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TOWARDS UNDERSTANDING HOW ORGANISATIONS INCORPORATE SOCIAL MEDIA INTO THEIR KNOWLEDGE BASE

by

Zoleka Boqwana

Submitted in fulfilment of the requirements for the degree

M Com in Informatics

in the

Faculty of Economic and Management sciences

at the

University of Pretoria

Supervisor: Dr M. Hattingh

October 2020

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18 October 2020

TO WHOM IT MAY CONCERN

I, the undersigned, hereby declare that the master's dissertation titled **Towards Understanding How Organisations Incorporate Social Media into Their Knowledge Base** by **Zoleka Boqwana** has been edited.

It remains the responsibility of the candidate to effect the recommended changes.

Prof. Tinus Kühn

Ethical Clearance Certificate

RESEARCH ETHICS COMMITTEE

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23 October 2018

Dr M Hattingh
Department of Informatics

Dear Doctor Hattingh

The application for ethical clearance for the research project described below served before this committee on 22 October 2018:

Protocol No:	EMS147/18
Principal researcher:	**Z Boqwana**
Research title:	Towards understanding how organisations incorporate social media into their knowledge base
Student/Staff No:	26309646
Degree:	MCom (Informatics)
Supervisor/Promoter:	Dr M Hattingh
Department:	Informatics

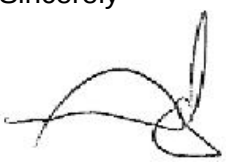
The decision by the committee is reflected below:

Decision:	Approved
Conditions (if applicable):	
Period of approval:	October 2018 – March 2019

The approval is subject to the researcher abiding by the principles and parameters set out in the application and research proposal in the actual execution of the research. The approval does not imply that the researcher is relieved of any accountability in terms of the Codes of Research Ethics of the University of Pretoria if action is taken beyond the approved proposal. If during the course of the research it becomes apparent that the nature and/or extent of the research deviates significantly from the original proposal, a new application for ethics clearance must be submitted for review.

We wish you success with the project.

Sincerely



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CHAIR: COMMITTEE FOR RESEARCH ETHICS

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Student Administration

Dedication

This research is dedicated to my two lovely sons, Mpho Indiphile Tjiane Boqwana and Maripe Andile Boqwana. Your sacrifices, understanding, love and support made my journey a memorable one. Thank you boys for tolerating the unusual situation that I put you through because of following my dream. Part of this was to show you that you can push boundaries and you are never too old to further your studies. I love you so much.

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For one to be successful in the dissertation journey, support from a multitude of individuals who have walked this path and those who want to see you succeed is of paramount importance. This, therefore, means that research in not an individual undertaking.

To God, Almighty, thank you very much for carrying and keeping me sane throughout this journey.

To my children, thank you so much for being there for me. Thank you for working with me. Throughout this journey, I was an absent parent. All credit goes to you for all the excellent results that you achieved at school. To me, this is a special kind of support from you.

To my supervisor, Dr MJ Hattingh, thank you for guiding me throughout this journey. On numerous occasions, I wanted to give up but you kept on checking on me and encouraging me to move forward. Knowing that you were there and wanted me to finish this degree gave me strength. As a rural girl who grew up looking after domestic animals, I often would witness newly born animal babies falling along the way and getting up. The mothers would come around showing great concerned. I liken our relationship to that experience.

I am very lucky to have a circle of friends who believe in me more than I believe in myself. My friends are a pillar of strength. Thank you for constantly encouraging me. All of you thought highly of me and I will forever be grateful. Thank you sticking with me, even though I went dead on you. You heard me in my silence.

I would also like to acknowledge my colleagues for showing great support. Thank you for taking over my duties while I often took study leave. Thank you so much to those who took their time and became participants in my research. Without you, I would not have completed this chapter of my life.

Lastly, a special thanks goes to my home girl, Nolusindiso Soyeye, who just came and alleviated a huge load on my shoulders by looking after my children seven days a week without complaining. Thank you for treating me like a queen. “Nangamso!”

Abstract

Social media presents new possibilities of creating knowledge that would not have been possible using other computer-mediated forms. Social media enables enrichment of organisations' knowledge resources with the extracted insights; however, what is not certain is the factors that are at play when taking a decision to consider social media data as the source of insight that will translate into valuable knowledge that organisations may benefit from. The purpose of this study is to investigate how organisations integrate social media into their knowledge base. The *dynamic capabilities and organisational resilience in turbulent environments* framework was used as a lens to look into how organisations integrate social media into their knowledge base. A Systematic Literature Review (SLR) was performed to identify, evaluate and interpret all the relevant material or primary studies that are available to answer the research question. Furthermore, an empirical investigation was conducted through the use of interviews and questionnaires. The contribution of the current study to the body of knowledge is twofold. Firstly, synthesis of the existing literature on the uses of social media and knowledge management as well as the evaluation of the model resulted in a revised dynamic capabilities model (DCF) where three capabilities were added, namely validating capability due to questionable SM data quality, crisis management capability for safeguarding the organisations' reputation, and innovating capability to stay ahead of the fiercely competitive dynamic environment. Secondly, this study produced a significant number of factors that both the literature and the research participants considered key to the implementation of the proposed model. These factors can be categorised into people, processes and technology aspects. The study is significant in the sense that 1) the research findings should be of interest to organisations that are open to innovation and therefore can be used as yardsticks for decision-making; 2) the emergence of the crisis management capability is a major contribution to the body of knowledge as it highlights the importance of proactivity and alertness to responding to conversations of the organisations' audiences and avoiding the social media backlash suffered by organisations. As the study focused on only one case study, it serves a basis for further research in different sectors of the business with the aim of validating the generality of the proposed model.

Keywords: Dynamic Capabilities, Knowledge Base, Knowledge Management, Organisational Resilience, Social Media, Turbulent Environments.

Acronyms

DCF: Dynamic Capability Framework

KB: Knowledge Base

KM: Knowledge Management

SLR: Systematic Literature Review

SM: Social Media

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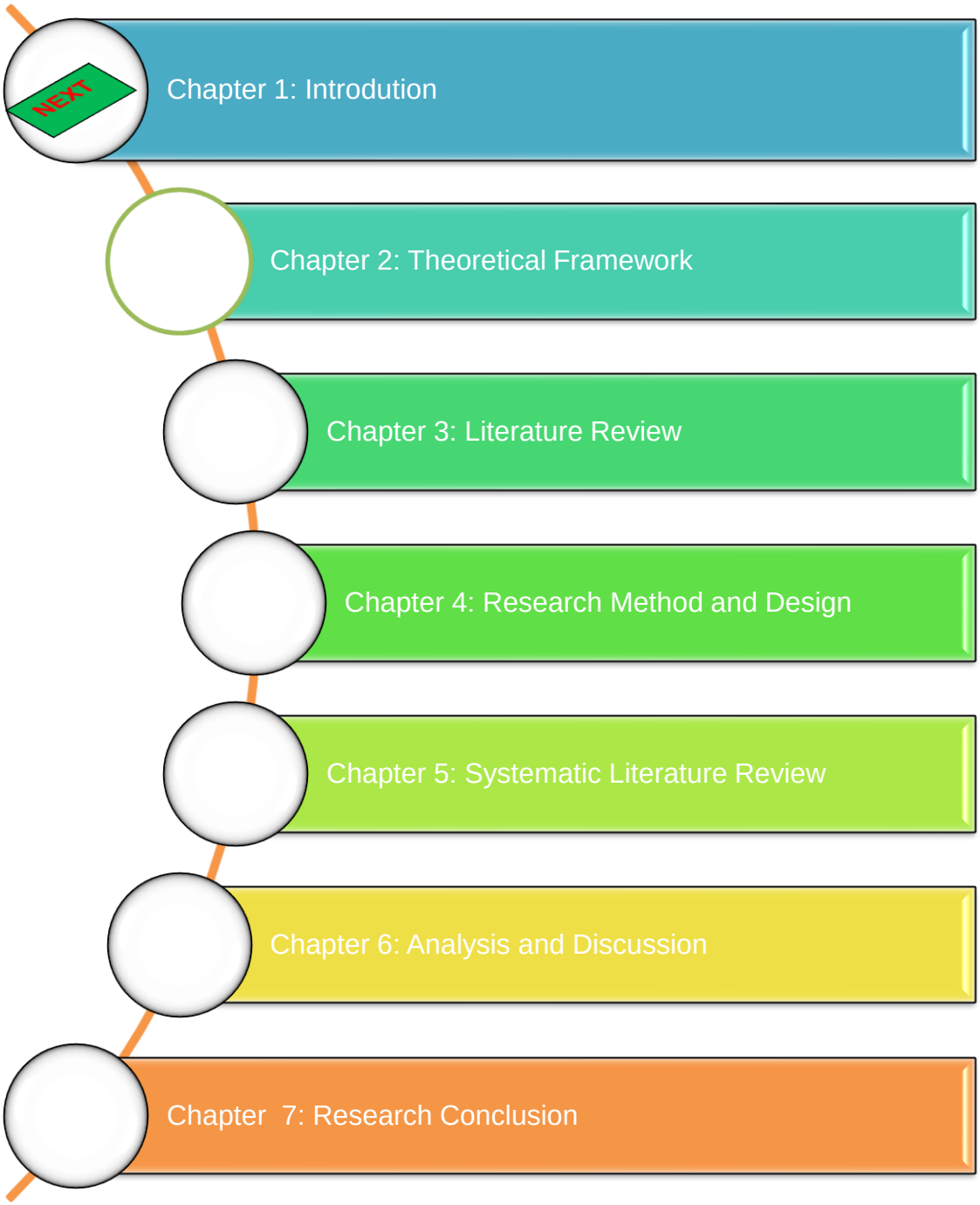
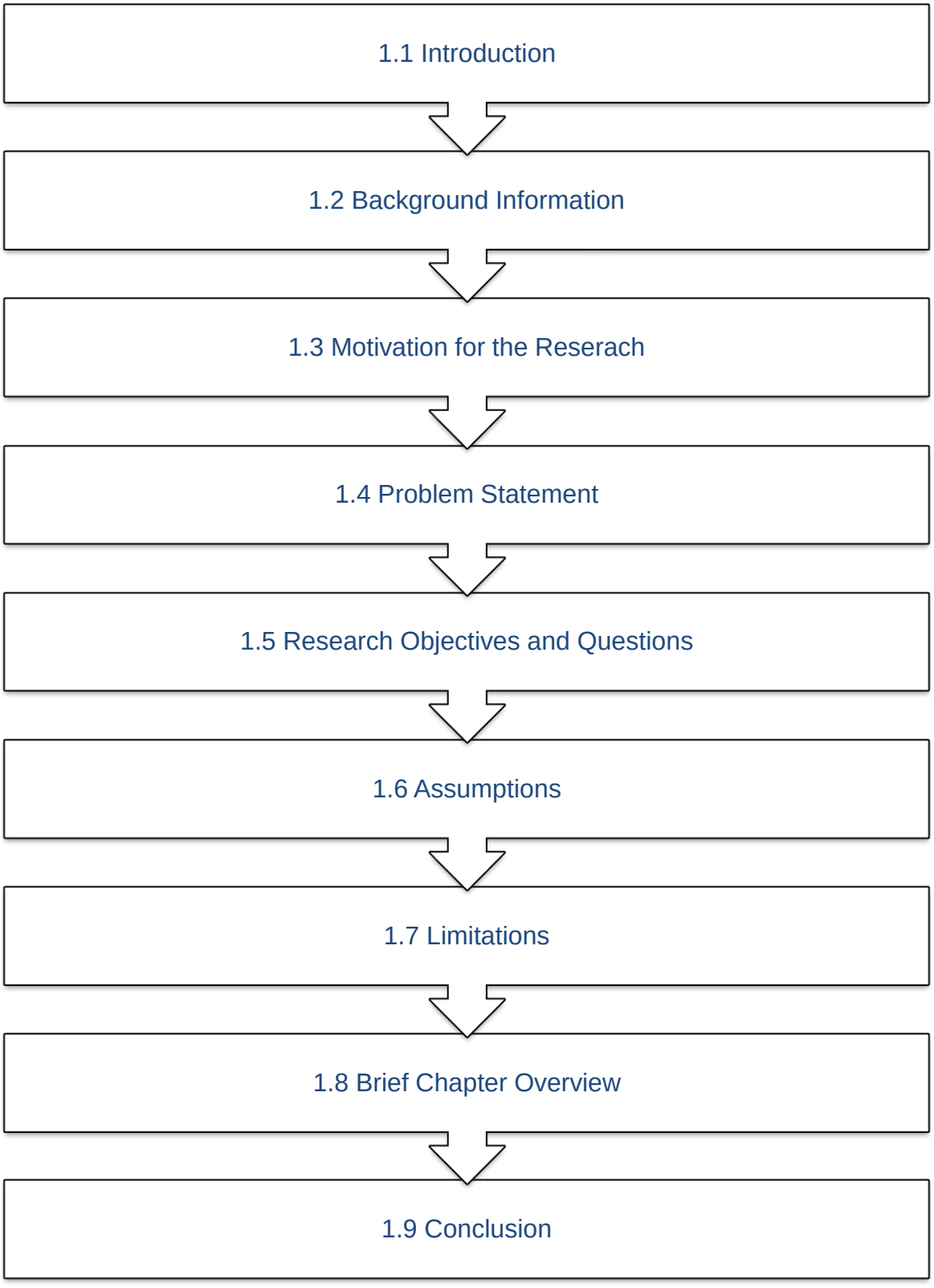
APPENDICES

