

# Contextualising Literature Review Challenges In Information Systems Studies

Irja N. Shaanika

Phathutshedzo Makovhololo

Hugues H. K. Okigui

Tefo Sekgweleo

Cape Peninsula University of Technology, Windhoek, Namibia

**Abstract:** During a research process that is carried out by scholars, one of the critical stage of writing a good thesis or publications is conducting a literature review. Literature review is the process of reviewing and reflecting on the works that have been carried out by other researchers. However, scholars from various studies including those from Information Systems studies are challenged with conducting literature review during their studies. The scholars face challenges such as (i) aligning literature review to research questions and objectives, (ii) paraphrasing literature read in avoidance of plagiarism. The challenges could be attributed to the complexity of the review process and the lack of guidelines on how to conduct literature reviews. Because of the challenges encountered, students are either delayed in completing their studies on time or drop out of their enrolled courses.

This study aims to develop a guide for scholars on how to conduct a literature review. For the purpose of this study, data was collected using open-ended questionnaire. Data collected was interpretively analysed. As a result, the following were found to influence literature review quality in IS studies: lack of structure, accessibility to literatures, existing literature relevance, contextualising literature review, paraphrasing, concluding literature review and identifying gaps.

**Keywords:** Information System Studies, Research, Literature review, Plagiarism

## I. INTRODUCTION

There are so many reasons why researchers conduct reviews of research literature. Some include, providing a theoretical background for subsequent research; learning the breadth of research on a topic of interest; or answering practical questions by understanding what existing research has to say on the matter (Okoli & Schabram 2010). According to Helfert and Donnellan (2013) for an academic research, a methodological review of past literature is crucial. The reason being a literature review compiles and evaluates the research available on a certain topic or issue that a researcher is writing about. Literature review is an overview of what we know and of what we do not know about a given topic (Rousseau, 2012).

Helfert and Donnellan (2013) explain that during literature review the need to uncover what is already known in

the body of knowledge prior to initiating any research study should not be underestimated. Some of the studies in Information Systems (IS) field has been criticized for having very few theories and outlets for quality literature review (Webster & Watson, 2002; Levy & Ellis 2006; Scholl et al., 2016). Moreover, Webster and Watson (2002, p. 14) note that "the IS field may greatly benefit from effective methodological literature reviews that are strengthening IS as a field of study". In IS discipline, the importance of literature studies is well recognized. However, little attention has been paid to the underlying structure and method of conducting effective literature reviews (Bandara, Miskon, & Fieft, 2011). Information Systems studies are constantly evolving but the application and utilisation of literature review is not yet explored to the fullest. However, Cook and Murowchick (2014) asserted that creating literature reviews encompasses

skills that are central to psychology students' academic and professional lives, yet writing them consistently challenges students. Writing a literature review is hard for even the experienced writer (Nygaard, 2017). Most of the graduate students faces difficulties when writing a literature review because of the lack of skills on critical reading and the complex writing process (Kurbanoglu et al., 2014).

Because it's known that writing literature requires much more than stylistic knowledge and writing fundamentals, Luttrell et al. (2010) offered a semester-long one-hour course on writing in American Psychological Association (APA) style. They found that although students' knowledge of APA style and conventions improved (as compared to a control group who did not receive APA instruction), the quality of their literature reviews did not. Writing intervention helped students improve their organizational skills but did little for students' integration of the literature (Holstein, 2015).

Therefore, looking at these considerations, the main aim of this study is to address the issue of writing and compiling an effective literature review by proposing an approach that will guide the researcher on how to conduct literature review for Information systems studies. Therefore, this study was divided into six sections: in section 1 introduction to the study was presented, Section 2 the study literature was carried out, section 3 presents the methodology undertaken in this study, data analysis is presented in section 4, in section 5 the literature review guide developed was discussed and lastly conclusion was presented.

## II. REVIEW OF LITERATURES

### A. IS STUDIES

As a field of study, information systems / information technology (IS/IT) is broad and encompasses people, processes and technologies. Nunamaker and Briggs (2011) shared that IS/IT is more than technology as in addition to hardware and software they are made up of people, procedures, data policies, standards and metrics. These components brings rigour and complexity to IS studies. Kwan (2017) argued that IS/IT is not only technological because IS researchers also need to acquire knowledge about its application in the social context. When conducting a research in IS studies a researcher must be able to take cognizance and acknowledge the fact that weaknesses and challenges do exist, especially when conducting a literature review (Nemutanzhela & Iyamu, 2015). Due to the evolving nature of IS, researchers in this field needs to collect and synthesise the already available knowledge about topics of interest in order to address relevant gaps (Bandara, Miskoon & Fieft, 2011).

