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Together in Excellence



**Critical success factors for the adoption and continued use of
social media in teaching and learning among lecturers at a
historically Black university in South Africa**
University of Fort Hare
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by

Obrain T. Murire

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media in teaching and learning among lecturers at a historically
Black university in South Africa**

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submitted in fulfilment of the requirements for the degree

Master of Commerce
University of Fort Hare
Together in Excellence
in

Information Systems

in the

Faculty of Management and Commerce

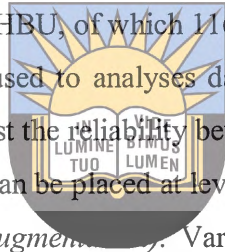
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University of Fort Hare

Supervisor: Dr. L Cilliers

Abstract

The throughput rate at South African universities has been severely impacted by the massification of teaching and learning. Emerging technologies, such as social media, have been identified as having the ability to increase student – lecturer interaction, collaboration and communication in the classroom as learners are more open to modern technologies and more eager to engage with them. Despite the benefits that social media offer in teaching and learning, few lecturers choose to make use of these tools. The purpose of the study was to provide critical success factors that will increase the adoption of social media use in teaching and learning at historically Black universities in the Eastern Cape. The unified theory of use and acceptance of technology and substitution, augmentation, modification and redefinition model were used as a theoretical foundation in this study. A quantitative survey tool was used to collect the data at one HBU in the Eastern Cape. The questionnaire, which was developed after a thorough literature review and pilot study, was distributed to all the academics at the HBU, of which 116 responded, resulting in a response rate of 39%. Descriptive statistics was used to analyses data and the Pearson chi-square test and Cronbach’s Alpha test were used to test the reliability between the different variables. The study found that the academics at the HBU can be placed at level two of the substitution, augmentation, modification and redefinition model (*augmentation*). Various factors such as management support and prior knowledge of social media were found to be important for the acceptance of social media among lecturers. The study therefore recommends that HBU management should prioritise social media to improve student – lecturer interaction, communication and promoting collaborative learning among students.



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Keywords: Social media, historically Black university, higher education, lecturers, teaching and learning, massification, low throughput rates

Declaration

I **Obrain T Murire**, hereby declare that:

- The work in this dissertation is my own work.
- All sources used or referred to have been documented and recognised.
- This dissertation has not previously been submitted in full or partial fulfilment of the requirements for an equivalent or higher qualification at any other recognised educational institution.

Ethics number *CIL011SMUR01* (Refer to appendix A)





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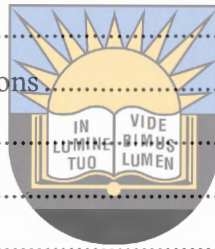
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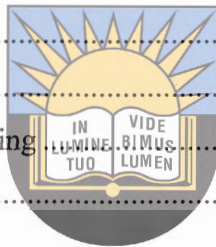
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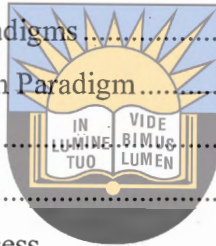
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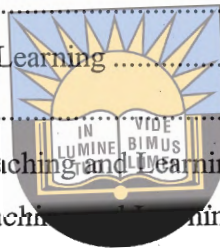
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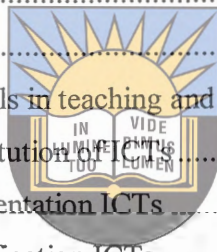
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Definition of Terms

Critical Success Factors refers to aspects of a strategy that ought to be achieved to yield a positively favourable outcome of the project (Olszak & Ziemba, 2012).

Historically Black Universities refers to higher education institutions in South Africa that are established with the purpose of serving the Black community (Morrow, 2002).

Higher Education refers to the tertiary education sector that prepares students for scientific and research oriented careers, as well as careers that call for high levels of professional qualifications (Forg, Flenner, & Gruber, 2009, p. 4).

Learning is a passive absorption of information as a result of active engagement with information (Dessus, Mandin & Zampa, 2008).

Pedagogy is a conscious activity by lecturers designed to improve the teaching and learning of students (Watkins & Mortimer, 1999).



Teaching is a process of imparting knowledge to learners or the ability to give instruction to learners (Suzanne & Penelope, 2006).

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Technology integration is the amalgamation of a wide range of electronic devices and software's that can be used to support education, learning and assessment academia (Liu, Wu, & Chen, 2013).

Social media refers to websites and applications which allow users to create and share content (Shullich, 2011).

Abbreviations

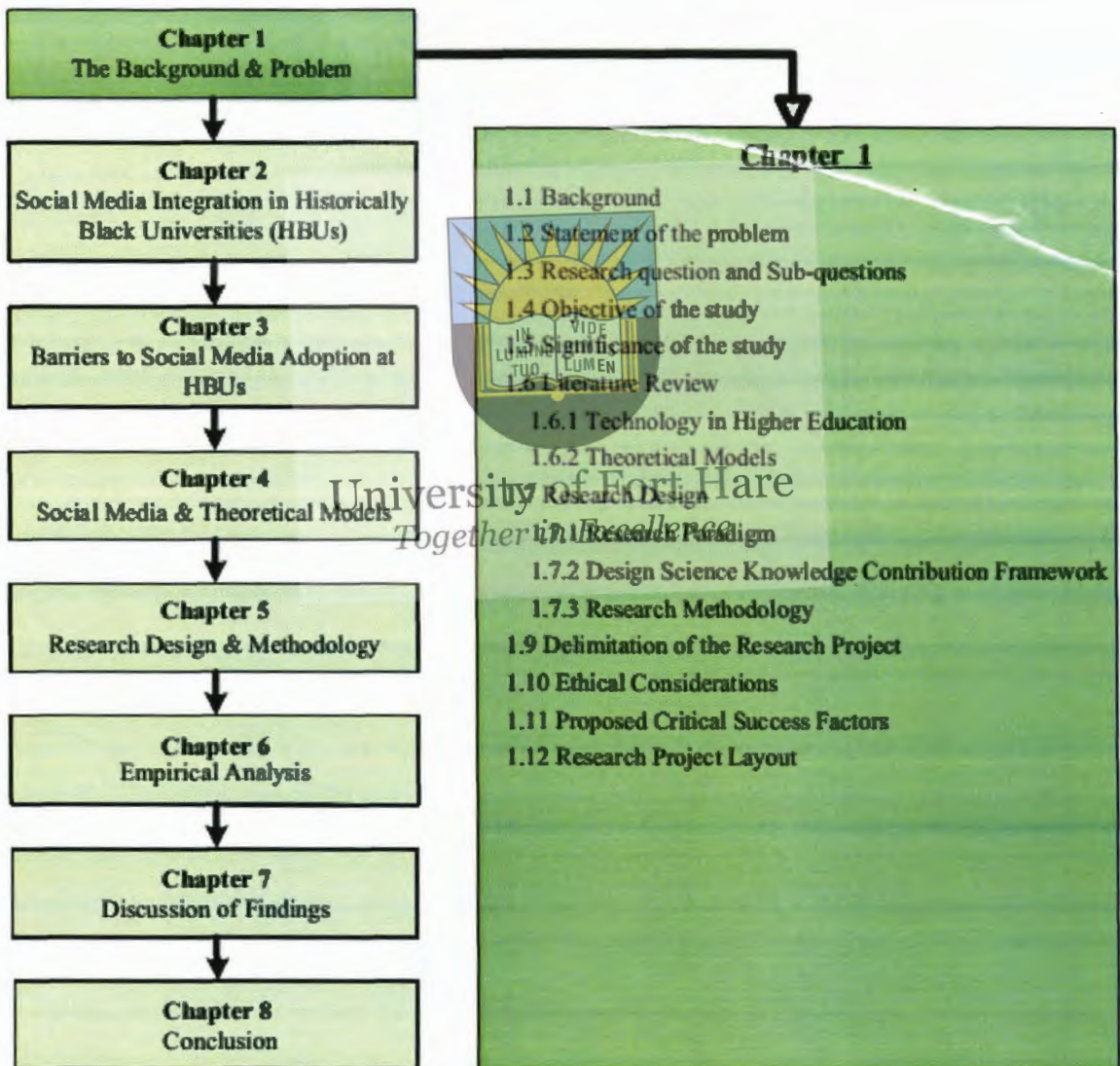
CSF	Critical Success Factors
HBU	Historically Black Universities
HESA	Higher Education in South Africa
ICT	Information and Communication Technologies
N/A	Not Applicable
SA	South Africa
SAMR	Substitution, Augmentation, Modification and Redefinition Model
TEL	Technology Enhanced Learning
UFH	University of Fort Hare
UK	United Kingdom
UREC	University Research Ethics Committee
USA	United States of America
UTAUT	Unified Theory of Acceptance and Use of Technology



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Chapter 1

The Background & Problem



1.1 Background

In recent years, studies revealed that there is a shortage of critical skills in the South African economy (Strydom, Mentz, & Kuh, 2010; Breier & Mabizela, 2008). This scarcity of critical skills has impacted negatively on the equity of the South African workforce (Mohamedbhai, 2014; Teferra, 2014). One of the reasons to blame for this shortage of critical skills in the workforce is that the historically Black universities (HBUs) in South Africa are not producing enough quality graduates. Typical challenges experienced by the HBUs in South Africa include high dropout rates and low throughput rates (Mohamedbhai, 2014; Council on Higher Education, 2013; Strydom et al. 2010; Breier & Mabizela, 2008). The throughput rates from higher education institutions in South Africa are low compared to those of developed economies (Strydom et al., 2010). However, for South Africa to grow the economy, it is important for the higher education institutions to produce quality graduates with appropriate skills.



The Council on Higher Education (2013) states that only five percent of first year students will not graduate, whereas merely five percent of the enrolled Black and Coloured students will finish their degrees on time when doing an undergraduate programme (Council on Higher Education South Africa, 2015; Zulu, 2011). Reasons provided for this poor graduate output include the background (rural or urban location) and economic status of the student (Teferra, 2014). Breier and Mabizela (2008) further reveals that the massification of higher education in South Africa also contributes to the problem. More students are enrolled at HBUs annually, despite a lack of resources to support academic activities (Wangenge-Ouma, 2012). The scarcity of resources to support teaching and learning has a negative impact on educational quality as it reduces student – lecturer interaction because of large classes (Prosser & Trigwell, 2013).

Technology is a useful tool to facilitate effective communication among students and lecturers, and thus has the potential to increase throughput rate and student pass rates (Renes & Strange, 2011; Nurulrabihah et al., 2013). Liu, Wu, and Chen (2013) define technology integration in HBUs as “the amalgamation of a wide range of electronic devices and software’s that can be used to support education, learning and assessment academia” (p.3). Mobile technology has become a preferred mode of communication for young adults. A recent study suggested that university students are the most active mobile phone users with the functions most often used including text messaging, gaming, and the Internet. Given the popularity of mobile communication among this age group,

the potential to use social media to improve academic activities at higher education institutions is immense (Robinson, 2014).

Shullich (2011) describes social media as websites and applications which allow lecturers to create and share content. Examples of social media include Facebook, Twitter, MySpace, Flickr, Google Plus and YouTube, but special interest forums, blogs and user communities can also be considered to fall in this category (Batikas, Bavel, Martin, & Maghiros, 2013). Furthermore, Shullich (2011) states that social media play a significant role in stimulating interaction amongst students as well as lecturers.

However, there are some challenges associated with integrating social media in the academic setting. These include a lack of leadership support, poor planning, and inadequate knowledge or awareness of social media's role in academic setting (Bingimlas, 2009). Furthermore, if the teaching pedagogy does not support social media orientated learning, it will not be adopted by lecturers (Schoepp, 2005). Availability of resources and efficiency of the social media are common problems mentioned by lecturers in their teaching practises (Govender & Mararaj, 2006).



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The majority of literature thus far has focused on how social media integration aids organisations and businesses in developed economies such as United States of America (USA), United Kingdom (UK) and some Asian countries such as Taiwan and China to achieve their goals (Almeshal, 2015; Batikas et al., 2013). Less research has been conducted on how HBUs, with limited resources, could enhance the integration of social media in the academic environment. From this perspective, this research would contribute to the knowledge base of social media adoption and continued use at HBUs in South Africa. The following section discusses the problem statement.

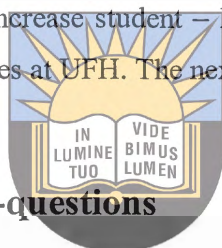
1.2 Statement of the Problem

Morrow (2002) defines HBUs as higher education institutions in South Africa that are established with the purpose of serving the Black community. The University of Fort Hare (UFH) is an HBU and is located in the Eastern Cape Province of South Africa.

The massification of teaching at the HBU is contributing to the low throughput rate at the University (Tom, 2011; Piderit, 2013). Prosser and Trigwell (2013) reveals that large classes and

poor academic literacy of students is affecting the quality of education as they reduce student - lecturer interaction.

To address these challenges facing UFH, a learning environment needs to be established which supports favourable teaching and learning of students. A number of universities in South Africa have integrated social media in their curriculums (Bati, Gelderblom, & van Biljon, 2015). However, the utilisation of social media in academic setting at the UFH is low due to limited knowledge or proficiency required to use social media effectively as a pedagogical tool amongst lecturers (Tarantino, McDonough, & Hua, 2013). Therefore, the adoption of social media tools amongst lecturers must be improved to increase student – lecturer interaction, thereby assisting with the low throughput rates and pass rates at UFH. The next section discusses research question and sub-questions.



1.3 Research Question and Sub-questions

To address the research problem, the following research question was investigated in this research project.

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What are the critical success factors that will improve the adoption and continued use of social media in teaching and learning amongst lecturers at HBUs in South Africa?

In order to answer the above research question, four sub-questions were formulated.

1. How can social media improve teaching and learning at HBUs?

The integration of social media in the curriculum of HBUs will increase student – lecturer interaction. Students will also have the opportunity to access an abundance of information using diverse social media tools, thus promoting authenticity in teaching and learning environments and hence knowledge is increased (Ellis, Ginns, & Piggot, 2009; Kaplan & Haenlein, 2010; Buchanan, Sainter, & Saunder, 2013; Tarantino et al., 2013).

2. What is the current level of social media usage in teaching and learning at UFH?

The integrating of social media in academic environment is very important at UFH. New technologies including YouTube, Facebook, Twitter, MySpace, blogs as well as wikis are available and can be utilised by the lecturers to improve students' teaching and learning

experience. However, most HBUs do not make use of the vast array of technologies that could improve teaching and learning, while those technologies that are available are under utilised (Bingimlas, 2009).

3. *What are the barriers to the adoption and continued use of social media in teaching and learning amongst lecturers at HBUs in South Africa?*

Inadequate knowledge of technology-supported pedagogy and lack of awareness of specific social media tools that could be integrated in teaching and learning among lecturers are barriers to the incorporation of social media in academic setting at HBUs (Bingimlas, 2009; Govender & Maharaj, 2006).

4. *What mechanism must be in place to mitigate the barriers to the adoption and continued use of social media at HBUs in South Africa?*



A social media integration plan enables lecturers to select, integrate and implement new technologies successfully in a cost-effective way. In order to do this, a social media integration plan must be put in place. This plan comprises of a structured development programme that aims at overcoming these barriers (Schoepp, 2005). The objective of the research project is discussed in the next section.

1.4 Objective of the Research Project

The objective of the research project was to determine critical success factors that will improve the adoption of social media in teaching and learning among lecturers at the University of Fort Hare in order to improve student – lecturer interaction. Additionally, the research project investigated the current state of social media integration at UFH and identify the barriers for the integration of social media in the teaching and learning environment, including the factors that influence lecturers' acceptance of social media in their classrooms. The next section discusses the significance of the study.

1.5 Significance of the Study

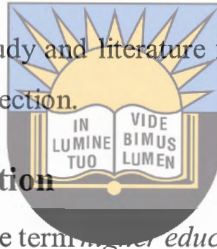
The research project is important as it develops critical success factors to enhance social media adoption and continued use in teaching and learning at an HBU in South Africa. This will improve the quality of education and result in increased throughput rates which can address the critical skill

shortage in the South African economy. In addition, the research study would contribute to the knowledge base of social media adoption and continued use at HBUs in South Africa and Africa at large.

The use of social media provides a powerful teaching and learning environment with benefits such as improved student achievement, improved scores on standard tests, and increased application and production of knowledge for the real world (Tarantino et al., 2013; Linckels et al., 2009; Lowther, Strahl, Inan, & Ross, 2008; Kaplan & Haenlein, 2010).

1.6 Literature Review

The theoretical framework used in this study and literature focusing on social media adoption in teaching and learning is discussed in this section.



1.6.1 Technology in Higher Education

Forg, Flenner, and Gruber (2009) define the term *higher education* as “the tertiary education sector that prepares students for scientific and research oriented careers, as well as careers that call for high levels of professional qualifications” (p. 4). Birch and Irvine (2009) state that governments have made the decision to invest more capital to integrate technology in teaching and learning. When properly implemented, these initiatives are expected to maximise students’ throughput rate (Renes & Strange, 2011). The Department of Higher Education in South Africa (HESA) has also realised the importance of technology integration, for instance social media, as it can increase communication and interaction amongst students and lecturers (Breier & Mabizela, 2008). The next section discusses teaching and learning.

1.6.1.1 Teaching and learning

Suzanne and Penelope (2006) describe teaching as “a process of imparting knowledge or skills to learners or the ability to give instruction to learners”, while learning is a “passive absorption of information as a result of active engagement with information” (p. 9). Furthermore, Dessus, Mandin, and Zampa (2008) describe learning as “the change in students’ behaviour caused by experiences and self-activity” (p. 4). Learning entails both individual activity and collective work. This reflects that teaching and learning activities work hand in hand, they cannot be separated. The next section discusses the benefits of social media in teaching and learning activities.

1.6.1.2 Benefits of Social Media in the Classroom

There are many benefits that can be obtained by incorporating social media in the teaching and learning environment. Nurulrabihah et al. (2013) found that social media networks, for instance, Facebook and Twitter, have a positive effect in academic setting. Through social media, lecturers and students can communicate classwork which offers virtual office hours. Furthermore, other types of technologies including blogs as well as wikis allow students to participate in online discussion. These tools stimulate interaction amongst students and lecturers as well as with peers abroad. These tools provide features that help to manage students and promote student – lecturer interaction (Kaplan & Haenlein, 2010; Kagohara et al., 2013). Figure 1 below depicts various types of social media.

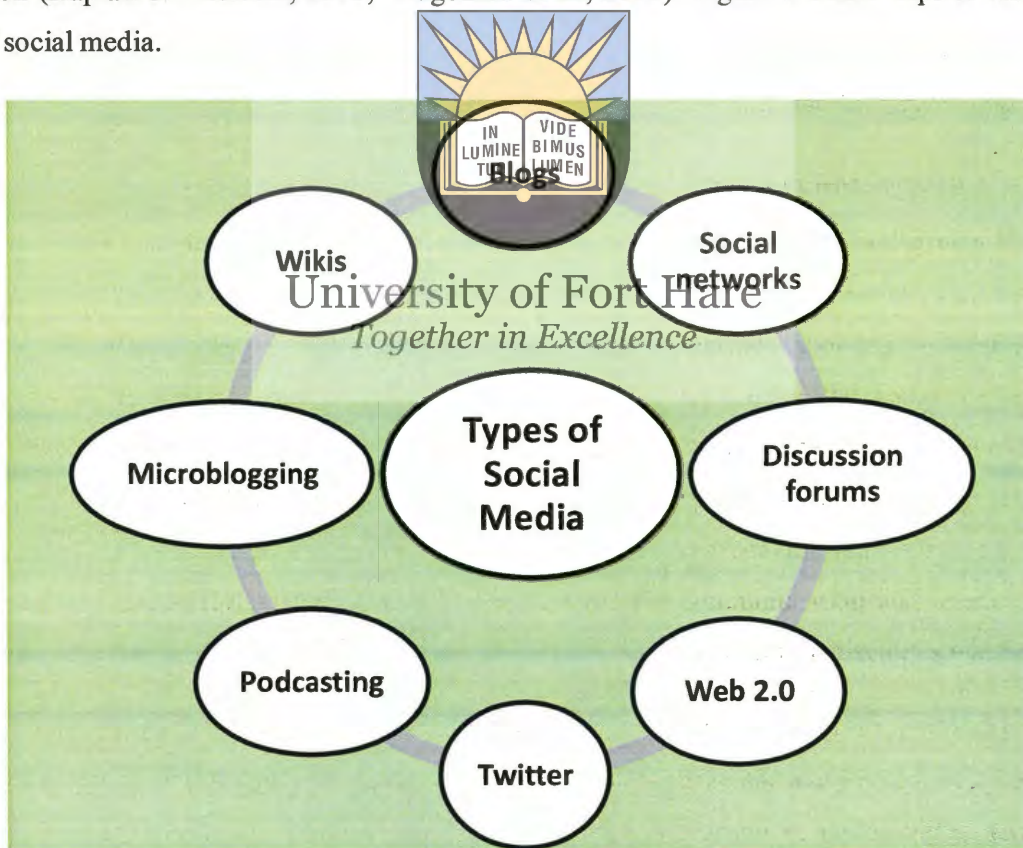


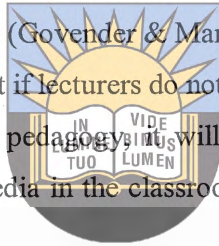
Figure 1: Types of social media in academic setting (Kaplan & Haenlein, 2010)

1.6.1.3 Barriers to Social Media in the Academics Setting

Social media integration into the teaching and learning environment is a challenging process. Schoepp (2005) describes a barrier as “any condition that makes it difficult to make progress or achieve an objective” (p. 2). The objective this research study was to increase social media adoption

and continued use in teaching and learning at HBUs. For this reason, the study of obstacles pertaining to social media integration is essential as lecturers will have the knowledge and understanding that could offer guidance for ways to enhance social media adoption and continued use. This supported by Stephanie and Vladlena (2014) who reveals that if lecturers have knowledge about the social media barriers, they are can look for effective strategies to overcome them, which yield a sustainable adoption of social media in academic setting.

Barriers to social media integration include lecturers' attitudes and knowledge towards social media, inadequate knowledge and skills to incorporate social media academic setting, lack of management support and technical support (Govender & Mararaj, 2006; Bingimlas, 2009). This is supported by Pollard (2010) who states that if lecturers do not have sufficient equipment as well as lack knowledge of technology-supported pedagogy, it will be difficult to achieve meaningful integration and continued use of social media in the classroom. The following section discusses students perspective.



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1.6.1.4 Students perspective

A survey conducted by Margot, Ming, and Maree (2011) found that most students use social media tools such as Youtube, Whatsapp and Facebook (Nurulrabihah et al., 2013). However, Martinsen and Miller (2012) state that most students find it difficult to transfer their social media abilities from the individual domain to educational domain for academic purposes. Nakamaru (2011) adds that students must have computer literacy skills in order for them to utilise new technologies that are integrated in teaching and learning. The following section discusses theoretical frameworks applied to the study.

1.6.2 Theoretical Models

Theoretical models define boundaries and anchors of the research project. The research project integrated the unified theory of acceptance and use of technology (UTAUT) and the substitution, augmentation, modification, redefinition (SAMR) model as the theoretical frameworks to evaluate how social media adoption could be enhanced in academic setting at HBUs in South Africa.

1.6.2.1 Substitution, Augmentation, Modification, Redefinition Model

Puentedura (2006) developed the SAMR model which can help lecturers integrate technology into academic activities at universities. Oxnevad (2013) states that the model can be used to ascertain the level of social media integration in academic environment. Therefore, the model can also be useful to evaluate the integration of social media in teaching and learning at UFH (Oxnevad, 2013). Figure 2 below depicts the SAMR model.

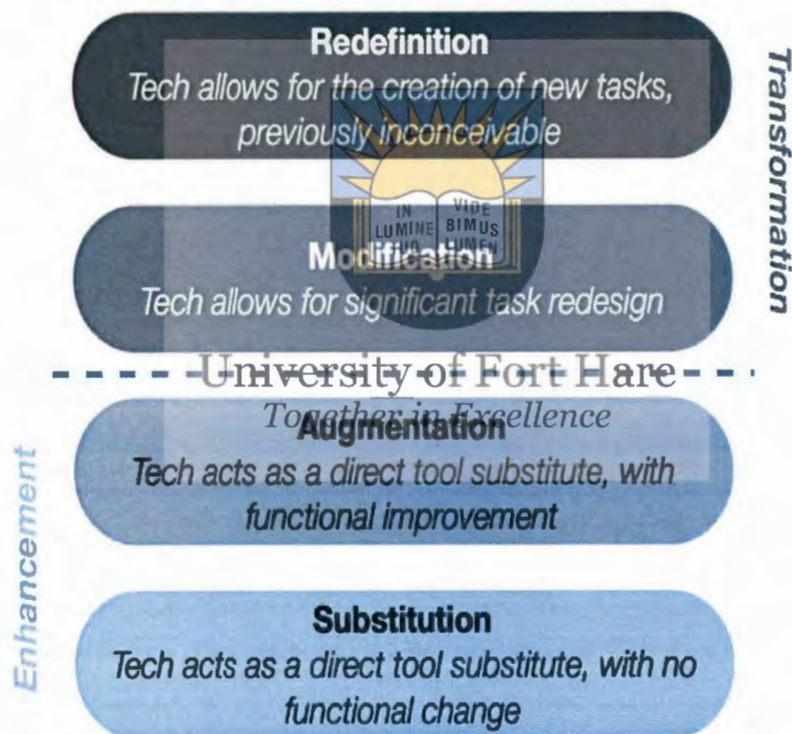


Figure 2: The SAMR model (Puentedura, 2006)

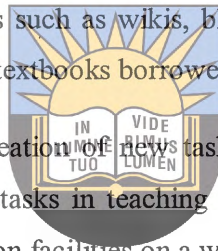
The model portrays levels of incremental technology integration in the teaching and learning environments at an HBU. The model consists of two sections. The first section is called *Enhancement* which is consist of the *Substitution* and *Augmentation* levels. *Transformation* is the second section where most learning takes place. This level consists of the *Modification* and *Redesign* levels (Puentedura, 2006).

Substitution is the first level where technology is used as a substitute by both lecturers and students. Technology is employed to accomplish the tasks as was done before the arrival of computers and

Web 2.0 technologies. For instance, lecturers used to post announcements on notice boards. This would be substituted when lecturers use social media such as Facebook and Twitter to deliver announcements to students (Bulbulia & Wassermann, 2015). The task is the same and there is no functional change.

With the *Augmentation level*, social media is used to complete tasks more efficiently (Oxnevad, 2013). Social media offers an effective tool to perform common tasks. A case study done by Lubega, Mugisha, and Muyinda (2014) states that social media can be useful to replace ordinary ways of accomplishing academic activities, however with little functional change. For example, when a lecturer uses subject communities such as wikis, blogs and chatrooms to look for vital research content instead of making use of textbooks borrowed from the library.

The *Modification level* allows for the creation of new tasks (Oxnevad, 2013). Cilliers (2016) describes how educators can create new tasks in teaching and learning with social media. For instance, lecturers may use group discussion facilities on a wiki to facilitate academic activities as well as collaborations amongst the students.



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The *Redefinition level* allows social media to be used for significant task redesign (Oxnevad, 2013). Lubega et al. (2014) describe how lecturers redesign teaching and learning with social media. For example, lecturers may ask learners to create their own notes from the discussions they make on social networking sites, or when educators use social media to express, share thoughts and ideas with students as well as peers with common interest. The next section discusses UTAUT.

1.6.2.2 Unified Theory of Acceptance and Use of Technology

Venkatesh, Morris, Davis, and Davids (2003) developed the UTAUT. The theory can be used to explain lecturers' intentions to make use of social media. According to the UTAUT, depicted in Figure 3, social media adoption in the teaching and learning environment can be affected by four main constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. Experience, age, gender and voluntariness of use are part of the theory and have direct impact on the four constructs (Venkatesh et al., 2003). The theory was tested and validated and found to explain 70% of the variance in user intentions (Venkatesh et al., 2003).

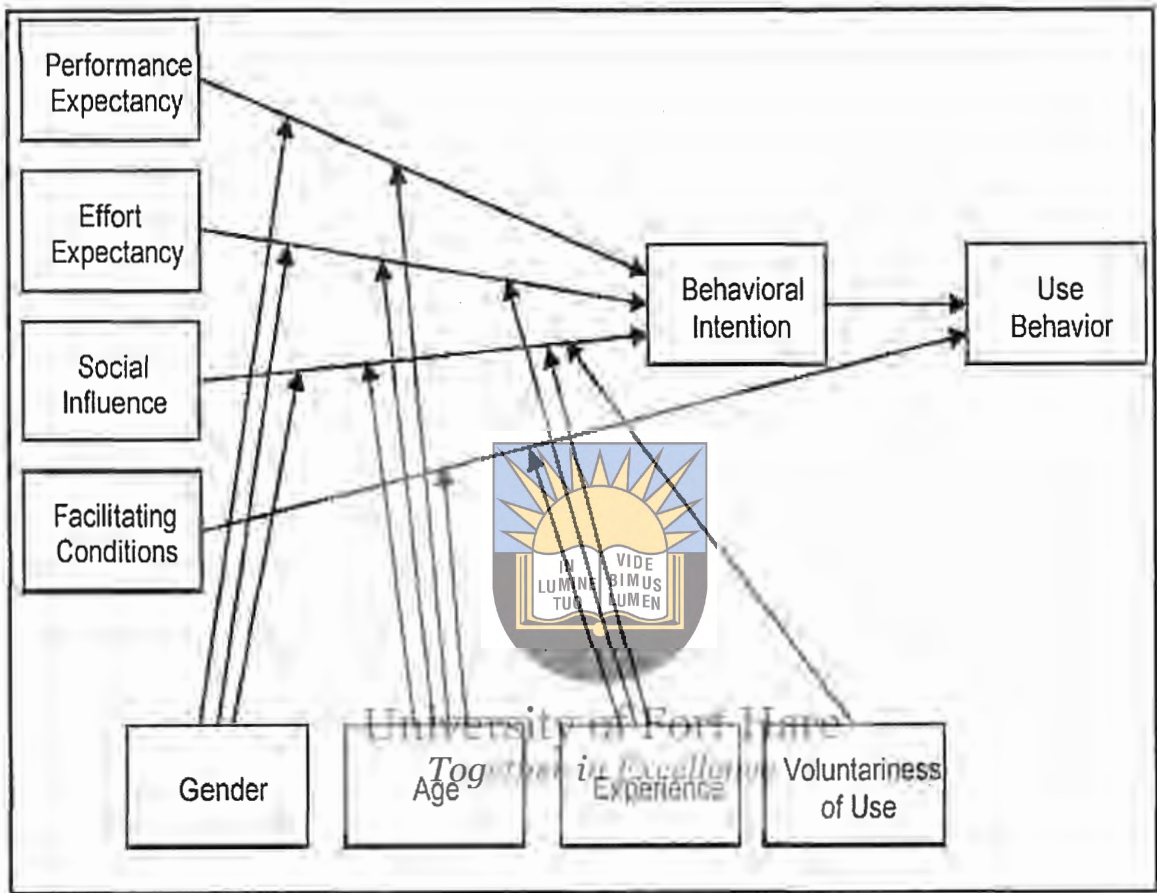


Figure 3: The UTAUT (Venkatesh et al., 2003)

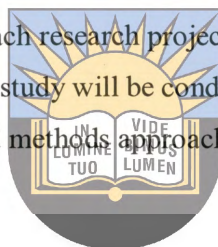
The UTAUT is one of the most cited theories used to test the acceptance of technology in higher education. Numerous research projects on the adoption and continued use of technology have applied and validated the UTAUT in recent Information Systems literature (Khechine, Lakhali, Pascot, & Bytha, 2014; Raman et al., 2014; Pardamean & Susanto, 2012). Therefore, the theory is applicable in this research project.

Pardamean and Susanto (2012) made use of the UTAUT to evaluate the acceptance of blog technologies in the teaching and learning environment. The results found that both social influence and performance expectancy have an influence towards lecturers behavioural intention of the use of blogs in teaching and learning, while effort expectancy did not. Therefore, the UTAUT can be used to explain the variance in usage intention of social media in teaching and learning.

In summary, the research project makes use of the UTAUT and SAMR models. UTAUT describes the constructs that influence the use of social media and continued use in teaching and learning. The SAMR model defines the benefits derived from the use of social media. Only when the lecturers are comfortable with using social media will they be able to request students to use it. Lowther et al. (2008) mention that students will increase their knowledge and skills when using technologies such as social media to complete their daily academic work. The next section discusses research design.

1.7 Research Design

According to Collis and Hussey (2009), each research project must have a research paradigm and research methodology that guides how the study will be conducted. The research project made use of a design science paradigm with a mixed methods approach. The following section will discuss the research paradigm.



1.7.1 Research Paradigm

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Collis and Hussey (2009) describe a research paradigm as an accepted model or pattern that guides the researcher on how the research project should be conducted. This research project applied design science paradigm, a problem solving paradigm, which focuses on the development and performance of artefacts for a particular problem (Hevner, March, Park, & Ram, 2004). Design science consists of seven guidelines that should be followed when conducting, evaluating and presenting the research. Table 1 presents these guidelines. The next section presents the contribution that was made by this study, making use of the design science knowledge contribution framework.