0. CHAPTER PLAN



1 INTRODUCTION TO THE RESEARCH



1.1 INTRODUCTION

Just over a decade ago Tsui (2005) already predicted that in future the content of the information and technical infrastructure of knowledge management (KM) programs would need to support "ad hoc, spontaneous but intensive intra- and inter-organisational collaborations". These collaboration predictions were soon realised when advancement in information technology (IT) brought about social interactions on the web, using tools such as Facebook, Twitter, YouTube, LinkedIn, etc. (Henry, 2011). Jalonen (2014) also confirmed these predictions by stating, "Social media increases the connectivity of people inside and outside an organisation". Data generated from these social interactions presents opportunities for organisations to perform knowledge management processes that can give them a competitive edge in marketing and innovation initiatives. Social media (SM) is said to have positive spinoffs in terms of strategic decision-making in the organisations (Hemsley and Mason, 2013).

1.2 BACKGROUND INFORMATION

Knowledge management has long been recognised as a vitally important strategic resource and a significant driver of the progress of organisational performance (Pekka-Economou and Hadjidema, 2011; Yeşil and Dereli, 2013). Knowledge is linked to the sustainability of long-term competitive advantage; it enables organisations and communities always to be on par as far as understanding is concerned. Investing in knowledge management programs has become essential for organisations to sustain a staying power in a fiercely competitive and ever changing environment (Gaál, Szabó, Obermayer-Kovács, and Csepregi, 2015). According to Gottschalk (2007, p.250) "Successful companies are those that consistently create new knowledge, disseminate this knowledge throughout the organisation, and embody it in technologies, products and services".

Collaboration or use of social media technologies within organisations' knowledge management has attracted much research interest among the research community. Research on knowledge sharing and social media has been conducted by several researchers (Gaál et al., 2015). Findings by Bharati, Zhang, and Chaudhury (2015) indicate

that social media can be adopted as a technological instrument for knowledge management efforts while Gaál et al. (2015) suggest integration of social media tools into the organisations' daily operations as essential. Furthermore, Gaál et al. (2015) emphasise the fact that social media is a powerful tool that the organisations should not ignore in the development of knowledge management systems. This supports the statement that "social media technologies and their affordances have a strategic impact on how organisations manage and create knowledge" (Wagner, Vollmar & Wagner, 2014, p.33). Wagner et al.'s (2014) findings reveal that social media presents new possibilities of creating knowledge that would not have been possible using other computer-mediated forms. Social media is instrumental in the knowledge creation process of organisations as it makes it possible to take the people-created knowledge and connect it to organisations' knowledge base (Jalonen, 2014). Jalonen (2014) underscores an interesting point about the emotions shared in social media and how they benefit the organisation. A study conducted by Dumbrell and Steele (2014) make it clear that social media technologies and their contribution to knowledge management have no age restriction as senior citizens use these technologies to address matters that affect society. Bharati et al. (2015, p.256) found the "Social media and the enhanced social capital do help promote organisational efforts in knowledge management, which subsequently leads to higher levels of organisational knowledge quality". When organisations try to implement social media in their knowledge management efforts, people are an important element in making these efforts a success. The intention to apply social media in the knowledge management effort needs to be understood. Behringer and Sassenberg (2015, p.294) found the "interplay between the importance and deficits concerning knowledge exchange, perceived usefulness of social media for knowledge exchange, and experience in social media use jointly affected the intention to apply social media for knowledge exchange after their implementation".

For this study, the researcher decided to use an organisation operating in the financial services industry to investigate the considerations that are taken into account when incorporating social media data into its knowledge base.

1.3 JUSTIFICATION FOR THE RESEARCH

The existing literature shows that much research has been conducted on the collaboration of social media and knowledge management in organisations. A statement by Bharati et al. (2015) supports this assertion:

> *"Organisational emphasis of knowledge management plays a central role in bridging social media and knowledge quality, indicating strongly that the organisational involvement is indispensable in knowledge management. Organisational processes and practices that enhance quality knowledge gathering and utilization should work in concert with, rather than solely reliant on, social media technologies".* - Bharati et al. (2015, p.470).

A number of papers on this subject of knowledge management and social media have been explored as indicated in Paragraph 2 of Section 1.2 of this study. These include "Better knowledge with social media? Exploring the roles of social capital and organisational knowledge management" by Bharati et al. (2015), "Exploring the role of social media in knowledge sharing" by Gaál et al. (2015), "The impact of information technology on knowledge creation" by Wagner et al. (2014), "Social media and emotions in organisational knowledge creation" by Jalonen (2014) and "Managing extracted knowledge from big social media data for business decision-making" by He, Wang and Akula (2017) . Research as suggested by various authors such as Bharati et al. (2015), Gaál et al. (2015), Wagner et al. (2014) and Jalonen (2014) to mention a few, indicates that the research opportunities on this topic have not been exhausted as yet. These opportunities include "Future individual-level research that should further enrich the understanding of the complicated dynamics between social media, social capital, knowledge management and knowledge quality", "quantitative and qualitative analysis of data from social media and dynamics of knowledge creation", "examining whether the differences in using social media for dealing with knowledge problems and more widely in KM have effects on organisations' performance", and "practical guidelines and principles with a refined framework for designing an integrated KM system to leverage big social media data for business intelligence" (Jalonen, 2014, p.573; Wagner, Vollmar and Wagner, 2014, p.41; Bharati, Zhang and Chaudhury, 2015, p.471; He, Wang and Akula, 2017, p.289). The researcher in this study aims to fill one of

the gaps that have not been touched on with the aim of contributing to the body of knowledge. The purpose of this study is to investigate how organisations integrate social media into their knowledge base.

The study focused on one company as a case study. The case study company is one of the Johannesburg Stock Exchange (JSE) listed financial service providers (FSP) in South Africa. The company is regulated by the Financial Services Board (FSB) and has varied product offering to both South African and International markets. The case study company is present on social media platforms such as Twitter, Facebook, Instagram, LinkedIn, WhatsApp and YouTube. It uses these platforms for various reasons, such as engaging with its clients, marketing and broadcasting. The case study company values innovation as it has various Apps on which its clients can conveniently view their portfolios and other time and money saving services, such as requesting authorisations.

1.4 PROBLEM STATEMENT

Knowledge management has long been recognised as a vitally important strategic resource and a significant driver of the progress of organisational performance (Pekka-Economou and Hadjidema, 2011; Yeşil and Dereli, 2013). As knowledge is linked to the sustainability of long-term competitive advantage, investing in knowledge management programs has become essential for organisations to sustain a staying power in fiercely competitive and ever changing environments (Gaál *et al.*, 2015). Knowledge resources are said to be the most important assets that organisations use to seek competitive advantage (Chang and Lin, 2015). “The successful organisations realize that they should direct their attention towards knowledge management processes: creation, conversion, spreading of and contribution to knowledge, as well as the methods of storing, selecting and processing, using and assessing knowledge to excel in their performance” (Abualoush, Masa’deh, Bataineh, and Alrowwad, 2018, p.288). Collaboration or use of social media technologies within the organisations’ knowledge management has attracted much research interest among the research community. According to Nisar, Prabhakar, and Strakova (2019, p.264) “Social technologies can provide a potent means for organisations to manage their information flows

and thus induce changes in their knowledge management (KM) systems, which can then be linked to performance improvements". It is said that social media enables enrichment of the organisations' knowledge resources with the extracted insights (Jalonen, 2014); however, what is not certain is the factors that are at play when taking a decision to consider social media data as the source of insights that will translate into valuable knowledge that the organisation may benefit from (He, Wang and Akula, 2017). It is within this context − the uncertainty of the factors that are at play − that the researcher situates this study to find out how organisations incorporate social media data into their knowledge base. This study is relevant as its findings can be used as a guide to make informed decisions by any organisation that wishes to take advantage of social media affordances, such as taking knowledge extracted from user-generated content from social media platforms into the organisation's knowledge base.

1.5 RESEARCH OBJECTIVES AND QUESTIONS

Literature records quite a number of uses or benefits of social media in organisations, including knowledge management. Among others, researchers such as Alberghini, Cricelli, and Grimaldi (2014), Andriole (2010), Bharati et al. (2015), Ray D. (2014), Schlagwein and Hu (2017), Turban, Bolloju, and Liang (2011), Von Krogh (2012) have identified social media as a valuable tool for knowledge management. What is not clear is the factors that are considered by organisations when integrating social media-generated content into knowledge management processes. The considerations that the study took into account are success factors, failure factors and barriers to the implementation of social media-infused knowledge in a knowledge base. The researcher decided to focus on these three but does not claim that these factor categories are finite. For the researcher of the current study to understand how organisations incorporate social media into their knowledge base, the following objectives and questions were proposed:

1.5.1. Main research objective

To determine the key considerations that organisations need to take into account when incorporating social media data into their knowledge base.

1.5.2. Main research question

What are the key considerations for incorporating social media data into organisations' knowledge base (KB)?

1.5.3. Secondary research objectives and questions

The following secondary research objectives were formulated to achieve the main research objective:

a) To determine the critical success factors for incorporating social media into organisations' KB.
b) To determine whether there are barriers that prevent organisations from housing a social media KB.
c) To determine the failure factors to incorporating social media into organisations' KB.

To answer the main research question, the secondary research objectives above were translated into the following secondary research questions:

a) What are the critical success factors for incorporating social media into the organisations' KB?
b) What are the barriers to including social media into organisations' KB?
c) What are the failure factors that may affect the incorporation of social media into organisations' KB?

1.6 LIMITATIONS

The study was limited to one case study and it may need to be evaluated again to cover a wide range of different organisations.