Research is a general term used to refer to a process of finding new facts. In an academic perspective, according to Walliman (2017) research can be defined as a systematic investigation in order to contribute to existing body knowledge. The expression body of knowledge here refers to existing research studies, which have been built by adding on each other's research results (Iivari, Hirschheim & Klein, 2004). Research is important for many reasons such as answering questions, solving social problems, and developing

knowledge (Punch, 2013). As Brannan, Dumsha and Yens (2013) stated, research must be considered as a tool or practice useful to solve and answer questions.

Researchers begin studies by identifying and defining a problem that need to be resolved. Creswell (2013) explains that a problem can include a question about something, a discrepancy in findings, or gap in knowledge. The problem identified is articulated in a formal structure referred to as problem statement. According to Creswell (2013) when constructing a problem statement, the researcher must state more precisely the scope of the problem that has been identified. The problem statement informs the readers what the problem is, the cause of the problem, its consequences and impacts if this problem persists.

### B. REVIEWING LITERATURE IN IS STUDIES

Any type of research irrespective of the field requires reading existing works related to the topic being studied because it is essential to have a wide understanding of the research topic, to know what has been done, and how it has been done (Bell, 2014). Thus, Rowley and Slack (2004) claims that a researcher needs to review and evaluate a range of different types of sources both from academic and professional perspectives. However scholarly and research journals should be the core of the literature review as most of such work is written by scholars.

Literature review has different purposes depending on the objectives of the study (Aveyard, 2014). According to Okoli and Schabram (2010) there are many reasons for conducting a literature review and these includes "to provide theoretical background for past researches; learning the breadth of research on a topic of interest; or answering research questions based on existing research on the subject" (p.1). Rowley and Slack (2004) argues that by reviewing earlier and recent work in a specific field it becomes possible to identify areas which require further research. Thus, without studying the state of the past research, it becomes impossible to establish how the new research advances and relates to the previous research (Randolph, 2009).

Machi and McEvoy (2016) explain that based on the research intentions one can do a simple or complex literature review. A study by Okoli and Schabram (2010) identify literature review types: Literature Reviews as theoretical foundation for primary research, literature reviews for graduate student thesis or stand-alone literature review. However, both literature review needs methodological approach.

In the perspective of assisting Masters and doctoral students in IS who have difficulties in conducting an effective review of literatures, Levy and Ellis (2006) proposed the following three major stages in writing a literature review: Input, Processing, and the Output. In the input stage, literatures are gathered and screened, in the processing stage the researcher has to know, comprehend, apply, analyse, synthesize, and finally evaluate the quality of the literature. However, the question remains as to what and how to input, process and output? Thus, for most students, doing literature review is a challenging process. This could be attributed to the

lack of published information and frameworks to guide students in writing literature review (Randolph, 2009).

Although some guides including the one proposed by Levy and Ellis are available, writing a literature review is still a challenging task as many researchers struggle with the development of an effective literature review (Troyka, 1993). Okoli and Schabram (2010) pointed out that the existing guides on conducting reviews do not meet the unique needs of IS researchers. In agreement, Bandara, Miskon and Fiet (2011,p3) shares that step-by-step guidelines on how to collect, synthesise and analyse literature in IS studies is very limited. Consequently, students facing challenges such as cognition and management. In addition, the lack of theory and outlet in Information Systems studies literature has also been identified as a difficult task (Levy & Ellis, 2006). Resulting in plagiarism challenges when reviewing literature reviews.

### C. PLAGIARISM

Plagiarism is a broad and difficult concept to define as it means different things in different contexts (Al-Shaibani et al., 2016). In an academic context, plagiarism is an unethical behaviour and a form of intellectual property theft (Angélie-Carter, 2014). Plagiarism is viewed as an appropriation of ideas or other people's work without proper citation to acknowledge the original contributor (Al-Shaibani et al., 2016). As Bell (2014) stated, the issue of plagiarism has become a major concern in academic community especially in higher education and it has to be addressed.

The purpose of fighting against plagiarism is to be able to give credit and acknowledgements to other researches for their ideas and works. Without existing citation and referencing techniques, it would be difficult to keep track of initial authors or contributors of existing academic materials (Al-Shaibani et al., 2016).

According to LoCastro and Masuko (2017), students' lack of writing skills is one of the reasons that leads to plagiarism activities. "Writing is a skill, and writing from sources is an important subskill for academic writers" (Pecorari, 2010:2). Hirvela and Du (2013) argued that instead of constantly warning students on existing consequences of plagiarism activities, institutions have to teach and assist students on how to develop writing skills because the process of transferring reading material to writing is one of the most challenging in academic.