1.7.2 Design Science Knowledge Contribution Framework (DSKCF)

According to Gregor and Hevner (2013), the DSKCF depicts the diverse types of contribution developed from design science research. Figure 4 illustrates the four quadrants of this framework: Improvement, Invention, Exaptation, and Routine Design.

Table 1: Design science research guidelines (Hevner et al., 2004)

Design Science Guidelines		
Guideline	Description	This Study
Guideline 1: Design as an Artefact	Design science research must produce a viable artefact in the form of a construct, a model, a method, or an instantiation.	Critical success factors were developed for the adoption and continued use of social media at an HBU in South Africa.
Guideline 2: Problem Relevance	The objective of design science research is to develop technology-based solutions to important and relevant business problems.	Social media is not being used in teaching and learning at HBUs
Guideline 3: Design Evaluation	The utility, quality and efficacy of a design artefact must be rigorously demonstrated via well-executed evaluation methods.	Critical success factors for adoption and continued use of social media will be evaluated by experts in the field of technology integration and teaching and learning.
Guideline 4: Research Contributions	Effective design science research must provide clear and verifiable contributions in the areas of the design artefact, design foundations and/or design methodologies.	The main contribution of this study is critical success factors for the adoption and continued use of social media in teaching and learning at HBUs in South Africa.
Guideline 5: Research Rigor	Design science research relies upon the application of rigorous methods in both the construction and evaluation of the design artefact.	A mixed method approach is used in this study. Questionnaires, a pilot study and expert reviews are also used to discuss and refine the artefact of this study.
Guideline 6: Design as a Search Process	The search for an effective artefact requires utilising available means to reach desired ends while satisfying laws in the problem environment.	Primary data such as questionnaires and secondary data, such as literature, was used to construct the critical success factors. The critical success factors will be evaluated by expert reviews in order to refine it before the final Factors are published.
Guideline 7: Communication of Research	Design science research must be presented effectively both to technology-oriented as well as management-oriented audiences.	The completed thesis will be made available in the UFH library and findings from this study will be published in relevant journals. (Refer to appendix B)

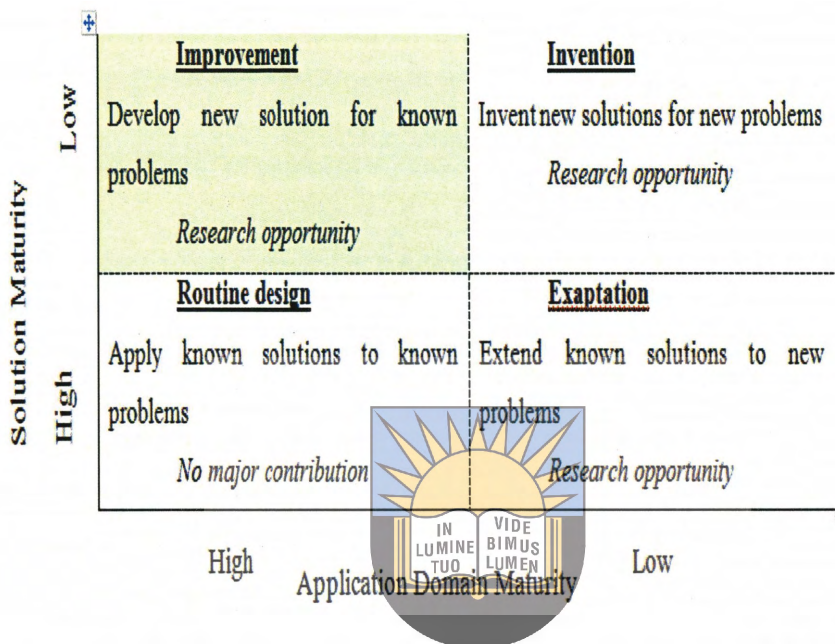


Figure 4: Design science knowledge contribution framework (Gregor & Hevner, 2013)

Gregor and Hevner (2013) state that the Improvement quadrant requires an understanding of the problem environment in order to be able to develop a new solution for the problem. This research project is placed in the Improvement quadrant as it focuses on developing new solutions (critical success factors) for a known problem (low adoption of social media in HBUs in South Africa). The next section discusses the research method used for this study.

1.7.3 Research Methodology

The research study applied a case study approach. Bromley (1990) defines a case study as a “systematic inquiry into an event or a set of related events which aims to describe social science and explain phenomenon of interest” (p. 302). According to Winter (2000), a case study allows the researcher to “fragment and delimit phenomena into measurable or common categories that can be applied to all of the subjects or a wider and similar situation” (p. 2). In this case study, the University of Fort Hare was used as the test ground as it is an HBU.

This study applied a mixed method approach to data collection. Oates (2006) describes a mixed method approach as the methodology that encompasses both qualitative and quantitative data gathering methods used to complement each method. The sequential embedded design will be applied to the study. Figure 5 below illustrates how the study was conducted.



Figure 5: Sequential embedded design (Adapted from Oates, 2006)

Inductive reasoning was applied to the study, which will lead to general conclusions or theories (Collis & Hussey, 2009). The following section discusses data collection method.

1.7.3.1 Data collection method

The study made use of empirical research, an expert review and a literature review comprised of secondary data including conference proceedings and current literature. The study therefore collects both primary and secondary data in order to answer the research problem.

1.7.3.1.1 Secondary data

Secondary data refers to the data collected for a purpose other than the current study and is readily available from other sources (Management Study Guide, 2013). The secondary data in this research project included an extensive literature review of works by expert authorities in the field of social media integration and information and communication technologies (ICT). A search from conference proceedings, book reports, and documents from websites, electronic sources and journal articles was performed. The most popular databases, such as ACM, Google Scholar and EBSCO Host, were included in the study to ensure a greater understanding of knowledge in the area is obtained. It also allowed for the development of the research instrument that was used to identify the CSFs to increase adoption of social media at HBUs.

1.7.3.1.2 Primary data

The Management Study Guide (2013) describes primary data as the data which is collected by the researcher. A questionnaire was used in this study to collect primary data. Ackroyd and Hughes (1981) define a questionnaire as a “data gathering tool used for the collection and recording of information about a particular issue of interest” (p. 7). Questionnaires were chosen because they are cost effective in seeking opinions of lecturers with regards to social media adoption at UFH (Popper, 1959). The questionnaire consisted of close-ended questions measured by making use of a Likert scale (1-5 scale). There are three sections in the questionnaire. The first section collects demographic data, the second collects information about the barriers to social media integration

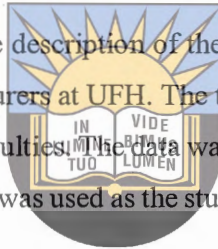
identified in Chapter 3 while the last section relates to the SAMR model and UTAUT. The questionnaire was piloted for user-friendliness and unambiguousness before it was sent to the study participants (*Refer to appendix C*).

1.7.3.1.3 Expert reviews

Simon (2011) describes expert reviews as a process used to collect and survey opinions of experts on a particular subject. Expert reviews were used to validate the formulated critical success factors derived from an extensive literature review and the questionnaires (*Refer to appendix D*).

1.7.3.2 Population and sample

Flick (2009) describes a population as the description of the study group under examination. The population of the study consists of all lecturers at UFH. The total number was projected to be more than 200 lecturers from all the different faculties. The data was collected from the entire population; therefore a convenience sampling method was used as the study is making use of a readily available study population.



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Five experts in the field of technology integration in teaching and learning in higher education were identified and asked to participate in this phase of the study. An open-ended questionnaire was sent to experts in order to elicit their opinion on the stated critical success factors.

1.7.3.3 Data collection

The questionnaire was distributed online to all lecturers at UFH in the various faculties. The lecturers' perceptions about the factors which prevent the integration of social media in teaching and learning at the University was tested. The findings from the questionnaires were used to formulate the Critical Success Factors to improve the integration of social media in learning and teaching practices.

After the critical success factors were formulated, an open-ended questionnaire was sent to the expert reviewers in order to elicit their opinion about the factors. The feedback received was used to refine the critical success factors.

1.7.3.4 Data Analysis Methods

All responses to the questionnaire was analysed as quantitative variables. SPSS version 22 was used to analyse the data making use of both descriptive and inferential statistics. The most

significant percentages were reported in the form of graphs and tables. The validity and reliability of the research instrument was tested using a pilot study. Cronbach's Alpha scores was applied to calculate each sub scale in order to test the reliability and consistency of the instrument.

The qualitative data gathered from the expert review was analysed making use of the NVivo data analysis tool. To ensure validity of qualitative data during analysis, a thematic content analysis was used. This type of analysis identifies, analyses and records themes within data, and organises and describes data in rich detail. The next section discusses the delimitation of the study.

1.8 Delimitation of the Research Project

The scope of the research project was restricted to social media integration at higher education institutions in South Africa. The study was conducted at UFH, focused on the lecturer perspective on using social media in teaching and learning. Government, small enterprises and secondary schools are not part of the investigation. The next section discusses ethical consideration.

1.9 Ethical Considerations

Saunders, Lewis, and Thornhill (2007) state that a researcher conducting research in higher education should consider the following factors relating to ethics: breaking respondent confidentiality; anonymity; deception; risk of harm; misrepresenting results; deceiving, and exploitation of respondents. The researcher is aware of the above ethical considerations and will conduct the research project without exploiting the ethical rights of the participants (McMillan & Schumacher, 2010). An application for ethical approval was made to the University Research Ethics Committee (UREC). The Certificate Reference Number is *CIL011SMUR0*. (Refer to *appendix A*). The next section presents proposed CSFs.

1.10 Proposed Critical Success Factors

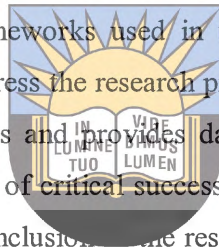
Olszak and Ziemba (2012) describe CSFs as aspects of a strategy that ought to be achieved to yield a positively favourable outcome of the project. The following CSFs were identified to enhance social media in teaching and learning at HBUs:

- ✓ *Providing adequate resources;*
- ✓ *Management support;*
- ✓ *Introduce a champion; and*
- ✓ *Providing adequate training to lecturers.*

These CSFs will be further discussed in detail in Chapter 7. The following section presents the research study layout.

1.11 Research Project Layout

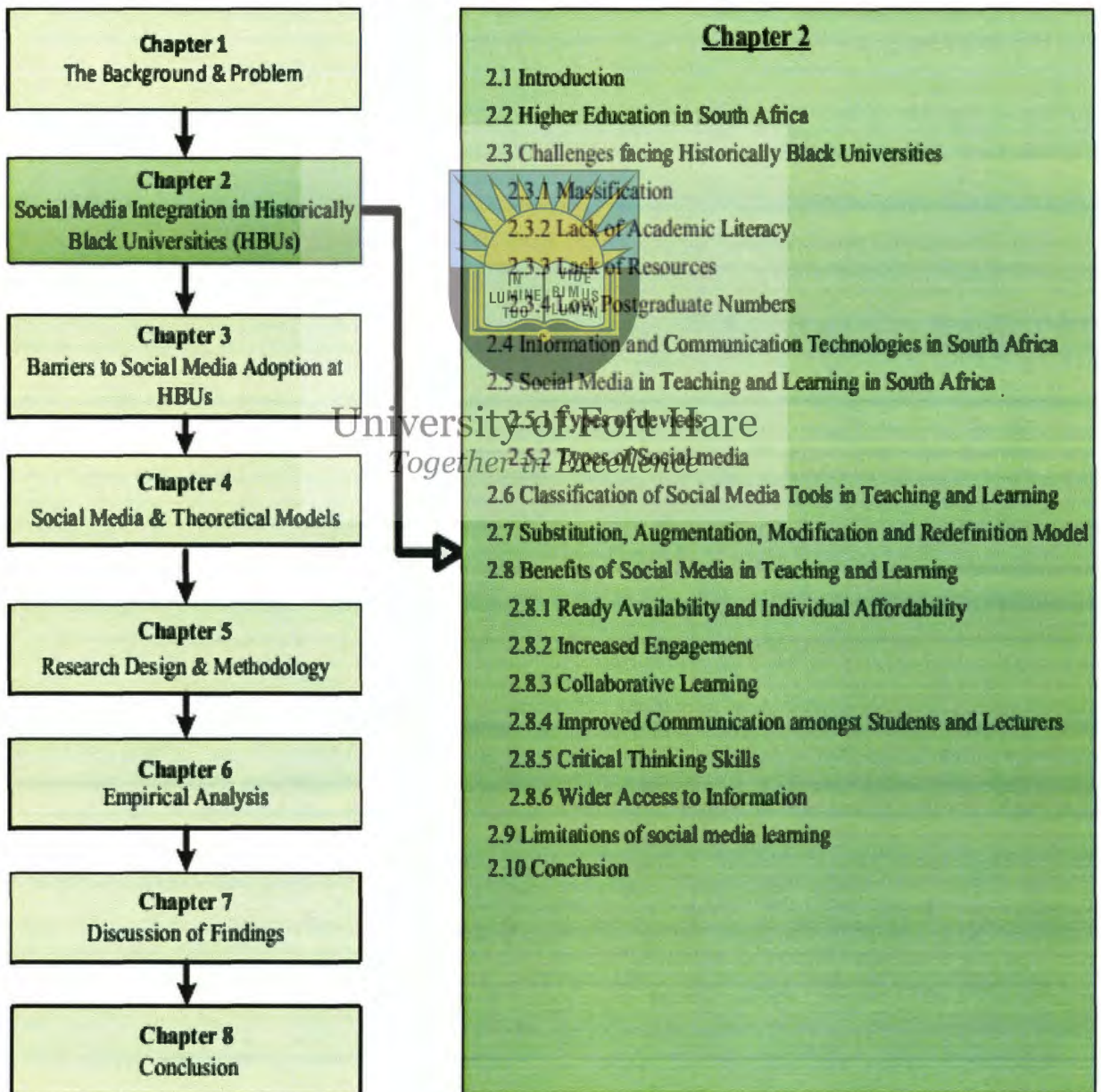
The research dissertation is divided into eight chapters. Introduction, problem statement, research project significant, objectives and the methodology are presented in Chapter 1. Chapters 2, 3 and 4 consist of the literature study. Chapter 2 comprises of a background of South African higher education, and the advantages and disadvantages of adopting social media at HBUs. Chapter 3 outlines in detail the barriers to effective social media integration at higher education institutions. Chapter 4 discusses the theoretical frameworks used in the study. The research design and methodology applied to examine and address the research problem will be outlined in Chapter 5. Chapter 6 outlines the empirical findings and provides data analysis. Chapter 7 provides the discussions and recommendation in form of critical success factors based on the findings of the data collected. Chapter 8 provides the conclusion of the research project and direction for future research. The next Chapter discusses the significance of social media integration in historically Black universities.



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Chapter 2

The Importance of Social Media Integration in Historically Black Universities (HBUs)

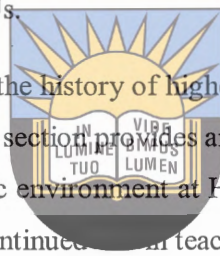


2.1 Introduction

Chapter 1 identified massification as one of the reasons for the low throughput rate at HBUs in South Africa. In the previous chapter, an expansive outline of social media integration in academic setting and the research question as well as aims of the research project were provided. A number of studies has revealed that social media in teaching and learning is playing an essential role to increase student – lecturer interaction, collaboration and communication in academia. Despite the popularity of social media, few lecturers use these tools in academia for educational purposes (Almeshal, 2015; Asma, 2012; Fusch, 2011). This chapter then discusses the importance of social media adoption and continued use in HBUs.

The first section of this chapter discusses the history of higher education, as well as the goals and problems associated with HBUs. The next section provides an overview of the role and integration of social networking tools in the academic environment at HBUs. The last section deals with the reasons why social media adoption and continued use in teaching and learning is low in HBUs.

Such engineering aimed at limiting HBUs to institutions of teaching and their limited potential and capacity was further exacerbated by the fact that most of them were located in



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2.2 Higher Education in South Africa

The term *higher education* is often used to represent all organised educational learning and training activities beyond the grade 12 level in South Africa (Council on Higher Education, 2013). The role of higher education in South Africa includes workforce development, high-level skills training, and producing, acquiring and applying new knowledge (Higher, Education and Training, 2015). There are 3 types of higher education institutions in South Africa: universities, technikons and colleges. Universities are able to award students with a bachelor's degree, which can range from 3-6 years of study depending on the discipline, honours degree, master's degree and doctorate degree. In addition, universities also offer a wide variety of certificate and diploma programmes in various disciplines (UNESCO, 2006). Technikons provide educational programmes in the technical and professional field which range from national certificates (one year course) to national higher diplomas (four year course). In addition, technikons may also offer degree programmes in technology (International Bureau of Education, 2003; Higher Education Monitor, 2009). Colleges typically offer only certificate and diploma courses in a specific discipline, e.g. education, nursing

or agricultural (UNESCO, 2006). Some of the institutions can be categorized as Historically Disadvantaged Institutions (HDIs), Historically Advantaged Institutions (HDIs) and Historically Black Universities.

Odhav (2009) described HDIs as institutes that were used as theatres of struggle which led to the dawn and ushering in of democracy, whereas, Morrow (2002) defines HBUs as higher education institutions in South Africa that are established with the purpose of serving the Black community. HBU was adopted in this research project as the study focuses on improving throughput rate at traditional universities.

The University of Fort Hare is an HBU in the Eastern Cape Province of South Africa and has three campuses located in Alice, Bhisho and East London. The East London Campus is located in an urban area; Bhisho is located in a semi-urban area, whilst the Alice campus is located in a predominantly rural area (Council on Higher Education, 2013; Teferra, 2014). The University offers degrees in 5 faculties – the Faculty of Management and Commerce, Science and Agriculture, Social Sciences and Humanities, Law and Education – where a range of degrees and diplomas are offered. UFH is the academic home of many of South African leaders, including Nelson Mandela, Oliver Tambo and Govan Mbeki (South Africa.info, 2015).



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After South Africa (SA) attained its independence in 1994, HBUs in SA opened their doors to students of all races to overcome apartheid inequalities and to create an equitable society. More than half of the students enrolled at HBUs are women, thus there is gender equality. Amongst the students enrolled at HBUs in South Africa, 8% are from other countries (Higher Education and Training, 2015; Higher Education Monitor, 2009).

HBUs have been tasked to graduate a large numbers of students with the necessary skills needed to drive the economy (Higher Education Monitor, 2009).The government require assistance from HBUs to play a vital role towards citizen empowerment through initiatives that accelerate economic growth and supply scarce skills. Therefore, the demands from the government can be achieved by educating students to drive the economy. This derives the need for powerful teaching and learning environments in HBUs in South Africa that will increase the quality of education and in turn will have a positive impact on the knowledge economy (Teferra, 2014). The following section describes challenges facing HBUS.

2.3 Challenges Facing Historically Black Universities

HBU are facing numerous challenges. These challenges include massification of education, lack of literacy, lack of resources, low postgraduate numbers, and high student dropout rates (Mohamedbhai, 2008; Badat, 2010). These will be expounded on in the following sections.

2.3.1 Massification

Previous studies have shown that massification is a global phenomenon and has resulted from factors such as the knowledge economy, globalization and democratisation of education. In European countries, Misaro, Jonyo, and Kariuki (2013) describe massification as “the gross university enrolment ratio of a country, a ratio approaching 50% is considered as mass enrolment” (p. 3). However, in emerging economies such as South Africa, Strydom et al. (2010) define massification as “the rapid increase in student enrolment maintained over several years” (p. 4). Additionally, in HBUs the massification of education has occurred without an accompanying increase in financial and human resources which has an effect on the physical infrastructure, research produced and the quality of students’ life. Higher Education and Training (2015) states that about 12 315 students are enrolled at UFH, contributing 1.25 % of total enrolment by public higher education institutions in South Africa.

The National Department of Education introduced the National Student Financial Aid Scheme (NSFAS) which is a loan and bursary scheme for students to acquire tertiary qualification (Bursaries, 2015). The availability of this scheme has contributed to massification as previously disadvantaged students have access to funding to finance their learning.

2.3.2 Lack of Academic Literacy

There is a poor level of academic literacy in teaching and learning at HBUs (Bati et al., 2015; Van Dyk, 2005). Neeley (2005) describes academic literacy as “ways of thinking, reading, speaking and writing dominant in the academic setting; involving ways of receiving knowledge, managing knowledge and creating knowledge for the benefit of a field of study” (p. 5). Studies has cited that academic literacy is amongst one of the reasons for the reduced quality of education and low throughput rates in HBUs (John, 2013). Students lacking academic literacy will find it challenging when they first enter HBUs. This means that lecturers must first infuse literacy skills to students.

Accordingly, Bati et al. (2015) point out that additional workload is assigned to lecturers because they must first improve students' literacy skills before they can deal with class content.

Researchers found that there has been a decline in the level of language proficiency among students accessing HBUs (Khumalo, 2015; Neeley, 2005; Van Dyk, 2005). Lack of academic literacy is evident in previous disadvantaged students because of the South African education policies and a number of other socio-economic factors such as poverty, gender inequality and culture.

2.3.3 Lack of Resources

Apart from lack of academic literacy skills by the students enrolled at HBUs, there is also a challenge of inadequate resources. These resources include financial, human resources and physical infrastructure to accommodate historically disadvantaged students that are accessing the university (Wang Enge-Ouma, 2012). Inadequate resources contribute negatively to the low throughput rate and success rate of students in HBUs (Khumalo, 2015). The next section discusses low postgraduate numbers.

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2.3.4 Low Postgraduate Numbers *Together in Excellence*

Low postgraduate numbers is amongst the challenges that HBUs must address. This is as a result of high dropout rates at undergraduate level (John, 2013). The Council on Higher Education (2013) states that there is a high dropout rate at first year level for undergraduate degrees, while three quarters of the remaining students will not graduate within the stipulated completion time. Factors contributing to high dropout rates include poor academic support and family pressure (John, 2013). In a report that examined postgraduates' numbers, it is estimated one out of three undergraduates will proceed to postgraduate level. This is because only a few students will attain their degrees within the prescribed time.

Table 2 on the next page compares the challenges facing higher education in a developed country, the United States of America (USA), and a developing country, South Africa. The comparison also shows that HBUs in South Africa are facing higher enrolment of previously disadvantaged grade 12 students than the USA, and these students are typically not prepared for tertiary education.

Table 2: Similarities between the South African and USA higher education context (Council on Higher Education, 2013)

Challenges facing higher education	
USA	SA
Low throughput rates	Very low throughput rate
Low participation from disadvantaged students in higher education	High enrolment of previously disadvantaged students
Student not satisfactorily prepared in high school	Grade 12 students inadequately prepared for higher education
Poor success rates amongst disadvantaged students	Poor success rates amongst disadvantaged students



This is contributing to the poor throughput rate with only 5% of Black African and Coloured undergraduates graduating in the prescribed time. Thus there is a need to improve the graduation rate in South Africa. One of the ways to do this is to improve the quality of education in HBUs by making use of ICTs. The following section will discuss the growth of ICT at HBUs.

2.4 Information and Communication Technologies in South Africa

According to Liu and Hwang (2010), the advent of ICT has precipitated various changes in the teaching and learning environment. Perron, Taylor, Glass, and Margerum-Leys (2010) define ICTs as “technologies used to convey, manipulate and store data by electronic means. This can include e-mail, Whatsapp, video chat (e.g. Skype) and online social media (e.g. Facebook). It also includes all the different computing devices (e.g. laptop computers and smart phones) that carry out a wide range of communication and information functions” (p. 67). ICT is useful for economic development and should be prioritised by HBUs and South African government. HBUs are putting ICT strategies in place in order to benefit from the integrating of technology in academic setting. When social media is combined by relevant content and services, it can help to improve the low throughput rate at HBUs (Almeshal, 2015).

HBUs are adopting a variety of tools to foster effective learning of students and improve teaching and learning methods. These tools include Learning Management Systems (LMS), smartboards

and e-Learning. However, due to the cost of these tools, numerous HBUs have been investigating the usefulness of emerging tools in transforming academic activities (Almeshal, 2015). Studies reveal that the integration of emerging technologies in academic activities may assist in enlightening students' critical thinking skills and also improve self-concept and motivation. Furthermore, social media improves the interaction and collaboration between students and lecturers that will be difficult to attain without aid of social media tools (Hew & Brush, 2007; CHE, 2007).

One of the reasons for the increased investment in ICTs in HBUs is that it has become part of our lives. According to SouthAfrica.info (2015), 41% of residence in South Africa use the Internet. The country is ranked 5th in Africa and 92nd worldwide based on personal Internet usage. Additionally, researchers have found that more than 25.5 % of South African households have Internet access, thus placing the country 5th in Africa and 44th among developing countries for household Internet access. The use of mobile devices to access the web is increasing; South Africa is ranked number 62nd in the world and the connection rate is 26 out of 100 people compared to the global average of 22 (SouthAfrica.info, 2015).



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Nearly 30 million South Africans access social media networks through their mobile phones (Robinson, 2014). Duff (2014) states that the most popular social media site in South Africa is Facebook with 12.5 million users. YouTube is cited as the second most popular with 8.5 million users and Twitter third at 7.1 million. LinkedIn experienced an enormous growth of nearly 45% from 2013 up to 4 million users in 2014, whilst Instagram users increased from 680 000 in 2014 to 1.1 million users in 2016. However, Pinterest and Mxit users are decreasing in numbers. In a duration of a year, Pinterest user numbers decreased from 910 000 to 840 000 while Mxit user numbers dropped from 6.5 million to 4.9 million (Duff, 2014).

Most of the student population enrolled at higher education institutions are using social media (Almeshal, 2015). Therefore, HBUs ought to incorporate social networking tools that support individual learning spaces hence this will yield student-centred education spaces. This is supported by Gonzalez (2010) who asserts that the integration of social media in the traditional university academic environment has increased during the last decade. Bingimlas (2009) mentions that the rapid growth of social media is playing an essential role towards teaching and learning process in higher education systems and has triggered HBUs to integrate these technologies in their teaching

and learning environments. For this reason, social media adoption can be used to do old activities in new ways in academic field. The following section discusses social media in the academic environment.

2.5 Social Media in Teaching and Learning in South Africa

Tarantino et al. (2013) describe social media as a “range of web-based tools and services that are designed to encourage community development through collaboration and information sharing” (p. 2). Social media adoption in the teaching and learning environment has improved in the preceding years (Motamedi, 2010).

Studies has revealed that lecturers are exploiting social media in academic setting with the aim to create innovative learning environments (Birch & Irvine, 2009; Chen & Bryer, 2012). Additionally, Madhav, Joseph, and Twala (2014) point out that most students are aware of social media tools, for instance Facebook, Twitter and Whatsapp, and they are willing to integrate these tools in academia as they will make university life more convenient for them since there will be no need to visit the university computer laboratory to check for announcements. This is supported by Mbodila, Ndebele, and Muhandji (2014), who conducted a study at the University of Venda in South Africa, who indicate that students, tutors and lecturers are using social media to communicate with each other.

Wiid, Nell, and Cant (2015) conducted a study at University of South Africa (UNISA) on lecturers' opinions on social media networking in academic environment. Social media was found to be underutilised by the majority of lecturers for academic purposes regardless that these tool could support distance learning. This is supported by Cilliers (2016) who postulates that students will not voluntarily make use of social media, for instance wikis, regardless of the numerous benefits derived from the use of the technology. Lecturers ought to educate students on benefits of using wiki in academic setting at HBUs with the aim to increase collaboration amongst students.

However, changes in the structure of HBUs are necessary for supporting effective teaching and learning with emerging technologies (Motamedi, 2010). There are elements that need to be in place before social media may perhaps be incorporated in the academic environments. The curriculum need to allow social media to be aligned to teaching and learning.

Motamedi (2010) states that there are specific elements necessary to develop powerful teaching and learning environments at HBUs. These elements include the vision to integrate social media, ensuring that lecturers will have time to learn and plan how to use social media, provision of both technical and management support, matching social media to education goals and standards, and the provision of both pre-service and in-service training. Conversely, there must be tools in place to enable social media learning, such as mobile phones, laptops and tablets which accommodate social media applications. Figure 6 below depicts key elements for developing better teaching and learning environment for students at HBUs. Thereafter, the next section discusses types of devices that could be used to facilitate teaching and learning at HBUs.

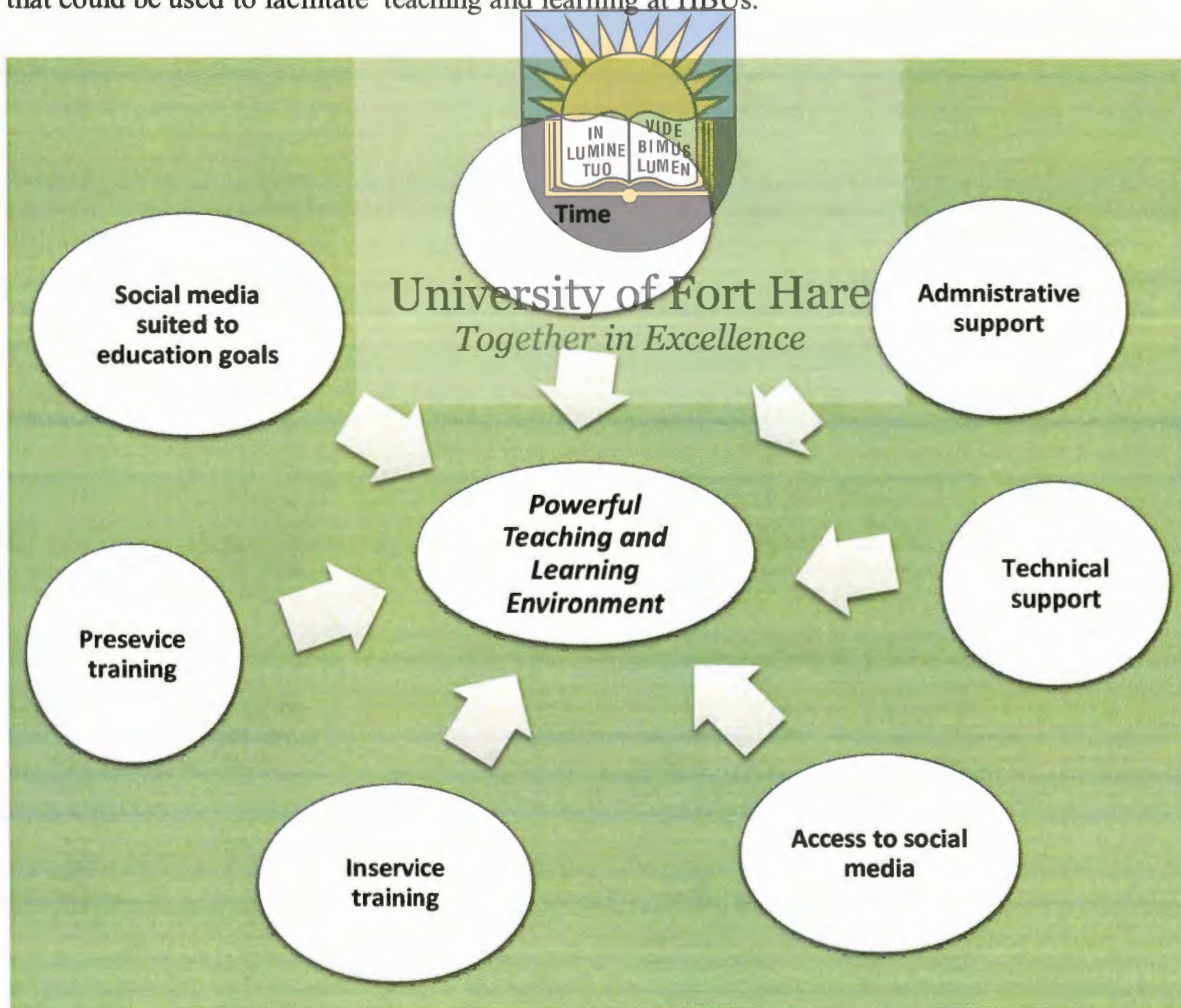


Figure 6: Factors necessary for powerful teaching and learning environments (Motamedi, 2010)

2.5.1 Types of Devices

Various devices can be used by both lecturers and students at HBUs. These devices include smartphones, tablets, laptops, iPads and iPods that could be used as they facilitate effective teaching and learning (Kagohara et al., 2013). Linckels et al. (2009) state that lecturers already rely on electronic teaching tools to teach large classes, e.g. Learner Management Systems and portable projectors. Furthermore, the ICT Department at the University of Fort Hare distributed tablets to students (SA Bursaries, 2015). Thus, the availability of these devices to students will support social media learning as it increases student – lecturer interaction (Prosser & Trigwell, 2013). However, in order to adopt social media into the academic setting, both student and lecturers should be technology literate. Technology literacy will be further discussed in Chapter 3. Figure 7 presents types of devices that should in place in order to integrate social media in academic setting, thereafter the next section discusses the most common social media tools integrated in academic environment.