1.7 BRIEF CHAPTER OVERVIEW

This study comprises the following chapters:

Chapter 1. Introduction to the Research: This chapter provides the details of the problem to be investigated as well as the reasons why it is worth to investigate. The sub-headings under this chapter include the introduction, background information, justification for the

research, the problem statement, the main research question and objectives, assumptions and limitations.

Chapter 2. Theoretical Framework: This chapter discusses the underpinning theoretical framework of the current study.

Chapter 3. Literature Review: This chapter scrutinises existing academic literature and presents the information pertaining to the problem being investigated. The key concepts used as a roadmap to achieving the objectives of the study are discussed. The theme-based outline of this chapter is the following:

> **Theme 1: Defining Social Media**. This theme aims to present the definitions of Social Media as perceived by different researchers.
>
> **Theme 2: Defining Knowledge Management**. This theme seeks understanding of what knowledge management is, particularly in the context of organisations.
>
> **Theme 3: The intersection of Social Media and Knowledge Management.** This theme explores and discusses what happens at the crossroads where social media and organisational knowledge management meet.
>
> **Theme 4: Summarised view of how social media data is transformed into knowledge (Model B).** This theme derives from the uses of social media and knowledge management.
>
> **Theme 5**: **Development of Model C**. In this theme, the researcher maps the summarised view of the existing Dynamic Capabilities Framework to design the new model.

Chapter 4: Research Method and Design. In this chapter the researcher describes the research method adopted for the current study and provides a discussion of the suitability of the method chosen in relation to the research problem. Details of the research strategy used as well as the approach for collecting data for this study are presented in this chapter. Model evaluation forms part of this chapter.

Chapter 5: Systematic Literature Review: This chapter surveys the literature in order to find answers to the research questions stipulated in chapter 1.

Chapter 6: Analysis and Discussion. Having done with data collection and model evaluation, this chapter analyses and discusses the outcomes of the previous chapter. Reference to the literature review forms part of the discussion.

Chapter 7: Research Conclusion. The summary of findings, contributions, conclusions as well as suggestions for future research constitute this chapter.

Chapter 8: Bibliography. This is a list of the sources cited.

Chapter 9: Appendices. Supporting material to the research is presented in this section

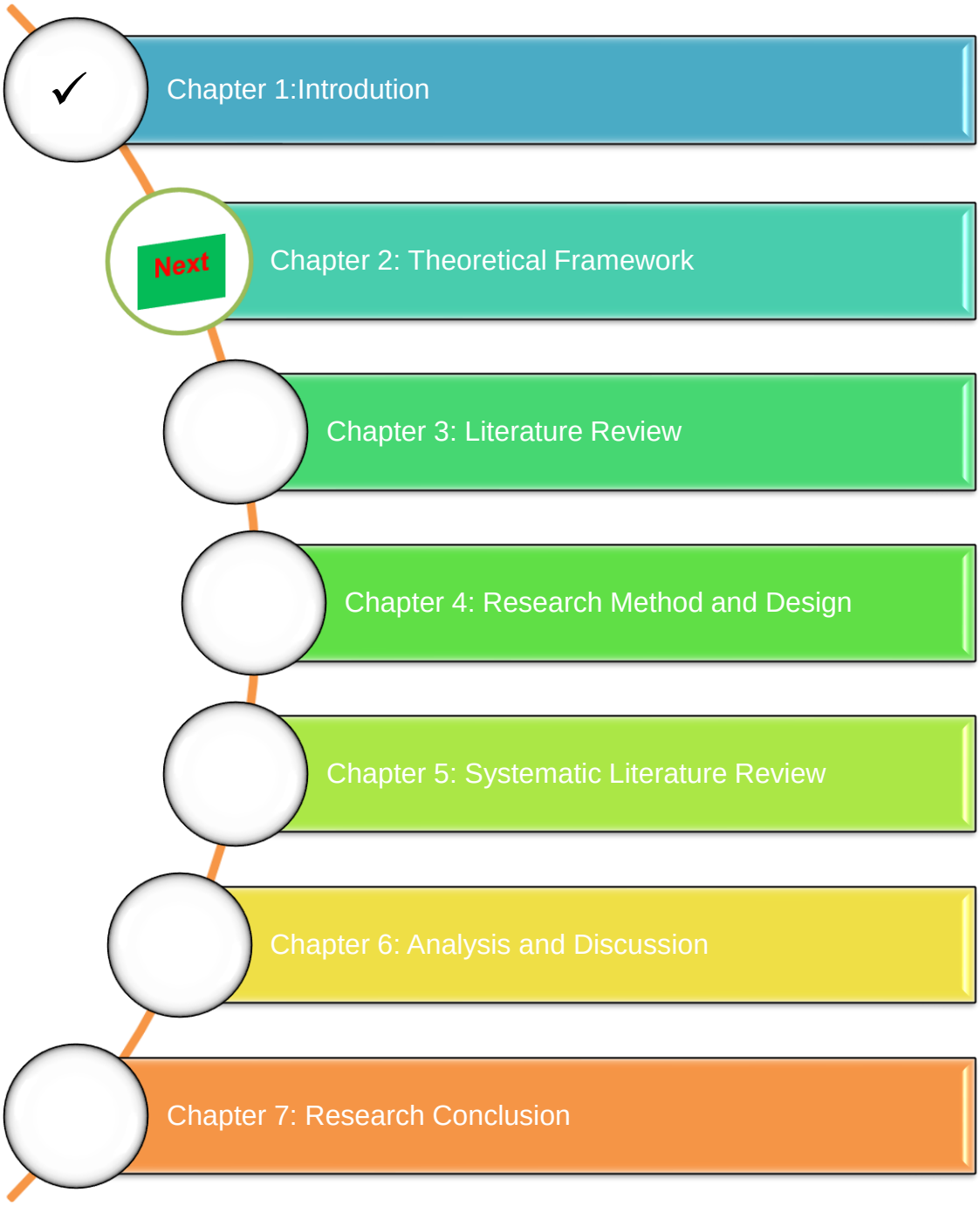
1.8 CONCLUSION

This chapter outlined that social media is highly instrumental in the knowledge creation process. Presented in Table 1 below is a summary of the current chapter:

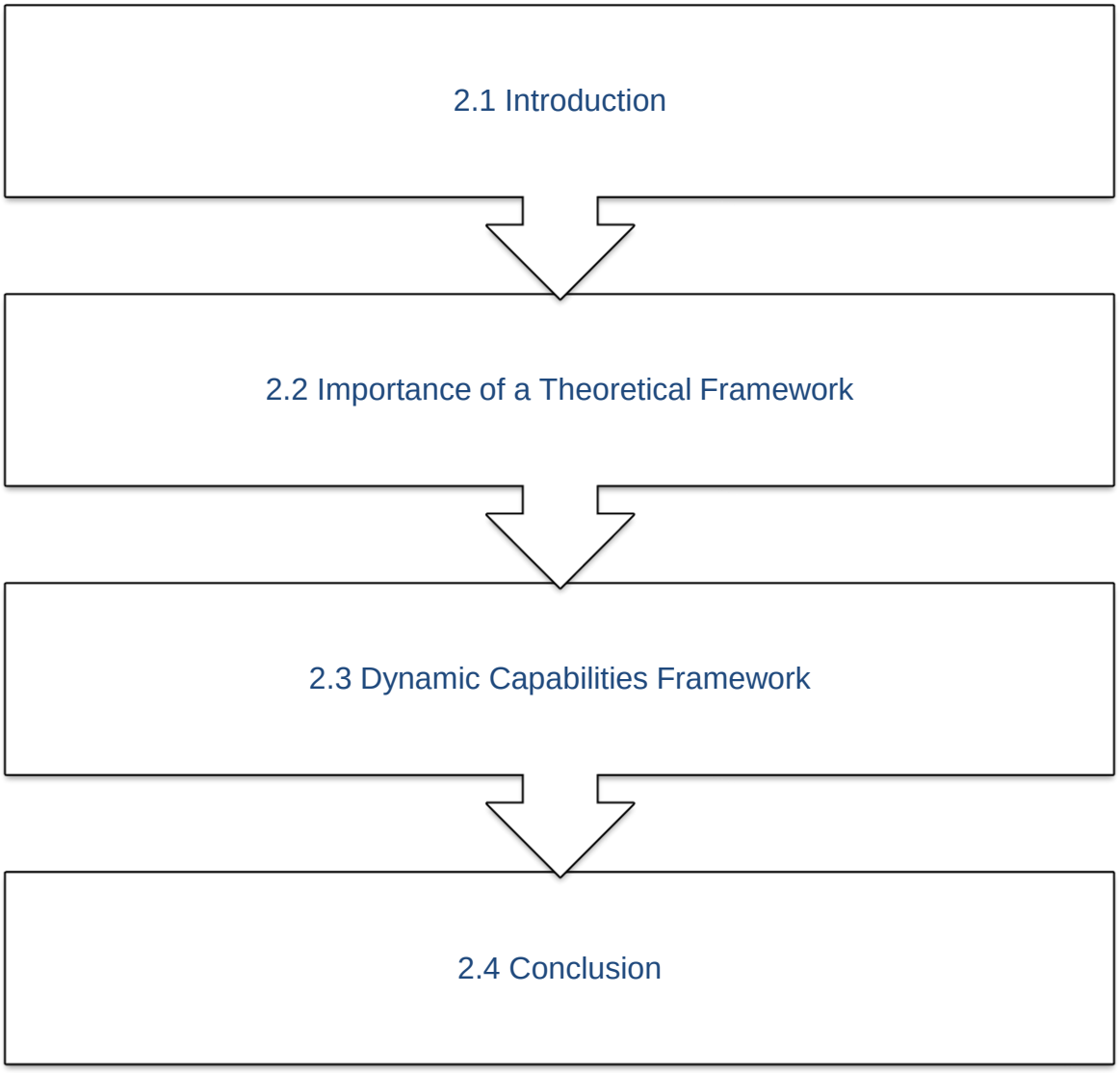
Table 1.1. Chapter 1 Summary

Chapter 1 Summary	
Research Problem	The literature reveals that much research on the inclusion of social media and knowledge management has been conducted. However, there are aspects of this collaboration that have not been researched. Considerations for including social media data into the knowledge base are what this study explores.
Justification for the Research	Organisations naturally operate in a competitive environment. Social media presents opportunities to step ahead of the competitors by incorporating social media data into the knowledge base. However, specific attention to the considerations for doing this incorporation has not received focus of interest.
Main Research Objective	To determine the considerations that organisations take into account when

	incorporating social media data into their knowledge base.



2 FRAMEWORK



2.1 INTRODUCTION

The aim of this study is to explore and outline the key considerations that organisations take into account when incorporating social media data into their knowledge base. A fitting theoretical framework that incorporates social media and knowledge management was identified. This chapter discusses the theoretical framework for this study. The concepts and application of the chosen framework are discussed in the sub-sections of this chapter.