Pecorari (2010) identified three key elements in plagiarism. The first element is the linguistics relationship. Although plagiarism also consists of an appropriation of ideas expressed differently, what mostly brings suspicions and used as proof is similarities in the choice of words. The second element is the writing processes because the longer similar chunks of language is, the higher the likelihood of existence of plagiarism is. The last one is failing to properly attach the citation of the source which is considered as an act of plagiarism.

### III. METHODOLOGY

This study employed a qualitative approach. According to Taylor, Nicolle and Maguire (2013) with qualitative approach, researchers are interested in studying the meanings attached to the things and processes people do in their daily lives. Thus, qualitative methods emphasis the perspectives of the individual and their individuality (Howitt, 2010). Qualitative approach was primary selected to enable respondents to describe and explain how they conduct their studies literature review and challenges they encounter.

The study focused on the university students that are currently doing masters and doctoral studies in the field of IS. Students who were either busy with their literature review or have already completed that stage. Data was collected from these students by means of open-ended questionnaire. With open-ended questionnaires, respondents are not provided with list of answers to select from, rather they answer questions in their own words (Vicente & Reis, 2010). The questionnaire was distributed to students via email, as the use of emails is cost effective, enables quick response, and follow up in cases where students failed to respond on time. Both Master and PhD students received the same questionnaire. The table below show questionnaire distributions between Master and PhD Students.

Respondents	Distributed questions	Returned questions
PhD students	10	8
Master students	10	10
Total Number	20	18

Table 1: Questionnaires distribution

After all the questionnaires were received back, data was analysed using interpretive techniques. Interpretivist maintain that based on the individual interpretations there are many realities to what is being studied (Winit-Watjana, 2016). Thus interpretivist approach was selected to enable interrogation of individuals realities.

### IV. ANALYSIS: CHALLENGES IN WRITING LITERATURE REVIEW IN IS STUDIES

Literature review is an important process in research that requires students to do extensive reading. By doing literature review, a researcher get familiarised with their work, gaining knowledge and understanding of their field of study. As a result, a lot of thoughts and work goes into writing to ensure the originality of the work.

Most common challenges encountered through the interpretive analysis by both Masters and PhD students are discussed in this section. . The challenges includes: lack of structure, accessibility to literatures, existing literature relevance, contextualising literature review, paraphrasing, concluding literature review and identifying gaps that influence literature review quality in IS studies.

#### A. LACK OF STRUCTURE

When carrying out literature review there is a need for structure to guide the flow of work one is writing. However

most students when writing literature have no plan or a structure in place on how they are going to address the topics they are reviewing. According to one of the student's view regarding this:

*"Developing a clear and justifiable mind plan or methodology was very challenging for me mainly because it is hard to convert the ideas in logical and linear sequence" RSP9.*

Because of lack of structure, (not knowing how to start or what to write, and when to stop), students found themselves constantly re-writing what they had already written. . One of the student expressed that:

*"A lack of literature review structure is a big problem for me and I struggle a lot with what should I insert and what should I not????."*

Another student asserted that:

*"the issue I have faced with literature review is lack of understanding on what standard should be followed to align my review with my topic" RSP7.*

## B. ACCESSIBILITY TO LITERATURES TO REVIEW

In order to have materials to review, students must have access to research databases and portals. This opportunity is often granted by universities libraries and open sources such as google scholar. However, accessibility to some of the materials is limited as students are only able to view abstracts. According to one of the students:

*"Most of the useful journals requires membership which sometimes I don't have as well as university where I am enrolled in doesn't have access, hence I am forced not to use the journal due to lack of accessibility" RSP5.*

However having access is not the only factor influencing student's accessibility to study materials. To find materials for review, students must know how to search for the various materials they need. Therefore, students must have skills to construct search criteria's that will return positive results. A PhD student shared his experience:

*"Sometimes it's not that the article is not there, it could also be due to the lack of relevant skills to search the academic databases" RSP11*

## C. EXISTING LITERATURE RELEVANCE

When writing literature review students are often advised to use recent published sources. In most academic institutions, students are requested to review literature of not more than five years. This is to support study relevance and empirical evidence that processes are not static and therefore the need to acknowledge recent developments.