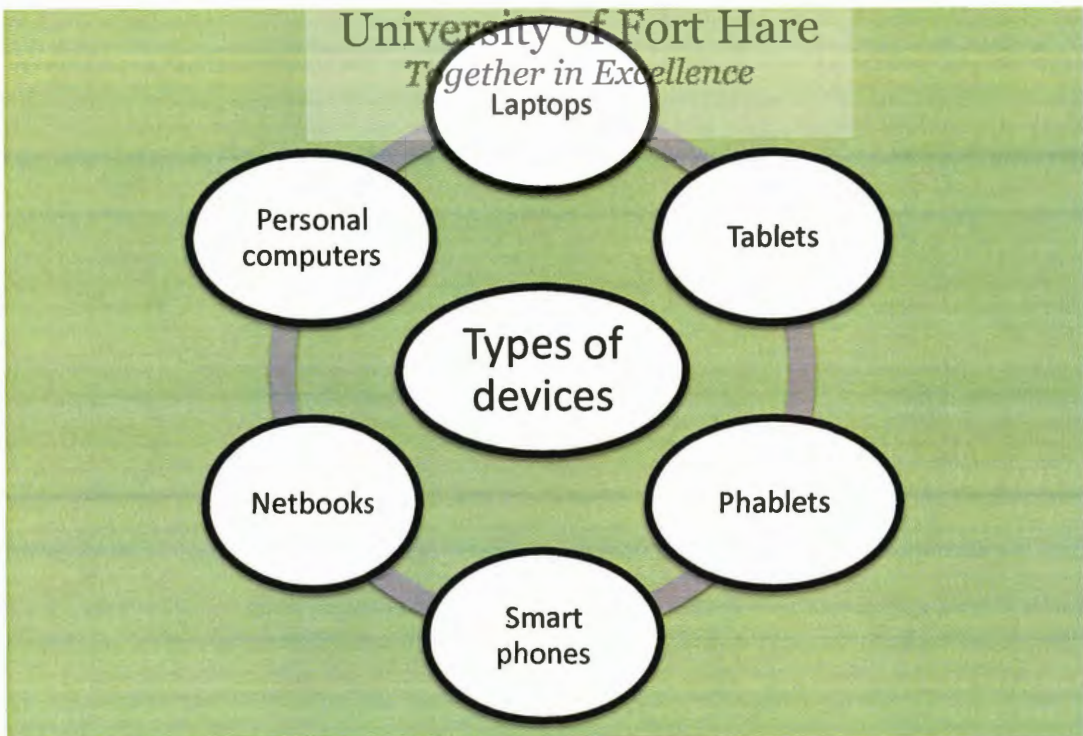


Figure 7: Types of devices (Kagohara et al., 2013)

2.5.2 Types of Social Media

Social media provide features that help to manage students and promote student – lecturer interaction (Kaplan & Haenlein, 2010; Kagohara et al., 2013). This section provides a description of the most common social media that could be integrated in teaching and learning at HBUs.

1. *Twitter* – Rodens (2011) describes Twitter as a “combination of personal publishing and communication with a new type of real time publishing allowing for immediate and anytime anywhere feedback” (p. 3).
2. *Blog* – Solomon and Schrum (2014) describe a blog as a type of a website or sort of a journal that can be created by lecturers and maintained with a hosting platform with space for writing and can be updated whenever the lecturers desires.
3. *Wikis* – Cilliers (2016) describe a wiki as a website or platform that can be used by lecturers and student to update in real time. Wikis encourage students to collaborate with their peers because information on the site could be modified while new information may be added.
4. *YouTube* – Solomon & Schrum (2014) describe a YouTube as a video sharing platform that enables users in this case students and lecturers to upload and share videos of their own
5. *Facebook* – Solomon & Schrum (2014) describe Facebook as a platform that is used by individuals to build social relations among peers, for instance, share interest, pictures and posts (Solomon & Schrum,2014). Facebook is a social networking website that is useful in academic setting.

The following section discusses the classification of social media tools in teaching and learning.

2.6 Classification of Social Media Tools in Teaching and Learning

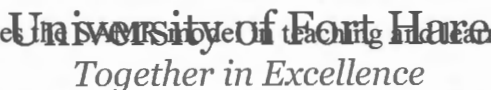
According to Kaplan and Haenlein (2010), social bookmarking, social networks, wikis, micro blogging and forums are different forms of social media. Cavazza (2008) states that social media can be classified into different categories: publication tools, sharing tools, and discussing tools. Furthermore, Kaplan and Haenlein (2010) divide social networking tools into three groups including communication, sharing and collaboration. Figure 8 classifies various types of social media tools according to these classifications.

Social networks, discussion forums and microblogging are grouped as communication tools. Blogs, podcasting, multimedia sharing and social bookmarking are classified as sharing tools, while wikis can be used for collaboration purposes. Thus, social media adoption at HBUs could play a key role in three areas: communication, sharing of information, and collaboration.

Communication	Sharing	Collaboration
<ul style="list-style-type: none"> • Social Networks • Discussion Forums • Micro Blogging 	<ul style="list-style-type: none"> • Blogs • Podcasting • Multimedia sharing • Social Bookmarking 	<ul style="list-style-type: none"> • Wikis

Figure 8: Social media classification (Kaplan & Haenlein, 2010)

The following section introduces the SAMR model of teaching and learning.



2.7 Substitution, Augmentation, Modification and Redefinition Model

The evolution of mobile devices and social media tools has allowed lectures and students to teach and learn ubiquitously as it makes the task of teaching and learning easier and allows for the improvement of throughput rates of students. The Substitution, Augmentation, Modification and Redefinition (SAMR) model is one of the models employed in this study to measure the usefulness of social networking tools in the academic setting. The model was developed by Puentedura (2006) to help lecturers integrate technology into teaching and learning practices at HBUs.

The model consists of two sections. The first section is called *Enhancement* and consists of the *Substitution* and *Augmentation* levels. *Transformation* is the second section where most learning takes place. It consists of the *Modification* and *Redesign* levels (Puentedura, 2006). Puentedura (2006) states an enhancement section in the SAMR model is significant in the academic activities in higher education. Figure 9 depicts the SAMR model.

Oxnevad (2013) states that the model can be used to find the level of social media adoption and continued use in the lecturerooms at HBUs. Additionally, the model also portrays levels of incremental social media integration in academic environments at an HBU.

Substitution dimension is the first level where technology is used as a substitute by both lecturers and students. Technology is employed to accomplish the tasks as was done before the arrival of computers and Web 2.0 technologies. For instance, lecturers used to post announcements on notice boards. This would be substituted when lecturers use emerging technologies, for instance, Facebook and Twitter to deliver announcements to students (Bulbulia & Wassermann, 2015). The task is the same and there is no functional change. A further example is e-Tutoring, whereby tutors conduct their classes interacting with students through virtual learning. This is supported by Schlenkrich and Sewry (2012) who assert that social media in teaching and learning is substituting both distance learning and the traditional face- to-face lectures.

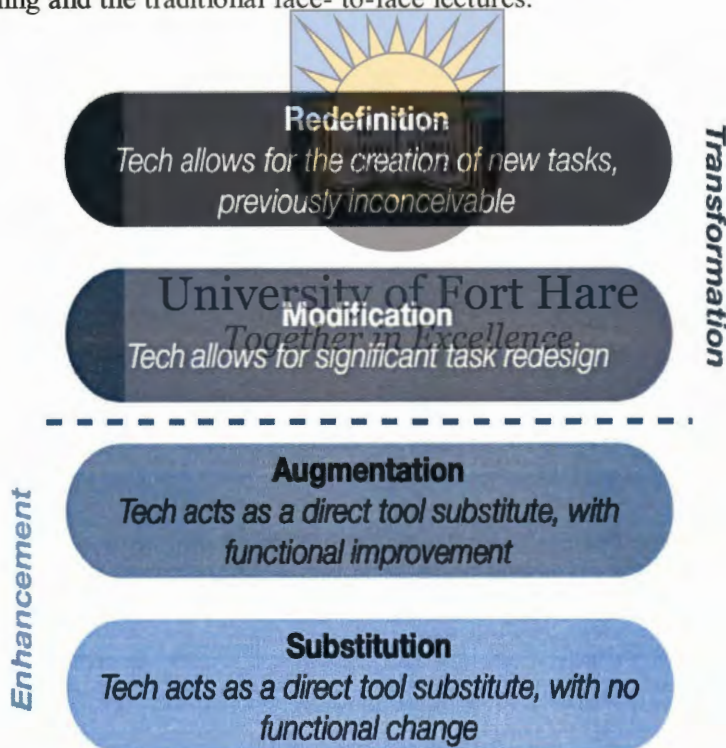
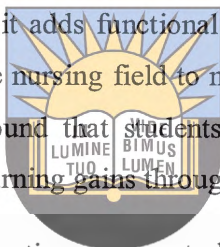


Figure 9: The SAMR model (Puentedura, 2006)

With the *augmentation dimension*, social media is used to complete tasks more efficiently (Oxnevad, 2013). Social media offers an effective tool to perform common tasks. A case study done by Lubega et al. (2014) shows that social media can be useful to replace traditional ways of academic activities on the other hand with little functional change. For example, when a lecturer

uses subject communities such as wikis, blogs and chatrooms to find information necessary for research instead of using textbooks borrowed from the library.

A further example of augmentation is portrayed in a study by Chuang and Tsao (2013) who investigated how text messages, for instance, SMS would help nursing students to remember different medication instructions. Participants in the training were categorised into two groups. SMS text message were sent twice to students on specific medications in addition to the regular classroom lecture. Thus, the availability of mobile applications, for instance Whatsapp, could be used to play the same role as SMS text messages. The use of mobile phones in teaching and learning could be categorised as augmentation as it adds functional improvement. Therefore, Whatsapp messages could be used by students in the nursing field to memorise essential information about medications. The results of the study found that students who received SMS text messages everyday revealed meaningfully higher learning gains through the course of the study.



The *modification level* allows for the creation of new tasks (Oxnevad, 2013). Cilliers (2016) describes how educators can create new tasks in teaching and learning with social media. For instance, lecturers may use group discussion facilities on a wiki to facilitate teaching and learning as well as collaborations amongst the students.

Furthermore, modification is illustrated in a study conducted by Wang, Yu, and Wu (2013), where the researchers designed a module, eMASE (mobile assisted social e-learning), to assist in a speech and debate course. In this study, students were tasked to work in groups. Mobile social applications including Facebook, WeChat, LINE and YouTube were used to support group interaction and training. The findings of this study indicated that a number of students found that mobile applications are a useful tool and it improved their teaching and learning skills. The use of social media application in the case study was optional and all the tasks could be completed by other traditional means of communication. Students that were participating using social media were found to be more confident and engaged in their learning (Romrell et al., 2014). Therefore, the addition of the training through social media reflected how social media could be used in teaching and learning at HBUs.

The *redefinition level* allows social media to be used for significant task redesign (Oxnevad, 2013). Lubega et al. (2014) describe how lecturers redesign teaching and learning with social media. For

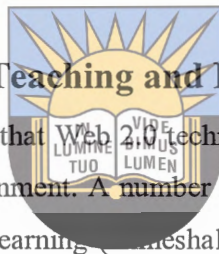
example, lecturers may ask students to make their own notes from group discussion threads in social networking sites or when educators use social media to express, share thoughts and ideas with students as well as peers with common interest. Before, these activities would not have been possible without the aid of social media due to the geographical distance. Additionally, redefinition is portrayed in a study by Liu and Tsai (2013) who investigated how a mobile application helps students from China to learn English. The authors classified the learning activity in the *redefinition level* because it was not possible for Chinese students to learn English at the university without the aid of mobile devices. The following section will discuss the benefits of social media in teaching and learning.

2.8 Benefits of Social Media in Teaching and Learning

The University of Glasgow (2013) states that Web 2.0 technologies provides a new paradigm to improve the teaching and learning environment. A number of studies perceive social media as a means to promote more student-centred learning (Animeshal, 2015; Asma, 2012; Chen & Bryer, 2012). Social constructivist pedagogies were developed for students to take part in social networks for teaching and learning. Thus, social media is a useful tool which offers a mechanism for students to assess each other in order to build an active community of practice. The benefits of using social media in the classroom include availability and individual affordability, increased student engagement, collaboration learning effective communication, improved critical skills amongst students, as well as wider access to information.

2.8.1 Availability and Individual Affordability

Roblyer, McDaniel, Webb, Herman, and Witty (2010) state that social networking sites, for instance Facebook and Twitter, are widely adopted by students in their personal life and therefore could be used to facilitate their teaching and learning process. Facebook and Twitter are also cost effective as they require minimum training (Stephanie & Vladlena, 2014). Therefore, these tools are readily available and can be afforded by a number of students. On the other hand, De Lanerolle (2015) reports that data cost in South Africa is expensive. This point will be further explained in detail in Chapter 3. The following section discusses increased engagement through social media learning.



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2.8.2 Increased Engagement

One of the reasons for employing social media in teaching and learning is to increase student engagement at HBUs (Asma, 2012). Krause and Coates (2008) describe student engagement as “the extent to which students are engaging in activities that higher education research has shown to be linked with high-quality learning outcomes” (p. 493). Similarly, Hu and Kuh (2001) define engagement as “the quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes” (p. 3).

Social media tools assist students to create a virtual community where they can share the same interest with peers (Kaplan & Haenlein, 2010). However, there are factors such as time and energy that could affect student engagement in virtual communities. Tarantino et al. (2013) state that student engagement denotes time and energy spent by each student to interact with others.

Twitter is an example of social media that can encourage student – lecturer engagement, if the tool is properly integrated in academia. The usefulness of Twitter has led a number of universities around the world to incorporate it in teaching and learning as it can play a vital role in achieving the learning objectives at these universities. Laird and Kuh (2005) add that the use of Twitter will foster active learning and interaction amongst students and lecturers. Furthermore, lecturers should have the knowledge of how Twitter could be integrated into the learning process as the tool only allows ‘tweets’ of 140 characters at a time. The next section discusses collaborative learning.

2.8.3 Collaborative Learning

Apart from student engagement, collaboration of students in the teaching and learning process is an essential factor in order to achieve quality graduates with adequate skills. Collaborative learning is based on the view that knowledge is a social construct. Cornell University (2014) describes collaborative learning as “the learning that involves students working in pairs or small groups to discuss concepts, or to find solutions to problems” (p. 1). This regularly happens in a lecture session after students are introduced to course material through readings or instructor lectures.

In order to incorporate collaborative teaching and learning approaches in the academic setting at HBUs, lecturers must have knowledge of the students’ preferred learning styles and their own conceptions of learning. This is important as the lecturer will make the decision of where and how to start an online collaborative project. This position is supported by Cilliers (2016) who claims

that lecturers have responsibility to ensure that social media is adopted into their classrooms. Therefore, desirable outcomes are attained if the interactions are reinforced at HBUs.

Collaborative learning shifts the responsibility for teaching and learning from lecturers to the students, thereby reducing lecturers' workload. This position is supported by the researcher as it is cited in the first chapter of the research study that the massification taking place at HBUs is increasing lecturers' workload as larger number of students are enrolled by the universities (Tom, 2011).

Kaplan and Haenlein (2010) state that since students will be actively participating in debates and negotiating ideas in their groups, it will help to enhance students' interest in learning. Notably, by engaging in discussion and taking responsibility for their learning, students are encouraged to become critical thinkers. Numerous studies point out that students who work in groups tend to learn more effectively (Fusch, 2011; Jovanovic, Chiong, & Weise, 2012).

Wikis can facilitate effective collaboration of students and lecturers, thereby increasing interactions. Cilliers (2016) states that wikis use a basic format language, therefore this means that no exceptional web skills are necessary. However, Nakamaru (2011) argues that in order for students to utilise social media effectively in their classrooms, they must have computer literacy skills. Also, Heng and Marimuthu (2012) support the argument by Nakamaru (2011), stating that students are required to demonstrate basic word processing skills when using wikis. At UFH, first year students are required to complete a Basic Computer Literacy Course at the start of the academic year in order to improve their computer literacy skills.

Some wikis support the creation and editing of content. This flexibility stimulates its usefulness in teaching and learning at higher education institutions. However, students are familiar with technology used by wikis because they use social media tools in their personal lives (Cilliers, 2015). For this reason, students' communication, negotiation, and interpersonal skills can be strengthened.

The discussions and interactions through social media allow knowledge to be shared amongst students and lecturers. Social media sites with blogs, podcasting, multimedia sharing and social bookmarking foster sharing of information (Harkema, 2015). However, students must be aware of the subject being discussed before sharing information. Therefore, a network could be created

amongst students that provides the opportunity to increase their knowledge through learning further than the traditional classroom setting.

Apart from increasing student engagement and collaboration of students in the teaching and learning environment, Harkema (2015) states that students need to know in what way to use social media to communicate and collaborate in their future careers. Every job uses at least one form of technology, therefore every student needs to be comfortable with using social media. Lederer (2012) also points out that graduates can use social media such as LinkedIn to connect with other job seekers and future employers. Therefore, technology allows students to prepare for the working environment. The following section discusses improved communication.

2.8.4 Improved Communication amongst Students and Lecturers

One of the reasons to adopt social media applications at HBUs is to support instructional and effective communication between students and lecturers which is reduced by the massification of higher education. The integration of emerging technologies into academic setting will assist students to have more interaction with their lecturers and peers, including international students who may use distance learning (Edinson, 2011).

Lederer (2012) adds that social media in HBUs enhances the knowledge of students as a result of students and lecturers' communication and interaction via social media applications. Social media is useful in academic setting as it increases the interaction amongst students and lecturers. Batikas et al. (2013) state that social media learning will also create a safe harbor to those students who are nervous to participate in class.

Facebook is one of the most common emerging technology specifically used for communication. As discussed earlier, most of the students do have Facebook accounts and are willing to use them for educational purposes as it is affordable and accessible. This is supported by Georgina and Hosford (2009) who point out that accessibility is one of the core issues that need to be considered. Students should not find it problematic to access web based instructional platforms such as Blackboard, Desire2Learn and Web CT. This will facilitate the easy use of technology by both students and educators.

2.8.5 Critical Thinking Skills

Web 2.0 technologies allow student to improve critical thinking skills. This is obtained when they engage in realistic and challenging tasks within a collaborative learning context (Teferra, 2014). Brindley, Walti, and Blaschke (2009) found that students can develop self-reflection skills through engaging on realistic and challenging tasks on social networking tools. This is because students could express their thoughts openly to their peers. Furthermore, students may acquire computer and Internet skills which they can apply outside the education setting, for instance in the workplace or other facets of their lives. However, the University of Glasgow (2013) argues that the availability of social media does not guarantee that all students will utilise technology for academic purposes. Thus, the utilisation of social media should be complemented with an effective pedagogical approach. The next section discusses wider access to information.

2.8.6 Wider Access to Information

Traditionally, students had to visit a library to find information. Harkema (2015) stated that the need to carry heavy books to and from the campus every day is obsolete. Textbooks can stay in the library or at home because the information that the lecturer and student need can easily be accessed on the Internet

With the aid of social media, students can gather information almost instantaneously. Students can access the educational sites for online teaching or learning from anywhere in the world. All that they need is access to the Internet through their smartphones to access current information to support their studies. This is because web- based content can be updated in real time.

Solomon and Schrum (2014) describe a blog as a web information sharing technology. Therefore, blogs can function as an online journal and have distinctive date entries about an issue with the most recent comments shown first in reverse chronological order (Solomon & Schrum, 2014). Blogs provide links to other websites and contents which are contributed by other scholars or a group of professionals, thereby providing wider access to information. The following section discusses the shortcomings of using social media at HBUs.

2.9 Limitations of Social Media Learning

The slow pace of social media learning at HBUs may be due to several reasons(not limited to) (Asma, 2012; Alfreds, 2013; Bexheti, Ismaili, & Cico, 2014; Almeshal, 2015), such as:

- ✓ Inadequate technology resources;
- ✓ Inadequate knowledge and skills to use social media in academia;
- ✓ Inadequate knowledge of technology-supported pedagogy;
- ✓ Institutional barriers;
- ✓ IT literacy;
- ✓ Lack of privacy and security risks;
- ✓ Lecturer attitude and beliefs; and
- ✓ Lack of time to make changes and adjusting.



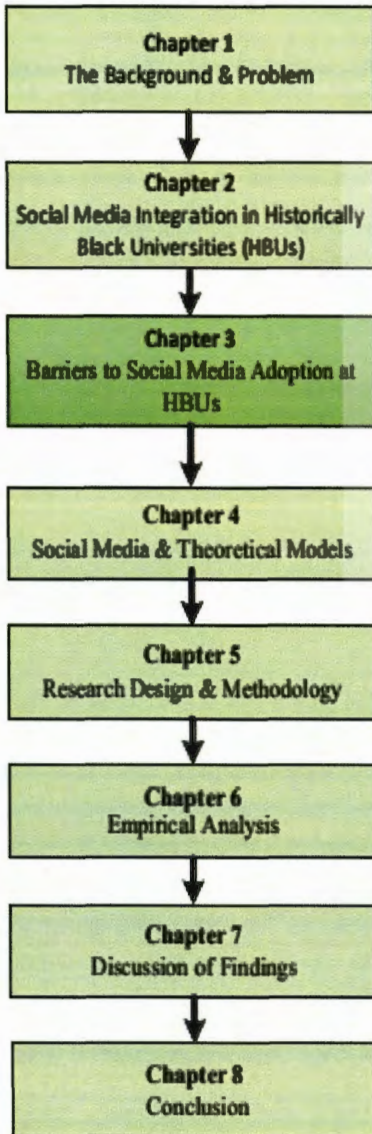
These limitations are discussed in more detail in the following chapter.

2.10 Conclusion

Social media, for instance Facebook, Twitter, Wikis, along with open social practices, for example blogging, are useful in teaching and learning environments in diverse ways. These tools have the purpose of convenient communication and collaboration and sharing of information with peers in the classroom, subject experts and peers outside the class of the same subject. The SAMR model was introduced in the chapter to outline how social media could be adopted at different levels of higher education in order to increase student-lecture interaction. The use of numerous social media tools is attractive at HBUs to reduce student – lecturer interaction. Social media enables discussion and information diffusion amongst students and lecturers, thereby building common understanding of the course material. The literature has highlighted the importance of social media in teaching and learning HBUs. Social media provides tools to enhance the throughputs and success rates at HBUs in order to address critical skill shortage in South Africa. Thus, if lecturers adopt social media into academic settings, the overall student learning will increase. The following chapter, Chapter 3, will present barriers to social media adoption and continued use at HBUs.

Chapter 3

Barriers to Social Media Adoption at HBUs



Chapter 3

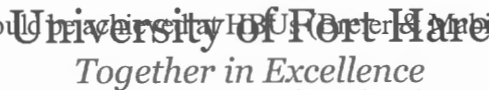
- 3.1 Introduction
- 3.2 Barriers to Social Media Adoption in teaching and learning
 - 3.2.1 Inadequate Technology Resources
 - 3.2.2 Inadequate knowledge and skills to use social media in academia
 - 3.2.3 Lecturer's Attitudes and Beliefs
 - 3.2.4 Institutional Barriers
 - 3.2.5 Lack of privacy and security risks
 - 3.2.6 Subject Culture
 - 3.3.8 Distraction to the Students
- 3.4 Conclusion

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3.1 Introduction

Mobile devices and social media tools are two significant emerging technologies that can positively influence teaching and learning practices at HBUs. Initially, social media was employed by both lecturers and students for personal use only; however, the technology has now advanced to include other domains as well (Bexheti et al., 2014). HBUs are using social media platforms in order to maintain alumni relations, increase institutional reputation and pride, as well as to increase student – lecturer interaction. Diverse reasons for adopting social media in academic settings were outlined in the preceding chapter. This chapter will discuss the barriers that can prevent HBUs from incorporating social media into the academic setting.

The reason why HBUs are investing in Web 2.0 technologies is the need to enhance teaching and learning to accommodate the students who expect a technology-rich learning environment (Stephanie & Vladlena, 2014). However, there is pressure on lecturers to adopt social media into their classroom in order increase student – lecturer interaction and collaboration such that high throughput and success rates could be achieved (HBU, Bernard Matizela, 2008; Teferra, 2014)



The chapter is organised as follows: In the next section, the chapter discusses the challenges associated with effective adoption and continued use of social media in teaching and learning at HBUs; the last section presents the model which summarises the chapter, thereafter the chapter concludes.

3.2 Barriers to Social Media Adoption in Teaching and Learning

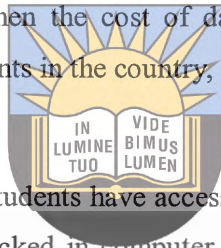
The adoption of social media in academic settings is a challenging process and lecturers can expect to encounter a number of difficulties. Hew and Brush (2007) state that a number of studies found diverse types of barriers to social media integration in the academic setting. Barriers such as resources, institution, attitude and beliefs, culture, knowledge and skills have been shown to influence social media adoption and continued use in academia at HBUs (Almeshal, 2015; Stephanie & Vladlena, 2014). The next section discusses inadequate technology resources.

3.2.1 Inadequate Technology Resources

Lack of resources is one of the major barriers for the adoption and continued use of social media in the teaching and learning environment at HBUs. This barrier includes aspects such as access to available technology, for instance social media, during class time and technical support (Hew &

Brush , 2007). Stephanie and Vladlena (2014) state that lecturers will not adopt social media into the academic setting if these barriers are not taken into account.

Almeshal (2015) reveals that some lecturers find it challenging to utilise social media because there is shortage of hardware resources at HBUs, thus not all classrooms have computers. This is supported by Schlenkrich and Sewry (2012) who found that most of the students enrolled at HBUs access social networking sites in university computer laboratories and libraries, therefore students must use their phones. However, prohibitive data cost is one of the greatest contributing barriers to social media use in teaching and learning environment at HBUs. South Africa is one of the most expensive countries on the continent when the cost of data is considered (Almeshal, 2015). Therefore, data is a luxury for many students in the country, so it is not realistic to expect students to pay for data themselves.



There is no guarantee that lecturers and students have access to Internet resources. Social media and other recreational sites are often blocked in computer laboratories at HBUs as there is the potential to slow down the networks and decrease the productivity of students (Schlenkrich & Sewry, 2012; Chetty & Law, 2014). This is the practice at UFH as well. Students do not have access to social media, for instance Facebook, on the university network during working hours. This constraint does not allow lecturers to experiment with different types of teaching and learning tools in class as students must have continuous access to social media if they intend to use it in the classroom. Therefore, access to social media is more than merely the availability of social networking sites at the HBUs; it involves the provision of appropriate technologies that fit with the curriculum.

Technical support is yet another resource type barrier. It does not only include the personnel for maintaining the physical computer infrastructure at the HBUs, but it also includes personnel who are knowledgeable about pedagogical issues, such as appropriate instructional methods. Lecturers require sufficient technical support to help them in using new and diverse social media technologies. Hew and Brush (2007) state that social media adoption could be hindered by employing a limited number of technical support staff.

With adequate resources and technical support available to both lecturers and students, inadequate knowledge and skills to use social media in academia can serve as an even more intimidating barrier. The following section discusses inadequate knowledge and skills.

3.2.2 Inadequate Knowledge and Skills to Use Social Media in Academia

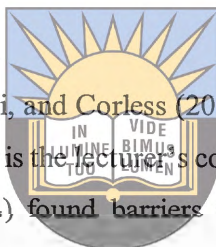
Social media adoption and continued use at HBUs requires adequate knowledge and skills even though there are appropriate resources. At times, lecturers find it challenging to utilise social media due to inadequate knowledge of specific technology and technology-supported pedagogy. The following section will discuss these factors in more detail.

3.2.2.1 Lack of skills to use social media

In a study conducted by Gualtieri, Javetski, and Corless (2015), it was found that the core barrier to social media adoption and continued use is the lecturer's computer and technology literacy skills. Similarly, Stephanie and Vladlena (2014) found barriers related to expertise, such as limited computer training and lack of technology competence. Thus computer literacy skills are a requirement for the implementation of social media in teaching and learning environment. Oye, Iahad, and Rahim (2014) describe computer literacy skills as the “ability to use computers and related technology efficiently, with a range of skills covering levels of applying ICT effectively as a tool to research, organize, evaluate and communicate information” (p. 98). Researchers postulate that the expertise to adopt social media in the classroom is enhanced by effective technology training which must be hands-on, systematic and ongoing (Gualtieri et al., 2015; Picardo, 2011).

Apart from computer literacy skills, a number of studies indicate that *technology literacy* is fundamental to both lecturers and students in order to adopt social media in the teaching and learning environment at HBUs (Oye et al., 2012; University of Massachusetts Dartmouth, 2013). Technology literacy refers to an individual capacity to “design, develop and control use and assess technological systems and processes” (Shackelford, Brown, & Warner, 2004, p. 7). Similarly, a study conducted at Stellenbosch University in South Africa by Takalani (2008) found that technology literacy plays a significant role when implementing social media in teaching and learning.

Additionally, Asma (2012) states that some students are not exposed to emerging technologies because they had previously resided in rural areas with no access to technological devices or the



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Internet. Most of the UFH student profile is from a poor socio-economic background (Cilliers, 2015). For this reason, students may not be familiar with certain social media application that could be used for the academic course. This means that lecturers must provide support and encouragement to the students to make use of the technology. Therefore, both lecturers and students must have adequate computer literacy skills to utilise social media in teaching and learning environments. The next section discusses inadequate knowledge of technology-supported pedagogy.

3.2.1.2 Inadequate knowledge of technology-supported pedagogy

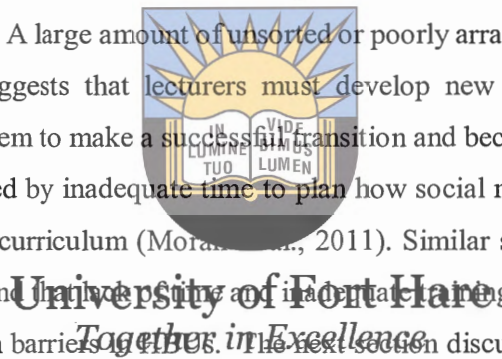
Alexander (2003) describes pedagogy as the “act of teaching composed with its associated discourse” (p. 3). Similarly, Watkins and Mortimer (1999) define pedagogy as “conscious activity by lecturers designed to improve the teaching and learning of students” (p. 3). This entails what lecturers need to know and the skills they must have in order to make and justify diverse kinds of decisions in teaching and learning. Pollard (2008) states that pedagogy is a source of a lecturer’s professional identity and means to improving student learning. Quality pedagogy yields excellent teaching and learning that will improve the performance and throughput rate at HBUs. Therefore, pedagogy is a collective activity in which the student has an active role.

Integrating social media to enhance teaching and learning at HBUs involves more than just learning how to utilise specific software applications. There is a correlation between social media and pedagogical concepts which must be considered with a view of assisting lecturers to use available technologies effectively in teaching and learning. Lecturers need to have an understanding of pedagogical principles that are specific to the use of social media in an instructional setting (McLoughlin & Lee, 2008; Kinuthia, 2015).

Furthermore, Kinuthia (2015) states that social media resources like wikis and YouTube offer new support in teaching and learning. There is a need to understand the correlation between students, lectures and instructional materials in order to obtain quality teaching and learning. Lecturers should take into account student-centred pedagogy. Vavrus, Thomas, and Bartlett (2011) describe student-centred pedagogy as the “attitude of inquiry among the students which maintains the role of an active learning process” (p. 10). This should also be considered when integrating social media in an academic setting.

Some lecturers misunderstand the diverse ways in which social media can function within the teaching pedagogy. Therefore, social media may be present, but a lack of knowledge of how to incorporate social media into teaching pedagogy serves as a barrier to adoption and continued use in teaching and learning, which results in a need for technology pedagogy training. Pedagogy training begins by helping lecturers understand the role of learning theory in the design and function of class activities and in the selection and use of instructional technologies (Okojie, Olinzock, & Okojie-Boulder, 2004; Stephanie & Vladlena, 2014).

Islam et al. (2015) found that technologies such as blogs initially were used in ways that did not support teaching and learning. A large amount of unsorted or poorly arranged text was dumped on a website. Morley (2010) suggests that lecturers must develop new technical skills that are pedagogy based in order for them to make a successful transition and become learning facilitators. However, this could be affected by inadequate time to plan how social media could be integrated into the academic setting and curriculum (Moran et al., 2011). Similar sentiments are echoed by Gualtieri et al. (2015) who found that time pressure and inadequate planning continues to be the most important technology adoption barriers of lecturers. The next section discusses attitudes and beliefs amongst lecturers.

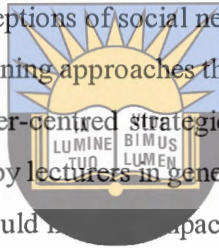


3.2.3 Lecturer's Attitudes and Beliefs

Apart from inadequate knowledge of technology-supported pedagogy, the adoption of social media in academic settings is determined largely by lecturers' attitudes and beliefs (Almeshal, 2015). Thus, lecturers have influence on the choice and determine how social media could be used in the classroom. Bexheti et al. (2014) found that a lecturer's attitude is a major enabling or disabling factor in the adoption of social media in teaching and learning. Lecturers who have positive attitudes towards social media are comfortable incorporating it into their teaching and learning. Almeshal (2015) asserts that successful transformation of social media in teaching and learning environments requires lecturers to develop a positive attitude toward the new technology. The development of lecturers' positive attitudes toward ICT is a key factor for enhancing social media integration as well as reducing educators' resistance to emerging technologies use in teaching and learning.

Lecturers who view social media as a way to increase student–lecturer interaction and collaboration could adopt social networking tools in the classroom, while those who do not see technology as important are not likely to integrate social media (Kopcha, 2012). The belief that social media assists in refining and developing teaching and learning at times is perceived by undermining lecturers who remain sceptical about the adoption of Web 2.0 technologies because they feel constrained by the context and pressures in which they work (Garrote & Pettersson, 2007).