2.2 IMPORTANCE OF A THEORETICAL FRAMEWORK

Different scholars have different views with regard to the theory of information systems (IS), saying that theory is a set of statements that (1) gives direction on how things should be done practically (Cushing, 1990); (2) provides a lens through which the world can be explained or viewed (Orlikowski and Robey, 1991), or (3) enables the relationship testing among constructs (Davis, Bagozzi, and Warshaw, 1989). According to Bhattacherjee (2012, p.14) a theory is "a set of systematically interrelated constructs and propositions intended to explain and predict a phenomenon or behavior of interest, within certain boundary conditions and assumptions". This statement supports an observation by Gregor (2006) who mentions that science philosophers, generally, are likely to regard theory as way to provide "explanations and predictions". Theory is important because it allows the systematic accumulation of knowledge that informs the actual practice for professionals (Gregor, 2006). Bhattacherjee (2012) also lists some benefits of employing or leaning on theory when doing research. These benefits include firstly, provision of logic on the occurrence of the social phenomenon where key drivers and outcomes and the reasons therefor are explained. Secondly, theories provide an opportunity to make sense of what influences the relationships between constructs before empirical findings are discovered. Thirdly, theories give rise to future research opportunities. Lastly, theories lead to re-evaluation of the existing theories, thereby building new knowledge.

For this study, the researcher employed theory to explore the benefits of incorporating social media data into an organisation's knowledge base.

2.3 DYNAMIC CAPABILITIES AND ORGANISATIONAL RESILIENCE IN TURBULENT ENVIRONMENTS

The framework chosen for this study is called “Dynamic capabilities and organisational resilience in turbulent environments” as depicted in Figure 2.1. For organisations to survive in a competitive environment, they need to have capabilities of adapting and being resilient in challenging times (Kurtz and Varvakis, 2016). The main constructs of this framework are dynamic capabilities, organisational resilience and turbulent environments. These constructs are discussed in detail in the following sections.

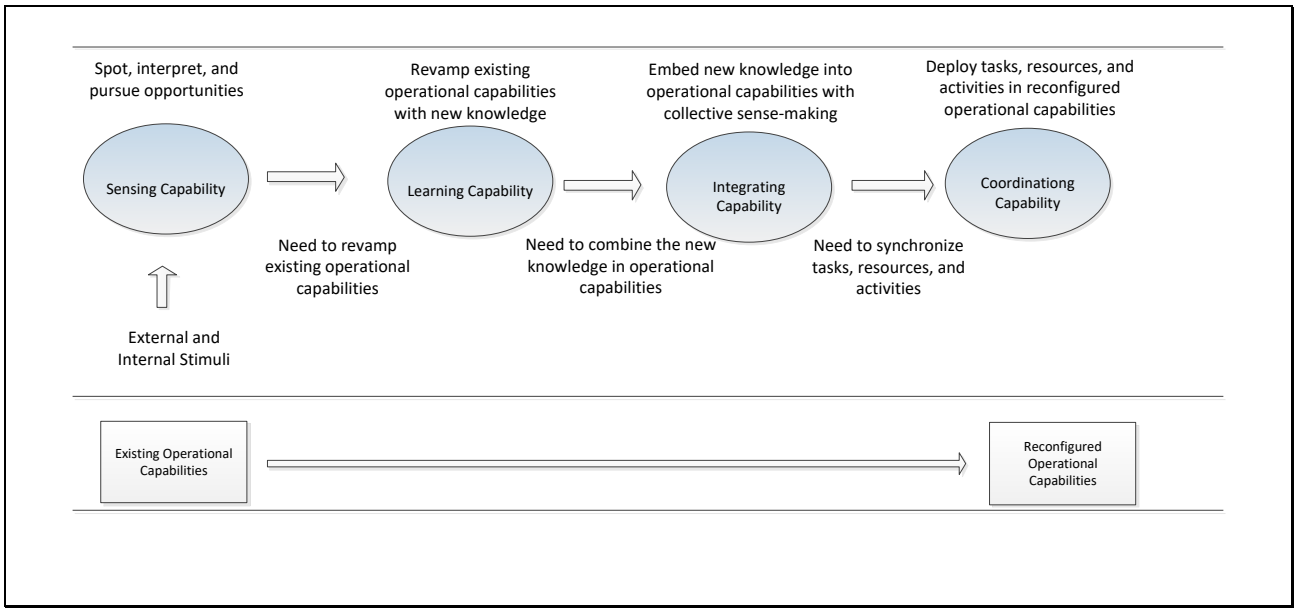


Figure 2.1. Dynamic Capabilities Framework(DCF) (Teece, Pisano and Shuen, 1997)

2.3.1 Dynamic capabilities

At the beginning of the 21st century re-looking at resources to remain relevant and sustain competitive advantage in the dynamic markets had become a must for organisations (Eisenhardt and Martin, 2000). What better way to understand the sustainability in the rapidly changing environments than the dynamic capabilities approach as suggested by González, Sáez and De Castro (2009). According to Pavlou and El Sawy (2011), an organisation has to be dynamic to take advantage of external knowledge and incorporate it into the knowledge that it already has for survival purposes. This statement supports the view of Teece, Pisano, and Shuen (1997) that for organisations that wish to be different from the rest, dynamic

capabilities are fundamental. Teece (1997, p.517) and his colleagues define dynamic capabilities as the ability of the organisation to "integrate, build, and reconfigure internal and external competences to address rapidly changing environments" while González et al. (2009) and Pavlou and El Sawy (2011) define dynamic capabilities as the potential to evolve to rapid adjustments and unpredictable environments, being proposed as instruments for the reconstruction of present, classified as: (1) sensing/detection; (2) learning; (3) integration and (4) the coordination capacity. The beauty of leaning towards a dynamic capability approach is that value creation, through the use of different resource combinations, is difficult to imitate; hence dynamic capabilities are said to be a source of sustainable advantage (Griffith and Harvey, 2001). A summary of dynamic capabilities is provided in Table 2.1:

Table 2.1. Dynamic capabilities

Capability	Description
Sensing	Sensing capability entails generating, disseminating and responding to market intelligence (Galunic and Rodan, 1998; Kogut and Zander, 1996; Teece, 2007). It refers to the ability to (1) identify customer needs; (2) be responsive to market trends; (3) identify business opportunities; (4) recognise rigidities and (5) detecting resource combinations (Teece, 2007; Amit and Schoemaker, 1993; Day, 1994; Sinkula, 1994; Galunic and Rodan, 1998).
Learning	Learning capability refers to the ability to "remodel existing operational capabilities with new knowledge" (Pavlou and El Sawy, 2011, p.244).
Integrating	Integrating capability refers to the ability to "combine individual knowledge into the unit's new operational capabilities" (Pavlou and El Sawy, 2011, p.245).
Coordinating	The coordinating capability deals with the reconfiguration of operational activities where tasks, resources, and activities are deployed in the new capabilities (Kurtz and Varvakis, 2016).

2.3.2 Organisational resilience

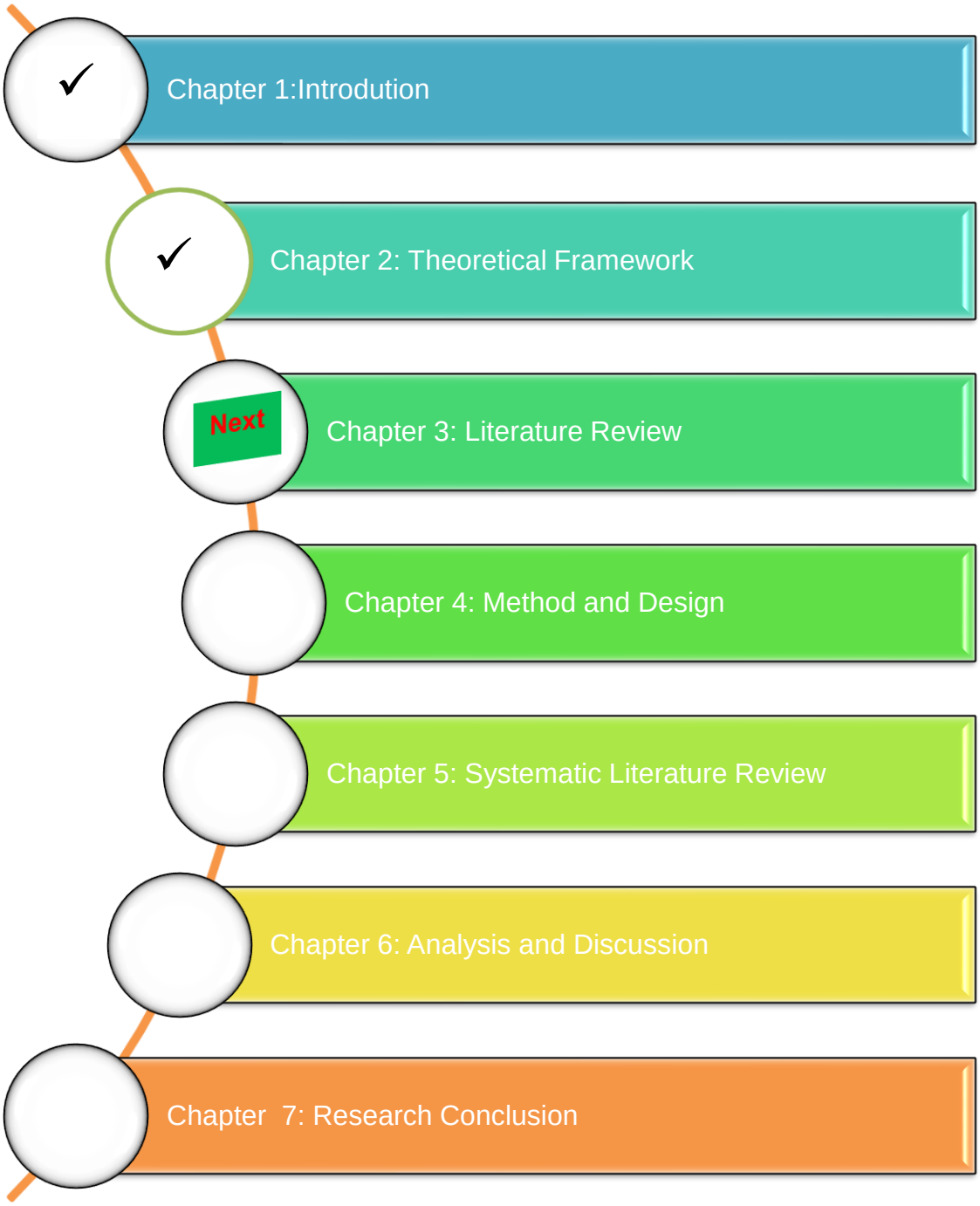
Resilience refers to a coping ability and willingness to adapt in the face of an unexpected change or threat. Awareness, detection, communication, reaction and recovery are concepts that are associated with and embraced by resilience. For organisations, resilience refers to the ability of the organisation to respond to the ever-changing business environment in which it operates. The business environment that encompasses competitors, customer needs, customer expectations, technology, state policy makers etc. is dynamic in nature; hence organisations need to be ready to respond effectively to competitive market forces when such arise (McAslan, 2010). The ability of organisations to withstand and remain viable in turbulence leads to sustainable competition (Burnard and Bhamra, 2011). According to Walker et al. (2002, p.1), resilience is the "ability to maintain the functionality of a system when it is perturbed or the ability to maintain the elements required to renew or reorganise if a disturbance alters the structure or function of a system". Hamel and Valikangas (2004) state that in the turbulent age, it is advantageous for an organisation to have capacity to reinvent its business model.