However the standards set by university can be limiting students to carry out their review as some area of study requires to be supported by the first work ever carried out in that area . For example when a student is applying underpinning theories in their studies, there is a need to reference the work of the original authors of the theory even though their work is more than five years. A student discussed her views of referencing articles that are more than five years:

*"One can find a good literature but cannot use it as in Information and Communication technology studies one*

*cannot refer to literature published more than five years ago" RPS6*

In addition some studies focus on newly emerging fields and as result there is not much research that have be done on such fields. Therefore students are challenged with finding appropriate published materials to review. One the respondents, perusing PhD stated that:

*"If one does research on the latest trends, such as smart cities, it is difficult to get enough literature about it as little research have been done on it" RSP6*

A student who also encountered this challenge also shared that:

*"There is too little research papers from Africa that are based on my study" RSP11*

*"at times you find that there are particular sub-headings that not much is written about, therefore it makes it difficult to get that information and support your narration" RSP8*

## D. CONTEXTUALISING LITERATURE REVIEW

Literature review is the process that entails reading large amounts of information. Most often students find themselves loaded with information and are challenged with putting what they read into context and perspectives of their studies. Sharing opinions, a student states:

*"At times it is also tricky to contextualise the literature into one study. Some literature is too general to a point that it is difficult for a researcher to narrow it" RSP8*

Another student noted that:

*"Most of the articles and books that I found was more theoretical or conceptual but not practical" RSP11*

*"At times I would read an article that is relating to my study and not find any information that could be useful."RSP8*

From the many consulted materials, students must be able to extract only information or connected to their current studies.

## E. PARAPHRASING

Paraphrasing entails the reconstruction of sentences so that they bring clarity and to be within context to one's studies. When writing literature review students must rephrase and summarise what they have read into their own understanding without losing the meaning attached to the original texts. Paraphrasing illustrates that you have consulted legitimate work in your area of focus and you were able to acknowledge the significance of such work in your study.

Paraphrasing is one of the challenges encountered by most students. Students do not know how to paraphrase and fear that they have plagiarised. Some of the students discussed their views:

*"Paraphrasing can also be a challenge as I am scared that I might completely change what the original author has written"RSP8*

Another student shared that:

*"Literature review requires a lot of time and skills to know what you are looking for and how to reference it and compile the material while avoiding plagiarism"RSP5*



## F. CONCLUDING LITERATURE REVIEW

Literature review as a research process also needs to come to an end. By concluding literature review the researcher gives assurance that the areas of focus in the study have been reviewed and backed up with similar work that have been done by other researchers and also acknowledging gaps that exist. However, most of the students are challenged with concluding literature review as they do not know when and how to stop reviewing. One of the Master students expressed her views stating that

*"I think the biggest problem is deciding when you can say, you have reviewed enough literature"* RSP2

Another student challenged by how to conclude literature review expressed that:

*"I didn't know when to stop writing or how many pages or how much information is required and the measure for quality"* RSP3

## G. IDENTIFYING GAPS

The primary purpose of carrying out research is to resolve an existing problem, hence filling gaps in a specific area. The process of literature review enable researcher to do a critical review on work done and to identify their strengths and weakness. However, one of the challenges faced by Master and PhD students is identifying gaps in the work being reviewed. According to one of the respondents:

*"Literature review has always been a challenge when writing a thesis. As for me the challenges encountered included identifying the gaps that previous studies did not cover and the ability to correlate them with my own research"* RSP10

## V. LITERATURE REVIEW PROCESS IN IS STUDIES

Literature review is an art that require practice and focus. It requires one to work on it consistently. The challenges encountered by students during literature review affects the completion of their studies. As such some students take longer than initially planned to complete their studies while others do not complete their studies.

Based on the analysis as presented above, a literature review guide for IS Studies is developed. The purpose of the guide is to provide structure and flow to the literature review process. The guide consist of components, namely: (i) topic, objectives and questions critical analysis, (ii) keywords identification, (iii) establish study context (iv) derive structure, (v) synthesis, (vi) culmination. The components should be read with reference to figure 1 below to enhance a better understanding.