Some lecturers see new technologies as unnecessary to better teaching and learning outcomes. This position was supported by Khalil (2013) who claims that lecturers’ resistance to the adoption of social media is because of their poor perceptions of social networking. The challenge for lecturers would be to develop new teaching and learning approaches that could adopt the use of social media and which allows them to focus on learner-centred strategies, instead of the traditional teaching approach which was commonly favoured by lecturers in general (Kinuthia, 2015). This means that at HBUs, lecturers’ attitude and beliefs could have a significant impact on the effectiveness of social media adoption.



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In a nutshell, lecturers' attitudes and beliefs about the use of social media can serve as a significant barrier to its integration in academia. Apart from attitudes and beliefs of lecturers, there are institutional barriers to social media adoption and continued use in the teaching and learning environment. The following section discusses institutional barriers.

3.2.4 Institutional Barriers

There are concerns outside of the classroom that can prevent the adoption of social media in teaching and learning. These concerns include management support, as well as university policy on social media in teaching and learning. Institutional barriers are challenging to overcome because they are all outside of the lecturer’s control. The following section will discuss management support.

3.2.4.1 Management support

One of the institutional barriers is a lack of managerial support. Managerial support may be the most critical factor as it provides the needed financial resources, develops a vision and plan for social media integration, and provides incentives and encouragement (Gualtieri et al., 2015). Furthermore, the management need to prioritise, create awareness and set an expectation that social

media must be used in teaching and learning environment. This starts with prioritising social media integration cost to support the training of lecturers on how to integrate social media in the teaching pedagogy.

If university management places a strong emphasis on social media adoption, increased student – lecturer interaction, student centred learning and improvements on throughputs rates will be the result (Almeshal, 2015). Thus, a mechanism needs to be identified that could be put in place by HBU faculties and administrators to prepare lecturers to integrate technology in academia. When lecturers are comfortable, they will be able to prepare students towards technology usage to improve their day-to-day life and enhance their work opportunities (Kinuthia, 2015). The next section will discuss university planning.

3.2.4.2 University policy on social media in teaching and learning

When HBUs do not take time to develop a policy on social media in the classroom, lecturers and students will be disorganised about how and when to use social media. There is a need for a concrete plan in place in order to integrate social media successfully in teaching and learning (Batikas et al., 2013). However, lecturers must take into consideration social media risks and privacy concerns.

3.2.5 Lack of privacy and security risks

Apart from university policy on social media in teaching and learning, not all social media sites offer mechanisms to protect students' privacy. Also, the availability of these mechanisms does not guarantee that students will make use of them. Social media sites are easy to join, but they lack basic security measures and are easily accessible by third parties. Risks associated with social media in teaching and learning include identity theft, online and physical stalking, embarrassment, cyberbullying, fraudulent profile pages and messages, defamation, as well as theft of artwork. The safety of students is also a primary concern as sexual predators use social media to reach innocent students. A number of researchers assert that social media could increase the risk of abuse and cyberbullying (Li, 2006; Chen & Bryer, 2012; Alfreds, 2013).

Cyberbullying is described as “when a person attacks another verbally, physically, makes obscene gestures or intentionally isolates another from a social group” and it occurs “when new technology such as social networking, text messaging or instant messaging is used to harass others with

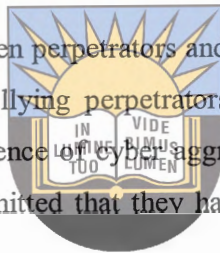


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harmful text or images” (Li, 2006, p. 7). Technologies such as social media tools, including Facebook and Twitter, that connect students and lecturers can be a source of malicious behaviour at HBUs.

A research study conducted by MacDonald and Roberts-Pittman in 2010 on cyberbullying at Indiana State University found that 25 % of the students at the University were bullied via social media tools and 22 % were harassed online. However, a small number of studies have been done in SA to investigate the phenomenon of cyberbullying, but anecdotal evidence indicates that social media users are exposed to cyberbullying.

Alfreds (2013) reveals that the line between perpetrators and victims of cyberbullying is unclear; about seven out of ten (69.7%) cyberbullying perpetrators had themselves been bullied. The statistics also demonstrate the high incidence of cyber aggression among South Africa's youth. Over a third (37%) of young people admitted that they have experienced some form of cyber aggression either at home or at school.



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Mason and Rennie (2008) also note that there is evidence that lecturers will view their students' profiles which in turn has negative consequences on their perception about students. The researchers propose that lecturers should establish social media standards. The standards must be made up of behaviour and attitude guidelines alike to those applicable in the traditional classroom (Schlenkrich & Sewry, 2012).

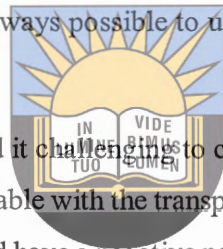
Another barrier is the violation of students' private information, for instance, student profiles. This is because not all social media sites provide settings to limit privacy violations. Sometimes students will not consistently use the settings to limit users to various levels of information which is at the discretion of the students. Therefore, students must be made aware of protection mechanisms available on social media tools (Arthur, Adu-Manu, & Yeboah, 2013).

To counteract this barrier, there is need for privacy policies and data protection mechanisms at HBUs to avoid violation of privacy when using social media in teaching and learning (Schlenkrich & Sewry, 2012). Trust can also affect what information users are willing to share on social networks. For instance, Facebook users are more willing to share information, due to a greater degree of trust in the network, than MySpace users (Schlenkrich & Sewry, 2012). However, Hew

and Brush (2007) propose that lecturers must be professional and respect their students' privacy in order to increase student motivation and encourage effective learning.

Gualtieri et al. (2015) found that barriers facing higher education institutions in USA and Europe are similar to those facing HBUs in African countries when adopting social media into teaching and learning. Tinti-Kane (2013) states that nearly all of the universities surveyed in developing countries use social media. Lecturers who adopt social media for instructional purposes mostly use videos in the classroom, thus they use YouTube, wikis and blogs to support their lecture presentation in order to capture and retain students' attention. However, the bandwidth in South Africa is a problem. Therefore it is not always possible to use YouTube in teaching and learning at HBUs in South Africa.

According to Picardo (2011), students find it challenging to cooperate and interact with their peers and lecturers because they are not comfortable with the transparency necessary for the social media benefits to take effect. Therefore, this could have a negative perception on students' ability to utilise social networks in academic settings. Subject culture will be discussed in the following section.



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3.2.6 Subject Culture

Some lecturers are not willing to integrate social media into their teaching pedagogies because they think it is not compatible with the norms of a subject culture at their institutions (Bexheti et al., 2014). Hew and Brush (2007) describe subject culture as a “general set of institutionalized practices and expectations which have grown up around a particular organization subject and shapes the definition of that subject as a distinct area of study” (p. 231). Subject culture is formed from subject content, subject pedagogy and subject assessments. These aspects describe long-standing histories reinforced by generations of school practice (Schoepp, 2005). This could have a negative impact on social media adoption at HBUs with a strong “command-and-control” culture. Such HBUs will feel vulnerable by the amount of trust and equality that is required in order for social media to be effective. Barriers can also form between subject cultures inclined towards technology and those that battle to adopt social media in academic settings.

Apart from subject culture, a number of reports indicated correlated results of lecturer barriers to social media adoption (Tinti-Kane, 2013). Lecturers found that social media requires more time to be adopted at universities (University of Massachusetts Dartmouth, 2013; Kopcha, 2012). Bexheti

et al. (2014) states that “more than 70% report the lack of integrity of student submissions and over 60% report privacy concerns as an important barrier” (p. 324). Regardless of these concerns, lecturers believe that social media sites offer value in teaching and learning environments at HBUs. The next section discusses distraction to the students as another barrier to integrate social media in academia

3.2.7 Distraction to the Students

Although the positive effects of social media adoption at HBUs include communication and collaboration, some students can be distracted by various kinds of entertainment from mobile devices, tablets and iPods such as playing games, texting or ‘surfing the net’. Chetty and Law (2014) also found that students are spending more time on social networks doing non-academic related activities such as downloading music and watching videos. Furthermore, some students tend to take advantage of text messages to communicate with one another in lecture venues when they are not allowed. Therefore, student concentration level will be reduced because of this unnecessary communication while attending classes. However, Bolotayva and Cata (2011) suggest that there are actions that need to be taken in order to discourage the misuse of social media tools and mobile devices when they are used during the lectures.

Some students believe that social media is their territory. Most of the students feel uncomfortable when their territory is encroached upon by their lecturers (Picardo, 2011; Kopcha, 2012). Additionally, social media offers extreme stimulation which has a negative effect as students could end up being distracted to complete their coursework (Chetty & Law, 2014). This is supported by Kopcha (2012) who postulates that some students will find it challenging to balance their online activities and their academic work. Therefore, this could have a negative impact to achieve the desired interaction and participation. Figure 10 presents a model that illustrates the relationship between social media barriers.

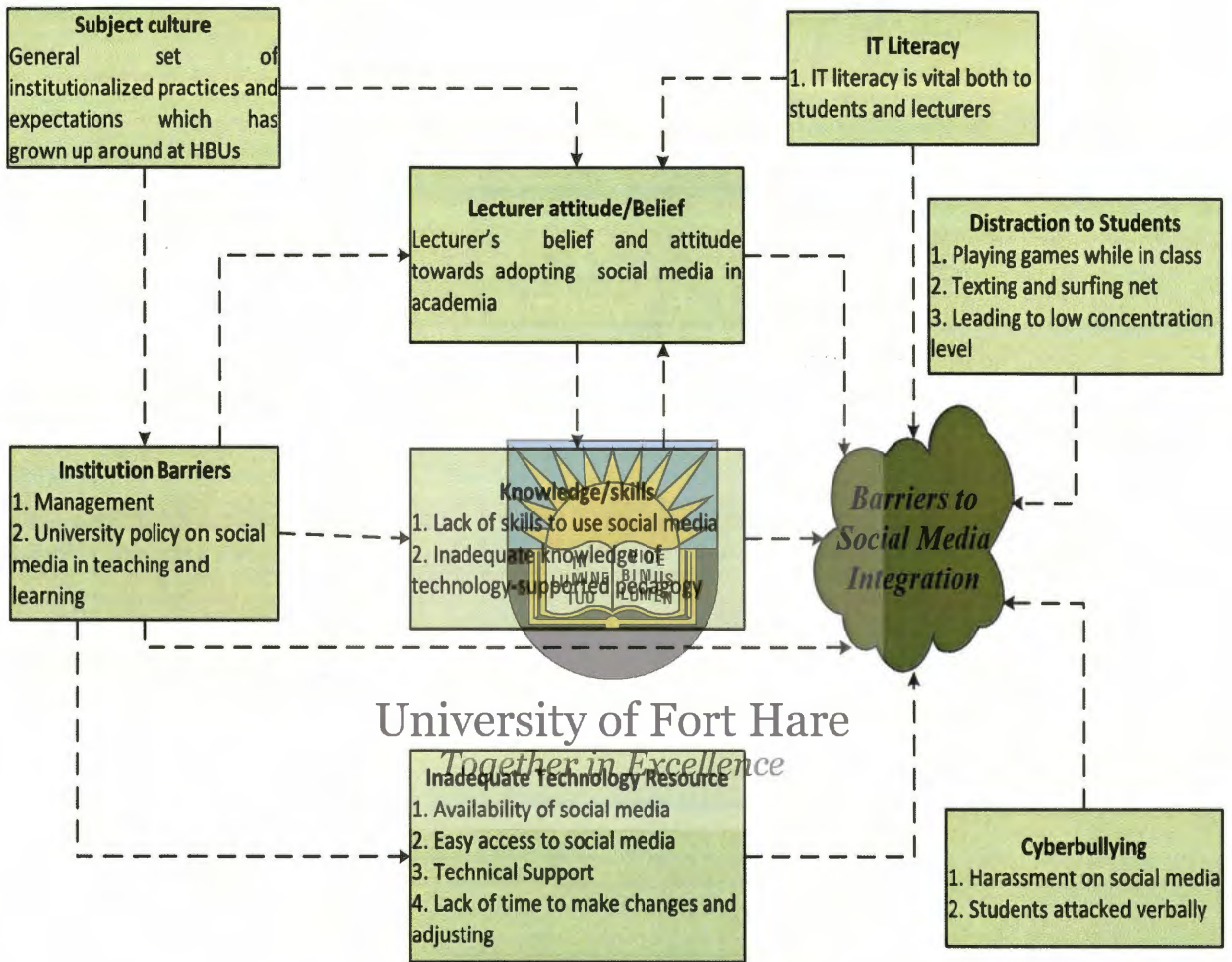


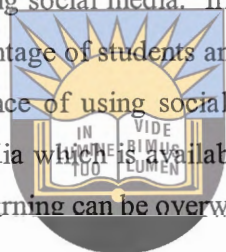
Figure 10: The relationship between social media barriers (Adapted from Hew & Brush, 2007)

The model summarises the chapter. Barriers to social media adoption and continued use are interrelated. Some of the barriers influence each other directly, for example subject culture influences attitude and behaviour to use social media in academia. Whilst other barriers like cyberbullying, IT literacy, knowledge/ skills and distraction to students have direct impact on social media adoption at HBUs in South Africa. The next section concludes the chapter.

3.3 Conclusion

Social media plays a vital role in teaching and learning at HBUs. Given the potential benefits of social media in Chapter 2, it is necessary to identify barriers for the adoption of social media by

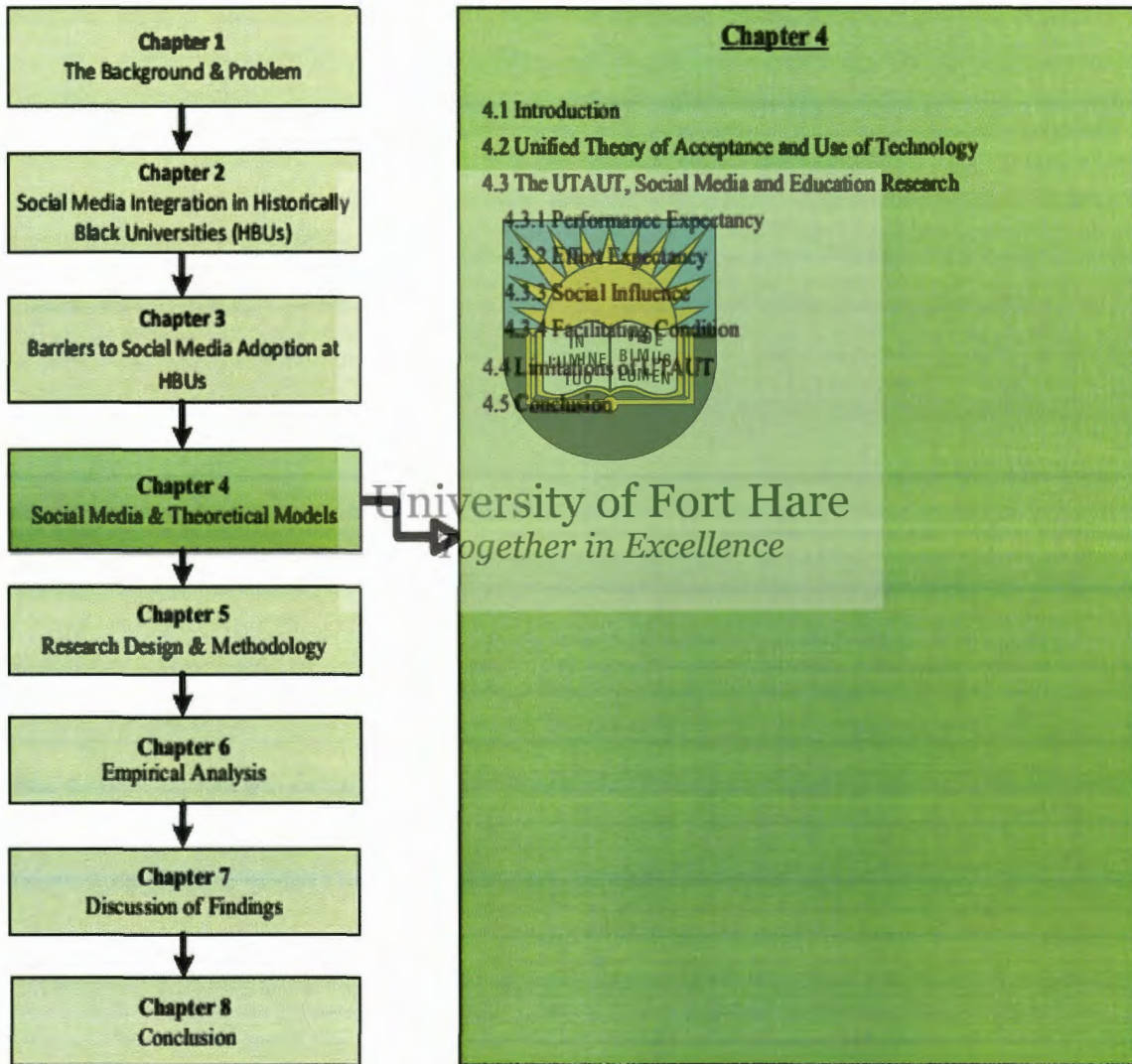
HBU's so that appropriate initiatives can be established to assist HBU's in exploiting opportunities social media can bring to the institutions. There are a number of concerns that can inhibit the adoption of social media in the teaching and learning environment. Some obstacles are extrinsic and intrinsic, therefore addressing these barriers must start with the recognition that there may be factors creating these barriers. This chapter outlined the model presenting the relationships between the numerous barriers. Social media barriers are related and they influence one another. Also, the shortcomings discussed include cyber bullying, inadequate knowledge of technology-supported pedagogy, institutional barriers, IT literacy, lecturer attitude and beliefs as well as measures that should be considered if HBU's are adopting social media. Irrespective of the high popularity for personal use of social media, a low percentage of students and lecturers use them for educational purposes. However, the positive influence of using social media in teaching and learning is determined by how HBU's use social media which is available to them and how they handle the technology. Its impact on teaching and learning can be overwhelming, but if it is handled properly it can aid effective teaching and learning.



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Chapter 4

Social Media and Theoretical Models



4.1 Introduction

In the previous chapter, the barriers to social media adoption and continued use at HBUs in South Africa were well documented. This chapter discusses the second theory applied in this study. Many different theoretical models have been applied in literature to measure and explain user adoption of technology in teaching and learning at universities. The unified theory of acceptance and use of technology (UTAUT) was chosen to explain the poor adoption of social media in teaching and learning. The UTAUT was first proposed in order to understand the factors that influence employee information technology adoption and use. However, a number of studies have applied the UTAUT in the educational context. In this latter regard, UTAUT has been applied to measure the adoption of technologies such as mobile learning, e-learning systems and Web 2.0 (Nassuora, 2012; Marchewka, Liu, & Kostiwa, 2007).

Yarbrough and Smith (2007) state that the UTAUT has been validated to be able to explain the adoption and use of technology by individuals at different levels of IT competency, gender and age. Furthermore, the reliability and validity of the UTAUT is confirmed by several research projects in the field of information systems (Paragane & Suman, 2012; Nassuora, 2012; Birch & Irvine, 2009). Therefore, the model can be used to examine social media integration in teaching and learning at HBUs.

The first section of this chapter discusses the UTAUT. The second section will evaluate how the theory can be applied to this study making use of the results of previous studies found in literature.

4.2 Unified Theory of Acceptance and Use of Technology

Theoretical models define boundaries and provide anchors for a research project. This research project applied the SAMR model that was discussed in Chapter 2. The SAMR model illustrated how social media could be integrated in teaching and learning. This chapter will discuss the UTAUT. Venkatesh et al. (2003) developed the UTAUT as an extension of the eight theories found in Table 4.1. These models include technology acceptance model (TAM), Roger's innovation diffusion theory, theory of reasoned action, the motivational model, the theory of planned behaviour, the combined TAM and TPB (C-TAM-TPB), the model of PC utilisation (MPCU) and social cognitive theory (SCT). The UTAUT is useful to explain lecturers' intentions to make use

of social media in the teaching and learning environment at HBU. The following table describes the origin of the UTAUT.

Table 3: Origins of UTAUT

Theory	Theory Abbreviation	Author/s and Year
Technology Acceptance Model	TAM	Davis (1989)
Roger's Diffusion Innovation Theory	DIT	Rogers (1995)
Theory of Reasoned Action	TRA	Fishbein and Ajzen (1975)
The Motivational Model	MM	Davis, Bagozzi, and Warshaw (1992)
The Theory of Planned Behaviour	TPB	Ajzen (1991)
The Combined TAM and TPB	C-TAM-TPB	Taylor and Todd (1995)
The Model of PC Utilization	MPCU	Thompson, Higgins, and Howell (1991)
Social Cognitive Theory	SCT	Compeau, Higgins, and Huff(1999)

The UTAUT was developed based on the conceptual and empirical relationships of competing technology acceptance models. Both TAM and TAM2 (TAM extension) were able to predict between 30 % and 40 % of technology adoption success. Conversely, “UTAUT has condensed the 32 variables found in the existing eight models into four main effect and four moderating factors” (Oye et al., 2014, p. 256). The amalgamation of the various models has increased the predictive efficiency of UTAUT to 70%, which is a significant improvement compared to TAM rates (Venkatesh et al., 2003).

A number of studies on the adoption and continued use of technology has applied and validated the UTAUT in recent information system literature (Im et al., 2011; Pardamean & Susanto, 2012). Williams et al. (2011) confirm that the UTAUT has been cited more than 450 times. Furthermore, the theory is used in more than 10 % of publications that focus on adoption and continued use of various information systems.

In this study, the UTAUT is used to explain the increasing use of social media by lecturers in their classrooms. UTAUT was considered to be an acceptable theoretical framework for this study because it is a widely used and accepted theory in the information systems field and it is better at predicting the adoption rate of technologies than previous models. Therefore, the model is

applicable in this research project as it could be used to investigate how social media adoption and continued use can be improved in teaching and learning at HBUs in South Africa.

According to the UTAUT, social media adoption in the teaching and learning environment can be affected by four main exogenous variables, namely: performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC), and two endogenous variables: intention behaviour and use behaviour. Table 4 presents root constructs for the four main exogenous variables.

Table 4: Root constructs for the four constructs (Venkatesh et al., 2003)

Construct	Root Constructs	Models
Performance Expectancy	Is formulated by incorporating perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectation.	TAM, C-TAM-TPB, MM, MPCU, and IDT, SCT
Effort Expectancy	Is developed from perceived ease of use, complexity, and ease of use and TAM	TAM, MPCU, and IDT
Social Influence	Is constructed from subjective norm, social factors, and image.	TRA, TAM2, TPB, C-TAM-TPB, MPCU, and IDT
Facilitating Conditions	Is formulated from perceived behavioural, facilitating conditions and compatibility.	TPB, C-TAM-TPB, MPCU, and IDT

The UTAUT was tested and validated and found to explain 70% of the variance in user intentions, whilst earlier models explain only 40 % (Venkatesh et al., 2003). Effort expectancy constitutes 27 % of the variance in user intentions as per the results of regression and remains a significant predictor of intention to use and behaviour intention in both mandatory and voluntary settings (Venkatesh et al., 2003). The following section provides the definitions of the four key constructs:

- *Performance Expectancy* refers to “the degree to which an individual believes that using the system will help him or her to attain gains in job performance” (Venkatesh et al., 2003, p. 447).
- *Effort Expectancy* refers to “the degree of ease associated with the use of the system” (Venkatesh et al., 2003, p. 450).

- *Social influence* refers to “the degree to which an individual perceives that important others believe he or she should use the new system” (Venkatesh et al., 2003, p. 451).
- *Facilitating Conditions* describes as “the degree to which an individual believes that an organizational and technical infrastructure exist to support use of the system” (Venkatesh et al., 2003, p. 453).

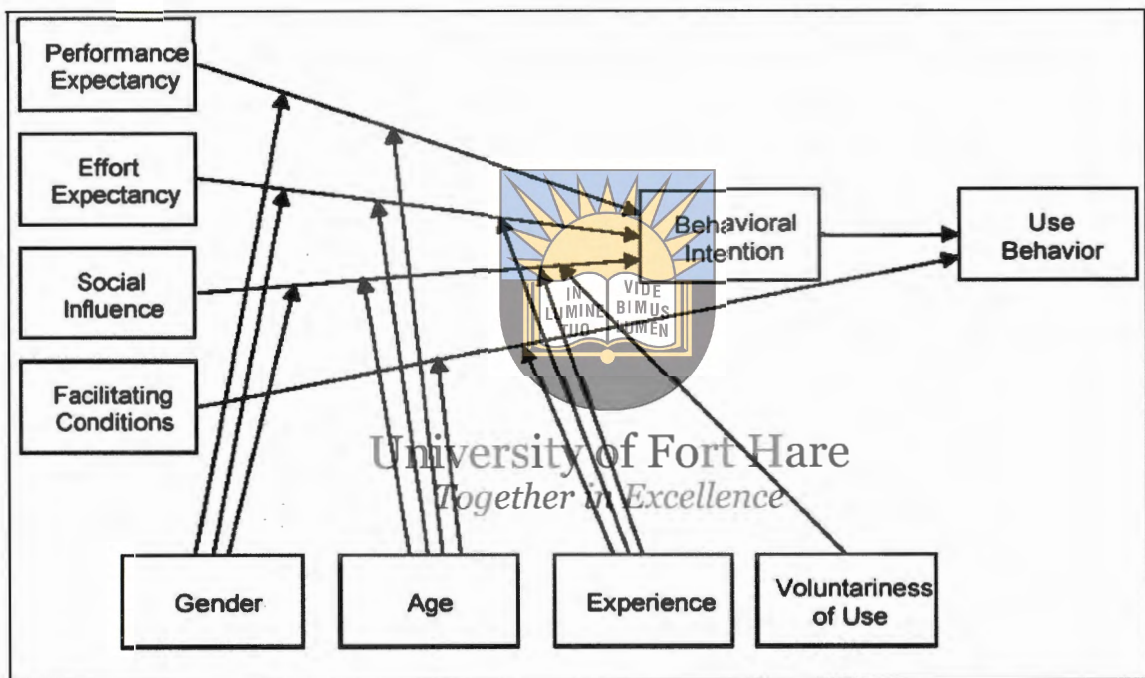


Figure 11: The UTAUT model (Venkatesh et al., 2003)

From the above figure, performance expectancy, effort expectancy, and social factors have direct influence on behavioural intention, whilst facilitating conditions have direct influence on *use behaviour*, where experience plays a role. As the need for support from the user decreases, it is expected that the experience of the user with the system will increase. However, *experience, age, gender and voluntariness of use* are part of the model and can have an impact on the four constructs (refer to Figure 11) (Venkatesh et al., 2003):

- Gender - more women than men will consider the ease of use of a new technology as essential.
- Age - literature suggests that elderly end-users might find it challenging to use emerging technologies.

- Experience - literature reports that when end-users gain experience with a new technology, this factor becomes less significant.
- Voluntariness is to what degree the system is used willingly.

The next section discusses education research that has been done employing the UTAUT model.

4.3 The UTAUT, Social Media and Education Research

Chen and Bryer (2012) found that a number of universities in developed countries are exploiting social media in creating innovative teaching and learning environments. Conversely, within South African higher education institutions, this phenomenon is not completely addressed. Madhav, Joseph and Twala (2014) state that lecturers at the University of Cape Town specified that social media should be employed in teaching and learning, although there is little research findings on the use of these tools and services. This section discusses social media and education research, analysing results from the diverse studies that employed technology adoption models.

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Authors	Focus of the study	PE	EE	SI	FC	Findings
Wiid, Nell, and Cant (2015)	Perceptions of lecturers and students on social media networking in teaching and learning (<i>University of South Africa</i>).	x	x	x	x	<ul style="list-style-type: none"> ✓ Lecturers and students are knowledgeable about social media, though they use them for social rather than academic purposes. ✓ All factors were influencing the adoption of social media (Facebook).
Mbodila, Ndebele, and Muhandji (2014)	Perceptions of lecturers on social media networking in teaching and learning (<i>University of Venda in South Africa</i>).	x	x	x	x	<ul style="list-style-type: none"> ✓ Students, tutors and lecturers were highly involved in the teaching and learning process. ✓ All factors were influencing the adoption of Facebook.
Arthur, Adu-Manu, and Yeboah (2013)	A Conceptual Framework for the Adoption of Social Media in Teaching – case of Ghana	x	x	x	x	<ul style="list-style-type: none"> ✓ All factors were influencing the adoption of SNTs for teaching with the exception of culture and trust.
Pardamean and Susanto (2012)	The acceptance of blog technologies in the teaching and learning environment (<i>Indonesia</i>).	x				<ul style="list-style-type: none"> ✓ Both performance and social influence have strong influence on behavioural intention to use blogs.
Cilliers (2016)	Wiki acceptance by university students to improve collaboration in higher education (<i>University of Fort Hare in South Africa</i> .)		x			<ul style="list-style-type: none"> ✓ <i>Effort expectancy</i> and social influence were influencing the adoption of wikis.
Salim (2012)	An Application of UTAUT Model for Acceptance of Social Media in Egypt: A Statistical Study		x	x		<ul style="list-style-type: none"> ✓ The results indicated that age and gender do not impact on performance expectancy. ✓ Experience has impacted on effort expectancy as well as social influence.
Madhav, Joseph, and Twala (2014)	Creating social learning spaces to enhance the learning experience (<i>University of Johannesburg in South Africa</i>).	x	x	x	x	<ul style="list-style-type: none"> ✓ The results indicated that students adopted social media with confidence and used it to learn beyond the borders of the physical classroom. ✓ All factors were influencing social media use in teaching and learning.

Table 5: Analysis of results from the diverse studies on social media

4.3.1 Performance Expectancy

Performance expectancy is the degree to which an individual believes that using the system will help him or her to improve job performance (Venkatesh, et al., 2003). From this study's perspective, performance expectancy denotes lecturers' use of social media in the teaching and learning environment. Performance expectancy refers to the belief of lecturers that the use of social media would be an advantage to them as well as to students. High performance expectancy indicates that a high level of positive expectation from the adoption and continued use of social media in teaching and learning would result in improving and enhancing the results, which in this context is the throughput rate (Arthur, et al., 2013).

A number of studies indicated that performance expectancy was among the factors influencing the adoption of social media in teaching and learning environments (Marchewka et al., 2007; Salim, 2012). Research conducted at the University of Johannesburg by Madhav et al. (2014) found that lecturers adopted social media (Facebook) with confidence and are using it for the students to learn. Similar results were found by Mbodila et al. (2014) who conducted a study at the University of Venda in South Africa. The findings indicated that tutors and lecturers were comfortable with social media learning. This entails that lecturers and students are knowledgeable about social media, though they use the technology for their personal use more than academic purposes.

4.3.2 Effort Expectancy

Effort expectancy is another factor influencing the use of social media in teaching and learning. According to Venkatesh, et al. (2003), effort expectancy denotes the degree to which the system is easy to use. From this study's perspective, effort expectancy refers to the expected amount of ease which lecturers presume while using social media to accomplish their professional goals. Effort expectancy therefore refers to the level of effort with which lecturers feel that social media will be easy to use to accomplish their professional accomplishments. High effort expectancy indicates that a high level of positive expectation from the adoption and continued use of social media in teaching and learning would result in the accomplishment of professional goals, improving and enhancing the results, which in this context is the throughput rate of students (Arthur, et al., 2013).

Chen and Bryer (2012) state that higher education institutions around the world are exploiting social media to develop innovative teaching and learning environments. This is because of the ease of use they presume, so lecturers should incorporate social media into the classroom. A number of studies confirmed that lecturers adopt social media in teaching and learning because it is easy to use (Salim, 2012; Cilliers, 2015).

Wiid, Nell, and Cant (2015) conducted a study at the University of South Africa (UNISA) on perceptions of lecturers making use of social media networking in teaching and learning. The results indicated that social media is utilised by the majority of lecturers, but more for social purposes as compared to academic purposes. Effort expectancy was found to influence the use of social media to collaborate and communicate amongst students. Similar results were found by Arthur et al. (2013) who conducted a study at the University of Ghana. The findings indicated that students and lecturers were highly involved in the teaching and learning process because it is not a hassle to use social media. This entails that lecturers and students are influenced by the degree to which social media is easy to use.

4.3.3 Social Influence

Social influence denotes the degree to which an individual perceives that important others believe he or she should use the new system (Venkatesh, et al., 2003). From the perspective of the study on adopting social media use in teaching and learning, social influence is referred as the impact of superiors, colleagues and management support. This denotes the dynamic role played by the heads of the institution in inspiring and encouraging the use of social media in teaching and learning to facilitate curriculum delivery.

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From Table 5, all the studies indicated that social influence plays an important role. Wiid, Nell, and Cant (2015) conducted a study on lecturers' perspectives and usage of social media as an educational tool. The study found that social media is mostly being used by lecturers for social purposes rather than for learning purposes; however, lecturers could be influenced by peers to integrate Web 2.0 technologies in academia. Social influence was found to be influencing the use of social media by lecturers and students as they will be perceived by colleagues and peers. This was confirmed in a study by Cilliers (2016) who opines that students will not voluntarily use social media, irrespective of of benefits attained from them. Instead they are more willing to use the technology if they are influenced by peers. The same applies to lecturers as they need to be influenced by the management of the institution to make use of social media in teaching and learning. In the same view, Pardamean and Susanto (2012) applied the UTAUT to evaluate the acceptance of blog technologies in the teaching and learning environment. The findings indicated that both social influence and performance expectancy have strong influence towards students' behavioural intention of the use of blogs in teaching and learning, while effort expectancy did not. Therefore, the UTAUT can be used to explain the variance in usage intention of social media in teaching and learning.

