc-in-talks-with-students-over-feesmustfall/> [15 January 2017].
- Rouhani, B.D., Mahrin, M.N.R., Nikpay, F., Ahmad, R.B. and Nikfard, P., 2015. A systematic literature review on enterprise architecture implementation methodologies. *Information and Software Technology*, 62: 1-20.
- SABC Digital News, 2019. Discussion: Copyright Amendment Bill with Hugh Melamdowitz [Video file], Available: <https://www.youtube.com/watch?v=DSoz894YmF0> [11 March 2019].
- Saunders, M.; Lewis, P. & Thornhill, L. 2009. *Research Methods for Business Students*. 7<sup>th</sup> ed. New York: Pearson Education.
- Schwandt, T.A., 2015. Reconstructing professional ethics and responsibility: Implications of critical systems thinking. *Evaluation*, 21 (4): 462-466.
- Scott, G. & Garner, R. 2013. *Doing Qualitative Research: Designs, Methods, and Techniques*. 1<sup>st</sup> ed. Upper Saddle River, N.J: Pearson Education.
- Shaikh, A. A. 2016. 7 steps to publishing in a scientific journal. Elsevier <https://www.elsevier.com/connect/7-steps-to-publishing-in-a-scientific-journal> [21 April 2018].
- Sharma, M., Sarin, A., Gupta, P., Sachdeva, S. and Desai, A.V., 2014. Journal impact factor: its use, significance and limitations. *World journal of nuclear medicine*, 13(2):146. DOI:10.4103/1450-1147.139151
- Sharma, G., 2017. Pros and cons of different sampling techniques. *International Journal of Applied Research*, 3 (7): 749-752.
- Shyan, M.R., Merritt, D., Kohlmeier, N.M., Barton, K. and Tenge, J., 2002. Effects of pool size on free-choice selections by Atlantic bottlenosed dolphins at one zoo facility. *Journal of Applied Animal Welfare Science*, 5(3):.215-225. Available: [https://www.tandfonline.com/doi/abs/10.1207/S15327604JAWS0503\\_05](https://www.tandfonline.com/doi/abs/10.1207/S15327604JAWS0503_05) [12 June 2019].
- Silverman, D. (2010) *Doing Qualitative Research : A Practical Handbook* . 3rd edition. London: SAGE.
- Solomon, D.J. and Björk, B.C., 2012. A study of open access journals using article processing charges. *Journal of the American Society for Information Science and Technology*, 63 (8): 1485-1495.

- Swan, A. 2010. The Open Access citation advantage: studies and results to date. Technical Report, School of Electronics & Computer Science, University of Southampton. Available: <http://openaccess.eprints.org/index.php?/archives/716-Alma-Swan-Review-of-Studies-on-Open-Access-Impact-Advantage.html> [3 June 2019]
- Suber, P., 2012. Open access to scientific articles validated by a reading committee and their pre-publications. Available: [https://dash.harvard.edu/bitstream/handle/1/4729737/suber\\_oaoverview%20-%20French%20language.htm?sequence=4](https://dash.harvard.edu/bitstream/handle/1/4729737/suber_oaoverview%20-%20French%20language.htm?sequence=4) [22 May 2018].
- Suber, P. 2013. Open access: six myths to put to rest. *The Guardian*. Available: <https://www.theguardian.com/higher-education-network/blog/2013/oct/21/open-access-myths-peter-suber-harvard> [22 May 2018].
- Tryfos, P. 2001. Simple random samples. In *Sampling Methods for Applied Research: Text and Cases*. Canada: John Wiley and Sons, Inc.
- Times Higher Education. 2019. World University Rankings 2019: results announced | Times Higher Education (THE). Available: <https://www.timeshighereducation.com/news/world-university-rankings-2019-results-announced>.
- Toledo-Pereyra, L.H. 2012. Research Design. *Journal of Investigative Surgery*. 25(5):279–280. DOI: 10.3109/08941939.2012.723954.
- Tshikotshi, A., 2012. Using the Unisa library's resources for e-visibility and NRF ratings. Available: [http://uir.unisa.ac.za/bitstream/handle/10500/8079/aaron\\_tshikotshi\\_unisa%20library%20resources.pdf.pdf;sequence=1](http://uir.unisa.ac.za/bitstream/handle/10500/8079/aaron_tshikotshi_unisa%20library%20resources.pdf.pdf;sequence=1) [12 June 2019].
- United Nations, 2018. World Urbanization Prospects 2018. Available: <https://population.un.org/wup/> [15 January 2019].
- University of Victoria Libraries, 2020. What's a journal? Available: <https://www.uvic.ca/library/research/tips/journal/index.php> [03 October 2020]
- University of Southern California Libraries. 2018. Organizing Your Social Sciences Research Paper: writing a research Proposal. Available: <http://libguides.usc.edu/writingguide> [23 March 2018]
- Webometrics: 2019. Ranking of World Universities. Available: <https://www.webometrics.info/en> [22 February 2019].
- Western Cape Government, 2019. Municipalities in the Western Cape. Available: <https://www.westerncape.gov.za/general-publication/municipalities-western-cape> [17 December 2019].
- Wasserfall, P. 2019. Debating the Copyright Amendment Bill : The Clement Manyathela Show.