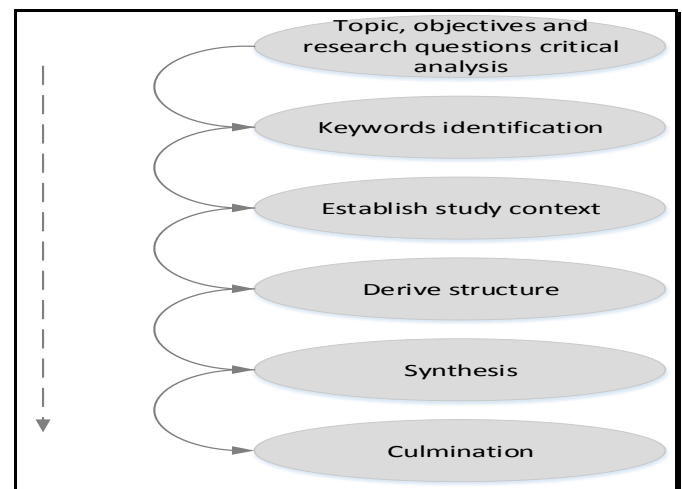


Figure 1: A guide for Literature review

### A. TOPIC, OBJECTIVES AND QUESTIONS CRITICAL ANALYSIS

Study topic, objectives and questions are the three elements defining and giving IS study direction. Therefore before embarking on writing a study literature review, a clear understanding of what the researcher want to address. This is covered by the study topic, what is it that need to be achieved, objectives of the study and how to go about achieving those objectives (research questions) is very crucial to one study. This can be achieved by knowing the purpose of each objective and their linkage to the study topic and research questions. The linkage supports unification between topic, objective and questions as there should be an association between three components, and interdependence between them.

### B. KEYWORDS IDENTIFICATION

Keywords are the main concepts that your study is focusing on. A keyword is written in the form of a noun or verb. Anything can be a keyword as all things are researchable. However, keywords identification should be based on study objectives and topic. During literature review, keywords are used as a backbone of which literature one should look at.

### C. ESTABLISH STUDY CONTEXT

There is a need to establish your study context in order to be able locate a specific knowledge area. By establishing study context, you are defining its delineation and boundaries and thus preventing the writing of irrelevant content. This enables you to progress during writing and move from the generic context to specifics of your study. When boundaries are defined, readers are able to understand your reasoning by linking them to the study context.

### D. DERIVE STRUCTURE

The most important component before writing is to have structure for your literature. Having structure enables

sequence flow of information, creating linkage of concepts you are defining and preventing writers from getting lost in the process. The structure is developed based on study keywords. List your keywords in chronological order starting with the one that is the core of your research and linking it through to how it relates or connects to the rest of the keywords. The order of the keywords should also be influenced by the study objectives.

## E. SYNTHESIS

To start writing, consider the words chronological order and start with the words that appear first. When approaching each term, start with writing its general views moving to narrowing it and linking it to your study context. To ensure coverage of all critical points of the keywords, first construct the five W's (Who, What, Where, When, Why), and the how questions:

scope	W-question	Interrogative focus
<b>Who</b>	Who uses the phenomenon	Who are the users, participants or actors of this phenomenon
<b>What</b>	What is the phenomenon	Defining and describing what constitutes the phenomena in general Discuss challenges encountered from using this phenomenon
<b>Where</b>	Where do we use the phenomenon	Areas of application
<b>When</b>	When do we use the phenomenon	On which occasions or scenarios do we apply or utilise this phenomenon
<b>Why</b>	Why do we use the phenomenon	What are the benefits, implications and challenges of using this phenomenon
<b>How</b>	How do we use the phenomenon	Discuss the process of application Discuss measures or actions that are undertaken to resolve such challenges

Table 2: Five W's and how questions

Through the five W's and How questions the researcher is breaking down the keywords and creating a flow. A flow created will enable the researcher to have a structure to guide on how to conduct a literature review of the study. The structure will give a researcher a clear flow that requires one to connect the dots to get a clear readable literature review. This flows gives a researcher ability or clear picture to identify gaps in existing literature and how they can be filled by the study been carried out.

## F. CULMINATION

Like any other process that has a beginning, there must be an end or closure. The literature review process must also end. Ending literature review should not be guided by quantities but rather by the quality of the work done. A student stops

writing, when they say they have reached a point of saturation. How do they determine that? This is determined by reviewing the Five W's and How questions in order to ascertain that past and present literature on a keyword is existent in the literature without the introduction of new information. Only then can one conclude their literature review process.

It is emphasized when concluding the literature review, a researcher must be able to summarise the existing evidence concerning a phenomenon being researched. (E.g. to summarise the empirical evidence of the benefits and limitations that specific phenomenon, to identify any gaps in current research in order to suggest areas for further investigation and finally provide a framework/background in order to appropriately position new research activities.

## VI. CONCLUSION

Most papers have been written on how to conduct a literature review in a research. This study brought in another perspective on how to conduct literature review for IS studies. From this study, it has been found or concluded that by following a five W's and how questions as the guide to conduct a literature review it can give a researcher a structure with a proper flow to their research.

Through this study one can conclude that, without the following (i) a proper research topic, (ii) understanding the research objectives (iii) aligning objectives with questions that would help in achieving objectives of the study will create many problems during literature review process. This is because the "five W's and the "how questions" need to feed from what is already identified as the keywords of the study, which comes from those elements. However, having all these three elements: topic, objectives and research questions correlating with each other, and following the Five W's and How questions, contributes to an effective way of witting literature review.

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