4.3.4 Facilitating Condition

Facilitating conditions denotes the extent to which an individual believes that institutional and technical infrastructure exists to support the use of social media (Venkatesh, et al., 2003). This involves training of lecturers, hands-on user and physical infrastructure support, as well as expert solutions to queries from lecturers.

Madhav et al. (2014) state that the adoption of social media in teaching and learning is also affected by facilitating conditions. Lecturers should be trained and supported with adequate technical infrastructure in order to adopt social media in teaching and learning at HBUs. This is supported by Mbodila et al. (2014) who found that the facilitating condition construct helped students and lecturers to be involved in the teaching and learning process as infrastructure was in place to support social media in the classroom. Conversely, Arthur et al. (2013) echoed that performance expectancy, effort expectancy, social influence and facilitating conditions are necessary for the adoption and continued use of social media as they work hand in hand.

In nutshell, the availability of resources to support the technology, support from the management as well as colleagues, ease of use, and improved performance through the use of technology are the major elements that affect the adoption of social media. The following section will discuss limitations of the UTAUT.

4.4 Limitations of UTAUT

One of the limitations is that most studies involving social media adoption and continued use in teaching and learning making use of the UTAUT were conducted in a developed countries context (Traxler, 2007). Therefore, to ensure that the construct and relationships are valid, there is a need to validate the theory in the context of developing countries.

The adoption of social media in teaching and learning could also be attributed to institutional culture (Im et al., 2011). The constructs of the UTAUT do not take into account cultural factors (Im et al., 2011). Thomas, Singh, and Gaffar (2013) state that both culture and country variables can moderate results obtained from the UTAUT if it is applied in a developing country context. Culture can influence typical behaviours and attitudes associated with various constructs as the familiarity and coverage of a specific construct will vary between developed and developing countries due to availability of resources (Thomas et al., 2013; Van de Vijver & Tanzer, 2004). Therefore culture and the efficacy of the technology transfer are important for lecturers' adoption and continued use of social media in teaching and learning at higher education institutions.

Lecturers' attitude towards social media in teaching and learning has a major influence on behavioural intent. Thomas et al. (2013) state that if attitude is not part of the construct, effort expectancy would be of no explanatory value in a developing country context.

Therefore, it is important to re-examine the UTAUT constructs for both the measurement of the constructs and the relationships among them. Moreover, Munguatosha, Muyinda, and Lubega (2011) mention that satisfaction and adoption of social media in academia can be increased by investing in lecturer training as they gain a positive user experience.

4.5 Conclusion

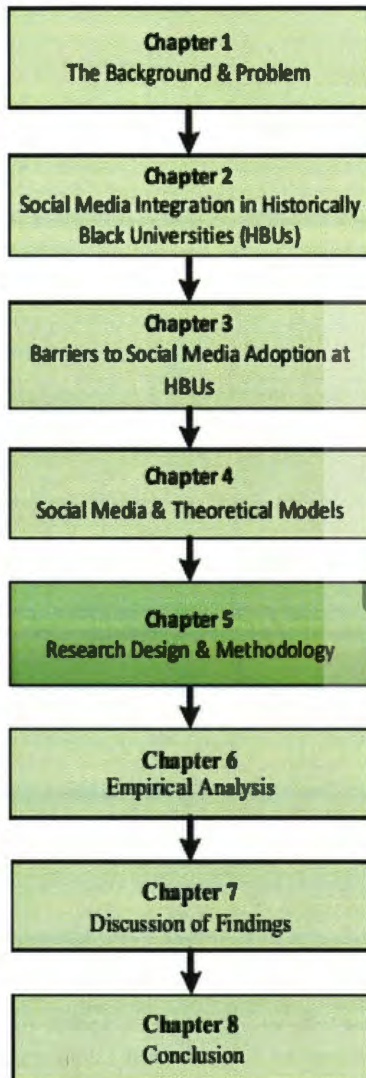
This chapter discussed the UTAUT as well as education research projects that have applied the theory. A number of information systems research project have validated the UTAUT as it was used in different fields. The theory was developed from combining 8 diverse models with the aim of enhancing the success rate of predicting if technology will be accepted in the teaching and learning environment. The theory is made up of four main constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. These constructs are moderated by four facilitating conditions. Studies that have reported that performance expectancy is the most influencing construct for males to use technology. While effort expectancy has more influence on females when deciding when to make use of new technology, some researchers argue that these constructs exclude other contributing factors such as culture, efficacy, Internet connectivity, attitude and beliefs, and availability of resources that have influence on the adoption and continued use of emerging technologies. The following chapter explores the research methodology employed in this research study.



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Chapter 5

Research Design and Methodology



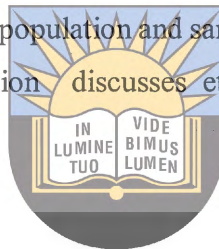
Chapter 5

- 5.1 Introduction
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5.1 Introduction

The objectives of the project determined the methodology employed in the study. Collis and Hussey (2009) describe research methodology as “an approach to the process of the research encompassing a body of methods” (p. 17). This chapter explains how the research project was conducted in order to develop CSFs for the adoption and continued use of social media in academic setting amongst lectures at HBUs.

The chapter has nine sections. The first section discusses the various philosophical paradigms in information systems research studies. This is followed by a discussion on philosophical assumptions which encompass ontology, epistemology and axiology. The next section explains the research paradigm, thereafter the study methods section will follow, providing detailed information on data collection, the study population and sample and data analysis methods applied in the research project. The next section discusses ethical considerations and the chapter concludes.



5.2 Philosophical Paradigms

Collis and Hussey (2009) describe a research study paradigm as “a framework that guides how a research should be conducted, based on the researcher's philosophy and their assumptions about the world of knowledge” (p. 17). According to Joubish, Khurram, Ahmed, Fatima, and Haider (2011), the research study paradigm encompasses the assumptions, values and beliefs on how the research study should be conducted. Information systems researchers can make use of four philosophical paradigms: interpretivist, positivist, critical research, and design science, to provide a framework for their research. The following section presents the four paradigms in detail.

5.2.1 Interpretivist Paradigm

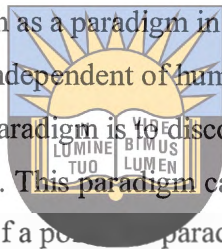
Oates (2006) describes the interpretivist paradigm as a paradigm that focuses on providing an understanding of the social context of information systems research. Walsham (2006) adds that the interpretivist paradigm reflects the behaviour of participants in the real world. In contrast to the positivist paradigm, researchers making use of the interpretivist paradigm are not objective; they make use of the participants' perceptions, beliefs and values to shape the research process (Oates, 2006). Additionally, Reeves and Hedberg (2003) state that the interpretivist paradigm is “concerned with the need to put analysis in context and understanding the world as it is from subjective experiences of individuals” (p. 32). Therefore, this paradigm assumes that it is necessary for the researcher to undertake their investigation among people in order to understand the differences between individuals in the community (Saunders et al., 2007). In summary, the characteristics of an interpretivist paradigm are as follows:

1. Multiple interpretations;
2. Multiple realities;
3. Socially constructed meaning; and
4. Studying people in their natural social setting.

Walsham (2006) states that interpretivist paradigms are more subjective as they are judged based on the interest of the participants. In addition, the interpretivist paradigm depends on variables for instance, language and shared meanings that forms social constructions. The following section discusses the positivist paradigm.

5.2.2 Positivist Paradigm

Collis and Hussey (2009) state that the positivist paradigm is widely used in social science studies. Oates (2006) describes positivist research as a paradigm in which reality exists in itself and where the views of the world are observed as independent of human beings, the researcher's beliefs and personal values. The main goal of this paradigm is to discover theories based on experimentation and observation (Chuang & Tsao, 2013). This paradigm can therefore be considered objective in nature. In summary, the characteristics of a positivist paradigm are as follows:



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1. The world can be examined objectively;
2. The world exists individually of humans; and
3. The world is ordered and regular, not random.

The next section discusses the critical paradigm.

5.2.3 Critical Research Paradigm

The critical research paradigm is less known and less accepted than the interpretivist and positivist paradigms in the information systems field. Oates (2006) described critical research as a paradigm that “focuses on identifying power relations, conflicts and contradiction, and empowering people to eliminate them as sources of alienation and domination” (p. 296). The critical research paradigm views reality as historically constituted and produced by people. This paradigm is characterised by freedom, analysis of tradition, analysis of technological determination, and reflexivity (Oates, 2006). The next section discusses the design science paradigm.

5.2.4 Design Science Paradigm

Hevner et al. (2004) introduced another paradigm that can be used in the information systems research called design science. According to Hevner et al. (2004), the design science is a paradigm that seeks to elongate human limitations by the creation of new artefacts. In order to be able to create an artefact, design science involves two events: build and assess (Hevner et al., 2004). The building process is aimed at building an artefact for a particular problem, and then assessment

phase determines how good the artefact is on solving the identified problem (Wang, Yu, & Wu, 2013). Figure 12 illustrates how the build and evaluate processes in an IS research contribute to the environment and the knowledge base.

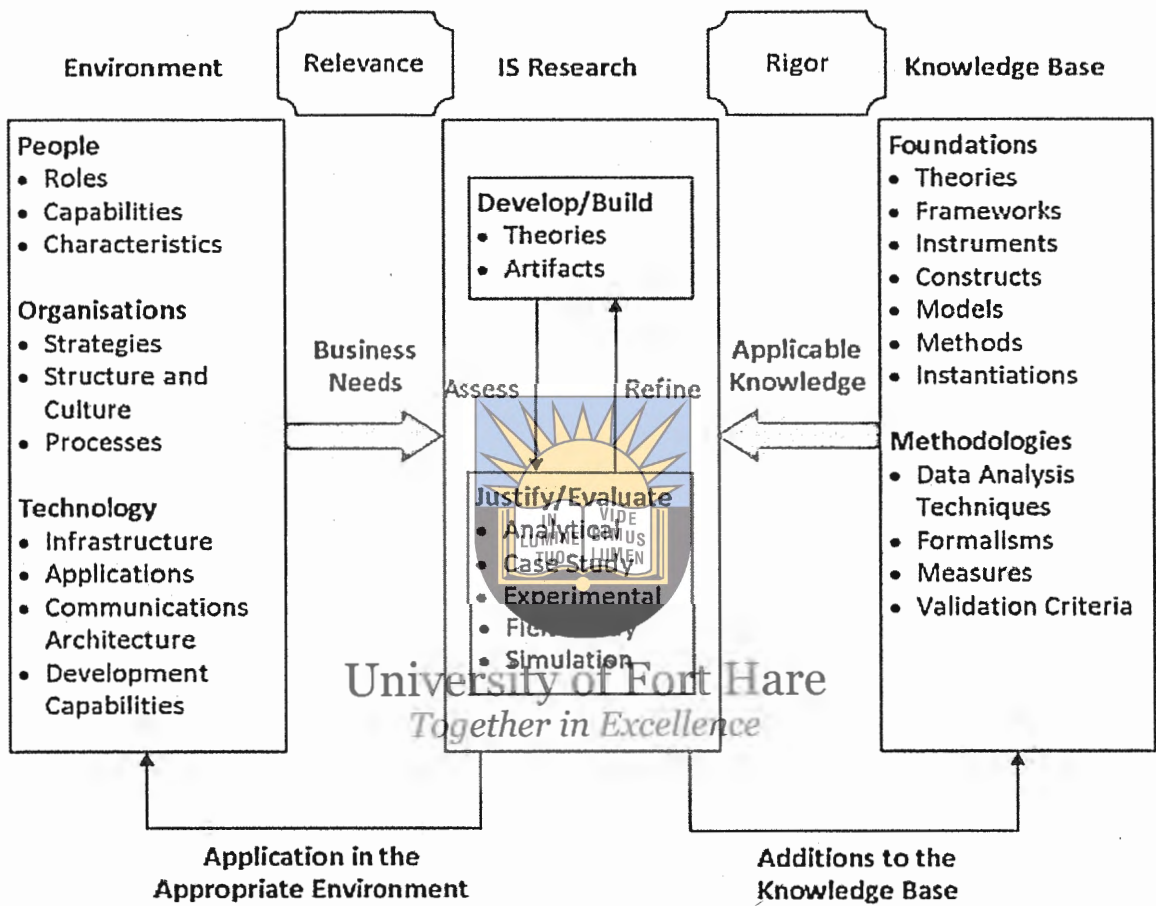


Figure 12: Information systems research framework (Hevner, March, Park, & Ram, 2004)

The environment and existing knowledge base in information systems research plays a vital role in design science. Hevner et al. (2004) describe the environment as the context of the research study, which in this case is emerging technologies in academic setting at higher education institutions. This environment includes the people (lecturers), organisations (HBUs) and technology (social media) where the business problem is defined. The knowledge base consists of the following two concepts: foundation (*existing methods, constructs, instantiations, instruments, theories*) and methodologies (*data analysis techniques, measures, validation criteria*) that are employed when developing the research artefact (Hevner et al., 2004). If the artefact is relevant for the business need, then the output is added to the knowledge base. The following section discusses philosophical assumptions of paradigms.

5.3 Philosophical Assumptions of Paradigms

This section will provide definitions of philosophical paradigms including ontology, epistemology, and axiology.

1. Ontology

There are several definitions for ontology that can be found in literature. According to Crotty (1998, p. 10), ontology refers to “the study of being and is concerned with what constitutes reality” (p. 10). Additionally, Wand and Weber (1993) describe ontology “as a branch of philosophy concerned with articulating the nature and structure of the world and it specifies the form and nature of reality and what can be known about it” (p. 220).

2. Epistemology

Cohen, Manion, and Morrison (2007, p. 7) define epistemology as “how knowledge can be created, acquired and communicated”. Furthermore, Hirschheim, Klein, and Lyytinen (1995) describe epistemology as “the nature of human knowledge and understanding that can possibly be acquired through different types of inquiry and alternative methods of investigation” (p. 20).

3. Axiology

Crotty (1989) describes axiology as the assumption of the role of values. For instance, whether the paradigm employed in the research study has introduced biases into the research study. Table 6 provides compare these philosophical concords for the four paradigms discussed in the previous sections.

Table 6: Philosophical assumptions of paradigms (Collis & Hussey, 2009)

Paradigm	Ontology assumption	Epistemology assumption	Axiology assumption
Positivist	Reality is objective, knowable, and probabilistic	Researcher is independent from what is being researched	The research study is unbiased, unlike in interpretivist and critical paradigms
Interpretivist	Reality is socially constructed Multiple realities	Researcher interacts with what is being researched	The research study has value and biases are present
Critical research	Reality is independent of human thoughts	Researcher interacts with what is being researched; Ability to explain the context	Bias from world views, cultural experiences and upbringing
Design Science	Multiple realities	Understanding of the information leads to the development of an artefact	Control, creation, progress (i.e. improvement), understanding

5.4 Selecting the Appropriate Research Paradigm

Positivist researchers view reality as a concrete structure which is objective in nature, whereas interpretivist researchers view reality as a projection of the human imagination (Collis et al., 2009). As illustrated in Figure 13, this study is more closely associated with the positivist context where

reality is viewed as a contextual field of information. This study assumes that reality from the world can be examined objectively and exists individually of humans.

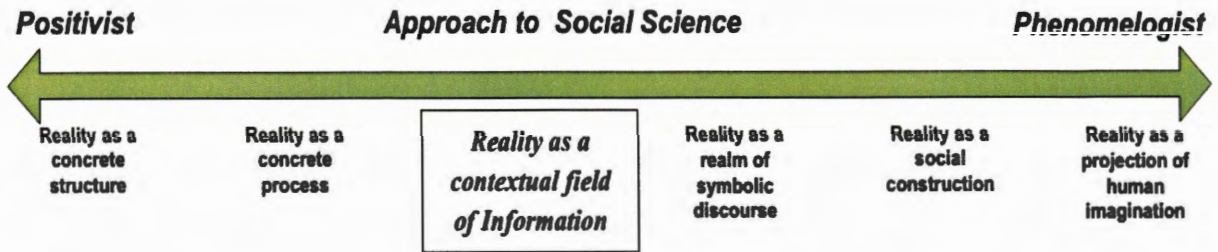
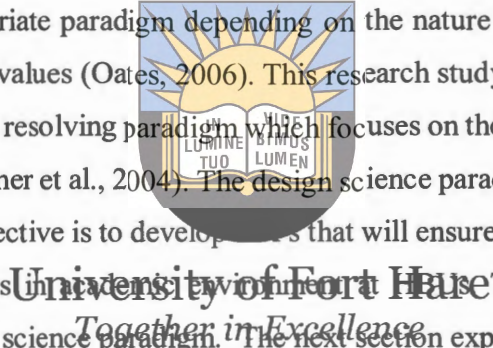


Figure 13: Continuum of ontological assumptions (Collis & Hussey, 2009)

Various factors are considered when selecting the right paradigm for a research project. Researchers select an appropriate paradigm depending on the nature of the research question as well their personal beliefs or values (Oates, 2006). This research study applied the design science paradigm, which is a problem resolving paradigm which focuses on the development of an artefact for a particular problem (Hevner et al., 2004). The design science paradigm focuses on developing artefacts, and this study's objective is to develop artefacts that will ensure the adoption and continued use of emerging technologies in academic environment. This is the reason why the researcher applied the design science paradigm. The next section explains the research design.



5.5 Research Design

Collis and Hussey (2009) asserts that each study must have a research paradigm and research methodology that guides how the study will be conducted. The research study will make use of a design science paradigm with a mixed methods approach. The following section discusses the research paradigm.

5.5.1 Research Paradigm

This research study employed the design science paradigm, which is a problem solving paradigm that focuses on the development and performance of artefacts for a particular problem (Hevner et al., 2004). Design science consists of seven guidelines that should be followed when conducting, evaluating and presenting the research. Table 7 presents these guidelines.

Table 7: Design science research guidelines (Hevner et al., 2004)

Design Science Guidelines		
<i>Guideline</i>	<i>Description</i>	<i>This Study</i>
Guideline 1: Design as an Artefact	Design science research must produce a viable artefact in the form of a construct, a model, a method, or an instantiation.	Critical success factors were developed for the adoption and continued use of social media at a HBU in South Africa.
Guideline 2: Problem Relevance	The objective of design science research is to develop technology-based solutions to important and relevant business problems.	Social media is not being used in teaching and learning at HBUs.
Guideline 3: Design Evaluation	The utility, quality and efficacy of a design artefact must be rigorously demonstrated via well-executed evaluation methods.	Critical success factors for adoption and continued use of social media will be evaluated by experts in the field of technology integration and teaching and learning.
Guideline 4: Research Contributions	Effective design science research must provide clear and verifiable contributions in the areas of the design artefact, design foundations and/or design methodologies.	The main contribution of this study is critical success factors for the adoption and continued use of social media in teaching and learning at HBU in South Africa.
Guideline 5: Research Rigor	Design science research relies upon the application of rigorous methods in both the construction and evaluation of the design artefact.	A mixed method approach is used in this study. Questionnaires, a pilot study and expert reviews are also used to discuss and refine the artefact of this study.
Guideline 6: Design as a Search Process	The search for an effective artefact requires utilising available means to reach desired ends while satisfying laws in the problem environment.	Primary data such as questionnaires and secondary data, such as literature, was used to construct the critical success factors. The critical success factors will be evaluated by expert reviews in order to refine it before the final factors are published.
Guideline 7: Communication of Research	Design science research must be presented effectively both to technology-oriented as well as management-oriented audiences.	The completed thesis will be made available in the UFH library and findings from this study will be published in relevant journals. <i>(Refer to appendix B)</i>

5.5.2 Design Science Research Process

Figure 14 presents the design science activities undertaken in this study in order to develop the CSFs using the seven guidelines. The processes include the design research process, data collection and analysis methods, and the outcome of the research.

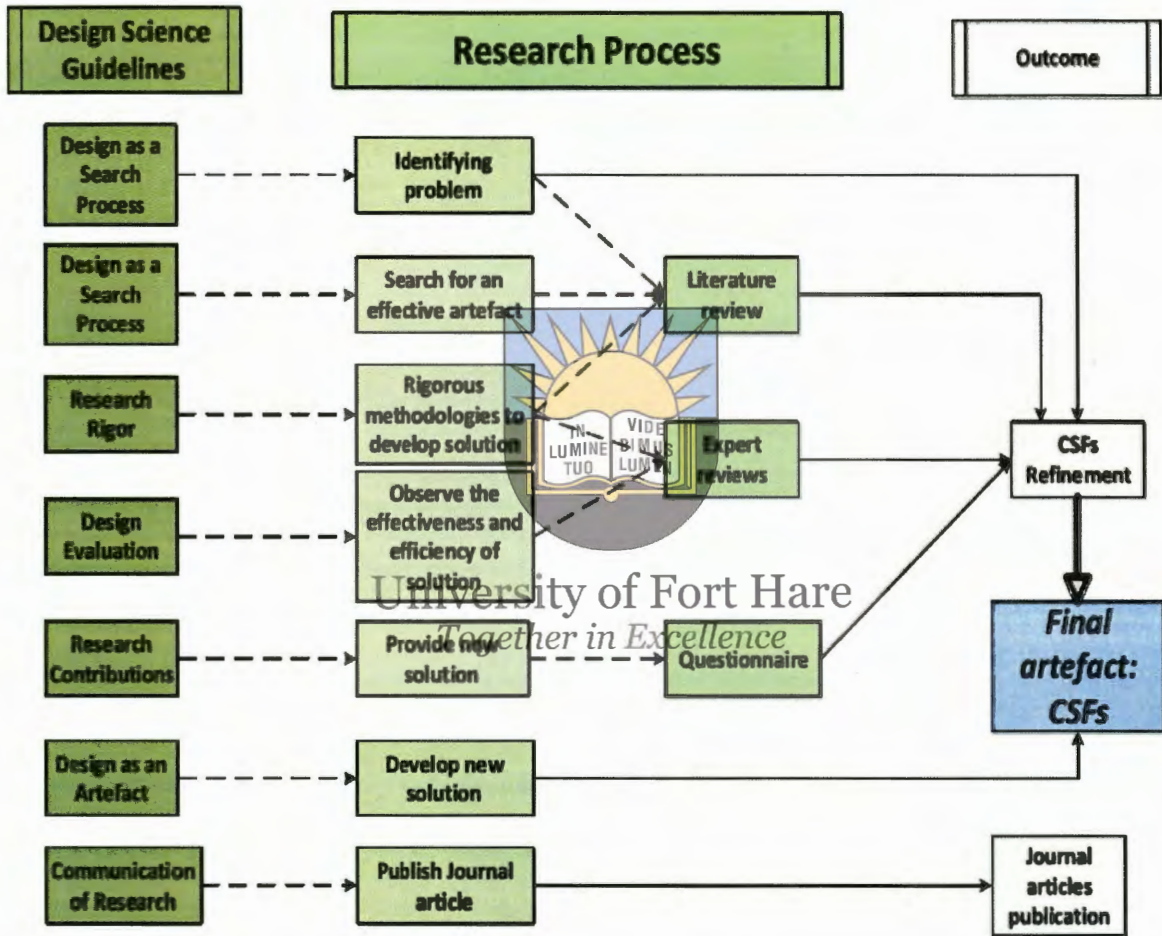


Figure 14: Design science research process

5.5.3 Research approach

Inductive and deductive are two approaches which can be applied when conducting research. Collis and Hussey (2009) describe deductive approach as “the development of a conceptual and theoretical structure which is tested by empirical observation” (p. 8). A deductive approach makes use of existing theories from literature, whilst the inductive approach provides a better understanding to the nature of the problem (Saunders et al., 2007). Collis and Hussey (2009) describe inductive research as “study in which a theory is developed from the observation of empirical reality; thus general inferences are induced from particular instances” (p. 8). Therefore, inductive reasoning was applied to the study. The next section discusses the research method applied in this research project.

5.5.4 Research Methodology

The research study applied a case study approach. Bromley (1990) defines a case study as “a systematic inquiry into an event or a set of related events which aims to describe social science and explain phenomenon of interest” (p. 302). According to Winter (2000), a case study allows the researcher “to fragment and delimit phenomena into measurable or common categories that can be applied to all of the subjects or a wider and similar situation” (p. 11). In this case study, the University of Fort Hare was used as the test ground as it is an HBU.

5.5.4.1 Mixed methods

This project used a mixed method approach to data collection. Oates (2006) describes a mixed method approach as the methodology that encompasses qualitative and quantitative data gathering methods used to complement each method. Convergent, explanatory, embedded, transformative, multiphase and exploratory are different mixed methods designs that can be used to collect data in an information systems research (Creswell, 2014). The sequential embedded design was employed in this study. Figure 15 below illustrates how the study will be conducted.



Figure 15: Sequential embedded design (Adapted from Oates, 2006)

The research study is conducted within a mixed method approach, starting with a qualitative literature search with the aim to gain an understanding of the problem. This was followed by the development of a questionnaire in order to gather quantitative data which involved the selection of the study sample. Data collected was analysed and CSFs were formulated and validated by experts’ reviews in the field of technology in academic setting. Qualitative data was used to refine the CSFs. The following section discusses the methods used for collecting data and how data was collected for this study.

5.5.4.2 Qualitative methods

Qualitative methods are used for collecting descriptive data and are most commonly employed in the interpretivist paradigm. The purpose of qualitative methods is to obtain a detailed description of what is being observed (MacDonald & Headlam, 2009). The data collected is analysed using the interpretative approach, therefore there is no intention of statistically analysing data (Chuang & Tsao, 2013).

5.5.4.3 Quantitative methods

Quantitative methods are known for testing a theory and hypothesis and are specifically used in the positivist paradigm (Goldkuhl, 2012). Numeric data is collected when using quantitative methods with the aim of explaining what is being observed (MacDonald & Headlam, 2009). Quantitative data collection methods made use of statistical and numeric data which can be collected making use of questionnaires, experiments and surveys (Goldkuhl, 2012). Questionnaire is a quantitative method employed in this research study. These data collection techniques are further explained in section 5.6. The next section discusses the data collection techniques used for this research project.

5.6 Data Collection Method

The research study applied a literature review, online questionnaire and empirical findings from experts review. The study therefore collected both primary and secondary data in order to address the research problem defined in Chapter 1. Figure 16 below presents the data collection process.

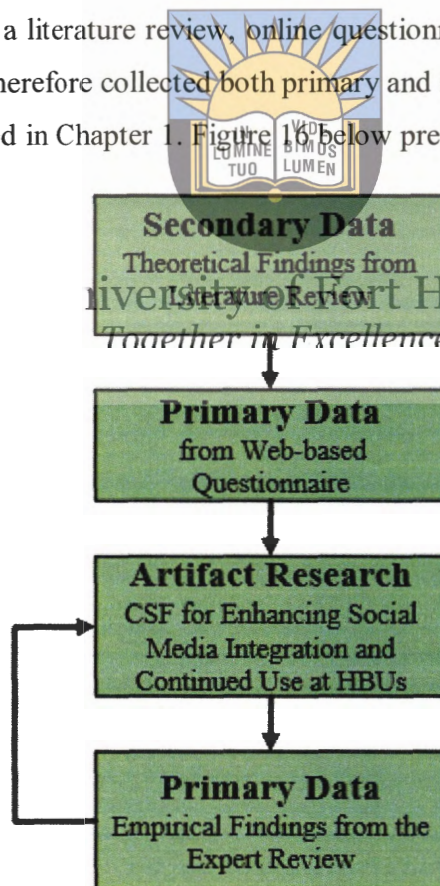


Figure 16: Data collection process

The secondary and primary data collection methods used in this study are discussed in the next section, starting with secondary data collection techniques.

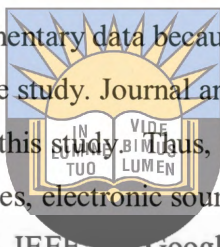
5.6.1 Secondary Data Collection Methods

Secondary data refers to the data collected for a purpose other than the current study and is readily available from other sources (Management Study Guide, 2013). The secondary data in this

research study will include an extensive literature review of works by expert authorities in the field of social media integration and ICT. Secondary data can be used to inform both qualitative and quantitative data. Saunders et al.(2007) asserts that secondary data may be can be categorised into: documentary, survey-based, and multiple-source data.

1. *Documentary data* consists of both written material and non-written material which can be used to provide qualitative and quantitative data.
2. *Survey-based data* is data that has been collected making use of a survey strategy such as: continuous/regular surveys, census and ad hoc surveys.
3. *Multiple-source data* combines both documentary and continuous/regular data.

This research study made use of a documentary data because it provides written material that can be used to provide qualitative data for the study. Journal articles were used in order to construct a research instrument as well as CSFs for this study. Thus, a search from conference proceedings, book reports and documents from websites, electronic sources and journal articles was performed from various databases including ACM, IEEE and Google Scholar. This was done to ensure a greater understanding of knowledge in the area is obtained. The literature review also allows for the development of the questionnaire that will be used to identify the CSFs to increase adoption of emerging technologies in academic setting in higher education institutions. The next section discusses methods applied to collect primary data.



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5.6.2 Primary Data Collection Methods

The Management Study Guide (2013, p. 1) describes primary data as the data which is collected by the researcher. The data can be collected using questionnaires or by observing the research participants. This section discusses the primary data collection methods applied for this research project. These include questionnaires and expert reviews. The following section discusses questionnaires.

5.6.2.1 Questionnaires

Ackroyd and Hughes (1981) define a questionnaire as a “data gathering tool used for the collection and recording of information about a particular issue of interest” (p. 7). Questionnaires were chosen because they are cost effective in seeking opinions of lecturers with regards to social media adoption at HBUs (Popper, 1959). However, De Vos et al. (2005) assert that there are limitations of using questionnaires including the following: potentially high non-response rate, answers left out, and questions incorrectly interpreted. Therefore, the research instrument was carefully structured.

The questionnaire has close-ended questions measured making use of a Likert scale. There are three sections in the questionnaire. The first section collects demographic data, the second collects information about the barriers to social media integration identified in Chapter 3 while the last section relates to the SAMR model and UTAUT. A link to the web-based survey was sent by e-mail to the participants with detailed instructions for completion of the questions. A total of 116 responses were received. Prior to this, the questionnaire was piloted for suitability, user-friendliness and unambiguousness. The detailed description of the findings of the questionnaire is presented in Chapter 7.

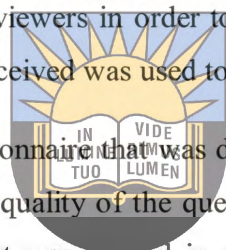
The findings from the questionnaires were employed to formulate the CSFs to improve the integration of social media in academic. Once the CSFs were formulated, an open-ended questionnaire was sent to the expert reviewers in order to elicit their opinion about the factors. (Refer to appendix D). The feedback received was used to refine the CSF.

The validity and reliability of the questionnaire that was designed was tested using a pilot study. Oates (2006) stated that improving the quality of the questionnaire will yield a higher response rate. Therefore, the research instrument was piloted in order to ensure unambiguity and user friendliness. The pilot study included 10 students and 2 lecturers that completed the questionnaire. Their feedback indicated that some of the questions required minor adjustments in order to avoid ambiguity. Their response also indicated that the research instrument was user friendly. Cronbach's coefficient alpha scores was applied to calculate each sub-scale in order to test the reliability and consistency of the questionnaire.

5.6.2.2 Expert reviews

Simon (2011) defines expert reviews as a process used to collect and survey opinions of experts on a particular subject. Likewise, WBI Evaluation Group (2007) describes expert reviews as people who are experienced in a certain field; they have the ability to provide new ideas that can be used for developing CSFs.

Five experts in the field of technology integration in academic environment in higher education were identified and asked to participate in this phase of the project in order to evaluate the research CSFs. The expert reviewers were asked to provide comments on the CSFs created as an outcome of this research project. Therefore, an open-ended questionnaire was sent by email to five experts in order to elicit their opinion and refine the CSFs derived from an extensive literature review and the questionnaires (Refer to appendix D).



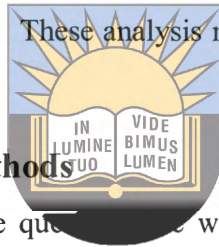
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5.6.3 Sample and Population

Flick (2009) describes a population as the description of the study group under examination. The population of the research study consists of all full-time lecturers at the HBU. According to the Human Resource Department of the University (2016), the total number was projected to be 300 full-time academics from different faculties. The data was collected from the entire population and a convenience sampling method was used as the study made use of the readily available study population. The next section discusses data analysis methods that were applied in the study.

5.7 Data Analysis Methods

Wahyuni (2012) defines data analysis as the interpretations of raw data that has been collected. Oates (2006) states that data collected should be analysed in order to identify patterns. SPSS version 22 was used to analyse the data. These analysis methods are explained in the following section.



5.7.1 Primary Data Analysis Methods

All responses to the questions from the questionnaire were analysed as quantitative variables. Descriptive and inferential statistics were applied to analyse the data collected using questionnaires from the research participants. Most significant preferences were reported in form of charts, graphs and tables when reporting descriptive statistics. Pearson chi-square test was applied to evaluate lecturers' social media use according to their age group, gender and knowledge of social media in academic environment.