2.3.3 Turbulent environments

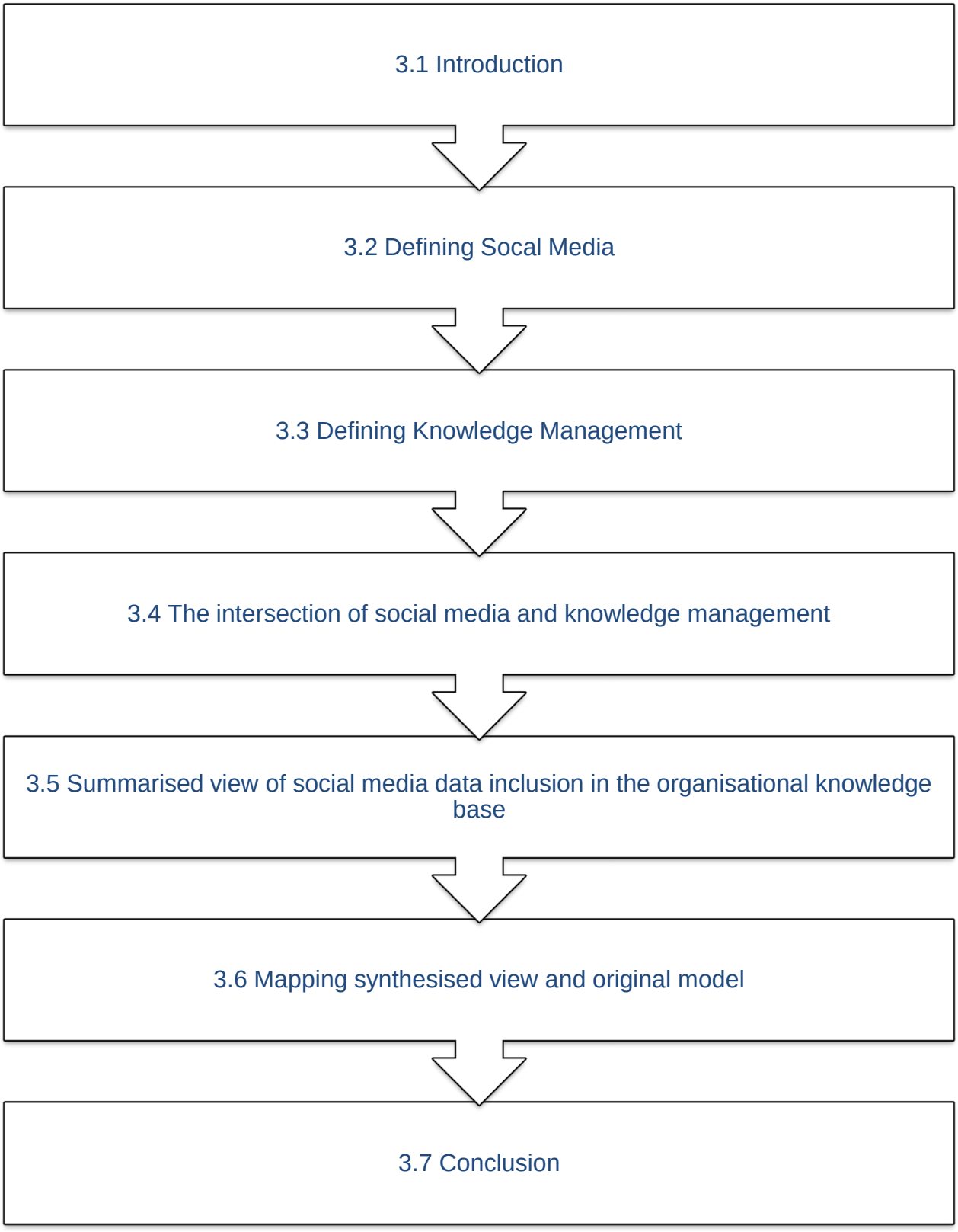
A *turbulent environment* is defined by Mangaliso, Bradford and Amir (1998, p.25) as "the complex interconnectedness of environmental elements that exhibit rapid, unpredictable, and discontinuous change that makes the future hard to predict". The concept of "difficulty to predict" was identified decades ago by researchers such as Emery and Trist (1965) and Dankbaar (1996). Organisations, in general, are part of the turbulent environment by virtue of the considerable levels of uncertainty, instability and uncontrollability of the market (Stigter, 2002). However, Johnson, Sohi, and Grewal (2004) suggest the development of a knowledge base to house the changes and trends in the external environment as a means to fight the uncertainties and instabilities presented by the business environment successfully. This development of the knowledge base suggestion by Johnson (2004) and his colleagues is in line with what the current study is attempting to achieve, which is to explore how organisations incorporate social media data into their knowledge base.

2.4 CONCLUSION

The aim of this chapter was to discuss a framework suitable to the current study. The importance of the theoretical framework as well as the main concepts was discussed. The next step was to do a systematic literature review of the existing literature. The learning gained from the literature review was used to reconfigure the framework to produce model B.



3 LITERATURE REVIEW



3.1 INTRODUCTION

Exploring how organisations incorporate social media data into their knowledge base is the objective of this research. To achieve the objective of this study, a review of the existing literature was conducted. Different concepts pertaining to the topic of interest are discussed before embarking on the systematic literature review. These concepts include social media, knowledge management, the interaction of social media and knowledge management in organisations.

3.2 DEFINING SOCIAL MEDIA

3.2.1 Introduction

The aim of this section is to determine what social media is as well as the use of social media in the context of organisations. Social media forms the basis of this study and therefore a number of studies have been reviewed to get a better understanding of this phenomenon.

3.2.2 What is social media?

According to Jalonen (2014) there is no single and universally accepted definition of social media. "Typically, it is loosely referred to as the means of interaction among people in which they create, share, and exchange information in networks". It is the blend of social interactions and technology on the web platform (Henry, 2011). Some authors such as Jue, Marr and Kassotakis (2009), Ellison and Boyd (2013) as well as Hemsley and Mason (2012) refer to social media as platforms or online technologies where people are able to connect, communicate, share and collaborate by engaging in conversational interaction. Kaplan and Haenlein (2010, p.61) studied the history of social media and eventually viewed social media as "a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content". The main elements that actively constitute social media are people, technology, and user-generated content (Hanna, Rohm, and Crittenden, 2011; Jalonen, 2014). Examples of different types of social media include Wikipedia, Twitter, blogs, YouTube, and Facebook (Kaplan and Haenlein, 2010). Schlagwein and Hu (2017, p.195) regard social

media as “a broad, dynamic and versatile class of social platforms, services and technologies. As such, social media supports quite different organisational (and individual) uses and purposes”. This definition by Schlagwein and Hu (2017) led the researcher to the next section where uses of social media are closely looked at and discussed.

3.2.3 The use of social media

The popularity of the use of social media in organisations has been noticeable in recent years (Kuikka and Äkkinen, 2011; Light, McGrath, and Griffiths, 2008). There are a number of reasons for the rise in popularity of social media (Henry, 2011). These include the use of social media locally and globally. Dlamini and Johnston (2018) reported on the use of social media by South African organisations and found that it is used for free advertising, Customer Relation Management(CRM) and marketing, while others reported the uses of social media globally. Vuori (2012, p.158) explored the uses of social media in a global corporation and found that “social media has become a pervasive set of tools that can be used in various ways from a company perspective”. These include communication, knowledge transfer, dialoguing with customers, collaboration and idea generation through crowdsourcing. In 2015, Gaál and his colleagues identified a number of opportunities that exist for actively making use of social media tools:

- Conversion of personal knowledge (tacit) into organisational knowledge (explicit).
- Communication among employees to find solutions to problems encountered.
- Discussion of professional problems.
- Saving time and money through integrated systems.

The general use of social media is embedded in its characteristics such as communication, connecting, collaboration, combining and completing (Jalonen, 2014). In organisations, social media is used for improvement in communication as well as collaboration improvement within and across organisational borders (Andriole, 2010; Katzy, Bondar and Mason, 2012). Jalonen (2014) concluded that social media paves the way for organisations to look at doing business in a different way that is based on collaboration within and across organisational boundaries. This collaboration claim is confirmed by Bughin, Chui and Manyika (2012) and colleagues who point out that investment in social media by

organisations promotes collaboration among employees and also with other service providers and business partners (Bughin, Chui and Manyika, 2012). They add that organisations invest in social media to communicate with clients. The emergence of social media has unleashed new capabilities where users are now able to interact in a way that seemed impossible in the past (Kane, Alavi, Labianca, and Borgatti, 2014). In their study *How and why organisations use social media* Schlagwein and Hu (2017) group the use of social media in organisations into five types, namely broadcast, dialogue, collaboration, knowledge management and sociability. Other scholars such as Turban et al. (2011) and Andriole (2010) identified organisational use types like information dissemination, knowledge management, communication, collaboration, innovation, training, learning, rapid application development and customer relationship management. It is interesting that knowledge management is one of the types and relevant as it is one of the key concepts of this study.

To emphasise knowledge management integration with social media, Cohn, Mehl and Pennebaker (2004) argue that social media is a valuable information source for knowledge management and has some advantages for the organisation as it can unveil the feelings and thoughts of the people. The use of social media by organisations increases their ability to re-evaluate and refine their services and product offering and source new ideas (Kiron, Palmer, Phillips, and Kruschwitz, 2012). Not only product and service offering but information and knowledge are also refined (Vuori and Okkonen, 2012). According to Li and Bernoff (2011) social media is an appropriate repository for customer stories, which in turn can be used to stimulate and challenge organisational wisdom. Organisations are afforded an opportunity to use social media as a source of intelligence and wisdom of crowds. Jansen, Van Den Bosch and Volberda (2006) as well as Gupta, Tesluk and Taylor (2007) underscore the fact that social media usage can be either explorative or exploitative. Exploration refers to inspection of the social media user-generated data from which information and knowledge is acquired and generated respectively, while exploitation refers to the transformation and application of the acquired knowledge to develop new outputs, e.g. products and services (Lane, Koka, and Pathak, 2006; Camisón and Forés, 2010). Information acquisition, as referred to in the exploration above, involves new possibilities

presented by social media for the harvesting of information cues that emanate from the interactions from within and across the organisations, thereby gaining insights that can be useful for the organisation (Hanna et al., 2011 ; Kietzmann, Hermkens, McCarthy, and Silvestre, 2011). He, Wu, Yan, Akula and Shen (2015) point out that from the massive amount of social media data arise possibilities for the extraction of useful patterns, the discovery of new insights as well as enhancement of business operations. This is supported by Salehan and Kim (2016) stating that it is possible for organisations to extract valuable knowledge from social media data to identify potential issues, problems, opportunities and best practices. As organisations operate in turbulent times that are characterised by uncertainty, they need resilience by tapping into the new insights offered by social media (Teece, 2009).This means that social media data can be transformed into actionable knowledge by the organisation (Biesdorf, Court, and Willmott, 2013). Knowledge acquisition is known for its contribution to performance improvement in certain business processes (García-Murillo and Annabi, 2002; Salomann, Dous, Kolbe, and Brenner, 2005; Ettlie and Pavlou, 2006; Zanjani, Rouzbehani and Dabbagh, 2008). However, when this knowledge is acquired from social media, it is regarded as “experience accumulation, which influences firms' capability to identify opportunities, errors and threats”(Nguyen *et al.*, 2015, p.13) and it is known to facilitate learning behaviour that enables growth for organisations operating in the dynamic environment (Zhang and Li, 2010; Nguyen *et al.*, 2015). Harrysson, Metayer and Sarrazin (2012) argue that social media adoption and/or usage yields the provision of strategic insights from real-time social media data. Chua and Banerjee (2013) state that knowledge about customers should also be used to gain a sense of the sentiment on the ground, which in turn, could aid organisations in crisis management.

Following the acquisition of information from exploring social media data, learning takes place in a transformative and/or exploitative way. Transformative learning refers to a process of analysing, understanding and interpreting the acquired information and/or insights (Szulanski, 1996; Lane, Koka and Pathak, 2006; Camisón and Forés, 2010). In addition, refining and maintenance of existing knowledge takes place (Benitez, Castillo, Llorens, and Braojos, 2018; Hamid Hawass, 2010; Schlagwein and Hu, 2017).