Available: <http://www.capetalk.co.za/articles/342789/new-copyright-amendment-bill-will-harm-not-help-publishing-industry-critics> [ 28 March 2019]

Warren, B., 2003, October. Current challenges and choices in scientific publication. In *Baylor University Medical Center Proceedings* 16(4): 401-404). Taylor & Francis.

Wilson, K., 2013. Librarian vs.(open access) predator: An interview with Jeffrey Beall. *Serials Review*, 39(2):125-128,

Willemse, I. 2009. *Statistical Methods and Calculation Skills*. 3rd ed. Cape Town: Juta.

Xiao, L. and Askin, N., 2012. Wikipedia for academic publishing: advantages and challenges. *Online Information Review*, 36 (3): 359-373.

Žukauskas, P., Vveinhardt, J. & Andriukaitienė, R. 2018. Philosophy and paradigm of scientific research. In *Management Culture and Corporate Social Responsibility*. Available: <http://dx.doi.org/10.5772/intechopen.70632> [17 May 2019]. .

## APPENDICES

### APPENDIX A: Consent letter for collecting data



Office of the Director: CPUT Libraries  
Dr E.R.T Chiware  
E-mail: chiwareE@cput.ac.za  
Tel: 021 959-6320/6322  
Fax: 021 959-6109

23 April 23, 2018

Dear Sir/Madam

I Elisha Chiware, in my capacity as The Director of Cape Peninsula University of Technology (CPUT) Libraries give consent in principle to allow Mbali Zulu, a student at CPUT to collect data in this University as part of her M Tech: Business Information Systems research. The student has explained to me the nature of her research and the nature of the data to be collected.

This consent in no way commits any individual staff members' name to be named in the research and it is expected that the student will get explicit consent from any participant. I reserve the right to withdraw this permission at any time in the future

In addition the University, researchers and academics name will not be mentioned:

1. In the Thesis
2. Conference paper
3. The journal Article
4. Research Poster

Thank you sincerely

A handwritten signature in black ink, appearing to read "E. Chiware", written over a light grey rectangular background.

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**Dr Elisha Chiware**  
**Director: Library Services**

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Cape Peninsula University of Technology: Libraries: P O Box 1906, Bellville, 7535: Cape Town, South Africa

### APPENDIX B: Questionnaire

## Appendix B

### Questionnaire Subscription and open access journal in a selected university in Cape Town: A comparative analysis

The purpose of this questionnaire is to compare subscription and open access journal so that the outcome of the analysis can be used to support publication and usage decision of academic papers.

Please answer all questions and provide as much detail in the appropriate areas as possible. All information will remain anonymous and confidential.

Thank you very much for your time and effort.

#### Section A

1. Are you a student? Y/N

2. Are you an academic? Y/N

3. What University?

4. If you are a student, what year of study?

5. If you are an academic, how long have you been teaching?      Months  
Years

Department:

6. If an academic, what subject(s) do you primarily teach? If not teaching, please leave the area blank

---

#### Section B

**2.1. Do you publish? Y/N-Y**

- If yes where

- General Journals
- SCOPUS Journals
- Elsevier Journals

Other (please specify)

**2.2. Who pays for your publication?**

---

**2.3. Are you aware of the benefits of Open Access?**

---

**2.4. Are you required to publish by your university?**

- Yes
- No

**2.5. Do you know the difference between subscription and open access journals?**

- Yes
- No
- Not sure

**2.6. What appeals most when choosing a journal?**

**(Please choose top 3)**

- Ranking
- Impact
- Frequency
- Ease of Publishing
- Quality Feedback

---

Publishing Assistance

Turnaround Time

Other



Other (please specify)

**2.7. Have you heard about open access journal?**

- Yes
- No

**2.8. What is your understanding of open access journals?**

Please explain

**2.9. Does your university require social science and business related PhD students to publish?**

- Yes
- No
- Suggested but not required

**2.10. Why do you think researchers' work is not as visible on subscription journals as it is on open access journals? Please explain**

### Section C

Thank you very much for your participation in this study!