5.7.2 Secondary Data Analysis Methods

Trochim (2006) states that researchers apply inductive logic to analyse secondary data in order to determine conclusions from the data that is available. Relevant literature and theories relating to this study were reviewed thoroughly to determine if there is an agreement or disagreement between the theory and the conclusion.

The qualitative data gathered from the experts was reviewed making use of thematic content analysis. This type of analysis identifies, analyses and records themes within data and organises and describes data in rich detail. The next section discusses the reliability and validity of the study.

5.8 Reliability and Validity of Study

The questionnaire was piloted to confirm validity and reliability of the study. Collis and Hussey (2009) state that reliability focuses on results, therefore, a research study is considered reliable if diverse researchers conduct the same research and obtains the same results. In order to confirm

reliability of the study, a research instrument was developed which was employed to develop CSFs.

Collis and Hussey (2009) describe validity as the extent to which the results of a research study are correctly presenting the current situation. Responses collected from lecturers were analysed to find the relationships and patterns of the data. These relationships were used as recommendations to ensure the adoption and continued use of emerging technologies in academic setting at HBUs. The next section discusses ethical considerations.

5.9 Ethical Considerations

In this study the researcher interacts with participants, making use of a questionnaire. Creswell (2003) states that the researcher is obliged to respect the rights, values and desires of the participants. Furthermore, Saunders et al. (2007) state that a researcher conducting research in higher education should consider the following factors relating to ethics that apply to this study:

1. Willingness to participate – Lecturers were not forced to participate in this research.
2. Accessibility – The responses provided by lecturers are only accessible to the responsible people (the researcher and supervisor).
3. Anonymity – The participants have the right to anonymity, which means that their identity and location remain protected and may not be disclosed without their approval.
4. Deception – Data provided was recorded accurately; no alterations or additions were made.
5. Use of data – The collected data is only used for this study and will not be used for any other purpose.

Researchers are cautioned to be aware of these factors before, during and after the research has been conducted. The researcher is aware of the above ethical considerations and attempted to conduct the research study without exploiting the ethical rights of the participants (McMillan & Schumacher, 2010). An application for ethical approval was received from the University Research Ethics Committee (UREC). The Certificate Reference Number is *CIL011SMUR01* (Refer to appendix A).

5.10 Conclusion

This chapter has outlined the research paradigm, methodology, strategies as well as design applied in the research project, including procedures, data collection and analysis methods followed by this research. Firstly, philosophical paradigms were outlined and these four paradigms include interpretivist, positivist, critical and design science. The researcher employed design science as it

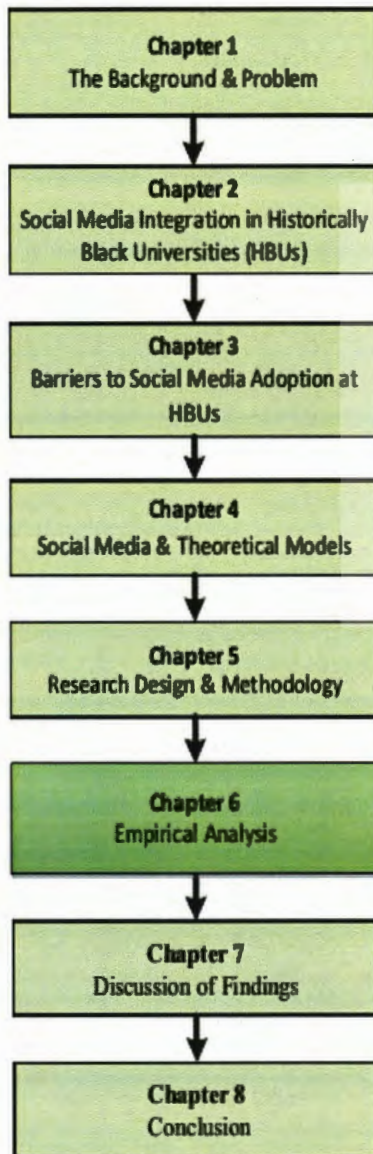
is a problem solving paradigm that focuses on developing an artefact for a particular problem. In this study the artefact is CSFs for the adoption and continued use of social media in the academic setting at HBUs in South Africa. Design science has seven guidelines that guide researchers to have a clear understanding of requirements of the research. The paradigm also consists of a knowledge contribution framework that shows the contribution made by a study. This study falls into the improvement quadrant, which develops a new solution for a known problem. The sample consists of lecturers at the University of Fort Hare. Both primary and secondary data collection methods were used to collect the research study information. The questionnaire was extracted from UTAUT and SAMR models. Pearson chi-squared was employed to analyse the data, and inductive reasoning was applied throughout the study. Ethical considerations followed data analysis and delimitation of the study section. The next chapter presents empirical findings.



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Chapter 6

Empirical Analysis



Chapter 6	
6.1	Introduction
6.2	Response rate
6.3	Descriptive statistics – Questionnaire results
6.3.1	Demographics
6.3.2	Questionnaire findings: Barriers to social media learning
6.3.3	Questionnaire findings: Evaluating the use of Social Media in Teaching and Learning
6.3.4	Questionnaire findings: Factors influencing social media adoption and continued use
6.5	Reliability Analysis
6.6	Inferential statistics
6.6.1	Pearson's Chi-square Tests
6.7	Conclusion

6.1 Introduction

Social media adoption and continued use at HBUs in South Africa was discussed in the preceding literature chapters. Additionally, the methodology and research design applied in this study were conversed in the preceding chapter. This chapter explores and provides an overview of the analysis of the data that was collected making use of SPSS version 22. The data is presented in this chapter making use of descriptive statistics such as frequency tables, charts, graphs, mean and median, and inferential statistics including the Pearson chi-square test.

This chapter is divided into various sections. The first section discusses the response rate, while the next section presents the result of the research instrument. This is followed by the discussions of the results, after which the chapter concludes.

6.2 Response Rate

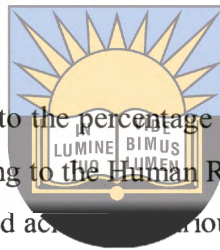
Response rate in a research study refers to the percentage of lecturers who completed the survey from the total study population. According to the Human Resource Department of the University, there are 300 full-time lecturers employed across various faculties within the University. One hundred and sixteen lecturers completed the questionnaire, therefore the response rate for this study was 39%. Comparable outcomes were found in studies by Chismar and Wiley-Patton (2003) and Schaper and Pervan (2004) who reported a response rate of 43% and 25% respectively in information systems research.

Oates (2006) states that a response rate of 30% or higher is acceptable in a research study, thus this study's response rate was considered to be acceptable. Possible reasons for the low response rate in this research project include that the data collection period was at the beginning of the year when lecturers were busy with student registration or still on leave.

From the 116 questionnaires that were returned, only 83 were found to be complete. This means that 28.44% of the questionnaires that were collected could not be used. Conversely, the reason for this includes technical problems such as poor network connectivity which caused the web-based questionnaire to load slowly or not at all. Also, the research instrument may have been too long to complete for some lecturers, although the length of the questionnaire was found to be sufficient in the pilot study. The next section discusses the results from the questionnaire.

6.3 Descriptive Statistics – Questionnaire Results

This section presents the results from the research instrument. The results have been categorised as follows: demographics (*gender, age, position, faculty, length of time in academia, use of social media, knowledge of teaching and learning*); barriers to social media learning; factors enhancing



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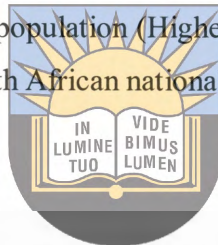
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social media learning (*Substitution ICTs, Augmentation ICTs, Modification ICTs and Redefinition ICTs*), and factors influencing social media integration (*Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions and Behavioural Intention*). In the next section, age and gender are presented in the demographics.

6.3.1 Demographics

6.3.1.1 Gender

This research study population consisted of 54.2% female and 45.8% male lecturers. This implies that the female lecturers participating in the study were more than that of the male academic population. The findings of the study are not congruent to the statistics of gender ratios in the academic population of South African Public higher education institutions. Literature reports that women constitute 45% of the academic population (Higher Education Training, 2015). However, the majority of the lecturers were of South African nationality (68.7%). The next section discusses the age of the lecturers.



6.3.1.2 Age of lecturers

The age groups were divided into four categories: under 30 years of age, between 30 - 40, 41-50, and over 50 years of age. The distribution shows that the 41-50 years age population recorded the majority of the lecturers (39.8%), followed by the 30 - 40 year age group with 34.9%. The lecturers that were younger than 30 years of age and older than 50 years of age each recorded less than 15.0% of the lecturers respectively. The findings of the study are not congruent to statistics of age ratio of the academic population in South Africa. Bezuidenhout and Cilliers (2011) state that the more than 50% of the academic staff at South African higher education institutions are above 50 years of age and approaching their retirement time. The age groups of lecturers are presented in Table 8.

Table 8: Lecturers age groups

Age Group	Frequency (N=83)	Percentage (%)
< 30	9	10.8
30 – 40 years	29	34.9
41– 50	33	39.8
> 50	12	14.5
Total	83	100.0

6.3.1.3 Lecturers by faculty

There are five faculties in the University: Management and Commerce, Education, Social Science and Humanities, Law, Science and Agriculture. The findings indicated that lecturers in the Faculty of Science and Agriculture were the biggest participant group in the study (32.5%), followed by Management and Commerce with 28.9%. The Faculties of Education and Law recorded the least lecturers at 8.4% and 2.4% respectively. The results also indicated that lecturers from other departments within the University, such as the Govern Mbeki Research and Development Centre (GMRDC), participated in the research study (10.8%). While these lecturers are not employed within a faculty, they do have teaching responsibilities within their own departments and are thus relevant to the study. Lecturers in the study are grouped by faculty and presented in Table 9.

Table 9: Lecturers by faculty

Faculty	Frequency	Percentage (%)
Science and Agriculture	27	32.5
Management and Commerce	24	28.9
Social Sciences and Humanities	10	12.0
Others e.g. GMRDC	10	10.8
Education	4	8.4
N/A	4	4.8
Law	2	2.4
Total	83	100.0

6.3.1.4 Academic Staff by rank

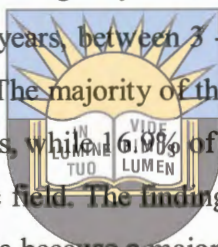
Additional background information collected about lecturers includes the position of the participant. The academic could choose from four categories in this question: lecturer, senior lecturer, associate professor and professor. The position of the participant is important, as this could indicate the amount of experience the academic has within the teaching and learning environment. The distribution indicates that majority of the lecturers (62.7%) were lecturers, followed by the second category, senior lecturers, with 16.9%, and the third category, associate professors, at 12.0%. The fourth category, professors, had the least lecturers with 6.0%. Therefore, there are few professors and associate professors who participated in the study. According to CHET (2014), this distribution is consistent with the distribution of staff in academic institutions. CHET (2014) reported that lecturers constitute 50.14% of the academic population in South Africa, followed by senior lecturers with 23.39%, and associate professors and professors with 23.47%. Table 10 presents the results found by the study.

Table 10: Academic staff by rank

Position	Frequency (N=83)	Percentage (%)
Lecturer	52	62.7
Senior lecturer	14	16.9
Associate Professor	10	12.0
Professor	5	6.0
N/A	2	2.4
Total	83	100.0

6.3.1.5 Length in academia

Lecturers were requested to indicate how long they have worked in academia. The question was divided into five categories: less than 3 years, between 3 – 6 years, 7 – 10 years, 11 – 14 years, and more than 15 years of experience. The majority of the lecturers (32.5%) indicated that they had been in academia between 3 – 6 years, while 16.9% of the lecturers indicated that they had 11 – 14 years of experience in the academic field. The findings are congruent with the results of the position of the staff members in academia because a majority of academic staff (62.7%) recorded were lecturers. The results are illustrated in Table 11.



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Table 11: Length in academia

Time in academia	Frequency (N=83)	Percentage (%)
< 3	13	15.7
3- 6	27	32.5
7-10	13	15.7
11-14	14	16.9
15+	15	18.0
N/A	1	1.2
Total	83	100.0

6.3.1.6 Rating knowledge

Lecturers were requested to rate their knowledge of teaching and learning. The majority of the lecturers indicated that they are quite knowledgeable (59.0%), while 20.5% indicated that they are extremely knowledgeable about teaching and learning. Furthermore, another 20.5% of the participants' responded that they are moderately knowledgeable. No lecturers felt that they were neither slightly knowledgeable nor not knowledgeable at all about teaching and learning. The HBU had previously adopted a policy where all lecturers must complete the Assessors and Moderation of Student's module offered in the Postgraduate Diploma of Higher Education in order to apply

for promotion. Many of the lecturers at this institution had therefore been exposed to teaching and learning theories and practices within this course. The results are illustrated in Figure 17 below.

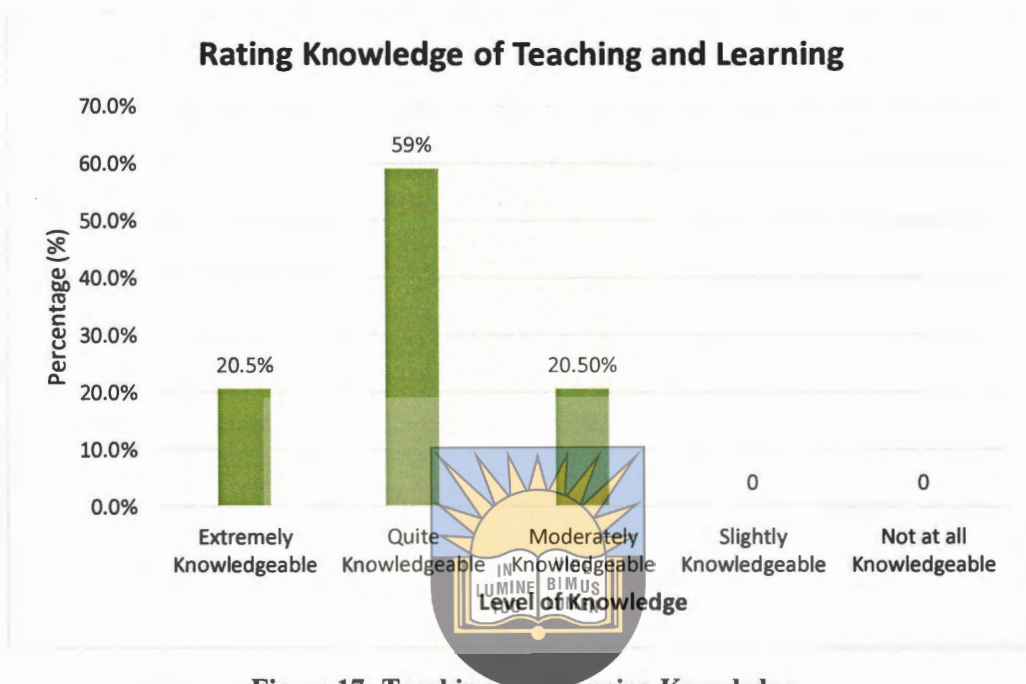


Figure 17: Teaching and learning Knowledge

6.3.1.7 Use of social media

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Lecturers were asked how frequently they used social media in the academic environment. The majority of the lecturers (33.7%) reported that they use social media occasionally, while 22.9 % indicated that they have never used social media tools in academia. Only 15 lecturers, or 18.1 %, reported that they use social media tools on a daily basis. This indicated that most lecturers are not utilising social media in teaching and learning for academic purposes although they have knowledge about social networking sites. The results are illustrated in Table 12.

Table 12: Frequency of Emerging Technologies in Academia

Use of social media	Frequency (N=83)	Percentage (%)
Daily	15	18.1
Once a week	6	7.2
Once a month	15	18.1
Occasionally (when I cannot avoid it)	28	33.7
Never	19	22.9
Total	83	100.0

The demographic information of the lecturers were outlined in this section. The next section discusses the questionnaire findings on barriers to social media adoption and continued use in teaching and learning at HBUs.

6.3.2 Questionnaire Findings: Barriers to Social Media Learning

This project seeks to explore critical success factors for the adoption and continued use of social media in academic at HBUs. To examine the use of emerging technologies in the academic setting at HBUs, lecturers were asked to indicate barriers that prevent them from making use of social media tools in the lecture rooms or classroom. Figure 18 outlines responses that were obtained.

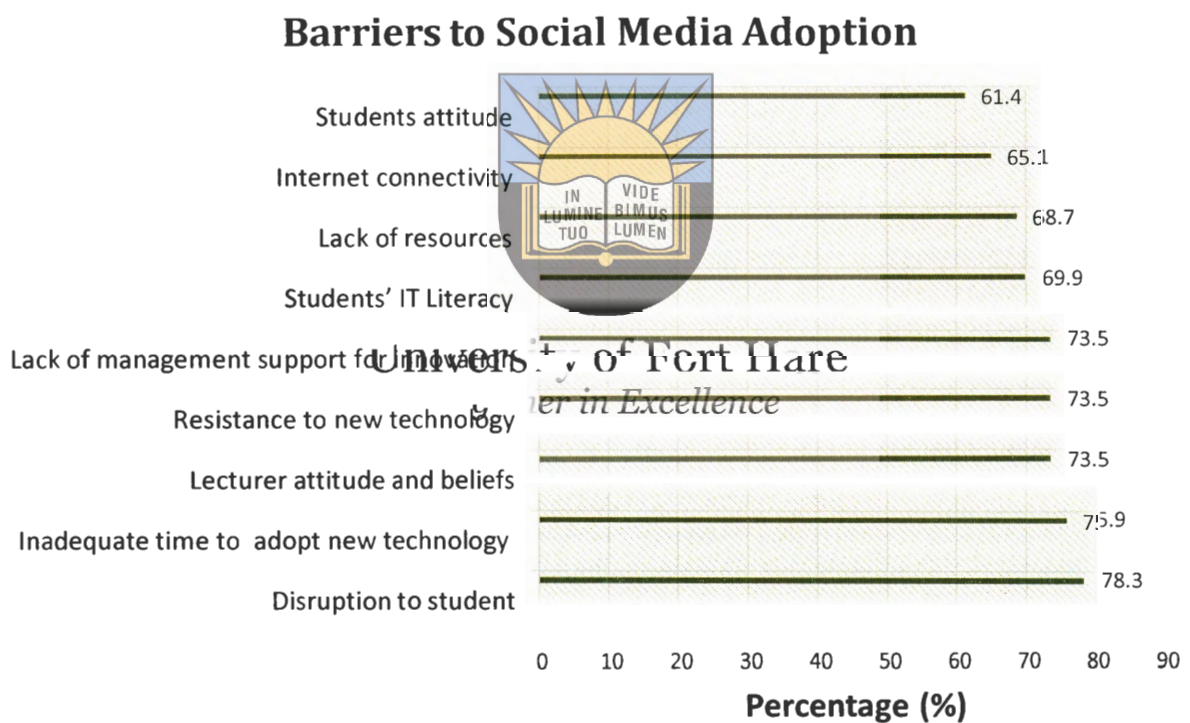


Figure 18: Barriers to making use of social media tools in academic setting

It is vital to note a number of barriers affects the adoption and continued use of social media at HBUs. From the results of the research instrument, lecturers indicated that using social media in teaching and learning will disturb students from concentrating in lecture venues or classrooms (78.3%). This is followed by inadequate time to adopt new technology (social media) with 75.9%. These results are consistent with the literature survey findings discussed in Chapters 2 and 3 (Garrote & Petterson, 2007; Bingimlas, 2009; Kopcha, 2012). The next section will discuss findings from enhancing social media section.

6.3.3 Questionnaire Findings: Evaluating the use of Social Media in Teaching and Learning

The purpose of this section was to investigate the current state of social media integration at an HBU. The lecturers were asked to indicate the degree to which they use social media in teaching and learning making use of the different categories in the substitution, augmentation and modification and redefinition (SAMR) model.

Substitution, augmentation and modification constructs were divided into two sections: *social media* and *technology* in order to illustrate the use of social media tools in contrast to other technologies such as projectors, smart boards and e-Learning in teaching and learning. The next section discusses descriptive statistics for substitution of ICTs.

Table 13: Descriptive statistics for substitution of ICTs (n = 83)

<i>Substitution of ICTs</i>		<i>Never</i> %	<i>Sometimes</i> %	<i>Always</i> %	<i>Total</i> %
Social media					
1	I use social media to distribute assignments to students.	47.0	45.8	7.2	100.0
2	I use social media to deliver announcements to students.	39.0	38.0	23.0	100.0
Technology					
3	During my lectures, I use the projectors and smart boards installed in the lecture rooms for writing instead of the chalkboard.	35.5	17.3	47.3	100.0

Substitution ICTs occur when social media, is used as a replacement to manual practices with no functional change. As can be seen in Table 13, the majority (47.0 %) of the lecturers indicated that they have never used social media to distribute assignments to students, whereas 7.2% indicated that they always use social networking sites to dispense assignments to students.

Announcement is a public statement with information of an event that has occurred or which is going to come about. In the context of this study, lecturers could post announcement about changes on assessments dates. The majority of the lecturers (39.0%) indicated that they have never used social media to deliver announcements, while 23% of the lecturers always use social networking sites to deliver announcements. In contrast, 7.2% and 23.0% of the lecturers always use social media to distribute assignments and to deliver announcements respectively whereas the majority of lecturers (47.3%) always make use of projectors and smart boards in the lecture venues. This is because most of the lecturers are familiar with these technologies. These results indicated that the

lecturers are not comfortable to make use of social media to substitute activities in teaching and learning. The next section will provide descriptive statistics for augmentation.

Table 14: Descriptive Statistics for augmentation ICTs (n = 83)

<i>Augmentation ICTs</i>		<i>Never</i> %	<i>Sometimes</i> %	<i>Always</i> %	<i>Total</i> %
Social Media					
1	I use subject communities such as wikis, blogs and chatrooms to look for vital research content in my discipline.	37.5	41.3	21.2	100.0
Technology					
2	I use the editorial tools in my word processor to correct grammatical errors in any documents I process.	33.6	15.5	50.9	100.0
3	I use the track changes tool in my word processor to review communal documents or students' work.	34.2	14.9	50.9	100.0

The augmentation level presupposes that pedagogical ICTs are used to substitute traditional ways of teaching and learning but with a little bit of functional improvement. With the *augmentation dimension*, this is where social media is used to complete tasks more efficiently but with little functional improvement. As shown in Table 14, the results indicated that the majority of lecturers (41.3%) sometimes use subject communities when looking for research material, while 21.2% of the lecturers always use subject communities to check for vital research content in their disciplines. However, in contrast, the majority of lecturers (50.9%) indicated that they always use editorial tools in a word processor to correct grammatical errors, and majority of lecturers (50.9%) always use track changes in a word processor to review students' work. These results illustrate that lecturers are aware of other technologies and utilise them more frequently than social media. A conclusion can be made that lecturers are not comfortable to use of social media to augment their own learning. The next section presents descriptive statistics for modification.

Table 15: Descriptive statistics for modification ICTs (n = 83)

<i>Modification ICTs</i>		<i>Never</i> %	<i>Sometimes</i> %	<i>Always</i> %	<i>Total</i> %
Social media					
1	I use group discussion facilities on Wikis.	67.5	25.3	7.2	100.0
2	I use social media such as Facebook, Twitter, and Whatsapp to communicate with my students.	25.3	57.8	16.9	100.0
Technology					
3	I use the internet to assign student topics for research/assignment purposes.	12.0	55.5	32.5	100.0

The *modification level* allows social media to be used for significant task redesign. As depicted in Table 15, the majority of the lecturers (67.5%) indicated that they have never used group discussion facilities such as wikis. This means that some of the lecturers are not familiar with the technology. However, with the advent of social media, effective communication is enhanced.

Lunenburg (2010) describes communication as a process of conveying information by expressing ideas and thoughts to someone. The majority of the lecturers (57.8%) sometimes use social media to communicate with students, whereas 16.9% of the lecturers always use social networking sites to communicate with students. However, in contrast, majority of lecturers (55.5%) sometimes use the Internet to assign student topics for assignment or research, while 32.5% of the lecturers claim that they always assign work to students from the Internet. Low percentages (7.2%, 16.9% and 32.5%) were recorded for both *social media and technology* sections for the *always* column. This indicates that the lecturers are not comfortable to make use of social media to modify their teaching and learning. The following section presents descriptive statistics for redefinition.

Table 16: Descriptive statistics for redefinition ICTs (n = 83)

<i>Redefinition ICTs</i>		<i>Never</i> %	<i>Sometimes</i> %	<i>Always</i> %	<i>Total</i> %
1	I ask students to make their own notes from group discussion threads in social media.	54.2	38.6	7.2	100.0
2	I use blogs as a source of useful content for my classes.	56.6	39.8	3.6	100.0
3	I use social media to express and share thoughts and ideas with students.	50.6	42.2	7.2	100.0

Under the redefinition stage, technology allows for the creation of new tasks previously impossible to develop. As can be seen in Table 16, majority of lecturers (54.2%) are hesitant to ask students to make their own notes from discussion threads on social networking sites, whereas 7.2% allow students to write notes from discussion groups. Similarly, 56.6% of the lecturers' indicated that they have never used blogs as a source of information for teaching and learning, while only 3.6% made use of blogs to facilitate the teaching and learning process. The majority of the lecturers (50.6%) responded that they have never used social media to express and share thoughts and ideas, whereas 7.2% exchange ideas and share thoughts on social networks with peers. Low percentages (7.2%, 3.6% and 7.2%) were recorded for the *always* column. These results indicate that the lecturers are not comfortable to make use of social media to redefine their teaching and learning. The next section discusses the questionnaire findings on factors influencing social media adoption.

6.3.4 Questionnaire Findings: Factors Influencing Social Media Adoption and Continued Use

This section seeks to investigate the factors that influence lecturers' adoption and continued use of social media in academia. Table 17 provides descriptive statistics for performance expectancy.

Table 17: Descriptive statistics for performance expectancy (n = 83)

	<i>Performance expectancy</i>	<i>Strongly agree %</i>	<i>Agree %</i>	<i>Disagree %</i>	<i>Strongly disagree %</i>	<i>Mean</i>	<i>Median</i>
1	I feel that using social media will support teaching and learning	36.1	56.6	4.8	2.4	1.73	2.0
2	Using social media for teaching and learning activities will enable me to collaborate and communicate with students	42.2	47.0	8.4	2.4	1.71	2.0
3	Using social media for teaching and learning activities enables me to be more productive	26.5	47.0	22.9	3.6	2.04	2.0

Table 17 summarises the frequencies and corresponding percentages for the participants' perception regarding performance expectancy. The majority of the lecturers (92.7%) were positive that social media supports teaching and learning, while only 7.3% of the lecturers were negative towards social media in teaching and learning. Additionally, the majority of lecturers (89.2%) indicated that they use social media to communicate and collaborate with students. This result is in accordance with the findings in the previous section that found that lecturers were willing to communicate with their students both in groups or individually. Moreover, 73.5% of the participants were positive that social media is a productive tool in the teaching and learning process. These results indicated that the lecturers believe that using social media could help them to increase their performance in teaching and learning. This is similar to the literature findings discussed in section 4.3.1. Table 18 on the next page describes descriptive statistics for effort expectancy.

Table 18 provides a summary of the frequencies and corresponding percentages for the respondents' perception with respect to effort expectancy. As can be seen in the table above, majority of lecturers (60.3%) were positive that their interaction with social media in academia is clear and understandable. Interestingly, 39.7% of the lecturers felt that it would be difficult to learn how to make use of social media in the classroom. This could explain the results in the previous section that showed that lecturers are not using social media for classroom activities. Furthermore, 26.5% of the lecturers felt that it will be difficult for them to learn how to use social media in teaching and learning.

Table 18: Descriptive statistics for effort expectancy (n = 83)

<i>Effort expectancy</i>		<i>Strongly agree %</i>	<i>Agree %</i>	<i>Disagree %</i>	<i>Strongly disagree %</i>	<i>Mean</i>	<i>Median</i>
1	I feel that interactions with social media for teaching and learning are clear and understandable.	15.7	44.6	33.7	6.0	2.30	2.0
2	It is easy for me to become skilful at using social media in teaching and learning activities.	19.3	54.2	22.9	3.6	2.11	2.0
3	I feel social media for teaching and learning is easy to use.	18.1	53.0	24.1	4.8	2.16	2.0

However, majority of the lecturers (71.1%) were positive that social media for teaching and learning is easy to use. These results indicated that the majority of lecturers do see the value of social media in teaching and learning activities, but some felt that it would be difficult to learn how to incorporate it into their teaching pedagogy. However, once the initial learning curve has been overcome, most lecturers agree that social media is easy to use for teaching and learning activities. This is similar to the literature findings discussed in section 4.3.2. The next section provides descriptive statistics for social influence.

Table 19: Descriptive statistics for social influence (n = 83)

<i>Social influence</i>		<i>Strongly agree %</i>	<i>Agree %</i>	<i>Disagree %</i>	<i>Strongly disagree %</i>	<i>Mean</i>	<i>Median</i>
1	People who influence my behaviour think I should use social media for teaching and learning activities.	9.6	44.6	34.9	10.8	2.47	2.0
2	The senior management of my institution encourages the use of social media for teaching and learning.	9.6	36.1	41.0	13.3	2.58	3.0
3	In general, the Department of Higher Education supports the use of social media in teaching and learning.	7.2	49.4	36.1	7.2	2.43	2.0

As can be seen in Table 19 above, just more than half of the lecturers (54.2%) felt that they are influenced by others (colleagues) to use social media. In contrast, the majority of the lecturers (54.3%) indicated that the senior management did not encourage the use of social media for teaching and learning. Furthermore, 56.6% of the lecturers were positive that the Department of Higher Education supports the use of social media in teaching and learning, while 43.4% did not

agree with the statement. These results indicated that the lecturers are more likely to make use of social media because they are influenced by colleagues rather than the management of the institution or Department of Higher Education. This is similar to the literature findings discussed in section 4.3.3. The next section presents descriptive statistics for facilitating condition.

Table 20: Descriptive statistics for facilitating condition (n = 83)

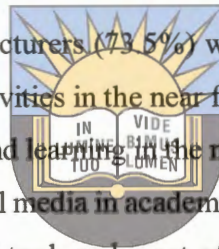
<i>Facilitating conditions</i>		<i>Strongly agree %</i>	<i>Agree %</i>	<i>Disagree %</i>	<i>Strongly disagree %</i>	<i>Mean</i>	<i>Median</i>
1	I have the resources necessary to use social media for teaching and learning.	15.7	55.4	22.9	6.0	2.19	2.0
2	I have the knowledge necessary to use social media for teaching and learning.	14.5	54.2	26.5	4.8	2.22	2.0
3	Using social media for teaching and learning is not compatible with other lecturing responsibilities that I have.	6.0	43.4	39.8	10.8	2.55	3.0
4	There is a specific person allocated for assistance if I experience difficulties when using social media for teaching and learning.	6.0	27.7	44.6	21.7	2.82	3.0

Table 20 provides a summary of the frequencies and corresponding percentages for the lecturers' perception with respect to facilitating conditions. As can be seen in the table above, the majority of lecturers (71.1%) were positive that they have the resources necessary to use social media in academia. Furthermore, 68.7% of the lecturers were positive that they have the necessary knowledge to integrate social media in teaching and learning. However, 49.4% of the lecturers were not convinced that social media is compatible with their other lecturing responsibilities. Furthermore, majority of the lecturers (66.3%) indicated that there is no help desk for lecturers who experience challenges when using social media in academia. A possible explanation is that colleagues assist one another when they experience some challenges as they are the ones who influence them to use social media as shown in the results presented in the social influence construct. This is similar to the literature findings discussed in section 4.3.4. The next section provides descriptive statistics for behaviour.

Table 21: Descriptive statistics for behaviour (n = 83)

<i>Behavioural intention</i>		<i>Strongly agree %</i>	<i>Agree %</i>	<i>Disagree %</i>	<i>Strongly disagree %</i>	<i>Mean</i>	<i>Median</i>
1	I intend to use social media for teaching and learning in the next 12 months.	22.9	50.6	22.9	3.6	2.07	2.0
2	I expect to use social media for teaching and learning in the next 12 months.	21.7	49.4	25.3	3.6	2.11	2.06
3	I plan to use social media for teaching and learning in the next 12 months.	24.1	51.8	18.1	6.0	2.06	2.0

According to Table 21, a majority of lecturers (73.5%) were positive that they will adopt social media in their teaching and learning activities in the near future. Similarly, 71.1% of the lecturers expect to use social media in teaching and learning in the next 12 months. Furthermore, a majority of the lecturers (75.9%) plan to use social media in academia in the next 12 months. This is because they found that social media is a useful tool, and most of the lecturers are knowledgeable about the social media. These results indicated that lecturers will adopt social media in the teaching and learning environment as they are influenced by four main constructs. The next section discusses reliability analysis.



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6.4 Reliability Analysis

The study made use of Cronbach’s alpha to test reliability analysis. Table 22 indicates that several scales of the UTAUT construct have a good degree of reliability because each was computed above 0.70 (Venkatesh et al., 2003). The Cronbach’s alpha for facilitating condition construct was 0.542. However, Leech, Barrett, and Morgan (2004) state 0.50 is considered to be a medium reliability and is acceptable. The table below presents reliability analysis of the study.