Some researchers have described social media as a tool for crisis management (Chua and Banerjee, 2013; Jahng and Hong, 2017; Ott and Theunissen, 2015; Roshan, Warren, and Carr, 2016). Roshan et al. (2016) highlight the importance of understanding social media use for crisis communication. It is in crisis management that Ott and Theunissen (2015) and Roshan et al. (2016) believe that organisations should employ appropriate strategies to mitigate and/or avoid the risk of a bad reputation. Ott and Theunissen (2015) warn against igniting further social media crises that can cause more harm to the organisation if an inappropriate strategy is used. A suggestion is put forward that even public relations practitioners need to be equipped with relationship building and dialoguing principles to be able to respond effectively when a social media crisis occurs (Ott and Theunissen, 2015). In the public relations space, a crisis is referred to as an unexpected event that has the potential to damage the reputation of an organisation (Coombs, 2014). Chua and Banerjee (2013) state that knowledge about customers should also be used to gain a sense of the sentiment on the ground, which in turn, could aid organisations in crisis management. Social media enhances the agility of organisations operating in the dynamic environment when they respond to changes that affect their environment (Akhtar, Khan, Tarba, and Jayawickrama, 2018). Seeing that social media is dynamic and turbulent in nature, it is imperative that organisations continuously be on the lookout for issues that are prone to becoming big crises and eventually affect their reputation in a negative way (Coombs, 2014). Jahng and Hong (2017) declare that “Social media has become an indispensable tool for corporates’ crisis communication because it offers direct and timely interaction that the public perceives as authentic”. It is said that learning and knowledge creation is regarded by some theorists as output of the crisis phenomenon (Storey and Barnett, 2000).

Marketing, innovation and operations are some of the reasons why organisations embrace social media usage (Kiron, Palmer, Phillips, and Kruschwitz, 2012). Social media presents organisations with the ability to customise information, thus achieving target marketing. New products and services are developed and the quality of the existing products and services is enhanced as a result of the knowledge acquired from customers (García-Murillo and Annabi, 2002; Salomann *et al.*, 2005; Ettlie and Pavlou, 2006; Zanjani, Rouzbehani and Dabbagh, 2008). Offering relevant and customised information has positive spinoffs in the

form of high profit margins (Weinberg and Pehlivan, 2011). According to Falasca, Zhang, Conchar, and Li (2017, p.904), “Firms that build highly efficient marketing processes are in a better position to develop and smoothly transform customer knowledge into commercially valuable product output”.

As far as innovation is concerned, a number of researchers have noted the contribution of social media to the innovation concept. Social media is said to be closely intertwined with innovation (Brandtzaeg and Følstad, 2016a). Bhimani, Mention, and Barlatier (2019) regard social media as the “driver and enabler” of innovation while Gray, Parise and Iyer (2011) as well as Meyer (2010) argue that social media facilitates innovation. Organisational innovation can be fostered through the use of social media. Social media usage in innovation encompasses product innovation, process innovation, organisational innovation, marketing innovation, technical innovation, service innovation and open innovation (Ghezzi, Gastaldi, Lettieri, Martini, and Corso,2016; Harris, Mueller, and Snider, 2013; ; Mount and Martinez, 2014; Patroni, Von Briel, and Recker, 2016; Piezunka and Dahlander, 2015; Standing and Kiniti, 2011); Wu, 2016).

3.2.4 Summary of Theme 1

The aim of this theme was to explore and define social media. The summary of this theme is shown in Table 3.1:

Table 3.1. Theme 1 Summary

Theme 1 Summary	
Social media	Social media refers to the blend of social interactions and technology on the web where information is created, shared and exchanged. People, technology and user-generated content are the main elements of social media.
The use of social media	Communication, connection, collaboration. The basic use of social media includes communication, collaboration and connecting, among others. Improvement in collaboration and communication within

Theme 1 Summary	
	and across organisational borders, learning, knowledge management, innovation and the ability to refine products and services are some of the benefits of using social media. **Information acquisition** Extraction of valuable knowledge from social media data to identify potential issues, problems, opportunities and best practices. Social media is a valuable information source for knowledge management and has some advantages for the organisation as it can unveil the feelings and thoughts of the people. Social media can be used as a source of intelligence and wisdom of crowds. It offers the opportunity to explore and exploit user-generated content from within and across the organisations by harvesting information cues, extracting patterns, discovering new insights, and thereafter transforming the acquired information to develop innovative products as well as refine the existing products. **Crisis management** Another use of social media revealed in the literature is crisis management. Gaining a sense of the customer sentiments from social media could aid the organisation in managing a looming crisis. The dynamic and turbulent nature of social media compels organisations continuously to be on the lookout for issues that are prone to becoming crises and negatively affect the reputation of the organisation. Social media enhances the agility of

Theme 1 Summary	
	organisations operating in the dynamic environment when responding to changes that affect their environment .Social media is regarded as indispensable in crisis communication. **Learning** Social media is said to facilitate learning in organisations. Analysing, understanding and interpreting the acquired information and/or insights as well as refining and maintenance of existing knowledge are all part of the learning process once the information has been extracted and made available through the acquisition process. **Innovation** Social media is said to make a contribution to innovation. It is seen as an enabler and driver of innovation. Organisational innovation is fostered through the use of social media. Social media affords organisations the opportunity to enhance their innovation process through the use of the user-generated content and social networks as these are believed to reflect customer preferences. Social media facilitates different types of innovation that include product, process, organisational, marketing, technical, service and open innovation.
Implication for research	
Having defined what social media is and outlined its uses and benefits, the researcher acknowledges that social media plays a pivotal role not only in society but in organisations at large.	

The aim of the current theme was to obtain a basic understanding of the social media phenomenon. The next section (Theme 2) explores the knowledge management phenomenon.

3.3 DEFINING KNOWLEDGE MANAGEMENT

3.3.1 Introduction

One of the concepts that form the basis of the current study is that of knowledge management. The aim of this theme is to determine what knowledge management is. Definitions of what knowledge management is, knowledge management link to dynamic capabilities as well as its use are the points of discussion.

3.3.2 What is knowledge management?

Prior to discussing what knowledge management is, it is important to discuss what knowledge is. Knowledge is defined as processed information in someone's mind (Alavi and Leidner, 1999). Davenport and Prusak (2000) define knowledge as "a mix of experiences, values and insights that can help us integrate and evaluate new information". Knowledge comes in two forms, namely tacit and explicit where tacit refers to knowledge that resides in the mind of an individual and is difficult to share and is regarded as very subjective in nature; explicit knowledge refers to the type of knowledge that is easily shared and can be written. Explicit knowledge is said to be objective in nature (Nonaka and Takeuchi, 1995; Davenport and Prusak, 2000). Knowledge management (KM) is a multidimensional concept (Väyrynen, Hekkala, and Liias, 2013). It has been approached by researchers and authors from different angles (Zehrer, 2011). Even though knowledge management is described differently by a number of schools of thought, all descriptions seem to agree on the fact that KM is simply a process of capturing and sharing knowledge to create value. "Knowledge Management is a business philosophy. It is an emerging set of principles, processes, organisational structures, and technology applications that help people share and leverage their knowledge to meet their business objectives" (Gurteen, 1999, p.2). In the early years of the 21st century, Schultze and Leidner (2002, p.218) define knowledge management as "the generation, representation, storage, transfer, transformation, application, embedding, and protecting of

organisational knowledge", while Rasmussen and Haggerty (2008, p.17) define knowledge management as a "critical practice by which a firm's intellectual capital is created, stored and shared". The currently study adopted the knowledge management definition by Rasmussen and Haggerty (2008) as stated above.

3.3.3 The use and benefits of knowledge management

Knowledge management has long been recognised as a vitally important strategic resource and a significant driver of the progress of organisational performance (Pekka-Economou and Hadjidema, 2011; Yeşil and Dereli, 2013). Knowledge management is known as a tool that assists companies to gain competitive advantage (Bloodgood and Salisbury, 2001). Investing in knowledge management programs has become essential for organisations to sustain a staying power in the competitive and the ever-changing environment (Gaál *et al.*, 2015). Nonaka and Takeuchi (1995) believe that KM plays a key role in the success of an organisation and promotes innovation, while Kearns and Sabherwal (2007) think it is a good strategic move for the organisation to engage in KM initiatives. "To excavate what is known from a firm's employees, to collect, store, and share it in some fashion and to then use it to gain greater business value" is identified as the benefit of knowledge management (Rasmussen and Haggerty, 2008, p.17).

3.3.4 Knowledge Management and dynamic capabilities

It has been noted, over a decade already, that there is a link between knowledge management and dynamic capabilities(Prieto and Easterby-Smith, 2006). The link between the knowledge management and dynamic capabilities is supported by Paarup Nielsen (2006)'s assertion that dynamic capabilities are seen as integrated or coordinated sets of knowledge management activities that changes, re-establishes and exploits the knowledge-based assets of the organisation.

Knowledge management is said to be a tool that assists organisations to gain competitive advantage and has become essential for organisations to sustain a staying power in a fiercely competitive and ever changing environments (Bloodgood & Salisbury, 2001; Gaál et al., 2015). This is similar to the dynamic capability concept where some authors see it as

a driver of competitive advantage, e.g. Paarup Nielsen (2006) asserted that the concept of dynamic capabilities offers experiences into the drivers of competitiveness in different businesses, and thus on the vital alternatives confronted by an organisation. This assertion supports a view by Teece(1997) that for organisations that wish to be different from the rest, dynamic capabilities are fundamental.

Looking at the intertwined nature between knowledge management and dynamic capabilities from the knowledge management activities point of view, “Knowledge management systems utilize information technology to manage knowledge in organisations with the purpose of creating, supporting, storing and disseminating information” (Nattestad, 2012, p.156). This is echoed by Chiu and Chen(2016) where the assert that knowledge management involves the creation, manipulation, storage and sharing of knowledge, while Prieto and Easterby-Smith(2006) and Sun(2010, p.508) stated that most knowledge management frameworks envelop the activities of identifying, acquiring, creating, storing, sharing and utilization of knowledge by people and groups within the organisation, where (1) knowledge acquisition refers to the processes by which new knowledge is acquired from outside sources, (2) knowledge creation refers to the process of transforming the newly acquired knowledge to the context of the organisation, and (3) knowledge utilization and sharing refers to the process of continuously applying (or exploiting) the newly created knowledge and sharing it from individual to individual or group. From the dynamic capability perspective, dynamic capabilities are made up of knowledge creation and acquisition, knowledge integration and knowledge reconfiguration(Teece, 1997; Verona and Ravasi, 2003; Dougherty, Barnard and Dunne, 2004). From this, it is clear the there is a relation between the two concepts and it is strengthened by “dynamic capabilities are seen as integrated or coordinated sets of knowledge management activities that changes, re-establishes and exploits the knowledge-based assets of the organisation” statement by (Paarup Nielsen, 2006) as initially mentioned in the first paragraph of this heading.

3.3.5 Summary of Theme 2

The aim of this theme was to define knowledge management. The summary of this theme is shown in Table 3.2.