**a. If I have further questions, may I contact you again?**

- Yes
- No

If yes please provide your email address

**b. Would you like to receive more information on Open Access and other Databases that we subscribe to?**

- Yes
- No

Email Address:

Thank you again for your participation and valuable feedback.

Mbali Zulu

Email [213331195@mycput.ac.za](mailto:213331195@mycput.ac.za)

Tel: 021 4603320 © 0829032835

Department: Business Information Systems

# APPENDIX C: Survey data imported from Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	
1	A	Par	Are y	Are y	What if yo	If you Depar	If an acaden	B. Put Do y	If yes, Who r	Are y	Do yc	What Have	What i	Does	Why do you thi	If I ha	Woul	If yes, please provide with your email address																
2	A	N	Y	CPUT	6 MO	Busine	Business Adminis	Y	Scopus	Resea	Y	Y	Impak	Y	Freely	Y	By publishing in	Y	Y	Email provided														
3	B	N	Y	CPUT	8yrs	BIA	Information Techr	Y	Generz	From i	Y	Y	Impak	Y	A jourr	Y	Readers have ni	N	N	No email														
4	C	N	Y	CPUT	6yrs	BIA	Communication	N	Scopus	Resea	Y	Y	Ranki	Y	Free	tc	Not su	As payment req	Y	Y	No email													
5	D	N	Y	CPUT	10yrs	BIA	Accounting1	Y	Generz	Univei	Y	Y	Ranki	Y	Free	ar	Not su	Because it requ	Y	Y	Email provided													
6	E	Y	Y	CPUT	4th	3yrs	BIA	Communication	Y	Scopus	My su	Y	Y	Ranki	Y	It's free	Y	Because subscri	N	N	No email													
7	F	N	Y	CPUT	15yrs	BIA	Communication	Y	Generz	Resea	Y	Y	Impak	Y	Easily z	Y	You have to pay	Y	Y	Email provided														
8	G	N	Y	CPUT	3yrs	BIA	Auditing	Y	Scopus	Resea	Y	Y	Ranki	Y	Free	tc	Y	Because subscri	N	N	Email provided													
9	H	N	Y	CPUT	10yrs	BIA		Y	Accred	Resea	Y	Y	Ranki	Y	You car	Y	If the university	Y	Y	Email provided														
10	I	Y	Y	CPUT	4th	5yrs	BIA		Scopus	Resrac	Y	Y	Ranki	Y	Freely	Y	Requires payme	Y	Y	Email provided														
11	J	N	Y	CPUT	3yrs	BIA		Y	Accree	NRF	Y	Y	Impak	Y	No pay	Y	Subscription is	Y	Y	No email														
12	K	N	Y	CPUT	7yrs	BIA		Y	Scopus	Resea	Y	Y	Ranki	Y	Free	tc	Y	Readers have tc	N	N	Email provided													
13	L	N	Y	CPUT	10yrs	BIA		Y	Generz	Resea	Y	Y	Ranki	Y	Free	tc	Y	Articles are exp	Y	N	No email													
14	M	N	Y	CPUT	5yrs	BIA		Y	Accred	Resea	Y	Y	Impak	Y	No pay	Y	Accessing the jc	Y	Y	Email provided														
15	N	N	Y	CPUT	3yrs	BIA		Y	Accred	Univei	Y	N	Ranki	Y	No pay	Y	You have to pay	Y	Y	Email provided														
16	O	N	Y	CPUT	11yrs	BIA		Y	Scopus	Resea	Y	Y	Impak	Y	Free	tc	Y	Payment is nec	Y	Y	No email													

## APPENDIX D: Ethics Approval



P.O. Box 1906 • Bellville 7535 South Africa • Tel: +27 21 4603291 • Email: fbmsethics@cput.ac.za  
Symphony Road Bellville 7535


Office of the Chairperson Research Ethics Committee	Faculty: <b>BUSINESS AND MANAGEMENT SCIENCES</b>
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At a meeting of the Faculty's Research Ethics Committee on **19 June 2018**, Ethics **Approval** was granted to **Mbali Zulu (213331195)** for research activities of **M Tech: Bus. Info. Systems** at Cape Peninsula University of Technology.

Title of dissertation/thesis/project:	SUBSCRIPTION AND OPEN ACCESS JOURNAL IN A SELECTED UNIVERSITY IN CAPE TOWN: A COMPARATIVE ANALYSIS  Lead Researcher/Supervisor: Dr D Onojaefe
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Comments:

Decision: **APPROVED**

 Signed: Chairperson: Research Ethics Committee	<b>13 September 2018</b> Date
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