Table 22: Descriptive statistics for behaviour (n = 83)

Name of scale		Number of Items	Cronbach’s Alpha
1	Performance expectancy	3	0.833
2	Effort expectancy	3	0.869
3	Social influence	3	0.831
4	Facilitating condition	4	0.542
5	Behavioural intention	3	0.956

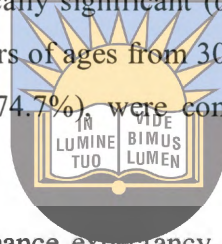
6.5 Inferential Statistics

This section discusses the test that was applied in this study. The results were presented here, while the discussion of the results will be presented in the next chapter.

6.5.1 Pearson's Chi-square Tests

Pearson's chi-square test was applicable in this study because it can be used to measure the relationship between two categorical variables. Eight variables were found to be statistically significant when measured against age, gender, knowledge and faculty. The results are as follows:

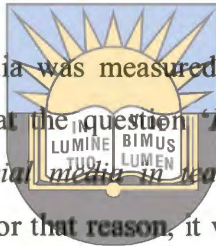
1. Pearson's chi-square test was used to measure the relationship between age and performance expectancy. The results point out that the question '*I feel that social media will support teaching and learning*' was statistically significant ($\alpha = 25.818$; $p < 0.05$). Therefore, it was concluded that a majority of lecturers of ages from 30-40 and 41-50, whom had the highest percentage of positive responses (74.7%), were comfortable with using social media for teaching and learning.
2. Age was measured against performance expectancy. The results indicate that the question '*Using social media for teaching and learning enables me to be more productive*', was statistically significant ($\alpha = 29.973$; $p < 0.05$). Lecturers of ages 30– 40 and 41–50 had the highest percentage of positive responses (74.7%). Therefore, it was concluded that the adoption of social media in teaching and learning will improve their productivity.
3. The Pearson chi-square test was used to measure the relationship between gender and performance expectancy. The results show that the question '*Using social media for teaching and learning enables me to be more productive*' was statistically significant ($\alpha = 25.355$; $p < 0.05$). Female lecturers had the highest percentage of responses and a conclusion can be made based on this participation that the majority (47 %) agreed that social media tools in teaching and learning help them to be productive.
4. The Pearson chi-square test was used to test the relationship between age and social influence. The results show that the question '*People who influence my behaviour think I should use social media for teaching and learning activities*' was statistically significant for social influence ($\alpha = 26.582$; $p < 0.05$). For that reason, it was concluded that those younger lecturers below the age of 30 years could influence senior lecturers and professors to integrate social media in teaching and learning.
5. Knowledge about using social media was measured against social influence from colleagues. The results show that the question '*People who influence my behaviour think I should use*



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social media for teaching and learning activities’ was statistically significant for social influence ($\alpha = 12.754$; $p < 0.05$). For that reason, it was concluded that the majority of the lecturers were quite knowledgeable about social media and they could influence their colleagues to make use of social media in teaching and learning.

6. Knowledge about using social media was measured against social influence from senior management. The results show that the question *‘The senior management of my institution encourages the use of social media for teaching and learning’* was statistically significant ($\alpha = 17.139$; $p < 0.05$). For that reason, it was concluded that the majority of the lecturers were quite knowledgeable about using social media in teaching and learning and the senior management need to support lecturers in order for them to utilise social media.



7. Knowledge about using social media was measured against social influence from higher education. The results indicate that the question *‘In general the Department of Higher Education supports the use of social media in teaching and learning’* was statistically significant ($\alpha = 19.435$; $p < 0.05$). For that reason, it was concluded that the majority of the lecturers were quite knowledgeable about using social media in teaching and learning and the Department of Higher Education needs to support the use of social media in teaching and learning.

8. Faculty was measured against facilitating condition. The results indicate that the question *‘Using social media for teaching and learning is not compatible with other lecturing responsibilities that I have’* was statistically significant ($\alpha = 21.683$; $p < 0.05$). A slight difference of 49.4% (positive) and 50.6% (negative) was recorded for this question. Therefore, a conclusion can be drawn that some faculties do not use social media as it is not compatible with the structure of their module. This could be due to the different teaching styles in the various faculties (Law versus Social Sciences), where social media would not always be compatible.

6.6 Conclusion

This chapter presented the analysis of data collected by means of the web-based questionnaire. The research instrument was made up of sections including demographics, barriers to social media learning, enhancing social media learning, and factors influencing social media adoption and continued use corresponding to the objectives of the research study. The response rate for this study was 37% and considered acceptable. Results were presented in the form of text, graphs and tables (descriptive statistics). The study made use of Cronbach’s alpha to test reliability analysis.

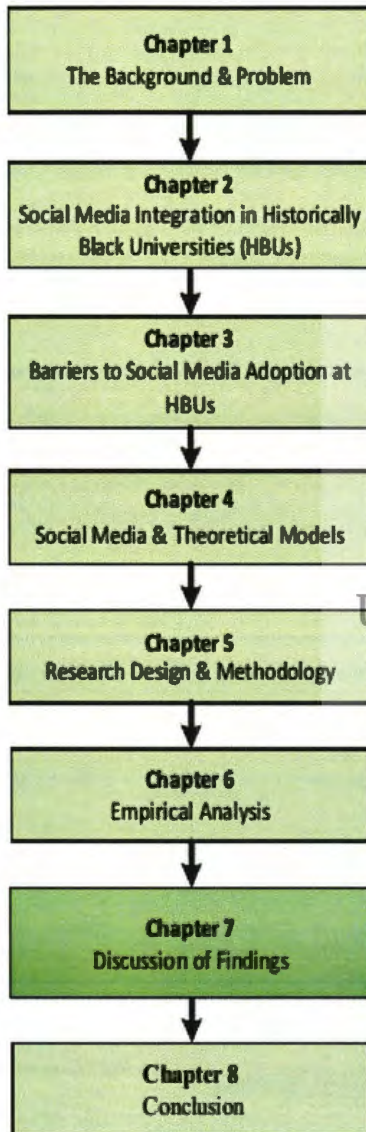
All UTAUT scales have a good degree of reliability except facilitating condition with statistics below 0.70. Pearson's chi-square test was used to measure the relationship between variables were statistically significant. The results show that performance was statistically significant when measured against age and gender. Social influence was statistically significant when measured against age, knowledge, management support, and Department of Higher Education. Facilitating condition was statistically significant when tested against faculty. The next chapter provides a discussion of the results.



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Chapter 7

Discussion of Findings



Chapter 7

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- 7.2 Demographics
- 7.3 Social Media in Teaching and Learning
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7.1 Introduction

The preceding chapters discussed the research design and methodology employed in the study as well as the empirical findings. This chapter discusses the research results as well as the critical success factors (CSFs) that can be used to improve the adoption and use of social media in teaching and learning at HBUs. The CSFs were developed from relevant literature and theories (as discussed in Chapters 2 to 4) as well as the empirical findings discussed in the previous chapter. The last section of this chapter provides an evaluation of the CSFs. Five experts in the fields of information systems and education were asked to comment on the CSFs, and their feedback was used to refine and validate the CSFs in order to increase the validity of the research results.

The outline of this chapter is as follows: The first section discusses the demographics of the study population. Section 2 discusses barriers to social media learning, factors evaluating social media learning, and factors influencing social media adoption. Lastly, this is followed by the discussion of the proposed CSFs and expert review, thereafter the chapter concludes. The next section discusses demographics of the research instrument.



7.2 Demographics

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The study population comprised of females to males participation percentage of 54.2% and 45.8% respectively. This is slightly different to the reported statistics of female: male ratios in the academic population in South Africa at public higher education institutions as women contribute only 45% of the academic population (Higher Education Training, 2015). One of the reasons for this difference could be the low response rate (39%) in this study as more of the female lecturers chose to participate in the study as opposed to their male counterparts. Another possible explanation could be that the Ministry of Higher Education institutions in South Africa has been encouraging females to join academia in order to reduce gender inequality in the teaching and learning environment as well as to reduce the shortage of skilled staff in academia (Bezuidenhout & Cilliers, 2011).

More than half of the lecturers were older than 41 years of age. In general, older generations find it more challenging to adopt technology and this has an influence on the use of social media in teaching and learning (Arthur et al., 2013). Venkatesh et al. (2003) confirms that age has an effect on the adoption of new technology. It is believed that younger adults are more computer literate because they are familiar with technology in their everyday lives (Salim, 2012). Eleven percent of the study's lecturers were younger than 30 years of age, which is considered to be young adults that would be more receptive to using new technologies in the teaching and learning environment.

The length of the lecturers' academic career is considered important for the use of social media in teaching and learning as long-serving lecturers will be more resistant to change as they are set in their ways of communicating with students. The majority of lecturers (89%) have more than three years' experience in academia.

The level of knowledge of teaching and learning is essential for the adoption of social media in academia. The lecturers indicated that they are quite, extremely and moderately knowledgeable with 59%, 20.5% and 20.5% respectively. No lecturers indicated that they were not knowledgeable about teaching and learning as this is their core business in academia. Their expertise is needed to produce quality students that will address the inadequate human resource skills in the country. By employing social media in teaching and learning, the throughput rate could be improved. This is supported by Robinson (2014) who stated that the potential to use social media to improve teaching and learning at HBUs is immense. Making use of social media, lecturers and students can communicate and collaborate with virtual office hours that may improve student throughput rate.

7.3 Social Media in Teaching and Learning

Regarding social media in teaching and learning, the majority of the lecturers (33.7%) seldom use social media in teaching and learning, whereas, 22% indicated that they have never used social sites in academia. This could be because of the nature of the courses or modules where social media is not considered to be useful in some faculties. In faculties like Law and departments like Accounting, teaching and learning activities requires a "hands on" approach in the classroom where social media will not be useful. However, the technology can still be used outside the classroom to collaborate and increase communication among students and lecturers. Furthermore, the majority of the study population consisted of lecturers who are older than 41 years of age. In general, the older generation finds it challenging to adopt technology and this has an influence on the use of social media in teaching and learning (Venkatesh et al., 2003).

7.4 Research Objectives

The research question which is under investigation is: *What are the critical success factors that will improve the adoption and continued use of social media in teaching and learning amongst lecturers at HBUs in South Africa?* The primary objective of this study is to formulate critical success factors that can be used to enhance the adoption and continued use of social media in teaching and learning at HBUs in order to increase the throughput rate. In order to answer the research question, four sub-questions were formulated:

- 1) *How can social media improve teaching and learning at HBUs?*
- 2) *What is the current level of social media usage in teaching and learning at UFH?*

- 3) *What are the barriers to the adoption and continued use of social media in teaching and learning amongst lecturers at HBUs in South Africa?*
- 4) *What mechanism must be in place to mitigate the barriers to the adoption and continued use of social media at HBUs in South Africa?*

These four sub-questions were answered making use of the results obtained from the questionnaire. CSFs were developed to answer the main research question and these will provide guidelines for the future use of social media in the teaching and learning environment in higher education in developing countries.

7.5 Evaluating Social Media in Teaching and Learning

This section addresses sub-questions one and two: *How can social media improve teaching and learning at HBUs* and *What is the current level of social media usage in teaching and learning at UFH?* While Chapter 2 – 4 have provided a detailed overview of how social media can improve teaching and learning in the literature. The next section provides a detailed discussion on constructs measuring the use of social media at HBU.



Substitution ICTs is when technology, in this context social media, is used as a replacement to manual practices with no functional change. The majority (47.0%) of the lecturers indicated that they have never used social media to distribute assignments to students in teaching and learning, while 39.0% of the lecturers indicated that they have never used social media to deliver announcement to their students. In contrast, only 7.2% and 23.0% of the lecturers always use social media dispense assignments and to deliver announcements. However, the majority of lecturers (47.3%) always make use of projectors and smart boards in the lecture venues. These results are consistent with the findings from a previous study done by Lubega et al. (2014) that found that lecturers are more likely to make use of technology than social media to replace manual practices in the classroom. The reason for this finding is that most lecturers are familiar with technologies in the classroom. One of the reasons that lecturers are not comfortable with making use of social media to substitute activities in teaching and learning is the lack of a social media policy at the HBU. The little substitution that is taking place is entirely reliant on the individual efforts of the lecturers.

In the *augmentation dimension*, social media is used to complete tasks more efficiently but with little functional change. The results indicated that the majority of lecturers (41.3%) sometimes use subject communities when looking for research material, while 21.2% of the lecturers always use subject communities to search for vital research content in their disciplines. Thus, lecturers have adopted *augmentation ICTs* to support their own scholarly research work.

However, the majority of lecturers (50.9%) stated that they always use editorial tools such as word processor applications to correct grammatical errors. The same results were found as the majority of lecturers (50.9%) indicated that they always use track changes in a word processor to review students' work. These results are congruent to the results obtained by Lubega et al. (2014) who found that lecturers are more likely to make use of technology for augmentation than social media to change practices in the classroom. These results, similarly to the previous section, illustrate that lecturers are aware of other technologies and utilise them more frequently than social media. Thus, technology is more acceptable than social media at this level.

The *modification dimension* presupposes that social media allows for significant task redesign. The majority of the lecturers (67.5%) indicated that they have never allowed students to use group discussion facilities such as wikis. Thus, group discussion facilities found on wikis are less used in teaching and learning. The reason for not adopting wikis could be related to lack of knowledge by the students and lecturers on how to use them. These results are consistent with the results by Cilliers (2016) who found that the majority of students lack knowledge about the role of wikis in teaching and learning. Students ought to be taught the potential benefits of a wiki as it improves collaboration.

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The use of social media in teaching and learning fosters effective communication between lecturers and students. The findings indicated that majority of the lecturers (57.8%) sometimes use social media to communicate with students. This entails that individual communication is more accepted than group discussion. A possible reason for using Facebook, Twitter and Whatsapp for communication with students could be that it is fun using it for academic purposes and that students already have access to and are using these technologies.

The most common *modification ICT* is the Internet. More than half of lecturers (55.5%) sometimes use the Internet to find student topics for assignment or research, while 32.5% of the participant's state that they only assign work to students from the Internet. The reason for these results could be that lecturers found the Internet a helpful resource to provide current assignments to the students while the students could easily access and find supporting material on the Internet. This indicates that the lecturers are comfortable to make use of the Internet to *modify* their teaching and learning.

The *redefinition dimension* allows social media to be used for the creation of new tasks previously impossible to develop without the aid of technology. In view of the massification which is taking place at HBUs, there is a need to promote a student-centred learning environment in order to improve the throughput rate. Very few of the lecturers make use of discussion boards to create academic content. Ninety two percent of the lecturers indicated that they have never asked

students to create and use discussion groups to prepare for academic activities. The reason could be that there is high preference for lecturer-centred learning and there is low participation from students on social media.

Similarly, only 3.6% of the lecturers made use of blogs to facilitate the teaching and learning process. In contrast, the majority of the lecturers (50.6%) responded that they have never used social media to express and share thoughts and ideas with colleagues or students, while only 7.2% have exchanged ideas and share thoughts on social networks with peers.

These results indicate that the lecturers are not comfortable to make use of social media to *redefine* their teaching and learning. The reason could be that lecturers lack skills to employ social media in teaching and learning. Table 23 presents a summary of findings from the literature about the use of social media and technology in teaching and learning making use of the SAMR model. Thereafter, the following section discusses barriers to social media learning.

Table 23: Summary findings from SAMR model

	Substitution	Augmentation	Modification	Redefinition
Social media usage for teaching and learning at higher education institutions in South Africa	x	x	x	x
Social media usage for teaching and learning at UFH	x	x		
Technology usage for teaching and learning at UFH	x	x	x	

7.6 Barriers to Social Media in Teaching and Learning

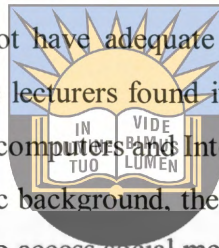
This section addresses sub-question three: *What are the barriers to the adoption and continued use of social media in teaching and learning amongst lecturers at HBUs in South Africa?* In order to examine the use of social media in the teaching and learning environment at HBUs, lecturers indicated barriers that they perceived as being obstructive to the use of social media tools in the classroom.

There are some common barriers that are well documented in literature that are universal when integrating social media into teaching and learning. These include lack of vision as to how to integrate the technology into teaching pedagogy, poor administrative/ leadership and technical

support, resistance to change, and lack of sufficient equipment (Hew & Brush , 2007; Bingimlas, 2009; Kopcha 2012).

From the results presented in the previous chapter, lecturers indicated that using social media in teaching and learning will prevent students from concentrating in lecture venues or classrooms. Classrooms at UFH do not have computers, where students bring their own devices, they are discouraged to use it as lecturers fear it will distract them. Chetty and Law (2014) found similar results that students spend more time on social networks doing non-academic related activities such as downloading music and watching videos. Furthermore, some students tend to take advantage to text or communicate with one another in lecture venues when they are not allowed, e.g. during a test.

Lecturers also indicated that they do not have adequate resources to adopt new technologies. Almeshal (2015) states that some of the lecturers found it challenging to integrate social media because some of the venues do not have computers and Internet access. Also, most of the students at UFH come from poor social economic background, they cannot afford to buy data and do not have the necessary hardware resources to access social media. Additionally, most of the students at HBUs access social media in university computer labs and libraries with poor Internet connectivity (Schlenkrich & Sewry, 2012).



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A further barrier identified by lecturers is lack of management support. Lecturers clearly indicated that management is not supporting social media adoption as the little integration that is taking place is based on lecturers' individual efforts. Also, there is no Technology Enhanced Learning (TEL) or social media policy in place at UFH. Additionally, there is no budget allocated for technology in teaching and learning only technology support, for instance, laptops and projectors. According to Gualtieri et al. (2015), management plays a crucial role in teaching and learning as it provides the needed financial resources, develops a vision and plan for social media integration, and provides incentives and encouragement. Thus, there is need for management support for social media to be adopted in teaching and learning.

Lecturers indicated that they lack time to integrate emerging technologies is another barrier to adopt social media in teaching and learning at HBUs. This is because lecturers at UFH lack training. Also, technology in the classroom is a small component at the Post Graduate Diploma in Higher Education. Similar findings were found in a study conducted by Oye et al. (2014) which highlighted that time and technical support were the greatest barriers affecting ICT adoption at Adamawa State University in Ghana.

Lecturer's attitude and beliefs was found to be one of the reasons affecting the adoption of social media in academia. Similar results were found in a study by Bexheti et al. (2014) which found that lecturers' attitude plays a critical role in facilitating or disabling the adoption of technology in teaching and learning at HBUs. Thus, effective and successful incorporation of social media in the teaching and learning environment is subject to a lecturer's positive attitude toward the new technology. Conversely, results from the literature indicated this but it is not the similar case at UFH, as the majority of lecturers were positive that they will adopt social media in teaching and learning in the near future. The following section discusses in detail findings from the UTAUT on factors influencing social media and continued use in teaching and learning at HBUs.

7.7 Factors Influencing Social Media Adoption and Continued Use

This section addresses sub-question four: *What mechanism must be in place to mitigate the barriers to the adoption and continued use of social media at HBUs in South Africa?* In order to identify mechanisms that must be in place to mitigate barriers to integrate social media learning, factors influencing social networking tools adoption and continued use should be identified. This study proposes factors that could influence lecturers' adoption and continued use of social media in academia at HBUs. These factors are identified by UTAUT and have been discussed in preceding chapters.

The UTAUT is useful to explain variances in lecturers' intention to use social media in teaching and learning. In particular, age, experience and gender moderate the correlation between performance expectancy, effort expectancy and intention to use social media in the teaching and learning environment. For instance, the strength between performance expectancy and effort expectancy vary with age and gender as one expects these categories to make use of social media, for instance it is likely that male and younger lecturers will adopt emerging technologies in teaching and learning at HBUs (Nassuora, 2012; Teo, 2011). However, the result of effort expectancy on intention to use social media can be moderated by gender and age such that it is more significant for female and older employees, but these influences decrease as the older female participants gain more experience with the technology. Furthermore, social influence can impact behavioural intention, while usage of the technology is influenced by facilitating conditions and behavioural intentions (Venkatesh et al., 2003).

The results of this study indicated that performance expectancy is a strong predictor of lecturers' behavioural intention to use social media in teaching and learning. The results of this study are consistent with the findings of from previous research projects done by Mbodila et al. (2014) at

the University of Venda that found that the most influential factor of social media use in teaching and learning is performance expectancy. This entails that the lecturer's perception that using the social media will help him or her to improve their job performance influences the intention to use it. This could allow an increase in the lecturer's adoption of social media in teaching and learning since general information technologies are included.

On the subject of effort expectancy, this construct was found to be among the factors influencing lecturers to adopt social media in the teaching and learning environment. The results indicated that some of the lecturers are adopting social media because it is easy to use and familiar to them. This is one of the reasons for using social media such as Facebook, Twitter and Whatsapp as lecturers are familiar with the application. The results of the study are similar to the findings in research conducted by Oye et al. (2014). Effort expectancy was found to be one of the most one influential predictors of lecturers' acceptance of ICT and use amongst the four constructs of UTAUT.

Regarding social influence, it was indicated that more than half of the lecturers (54.2%) felt that they are influenced by others (colleagues) to use social media. However, the majority of the lecturers (54.3%) indicated that the senior management did not encourage the use of social media for teaching and learning. Furthermore, 50.6% of the lecturers were positive that the Department of Higher Education supports the use of social media in teaching and learning. These results indicated that the lecturers are more likely to make use of social media because they are influenced by colleagues rather than the management of the institution or the Department of Higher Education. Furthermore, these results are consistent with the findings from previous research projects done by Oye et al. (2014). Effort expectancy and social influence were found to be the most influential predictors of lecturers' acceptance of ICT and use among the four constructs of UTAUT. Therefore, HBUs ought to develop strategies in order to encourage colleagues to communicate and recommend the use of social media in teaching and learning.

The findings from the study indicated that the facilitation condition variable influences social media use in teaching and learning. Lecturers perceive that institutional and technical infrastructure exists to support the use of social media in teaching and learning. These results are consistent with the findings from previous research projects done by Mbodila et al. (2014) who found that facilitating condition was the most influential predictors of lecturers adoption and use of Facebook in teaching and learning. This entails that lecturers' perception about the resources and support available for social media use influences lecturers' intention to make use of it. Presently, lecturers have access to social media anywhere as they have smart phones. This denotes that social media is suitable for use at HBUs as a teaching and learning platform that complements mainstream e-Learning.

The findings indicated that lecturers' intention to adopt and use social media in teaching and learning at HBUs involves a number of concepts such as the understanding that social media is useful, it is easy to use, and others believe that he/she should use social media for teaching and learning. Once more, the availability of necessary resources, such as a strong network, should also determine the intention to use. The results have significant influence for teaching and learning at HBUs. The next section introduces critical success factors.

7.8 Introduction of Critical Success Factors

Olszak and Ziemba (2012) describe CSFs as aspects of a strategy that ought to be achieved to yield a positively favourable outcome of the project. Considering aforementioned reasons and mechanisms identified in the preceding sections, the following CSFs were identified to address these issues as well as enhance social media in teaching and learning. These CSFs will be discussed further in the next section.



CSF 1 Providing adequate resources for social media use

The majority (68.7%) of the lecturers indicated that they do not have adequate resources necessary to make use of social media in teaching and learning. Shortage of infrastructure and technical assistance has a negative impact on the adoption and continued use of social media in teaching and learning. The university management must have a comprehensive budget for ICT infrastructure that supports sustained interest in the use of the social media in teaching and learning environment at HBUs. Traditionally HBUs have less infrastructure development and therefore the CSFs will address shortage of resources.

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The adoption of social media in teaching and learning requires policy-makers to make accurate choices when introducing social media learning at HBUs. The management of UFH may choose to incorporate low-cost technologies into development efforts as it is readily available. Sustainability and maintenance of the physical infrastructure should be taken into account as social media learning requires continuing financial assistance (Lubega et al., 2014).

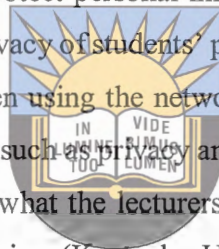
Lecturers stated that low bandwidth is one of the reasons for not using social media in teaching and learning at HBUs. Management should prioritise students and lecturers' ICT infrastructure within the institutions (Lubega, Mugisha, & Muyinda, 2014). Also, HBUs should encourage lecturers and students to make use of their personal computing devices such as laptops, mobile phones and tablets, as well as strengthening Wi-Fi hotspots at campus and residence where students can access these. ICT access at UFH has been prioritised as of late and connectivity specifically in residences has improved. Thus, a robust network has to be in place all around the university. Also, access to the network should not only be on cables as it disturbs the lecturers and

students' flexibility in the adoption of social media in teaching and learning (Madhav, Joseph, & Twala, 2014).

CSF 2 Management support

The majority (75.9%) of the lecturers plan to use social media for teaching and learning in the next 12 months. Lubega et al. (2014) indicated there is need for management to provide adequate support to lecturers that are planning to integrate social media in teaching and learning. The management should have a social media policy in place to govern the use of social media in teaching and learning by lecturers in the teaching and learning environment.

Apart from social media policy, the university management should ensure that appropriate privacy and security measures are in place to protect personal information. Literature has indicated that there are concerns about security and privacy of students' profiles. While UFH does have a policy in place to protect students privacy when using the network. There is a need for a social media policy at HBUs to address ethical issues such as privacy and security risks of students' profiles. A social media policy could help explain what the lecturers and students must not do when using social media tools in teaching and learning (Kentucky University, 2011). This is supported by Schlenkrich and Sewry (2012) who state that the policies and standards must be in place in order to manage security risks associated with social media tools.



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Whitman and Mattord (2012) describe a standard as “the collection specific procedural requirements that lectures should follow in academia in order to achieve the objects set out in social media policy” (p. 177). Whitman and Mattord (2012) further assert that a social media policy sets standards and guidelines that explain how lecturers must interact with students. This is because some students are afraid that lecturers could scrutinise what they do on social media. Therefore, personal and professional use of social media, as well as associated information, have to be separated.

The university management should insure that there is a group responsible for auditing such as the ICT Governance committee in place to evaluate if lecturers are using social media in teaching and learning. Additionally, the auditing group must put in place measures to penalise lecturers failing to integrate and incentives for those that are integrating ICT in pedagogy (Lubega et al., 2014).

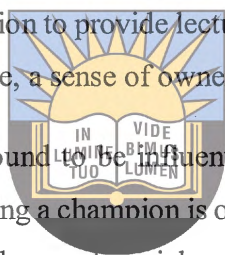
Also, university management should consider the use of social media through faculty appraisal. Due to economic conditions, HBUs generally do not have incentives to reward lecturers that have innovatively integrated social media in their teaching as role models to others. Non-monetary incentives, such as ICT devices, certificates of recognition, employee of the year awards, should

be used to recognise lecturers that are employing social media in teaching and learning at HBUs (Munguatosha et al., 2011). In this regard UFH has implemented the annual Vice Chancellor's Technology and Learning Award for each faculty to reward staff members that take initiative in the teaching and learning practices. Traditionally management at HBUs barely support lecturers, therefore the CSFs will enhance support from the management.

CSF 3 Introduce a champion

All the stakeholders in the teaching and learning field should be involved to ensure the successful implementation of social media at HBUs. Typical activities include education, awareness-raising and engagement with the lecturers who will be making use of social media in teaching and learning (Bingimlas, 2009). At UFH, the teaching and learning centre does host a quarterly "Teaching and Learning" workshop/round table discussion to provide lecturers the opportunity to share problems and achievement in this regard. Therefore, a sense of ownership is created amongst the lecturers.

Social influence from colleagues was found to be influential (54.2%) towards the use of social media in teaching and learning. Introducing a champion is one of the techniques that could be used to facilitate the adoption and continued use of social media in teaching and learning, as the objectives of making use of the technology will be clearly communicated.



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A champion refers to a person with knowledge, understanding, as well as the ability to embrace the objectives, thereby supporting technology-based solutions towards achieving good results. The findings of the study indicated senior management do not influence the lecturers, but colleagues could be used as champions. The champion has a duty to communicate with the different stakeholders such as the university management and academic staff, thus the champion can act as a catalyst for innovation.

Additionally, the champion can act as an individual with knowledge and the understanding of the necessary social media technologies as well as the ability to embrace the objectives, thereby supporting technology-based solutions towards achieving good results. Thus, the champion should render assistance to lecturers and faculties facing challenges in using social media in teaching and learning.

CSF 4 Providing adequate training for lecturers

The majority (73.5%) of the lecturers indicated that their resistance to new technology is because they do not have adequate knowledge and technology-supported pedagogy skills to employ social media in teaching and learning. Providing adequate training and support will allow lecturers to be equipped with the necessary knowledge and pedagogical skills needed to incorporate social media

in their teaching environment. This could be achieved by encouraging lecturers to undertake computer literacy courses and the Post Graduate Diploma in Higher Education in order for them to become more technically skilful and comfortable with social media tools in teaching and learning (Munguatosha et al., 2011). Therefore, university management have a duty to organise seminars and workshops regularly in order to enhance the faculties' knowledge on how to use the social media in the teaching and learning environment. Traditionally lecturers at HBUs required training to keep up with technological changes, therefore the CSFs will address shortage of training against academicians.

Some of the lecturers have completed the training alone without the help of the university as they seek to improve own their teaching skills. HBUs ought to mobilise lecturers with these skills to train their colleagues (CSF 3 – Introduce a champion). The university management must prioritise education of lecturers in the educational technology related fields (Wiid et al., 2015). Therefore, lecturers will feel comfortable to include social media in their own teaching practices.

The information above was tabulated with the aim of summarising identified CSFs during the literature study and the analysis of the data of this study. Table 24 below presents how CSFs address barriers identified in the study.

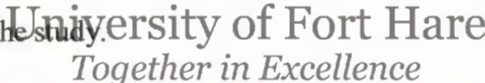


Table 24: Critical success factors and barriers to social media

Critical Success Factors	<i>CSF 01</i>	<i>CSF 02</i>	<i>CFS 03</i>	<i>CSF 04</i>
	<i>Providing adequate resources</i>	<i>Management support</i>	<i>Find a champion</i>	<i>Providing adequate training to lecturers</i>
Lack of resources	x	x		
Internet connectivity	x	x		
Security and privacy		x		x
Technology resistance		x	x	x
Lack support for innovation	x	x	x	x
Lack of technology-supported pedagogy	x	x	x	x
Inadequate pedagogy knowledge and skills		x	x	x
Poor technology literacy		x	x	x

7.9 Validation of the Study

Winter (2000) describes validation as way of giving a legal force or official confirmation to something. Oates (2006) states that the study must be validated against objectivity, reliability, and internal as well as external validity in order for the research findings to be credible. This is supported by De Vos, Strydom, Fouché, and Delport (2005) who stated that dependability and trustworthiness is essential in every study. In this study, the research instrument was developed making use of the SAMR model and UTAUT. This is supported by Saunders et al. (2007) who states that accurate data is collected making use of a credible questionnaire.

The critical success factors identified from relevant literature and discussed in the previous section were evaluated by experts in teaching and learning in order to validate the CSFs. These experts were selected for their expertise and skills in technology use in teaching and learning. Five experts provided an extensive critical review of how the proposed CSFs could change the adoption of social media in teaching and learning at HBUs.

The experts were in agreement that the CSFs will make a significant contribution to the understanding of the adoption and continued use of social media in teaching and learning. The statements that support this are:

“I see all the aspects indicated in the lit review as being valid. There is a general resistance to technology amongst academic staff. There is a lack of understanding of the benefits. There is frustration at the lack of infrastructure and support provided for using social media in the class room. There is a level of fear and anxiety about the consequences of introducing social media into the classroom.”

“CSFs are understandable and can be used for future research.”

“CSFS make a meaningful contribution towards the adoption of social media in teaching and learning as well as to the field of higher education in South Africa.”

The experts suggested that the CSFs were all valid but the explanation need to be adjusted in order for them to make significant contribution to the understanding of the adoption and continued use of social media in teaching and learning. The statements that support this are:

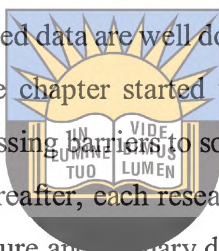
“Some of the explanations seem to make assumptions rather than based on fact. E.g. CSF for training and resistance to technology – explain this link further (it can be derived from previous studies, but as it is stated here seems to be based on assumptions).”

“Improvement of the explanations would make this a meaningful contribution.”

These suggestions were incorporated into the final CSFs that were presented in the previous section. The opinions from the experts were positive as they indicated that CSFs developed may be useful to the adoption of social media in teaching and learning. The CSFs are relevant and will solve the research question.