Table 3.2. Theme 2 Summary

Theme 2 Summary	
Knowledge management	Knowledge management is a multidimensional concept. It is simply a process of capturing and sharing knowledge to create value. It is a process that involves the generation, representation, storage, transfer, transformation, application, embedding, and protecting of organisational knowledge.
Knowledge management usage and benefits	Knowledge management is used as a vitally important strategic resource and a significant driver of the progress of organisational performance. It is known as a tool that assists companies to gain competitive advantage. It plays a key role in the success of an organisation and promotes innovation.
Knowledge management and dynamic capabilities	Dynamic capabilities are seen as an integrated or coordinated set of knowledge management activities that changes, re-establishes and exploits the knowledge-based assets of the organisation
Implication for research	
Knowledge management seems to have a significant impact on organisations in a positive and beneficial way.	

This theme's aim was to gain insight into knowledge management and its uses and benefits. The next theme explores the crossroads of social media and knowledge management.

3.4 THE INTERSECTION OF SOCIAL MEDIA AND KNOWLEDGE MANAGEMENT

3.4.1 Introduction

In the previous themes, the concepts social media and knowledge management were explored and discussed individually. From this section onwards, the researcher looks at the collaboration of social media and knowledge management from different angles. The current theme in particular aims to explore the interplay between social media and KM.

3.4.2 Social media and Knowledge Management

Organisations have always made use of information technology (IT) in their knowledge management efforts. Recently, social media has been recognised as the most popular and important technology for knowledge management (Joshi, Chi, Datta, and Han, 2010; Levy, 2009). According to Von Krogh (2012, p.154) “Social media is now recognised as tools that support group interaction among communities which create and exchange content by making reference to a conversational, distributed mode of knowledge generation and dissemination”. Bharati et al. (2015) confirm that social media can be adopted as a technological instrument for knowledge management efforts, while Gaál (2015) and his colleagues conclude that social media is a powerful tool that organisations should not ignore in the development of knowledge management systems.

Social media has redirected the focus on knowledge management to provide access to knowledge instead of managing knowledge (Von Krogh, 2012). Indeed, the prevalence of social media and its role together with the practices of knowledge sharing has brought about the new meaning of KM (Alberghini, Cricelli, and Grimaldi., 2014). According to Ray (2014), social media has “rich interactive features and the capability to facilitate KM within the organisation”. Thus, social media enables users to create and share knowledge among staff and thereby break off the bureaucratic fashion of formal liaison structures (Awazu and Desouza, 2004). This abolishment of formal liaison structures is echoed by Yates and Paquette (2011) who say social media facilitates knowledge sharing, not only by increasing knowledge re-use, but also by eliminating the reliance on formal liaison structures in terms of personnel and systems. In addition, “social media fosters the creation of knowledge by nurturing and enriching the inter-play of individual and collective cognitive processes

enabled by social interactions taking place internally but also externally to a firm's organisational borders" (Sigala and Chalkiti, 2015, p.46).

Social media brings multiple benefits to KM through interpersonal and people-to-document connections (Andriole, 2010). While Von Krogh, (2012) regards social media as a mechanism for storing edited and refined user-generated content that can be of benefit to the organisation in the future. Wagner et al. (2014) argue that social media presents new possibilities of creating knowledge that would not have been possible using other computer-mediated forms. Furthermore, Wagner et al. (2014, p.39) state that "social media technologies and their affordances have a strategic impact on how organisations manage and create knowledge". The arguments from the authors above support the view of Harrysson et al. (2012) that social media adoption and/or usage yields the provision of strategic insights from real-time social media data. In order to generate organisational knowledge for purposes of business it is inevitable for organisations to expand the knowledge management scope to include social media data (He et al., 2017).

Therefore, due the "unbounded" nature of the interactions, collaborations, and participation of social media users, the internalisation of external knowledge is a great way of upgrading the organisation's KM practices to higher levels (Bebensee, Helms and Spruit, 2012; Hemsley and Mason, 2013), thereby enriching the organisation's knowledge resources with the extracted insights (Jalonen, 2014).

Empowerment of users in the creation of knowledge is one of the positive aspects of social media where users debate and contribute content through conversations. In this manner, reflections, feedback, comprehension of information and generation of knowledge take place (Jonassen, 2000). Berthon, Pitt, Plangger and Shapiro (2012) regard social media as distinctive as it transforms its users into content producers. This user-generated content by social media is then said to be a good source of endless reusable knowledge (Kane and Fichman, 2009). It is also said that the knowledge generated from social media data can be used for better decision-making (Philip, 2018).

Firestone (2009) believes that some knowledge processing aspects, such as creation and integration of new knowledge are enhanced by social media. On realising the benefits of using social media data for an organisation's competitive edge, several authors have discussed the need to integrate the social media-infused knowledge into the systems of the organisation (Argyris and Ransbotham, 2016; Mention, Barlatier, and Josserand, 2019; Schlagwein and Hu, 2017; Wilfredo Bohorquez Lopez and Esteves, 2013; Yeow, Josserand, and Hansen, 2018). Argyris and Ransbotham (2016) speak of the organisation of the new content into the existing structure, while Wilfredo Bohorquez Lopez and Esteves (2013) mention the ability to transfer the acquired external knowledge and integrating it into the knowledge base of the organisation as a requirement. According to Mention et al. (2019, p.2) "To drive innovation performance, leaders must think deeply and coherently about ways to source, create and integrate knowledge from widely distributed sources and embed SM use in and for innovation in the fabric of the firm".

Contribution to the knowledge capability of the organisation which, by extension, leads to the innovation potential is highlighted by Toivonen (2007) as one of the affordances of social media, while Bhimani et al. (2019) and Lam et al. (2016) argue that social media plays an important part in the innovation process as it is said to be useful in managing the knowledge flows in and out of the organisational boundaries. Kane et al. (2014) share the sentiment that innovation and increased productivity are some of the products of the knowledge processes that are enabled by social media. Social media enables organisations to enhance their innovation process through the use of the user-generated content and social networks as these are believed to reflect customer preferences (Fjeldstad, Snow, Miles, and Lettl, 2012; Roberts and Piller, 2016). Some studies already highlighted that social media data can come from either within or outside the organisation; social media may prevent the loss of existing knowledge by capturing the tacit knowledge through internal social media initiatives such as "internal wiki" (Schlagwein and Hu, 2017).

Organisational learning processes are said to lead to institutionalisation as an overarching theory coined by Crossan (1999) that is premised on the notion that innovations are intuited by an individual, interpreted and integrated by a group, and finally institutionalised by the

entire organisation, overcoming impediments that arise in the process. Institutionalisation of social media-based knowledge processes refers to diffusing the process throughout the organisation and making it a procedure, norm and a standard routine (Crossan, 1999). In their *Paradoxical effects of institutionalisation on the strategic awareness of technology in organisations*, Baptista, Newell and Currie (2010) list a number of characteristics of institutionalised systems that include formalised, functional, importance, familiar and ease of use. *Formalised* refers to being part of the formal functioning of the organisation, while *functional* refers to embeddedness and close alignment with the routine organisational functions. The *importance* characteristic means that "Institutionalised technology becomes increasingly integrated in business processes as suggested in the stages of growth literature" (p.177), while the *familiarity* characteristic refers to a case where technology blends well with other features of the organisation. *Ease of use* refers to a case where technology does not need much effort to be used but feels natural to use. According to Argyris and Ransbotham (2016) user motivation and leadership play a crucial role in the institutionalisation process.

3.4.3 Summary of Theme 3

The aim of this theme was to discuss and determine where social media and knowledge management meet. The summary of this theme is shown in Table 3.3.

Table 3.3. Theme 3 Summary

Theme 3 Summary	
Social media and knowledge management intersection	Social media has been recognised as the most popular and important technology for knowledge management. It presents new possibilities of creating knowledge that would not have been possible using other computer-mediated forms. Social media has redirected the focus on knowledge management to provide access to knowledge instead of managing knowledge. Social media has brought about new meaning to knowledge management. User-generated

Theme 3 Summary	
	content from social media is then said to be a good source of endless reusable knowledge. **Innovation** Social media plays an important role in the innovation process as it is said to be useful in managing the knowledge that flows in and out of the organisational boundaries. Innovation and increased productivity are some of the products of the knowledge processes that are enabled by social media. As Mention et al. (2019) point out, "to drive innovation performance, leaders must think deeply and coherently about ways to source, create and integrate knowledge from widely distributed sources and embed SM use in and for innovation in the fabric of the firm". **Integration** Some knowledge processing aspects, such as creation and integration of the new knowledge are enhanced by social media. The literature recognises the integration of new knowledge into an existing knowledge base as an important step in achieving a social media enriched knowledge base.
Implication for research	
The incorporation of social media into knowledge management efforts offers great benefits for an organisation.	

Theme 3 aimed at analysing and discussing the interplay between social media and knowledge management. Next is the display and discussion of the summarised view of the findings on knowledge management and social media.

3.5 SUMMARISED VIEW OF SM DATA INCLUSION IN THE ORGANISATIONAL KNOWLEDGE BASE

The discussion above can be synthesised in a model that summarises the way in which social media data from within and beyond organisational boundaries can enhance business operations to the extent of encouraging innovative solutions in different parts of the business as depicted in Figure 3.1.

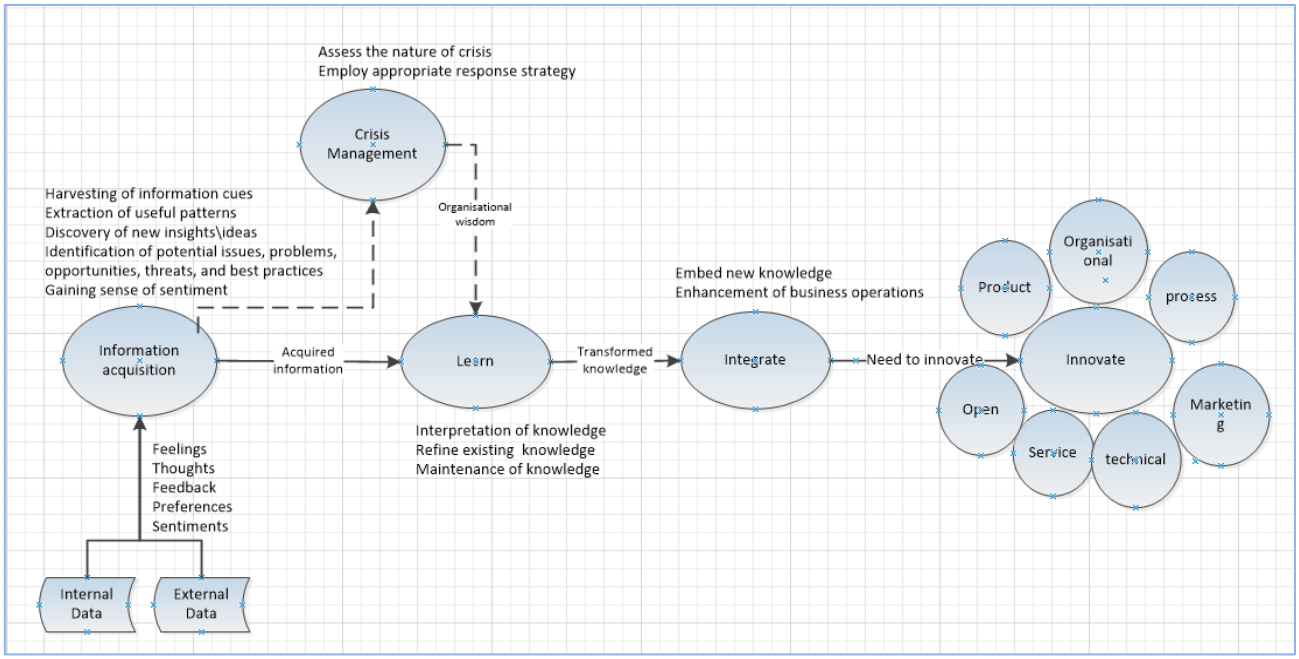


Figure 3.1. DCF: Synthesised model from literature

Figure 3.1 depicts the findings from defining social media, knowledge management, their uses and their collaboration from an organisation's perspective. A brief description of each component follows.