7.10 Conclusion

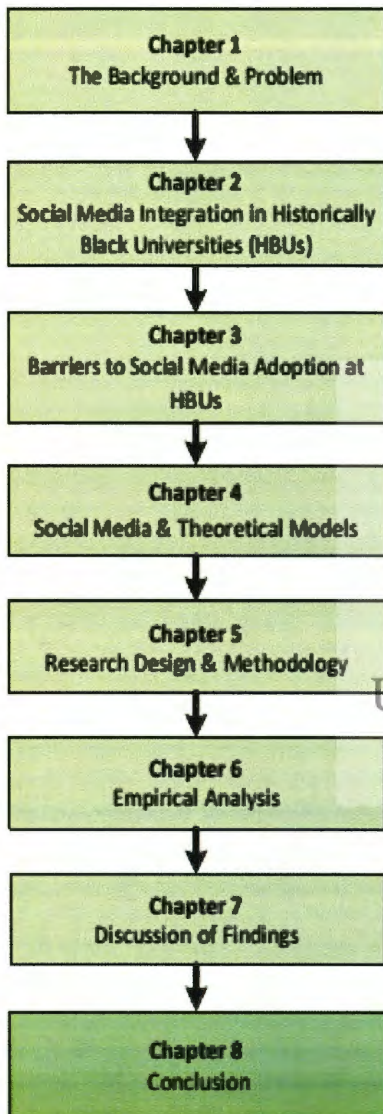
The analysis and discussion of the gathered data are well documented. Similarities and differences were drawn from previous studies. The chapter started with a discussion of the demographic information. This was followed by discussing barriers to social media adoption as well as findings from SAMR and UTAUT models. Thereafter, each research sub-question was addressed by the identified CSFs. Additionally, the literature and primary data were used to validate CSFs. These CSF could be generalised to all other settings as they were developed making use of the results from previous literature as well as the current study. Therefore, this provides a contribution to the body of research about social media in higher education institutions South Africa. The implementation of these critical success factors could improve the adoption and continued use of social media in teaching and learning. The next chapter provides the conclusion of the study as well as an overview of the various chapters and area of further investigation.



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Chapter 8

Conclusion



Chapter 8

- 8.1 Introduction
- 8.2 Literature
- 8.3 Research Problem
- 8.4 Research Objectives
- 8.5 Theoretical Framework
- 8.6 Research Methodology
- 8.7 Contribution Made by this Study
- 8.8 Limitations and Direct for Future Research
- 8.9 Summary



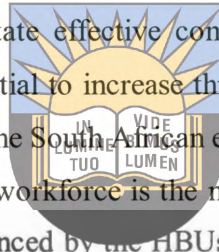
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8.1 Introduction

The preceding chapter discussed the results and recommendations of the study and provided the critical success factors which can be used to enhance the adoption and continue use of social media in teaching and learning at HBUs. The critical success factors presented in this study were based on literature review as well as primary data obtained through a web-based survey and expert reviews. This chapter is organised as follows: The first section provides the contribution made by the study. The next section outlines the research objectives, theoretical framework, as well as research methodology. The following section presents the evaluation of the research project, the limitations, as well as the directions for future research. Thereafter, the chapter concludes.

8.2 Literature

Social media is a useful tool to facilitate effective communication and collaboration among students and lecturers and has the potential to increase throughput rate and student pass rates to address the shortage of critical skills in the South African economy. Some of the reasons to blame for this shortage of critical skills in the workforce is the massification of HBUs in South Africa. This is as a result of challenges experienced by the HBUs which include high dropout rates and low throughput rates.



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Currently only 55% of first year students will not graduate, whereas only 5% of the enrolled Black and Coloured students will finish their degrees in the prescribed time for an undergraduate degree. Some of the reasons provided for this low throughput rate include the background and economic status of the student. In addition, the massification of HBUs in South Africa also contributes to the problem. More students are enrolled at HBUs annually, despite a lack of resources to support effective learning for these students. The shortage of resources to support teaching and learning has a negative impact on educational quality as it reduces student – lecturer interaction because of large classes.

There are some challenges associated with adopting social media in the teaching and learning environment. These include a lack of leadership support, resources and inadequate knowledge or awareness of social media's role in teaching and learning. Moreover, if the teaching pedagogy does not support social media orientated learning, it will not be adopted by lecturers. Also, efficiency of the social media is a common problem mentioned by lecturers for not integrating social media in their teaching practises. The following section states the research question identified in Chapter 1.

8.3 Research Problem

The massification of teaching at UFH has in part contributed to the low throughput rate at the University. The quality of education is affected by reduced student – lecturer interaction due to large classes and the poor academic literacy of students. However, to address aforementioned challenges, HBUs should establish a learning environment which supports favourable teaching and learning of students. Higher education institutions in South Africa are incorporating social media in their curriculums. However, the utilisation of social media in teaching and learning at UFH is low due to limited knowledge or proficiency required to use social media effectively as a pedagogical tool amongst lecturers. Therefore, the adoption of social media tools amongst lecturers must be improved to increase student – lecturer interaction, thereby assisting with the low throughput rates and pass rates at the UFH.

8.4 Research Questions

The research question which is under investigation is *What are the critical success factors that will improve the adoption and continued use of social media in teaching and learning amongst lectures at HBUs in South Africa?* The primary objective of this study is to formulate critical success factors that can be used to enhance the adoption and continued use of social media in teaching and learning at HBUs in order to increase the throughput rate.

In order to answer the research question, four sub-questions were formulated:

1. *How can social media improve teaching and learning at HBUs?*

This sub-question was addressed in Chapter 2 and 4 during the literature review which provided a detailed overview of how social media can improve teaching and learning. Chapter 6 further explain using the UTAUT and SAMR model how social media is useful in teaching and learning.

2. *What is the current level of social media usage in teaching and learning at UFH?*

This sub-question was addressed in Chapter 6, where it was found that lecturers at UFH are at level 2 (Augmentation) of the SAMR model. The chapter 7 highlighted that little enhancement that is taking place is entirely reliant on the individual efforts of the lecturers. There is need for support from the management in order for lecturers to utilise social media in teaching and learning

3. *What are the barriers to the adoption and continued use of social media in teaching and learning amongst lectures at HBUs in South Africa?*

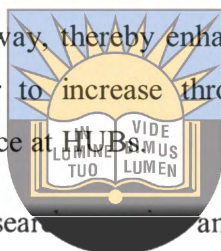


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Chapter 3 and 6 addresses the third and last research sub-question. Chapter 3 examined barriers to the adoption and continued use of social media in teaching and learning. In chapter 6 lecturers were asked to indicate barriers that prevent them from making use of social media tools in the classroom.

4. *What mechanism must be in place to mitigate the barriers to the adoption and continued use of social media at HBUs in South Africa?*

Chapter 3, 6 and 7 addresses the fourth and last research sub-question. After barriers were presented in Chapter 3 and 6, a mechanism was presented in form of CSFs to mitigate barriers to the adoption and continued use of social media at HBUs in South Africa. CSFs discussed in Chapter 7 enables HBUs to select, integrate and implement new technologies successfully in a cost-effective way, thereby enhancing the adoption of social media in teaching and learning in order to increase throughput rate reduced as a result of massification which is taking place at HBUs.



CSFs were developed to answer the research question and they will provide guidelines for the future use of social media in the teaching and learning environment in developing countries. The next section provides a summary of theoretical frameworks, SAMR and UTAUT that were employed to develop the CSFs of this study.

8.5 Theoretical Framework

The study employed the UTAUT and SAMR model to identify appropriate CSFs. Previous literature has been published making use of these models in teaching and learning that can be used to support the results of this study. Few research studies were found regarding social media adoption and continued use in teaching and learning in South African higher education institutions.

The SAMR model was developed by Puentedura in 2006 and has become the cornerstone that can help lecturers integrate technology into their teaching and learning practices in higher education institutions. The model portrays levels of incremental technology integration in the teaching and learning environments at a HBU. The model consists of two sections. The first section is called the *enhancement* which is made up of the *substitution and augmentation levels*. *Transformation* is the second section where most learning takes place. It is made up of *modification and redesign levels*. The model can be used to identify the level of social media integration in the classroom, thereby making it applicable to evaluate the adoption of social media in teaching and learning at HBUs.

In contrast, the UTAUT was developed by Venkatesh, Morris, Davis, and Davids in 2003 as the consolidation of eight different adoption models. The UTAUT is also useful to explain lecturers' intentions to make use of social media in the teaching and learning environment at HBUs. Social media adoption in the teaching and learning environment can be affected by four main exogenous variables namely: performance expectancy, effort expectancy, and social factors have direct influence on behavioural intention whilst facilitating conditions have direct influence on use behaviour, where experience plays a role. However, experience, age, gender and voluntariness of use are part of the model and can have an impact on the four constructs. The amalgamation of the various models has increased the predictive efficiency of UTAUT to 70% of acceptance behaviour by lecturers in the teaching and learning environment. The next section provides an overview of the methodology employed in the study.

8.6 Research Methodology

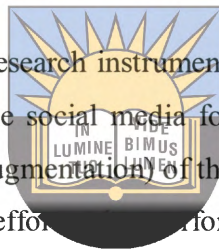


Design science was used as the paradigm in this research study as it is a problem solving paradigm that focuses on the development and performance of artefacts for a particular problem. A survey research design was employed in this study as a research strategy. A questionnaire was used to collect data from lecturers at a HBU. The questionnaire was developed making use of UTAUT and SAMR model in order to collect enough data to answer all research questions. The questionnaire was piloted before it was used to collect the data to ensure validity and reliability of the study, and also it was found the questionnaire was user friendly. The population of the research study consisted of all full-time lecturers at the HBU. A total of 116 lecturers from all the University's faculties participated in the study. The link of questionnaire was sent to the lecturers via email.

SPSS was used to analysis primary data. Descriptive, inferential statistics as well as Pearson chi-squared was applied to analyse the data collected using questionnaires from the research participants, also inductive reasoning was applied throughout the study. The CSFs were validated by a panel of five experts in teaching and learning and technology adoption. The feedback from the experts was positive and was incorporated into the final recommendations and conclusions of this research project. The following ethical considerations were applied during the research study. The questionnaire was completed anonymously by the study participants, thus ensuring their privacy and confidentiality. The lecturers were not forced to participate in this research study. Participants were assured that the responses provided are only accessible to the responsible people (researcher and supervisor). The collected data is only used for this study and will not be used for any other purpose. Additionally, data provided was recorded accurately; no alterations or additions were made.

Literature search – Studies has revealed that lecturers are exploiting social media in teaching and learning in order to create innovative learning environment but within the South African higher education system this phenomenon is not properly addressed. Most of the students are aware of social media tools, for instance Facebook, Twitter and Whatsapp, and they are willing to integrate these tools in academia as they will make university life more convenient for them since there will be no need to visit the university computer laboratories to check for announcements. Also the use of social media will help to facilitate communication, collaboration, sharing of information as well as to increase student lecturer interaction reduced as a result of massification which is taking place at HBUs. The literature indicated also that the adoption of social media in teaching and learning is affected by barriers. There is need for a mechanism that must be put in place in order for HUBs to successfully adopt social media.

Questionnaire – The results from the research instrument found that lecturers are familiar with social media. However, they do not use social media for teaching and learning. The findings indicated that lecturers are at level 2 (Augmentation) of the SAMR model. The enhancement that is taking place is based on individual effort. Performance expectancy, effort expectancy, social influence, facilitating condition and behavioural intention were found to be necessary for the adoption of social media in teaching and learning.



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Expert Review – The experts suggested that the CSFs were all valid but the explanation need to be adjusted in order for them to make significant contribution to the understanding of the adoption and continued use of social media in teaching and learning. All the suggestions from the experts were meaningful and were integrated on the CSF.

Interpretation – The study identified that lecturers should incorporate social media in teaching and learning to increase the interaction with student as there is massification which is taking place at HBUs. CSFs were developed to address all the challenges and barriers revealed by literature that hinders the adoption and continued use of social media in teaching and learning.

8.7 Contribution Made by this Study

The research study has highlighted that adopting social media in teaching and learning results in an improved throughput rate, student–lecturer interaction, student-centred learning, collaboration and student engagement. The research study set to develop CSFs to enhance lecturers’ adoption and continued use of social media at HBUs.

The CSFs developed and discussed in Chapter 7 are the primary contribution of this research study. The following CSFs were identified to enhance social media in teaching and learning at HBUs:

✓ ***Providing adequate resources***

The university management must have a comprehensive budget for ICT infrastructure that supports sustained interest in the use of social media in the teaching and learning environment, therefore this CSF addresses shortage of resources.

✓ ***Management support***

There is need for university management to provide adequate support to lecturers that are planning to integrate social media in teaching and learning by providing a social policy in place to govern social media learning, therefore this CSF enhances management support.

✓ ***Introduce a champion***

The champion has a duty to communicate with the different stakeholders such as the university management and academic staff to support technology-based solutions towards increasing the throughput rate at HBUs, therefore this CSF aims at increasing sense of ownership amongst stakeholders.

✓ ***Providing adequate training to lecturers***

The university management must prioritise education of lecturers in the educational technology related fields by organising seminars and workshops regularly in order to enhance the knowledge of the faculties and lecturers on how to use social media in the teaching and learning environment, therefore this CSF addresses shortage training amongst lecturers.



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These CSFs were developed taking into account the various aspects that could hinder successful incorporation of social media in teaching and learning at HBUs. Previous studies have developed models for integrating social media in teaching and learning. Thus, taking these studies into consideration, this research project proposed the CSFs.

8.8 Limitations and Direct for Future Research

One of the constraints to the research study is that data was collected from one HBU, assuming that all HBUs in South Africa have the same teaching and learning context as the University of Fort Hare. The sample size was small. Additionally, a survey method was employed in the research study, therefore results are only based on quantitative data, and thus there was no follow up with qualitative interviews. Future research on adoption of social media in the teaching and learning environment in South Africa must draw a comprehensive sample including at least one HBU from each province in South Africa. There is need to investigate the influence of Internet and change management theories towards the adoption of social media in teaching and learning at higher education institutions in South Africa.

8.9 Summary

This thesis identified CSFs that must be present when social media is implemented in order to increase user adoption and use of technology. Social media adoption in teaching and learning is very costly, but efforts have to be made with a guarantee that it will be helpful once in place. The identification of CSFs will enhance student – lecturer interaction as well as improve throughput rates at HBUs. The significance of the study is determined by the contribution it makes to the present literature on the topic specifically in South Africa where little research exists.

These CSFs could be used by policy makers as well as technology implementers when rolling out emerging technologies in private and FET colleges around South Africa. As a result, the throughput will be increased not only at HBUs but throughout the South African higher education institutions. The use of emerging technologies should be well thought-out by developing countries as it enhances teaching and learning environments. With these CSFs identified, it is now possible for lecturers to adopt and use social media in developing countries.



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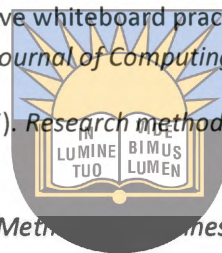
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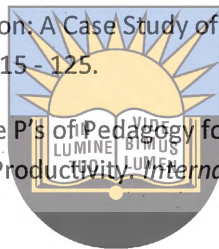


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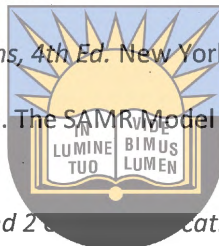


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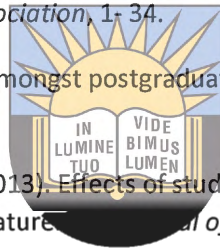
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10. Appendices

Appendix A – Ethical Certificate



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ETHICAL CLEARANCE CERTIFICATE

REC-270710-028-RA Level 01

Certificate Reference Number: CIL01SMUR01

Project title: Success Factors for the adoption and continued use of social media in teaching and learning among lecturers at a Historically Black University in South Africa

Nature of Project: Masters
Principal Researcher: Obrain Tinashe Murire
Sub-Investigator:
Supervisor: Dr L Cilliers
Co-supervisor:

On behalf of the University of Fort Hare's Research Ethics Committee (UREC) I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instrument(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the UREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

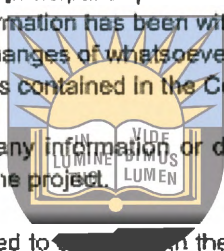
The Principal Researcher must report to the UREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

Special conditions: Research that includes children as per the official regulations of the act must take the following into account:

Note: The UREC is aware of the provisions of s71 of the National Health Act 61 of 2003 and that matters pertaining to obtaining the Minister's consent are under discussion and remain unresolved. Nonetheless, as was decided at a meeting between the National Health Research Ethics Committee and stakeholders on 6 June 2013, university ethics committees may continue to grant ethical clearance for research involving children without the Minister's consent, provided that the prescripts of the previous rules have been met. This certificate is granted in terms of this agreement.

The UREC retains the right to


- Withdraw or amend this Ethical Clearance Certificate if
 - Any unethical principal or practices are revealed or suspected
 - Relevant information has been withheld or misrepresented
 - Regulatory changes of whatsoever nature so require
 - The conditions contained in the Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project.
- In addition to the need to maintain the highest level of ethical conduct principle investigators must report back annually as an evaluation and monitoring mechanism. We are being guided by the research. Such a report must be sent to the Dean of Research's office



UNIVERSITY OF PRETORIA
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The Ethics Committee wished you well in your research.

Yours sincerely


Professor Gideon de Wet
Dean of Research

30 October 2015

Appendix B - Conference Paper

UHF CENTENARY CONFERENCE
PROJECT OFFICE

7 Floor, Casson Centre
50 Church Street
East London Campus

Private Bag X9023
East London 5200
South Africa



Monday, 25 April 2016

Invitation to Present Conference Paper at the Fort Hare Centenary Conference

Dear **Murire Obrain Tinashe**

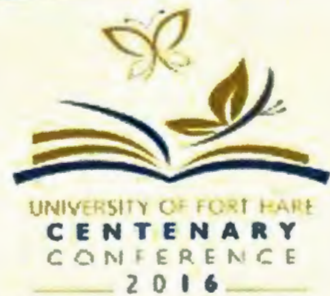
It gives us great pleasure to confirm the acceptance of your abstract **An evaluation of social media use in teaching and learning: A case study at a Historically Black Universities** and invite you to present at the **Fort Hare Centenary Conference**, which will be held at the University of Fort Hare Alice Campus, South Africa from the 03rd to the 06th of July 2016. The conference activities will take place on the 1st and 2nd of July 2016.



Please consider the following information as well:

1. **Full papers:** Delegates wishing to have their papers considered for publication at a later stage should kindly submit these by 10th of June 2016
2. **The conference venue** is the Sports Complex, Fort Hare University, Alice Campus, South Africa
3. **Accommodation** is to be arranged by and paid for by yourself. Accompanying this email is a list of places of accommodation ranging from Hotels to B&B's that you may wish to consider. Sure Travel is assisting Fort Hare University with regard to accommodation and they have an accredited list of 3 stars and up. Their details have been provided. Sure Travel will not book places that are unaccredited or unsuitable so you may wish to refer to them so that you can be assured of the right quality of accommodation. If you go through Sure Travel please indicate to them that you will be attending the Fort Hare Centenary Conference.
4. **Transport:** Flights and private transport to be arranged and paid for by yourself.





5. **Conference registration process:** We will send you information shortly with regard to the conference registration forms and conference registration process.
6. **Conference registration fee and payment deadlines:**
 - a. *Delegates from South Africa and the SADEC Region:* R4500 for academics, researchers, professionals and other interested individuals and R2 500 for students, payable before 22 June 2016.
 - b. *International delegates:* USD 500 for academics, researchers, professionals and other interested individuals USD 250 for students, payable before 22 June 2016.
 - c. Conference fee includes meals, refreshments and admittance to the opening evening. Registrations close on 17th of June 2016
7. **Pre-Conference activity fees and payment deadlines:**
 - a. *Delegates from South Africa and the SADEC Region:* R2000 for academics, researchers, professionals and other interested individuals and R1 000 for students, payable before 22 June 2016.
 - b. *International delegates:* USD 300 for academics, researchers, professionals and other interested individuals USD 250 for students, payable before 22 June 2016.

Kindly confirm your attendance within two weeks (or at your earliest possible convenience) of receiving this letter via return email to:

mieshabane@ufh.ac.za cc ufh.registration@ufh.ac.za

We look forward to welcoming you to the conference.

Yours sincerely

Prof Gideon de Wet
Dean: Research and Chair of Conference Scientific Committee
Govan Mbeki Research and Development Centre (GMRDC)
University of Fort Hare



Section 2: Barriers to social media integration

The main aim of this section is to find out factors that hinder the adoption and continued use of social media in teaching and learning environment at higher education institutions.

Please indicate the degree to which you agree or disagree with the following statements as they relate to using social media in teaching and learning.

1 – Strongly disagree 2 – Disagree 3 – Agree 4 – Strongly agree

Barriers to Social Media Adoption				
Students' attitudes	1	2	3	4
Internet connectivity	1	2	3	4
Lack of resources	1	2	3	4
Students' IT literacy	1	2	3	4
Lack of management support for innovation	1	2	3	4
Resistance to new technology	1	2	3	3
Lecturer attitude and beliefs	1	2	3	4
Inadequate time to adopt new technology	1	2	3	4
Disruption to students	1	2	3	4



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Section 3: Factors influencing social media adoption

Please indicate the degree to which you use social media in teaching and learning on the following statements.

1 – Never 2 – Sometimes 3 – Always

<i>Substitution ICT</i>			
Social media			
I use social media to distribute assignments to students.	1	2	3
I use social media to deliver announcements to students.	1	2	3
Technology			
During my lectures, I use the projectors and smart boards installed in the lecture rooms for writing instead of the chalkboard.	1	2	3
<i>Augmentation ICTs</i>			
Social media			

I use subject communities such as wikis, blogs and chatrooms to look for vital research content in my discipline.	1	2	3
Technology			
I use the editorial tools in my word processor to correct grammatical errors in any documents I process.	1	2	3
I use the track changes tool in my word processor to review communal documents or students' work.	1	2	3
Modification ICTs			
Social media			
I use group discussion facilities on wikis.	1	2	3
I use social media such as Facebook, Twitter, and Whatsapp to communicate with my students.	1	2	3
Technology			
I use the Internet to assign student topics for research assignment purposes.	1	2	3
Redefinition ICTs			
Social media			
I ask students to make their own notes from group discussion threads in social media.	1	2	3
I use blogs as a source of useful content for my classes.	1	2	3
I use social media to express and share thoughts and ideas with students.	1	2	3

Adapted from Puetendura (2010)

This section focuses on investigating the determinants of social media integration in academia.

Please indicate the degree to which you agree or disagree with the following statements as they relate to using social media in teaching and learning.

1 – Strongly disagree 2 – Disagree 3 – Agree 4 – Strongly agree

Performance Expectancy				
1. I feel that using social media will support teaching and learning.	1	2	3	4
2. Using social media for teaching and learning activities will enable me to collaborate and communicate with students.	1	2	3	4
3. Using social media for teaching and learning activities enables me to be more productive.	1	2	3	4
Effort Expectancy				

1. I feel that interactions with social media for teaching and learning are clear and understandable.	1	2	3	4
2. It is easy for me to become skilful at using social media in teaching and learning activities.	1	2	3	4
3. I feel social media for teaching and learning is easy to use.	1	2	3	4
Social influence				
1. People who influence my behaviour think I should use social media for teaching and learning activities.	1	2	3	4
2. The senior management of my institution encourages the use of social media for teaching and learning.	1	2	3	4
3. In general, the Department of Higher Education supports the use of social media in teaching and learning.	1	2	3	4
Facilitating conditions				
1. I have the resources necessary to use social media for teaching and learning.	1	2	3	4
2. I have the knowledge necessary to use social media for teaching and learning.	1	2	3	4
3. Using social media for teaching and learning is not compatible with other lecturing responsibilities that I have.	1	2	3	4
4. There is a specific person allocated for assistance if I experience difficulties when using social media for teaching and learning.	1	2	3	4
Behavioural intention				
1. I intend to use social media for teaching and learning in the next 12 months.	1	2	3	4
2. I expect to use social media for teaching and learning in the next 12 months.	1	2	3	4
3. I plan to use social media for teaching and learning in the next 12 months.	1	2	3	4

Adapted from Venkatesh et al. (2003)

Appendix D - Expert Review Questionnaire

Section A - Participant consent form for participation in research

I _____ (name) agree to take part in research regarding the adoption and continued use of social media in teaching and learning among lecturers at a Historically Black Universities (HBUs) in South Africa. I understand that I am not forced to do this and I can stop taking part in the research at any time. If I do decide to withdraw, I understand that I won't be punished in any way and I can ask that all research results relating to me be destroyed, returned to me or removed from all records.

I understand that the reason for the research is to identify Critical Success Factors for the adoption and continued use of social media in teaching and learning amongst lecturers at HBUs.

The steps that will be followed:

- (a) No discomforts or stresses are foreseen.
- (b) No risks are foreseen.
- (c) Privacy and anonymity are respected and your information will be treated as highly confidential.
- (d) Please take note that this questionnaire is voluntary and you can withdraw at any time should you so wish with no consequences.
- (e) The questionnaire is completely anonymous.



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My yearly performance reviews will not be affected in any way by me taking part in this research. No results released from this research will be connected to me personally unless I give permission for my name to be used. Anything that I say during the interviews may be used again but my name will not be used.

Signature of participant

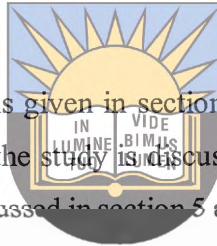
Research at the University of Fort Hare that involves human participants is overseen by the University Research Ethics Review Committee. If you have questions about your rights as a participant or if you have any problems in this regard, write to the chairperson of the Ethics Committee at University of Fort Hare.

Section B- Synopsis

1. Introduction

A researcher formulates a research problem after identifying potential ‘gaps’ or ‘issues’ at hand. The throughput rate at South Africa universities has been severely impacted by the massification of teaching and learning. Emerging technologies, such as social media, have been identified as having the ability to increase student- lecturer interaction, collaboration and communication in the classroom. Despite the benefits that social media offer in teaching and learning, few lecturers choose to make use of these tools. The purpose of the study was to provide critical success factors (CSF) that will increase the adoption of social media in teaching and learning at Historically Black Universities (HBUs) in the Eastern Cape in order to increase the throughput rate as well as student – lecturer interaction.

The problem statement of the research is given in section 2, while the research questions are in section 3. The methodology applied in the study is discussed in section 4. Research results and proposed critical success factors are discussed in section 5 and 6, respectively, with the conclusions to the research in section 7.



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2. Research Problem

The massification of teaching at UFH has in part contributed to the low throughput rate at the University. The quality of education is affected by reduced student – lecturer interaction due to large classes and the poor academic literacy of students. To address aforementioned challenges, HBUs should adopt social media tools amongst lecturers to increase student – lecturer interaction, thereby assisting with the low throughput rates at UFH. However, the utilisation of social media in teaching and learning at UFH is low due to limited knowledge or proficiency required to use social media effectively as a pedagogical tool amongst lecturers.

3. Research Questions

The research question which is under investigation is:

What are the critical success factors that will improve the adoption and continued use of social media in teaching and learning amongst lecturers at HBUs in South Africa?

In order to answer the research question, four sub- questions were formulated:

- 1. How can social media improve teaching and learning at HBUs?***
- 2. What is the current level of social media usage in teaching and learning at UFH?***
- 3. What are the barriers to the adoption and continued use of social media in teaching and learning amongst lecturers at HBUs in South Africa?***

4. *What mechanism must be in place to mitigate the barriers to the adoption and continued use of social media at HBUs in South Africa?*

4. Methodology

Design science was used as a paradigm. A survey research design was employed in this study as the research strategy. A questionnaire was used to collect data from lecturers at the HBU. The questionnaire was developed after a thorough literature review as well as making use of the UTAUT and SAMR models in order to collect data enough to answer all research questions. The questionnaire was piloted before it was used to collect the data to ensure validity and reliability of the study and also it was found the questionnaire was user friendly. SPSS was used to analysis primary data. Descriptive, inferential statistics as well as Pearson chi-squared and Cronbach alpha test were applied to analyse the data collected using questionnaires from the research participants as well as to the reliability between the different variables.

5. Research Results

The study found that the academics at the HBU can be placed at level two of the SAMR model (Augmentation). Various factors such as management support and prior knowledge of social media were found to be important for the acceptance of social media among lecturers. Additionally, there is need for management support as the results indicated that some of the lecturers are influenced by peers, and the integration that has occurred is based on individual efforts.

6. Proposed Critical Success Factors

Olszak and Ziemba (2012) describe CSFs as aspects of a strategy that ought to be achieved to yield a positively favourable outcome of the project. The following CSFs were identified to address barriers that hinder lecturers' adoption and continued use of social media at HBUs, namely: providing adequate resources, management support, finding a champion, and providing resources.

CSF 1 Providing adequate resources for social media use

The majority (68.7 %) of the lecturers indicated that they do not have the adequate resources necessary to make use of social media in teaching and learning. Shortage of infrastructure and technical assistance have a negative impact on the adoption and continued use of social media in teaching and learning. Therefore, the management must have a comprehensive budget for ICT infrastructure that supports sustained interest in the use of social media in the teaching and learning environment. This budget should prioritise ICT infrastructure within the classroom. Also HBUs should encourage lecturers and students to make use of their personal computing devices such as



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laptops, mobile phones and tablets, as well as strengthen Wi-Fi hotspots at campus and residence. Access to the network should not depend on cable as it disturbs the lecturers and students' flexibility in the adoption of social media in teaching and learning.

CSF 2 Management support

The majority (75.9 %) of the lecturers plan to use social media for teaching and learning in the next 12 months. There is need for management to provide adequate support to lecturers that are planning to integrate social media in teaching and learning. The management should have a social media policy in place to govern lecturers' use of social media in teaching and learning. The management should ensure that there is a group responsible for auditing to evaluate if lecturers are using social media in teaching and learning. Additionally, the auditing group must put in place measures to penalise lecturers failing to integrate social media, and incentives should be offered to those that are integrating ICT in pedagogy. Also, university management should consider the use of social media through faculty appraisal. Non-monetary incentives, such as ICT devices, certificates of recognition and employee of year awards, should be used to recognise lecturers that are employing social media in teaching and learning.



CSF 3 Introduce a champion University of Fort Hare

All the stakeholders in the teaching and learning field should be involved to ensure the successful implementation of social media at HBUs. Typical activities include education, awareness-raising and engagement with the lecturers who will be making use of social media in teaching and learning. In this way, a sense of ownership is created amongst the lecturers.

Social influence of colleagues was found to be influential (54.2 %) towards the use of social media in teaching and learning. Introducing a champion is one of the techniques that could be used to facilitate the adoption and continued use of social media in teaching and learning, as the objectives of making use of the technology will be clearly communicated.

CSF 4 Providing adequate training for lecturers

The majority (73.5 %) of the lecturers indicated that they are resistant to new technology because they do not have adequate knowledge and technology-supported pedagogy skills to employ social media in teaching and learning. Providing adequate training and support will allow lecturers to be equipped with the necessary knowledge and pedagogical skills needed to incorporate social media in their teaching environment. This could be achieved by encouraging lecturers to undertake computer literacy courses in order for them to become more technically skilful and comfortable with social media tools in teaching and learning. Therefore, management have a duty to organise

seminars and workshops regularly in order to enhance the knowledge of the faculties on how to use the social media in the teaching and learning environment.

Summary of Proposed Critical Success Factors and Barriers to Social Media

Critical Success Factors	CSF 01	CSF 02	CFS 03	CSF 04
	<i>Providing adequate resources</i>	<i>Management support</i>	<i>Find a Champion</i>	<i>Providing adequate training to lecturers</i>
Lack of resources	x	x		
Internet connectivity	x	x		
Security and privacy		x		x
Technology resistance		x	x	x
Lack support for innovation	x	x	x	x
Lack of technology-supported pedagogy	x		x	x
Inadequate pedagogy knowledge and skills			x	x
Poor technology literacy		x	x	x



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7. Conclusion

Incorporating social media in teaching and learning at UFH will help to increase student -lecturer interaction reduced by massification which is taking place at HBUs, thereby increasing the throughput rate and pass rate. This is only after barriers to social media integration are addressed by the CSFs identified in the study. The purpose of this document was to provide a summary of the research that has been conducted and introduce proposed critical success factors to improve the adoption of social media in teaching and learning.

Social media adoption Expert Review Questionnaire

Dear Participant

Thank you for your willingness to participate in this study. Your feedback is important.

Please read the relevant summary about the proposed critical success factors before completing the questionnaire.

The Proposed Critical Success Factors for Social Media Use in Teaching and Learning



N B: Make use of space underneath every question to provide your opinion

1. Do you think there is a problem with the integration of social media into the South African higher education institutions?

Yes

No

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Elaborate.....
.....
.....

2. What, in your opinion, are the advantages and disadvantages of the proposed CSFs?

Advantages.....
.....
.....

Disadvantage.....
.....
.....
.....

3. In your opinion, are the proposed CSFs understandable and easy to read?

Yes

No

If you have selected 'No', then what can be improved?

Elaborate.....
.....
.....

3. Do the proposed CSFs address the problem of the adoption and continued use of social media in teaching and learning among lecturers at a historically Black universities (HBUs) in South Africa?

Yes

No

Elaborate why you made the choice?

.....
.....
.....

4. Do the CSFs address all aspects regarding the adoption and continued use of social media in teaching and learning among lecturers at HBUs?



Yes

No

Elaborate why you made the choice? **University of Fort Hare**
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.....
.....
.....

5. In your opinion, will the proposed CSFS make a meaningful contribution towards the adoption of social media in teaching and learning at HBUs?

Yes

No

Elaborate why you made the choice?

.....
.....
.....

6. Do the proposed CSFs make a meaningful contribution to the field of higher education in South Africa?

Yes

No

Elaborate why you made the choice?

.....
.....
.....

7. Can the proposed CSFs be used for future research?

Yes

No

8. What is your overall rating of the proposed critical success factors?

- A. No Contribution
- B. General Contribution
- C. Good Contribution
- D. Exceptional Contribution

Comments if any:

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