Internal and external data: This refers to social media data that originates either from within or across the organisation. This is where the feelings, thoughts, feedback preferences and sentiments originate from.

Information acquisition: This refers to the ability to extract valuable knowledge from social media data to identify potential issues, problems, opportunities and best practices (Salehan and Kim, 2016). It involves harvesting of information cues from within and across the organisation and presents new possibilities, thereby gaining insights that can be useful to the organisation (Hanna et al., 2011 ; Kietzmann et al., 2011).

Crisis management: This refers to the ability to identify and employ appropriate strategies in a case of crisis to mitigate and/or avoid the risk of bad reputation (Ott and Theunissen, 2015; Roshan, Warren and Carr, 2016).

Learn: This refers to an ability to refine and maintain existing knowledge through the process of analysing, understanding, and interpreting the acquired information (Hamid Hawass, 2010; Schlagwein and Hu, 2017; Benitez, Llorens and Braojos, 2018).

Integrate: This refers to the integration of new knowledge into an existing knowledge base (Wilfredo Bohorquez Lopez and Esteves, 2013; Argyris and Ransbotham, 2016).

Innovate: This refers to the ability to enable and drive different kinds of innovation (Bhimani, Mention and Barlatier, 2019). Social media enables organisations to enhance their innovation process through the use of the user-generated content and social networks as these are believed to reflect customer preferences (Fjeldstad *et al.*, 2012; Roberts and Piller, 2016).

Now that the main concepts have been defined, the next section embarks from the systematic literature review to answer the research questions based on existing literature:

> *"User-generated social media content is offering unprecedented opportunities as well as challenges to organisations because they contain a deluge of opinions, viewpoints and conversations by millions of users".* (He *et al.*, 2015, p.1623)

The statement above relates to the objective of the next section, which is to extract and discuss in a systematic manner information pertaining to the success factors, failure factors, challenges, barriers, pitfalls or dangers of including social media data into knowledge management of the organisation.

3.6 MAPPING SYNTHESISED VIEW AND ORIGINAL FRAMEWORK

The objective of this section is to map the "Dynamic capabilities and organisational resilience in turbulent environments" framework and the summarised view of how social media data is converted into knowledge, which in turn provides innovation opportunities for open-minded organisations. Figure 3.2 and Figure 3.3 show two diagrams indicating where there are common themes. Gaps in the current framework are clearly visibly. According to the mapping below, three capabilities, namely sensing, learning and integration match. Coordination, crisis management and innovation are the capabilities that have not been matched. This necessitated that the current dynamic capabilities framework by Teece (2009) be extended.

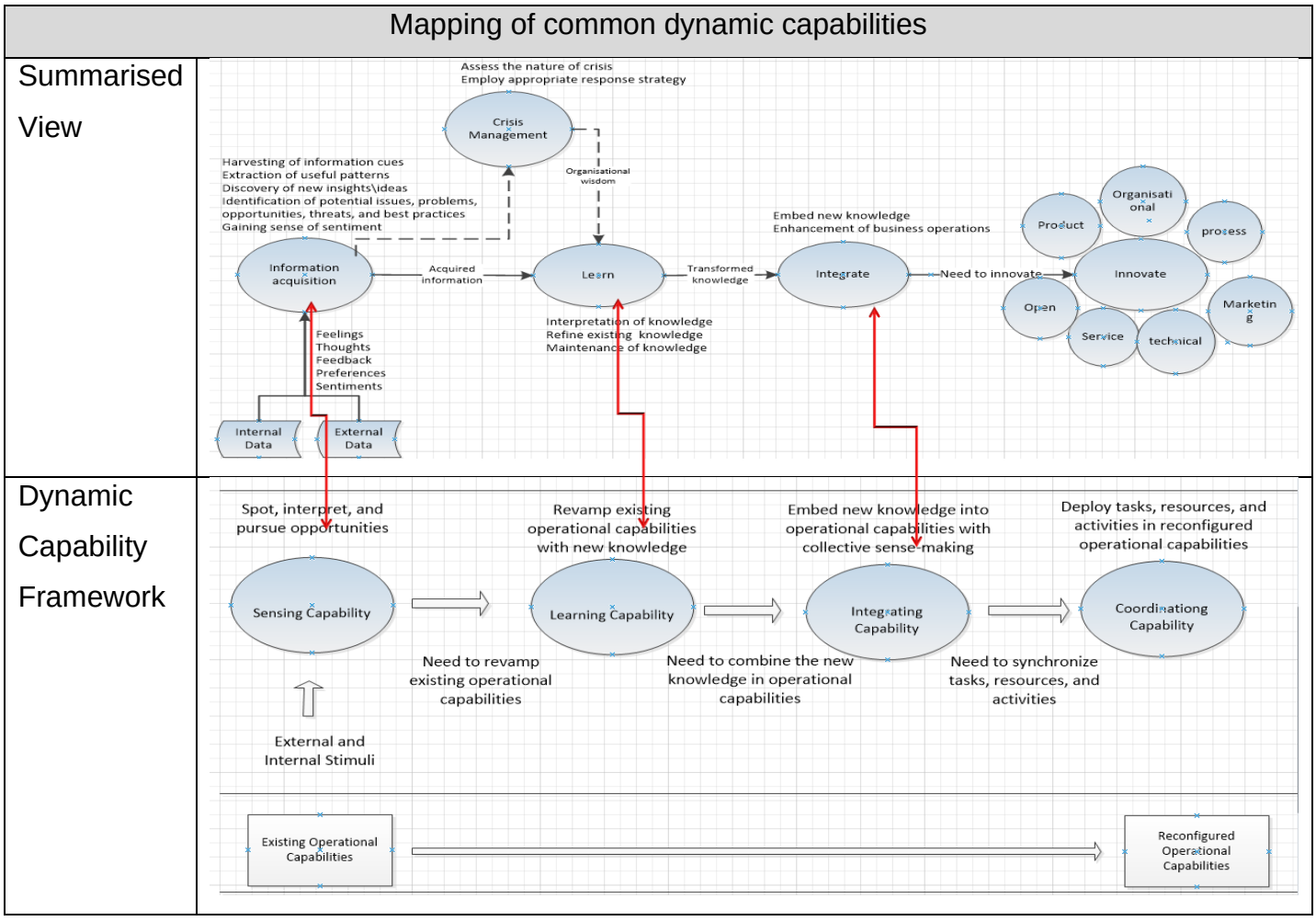


Figure 3.2. Mapping of summarised view and the Dynamic Capability Framework

As a result of the mapping of the two diagrams above, a new framework has been developed (Consult the diagram below).

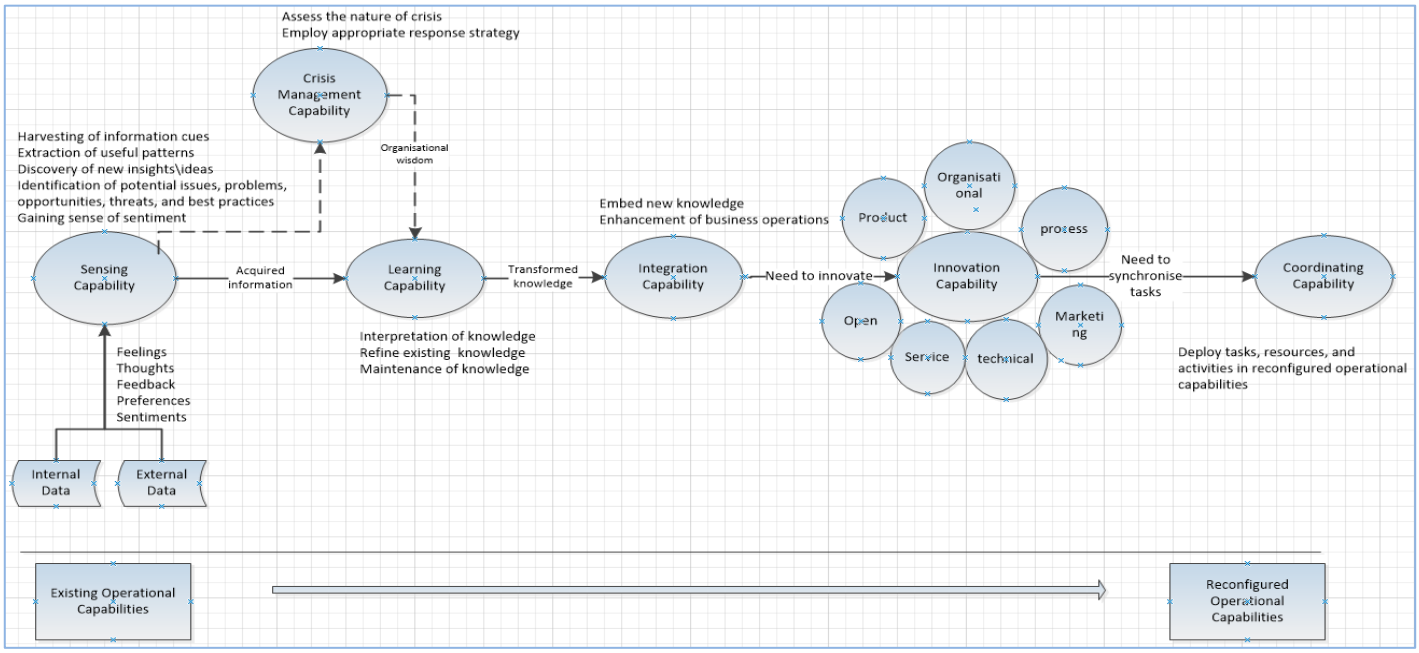


Figure 3.3. Refined Dynamic Capability Framework

Ovals in the diagram above (Figure 3.3) represent dynamic capabilities. It all begins with the data from which feelings, thoughts, preferences, etc. are extracted followed by a sensing capability when harvesting, identification, and discoveries take place. If any potential issues or threats are spotted, crisis management should take place. Useful points are then transferred to the learning capability for remodelling of knowledge before integration takes place. Different kinds of innovation are introduced with better knowledge from social media. The capabilities as well the considerations that apply to each are described below. A table with descriptions of each of the capabilities was presented in Chapter 2. Table 3.4 is an enhancement of the same table with new capabilities.

Table 3.4. Enhanced Dynamic Capabilities Descriptions

Capability	Description	Considerations*
Sensing	Sensing capability entails generating, disseminating and responding to market intelligence (Galunic and Rodan, 1998; Kogut & Zander, 1996; Teece, 2007). It refers to the ability to (1) identify customer needs, (2) be responsive to market trends, (3) identifying business opportunities, (4) recognising rigidities and (5) detecting resource combinations (Teece, 2007; Amit and Schoemaker, 1993 ; Day, 1994; Sinkula, 1994; Galunic and Rodan, 998).	***Challenges/Barriers****:* Quality and reliability issues, volume of data, time constraints, technical barriers, data security and privacy, data complexity, data analysis, intellectual property rights ***Success factors****: Technical* Infrastructure (security included), clear goals and purpose
Crisis Management	This refers to an ability to identify and employ appropriate strategies in a case of crisis to	***Challenges/Barriers:*** Inflexible organisational culture ***Successes:*** Organisational agility

* An omission of the factors whether it is barriers, success factors or failure factors simply means that these were not identified for a particular dynamic capability.

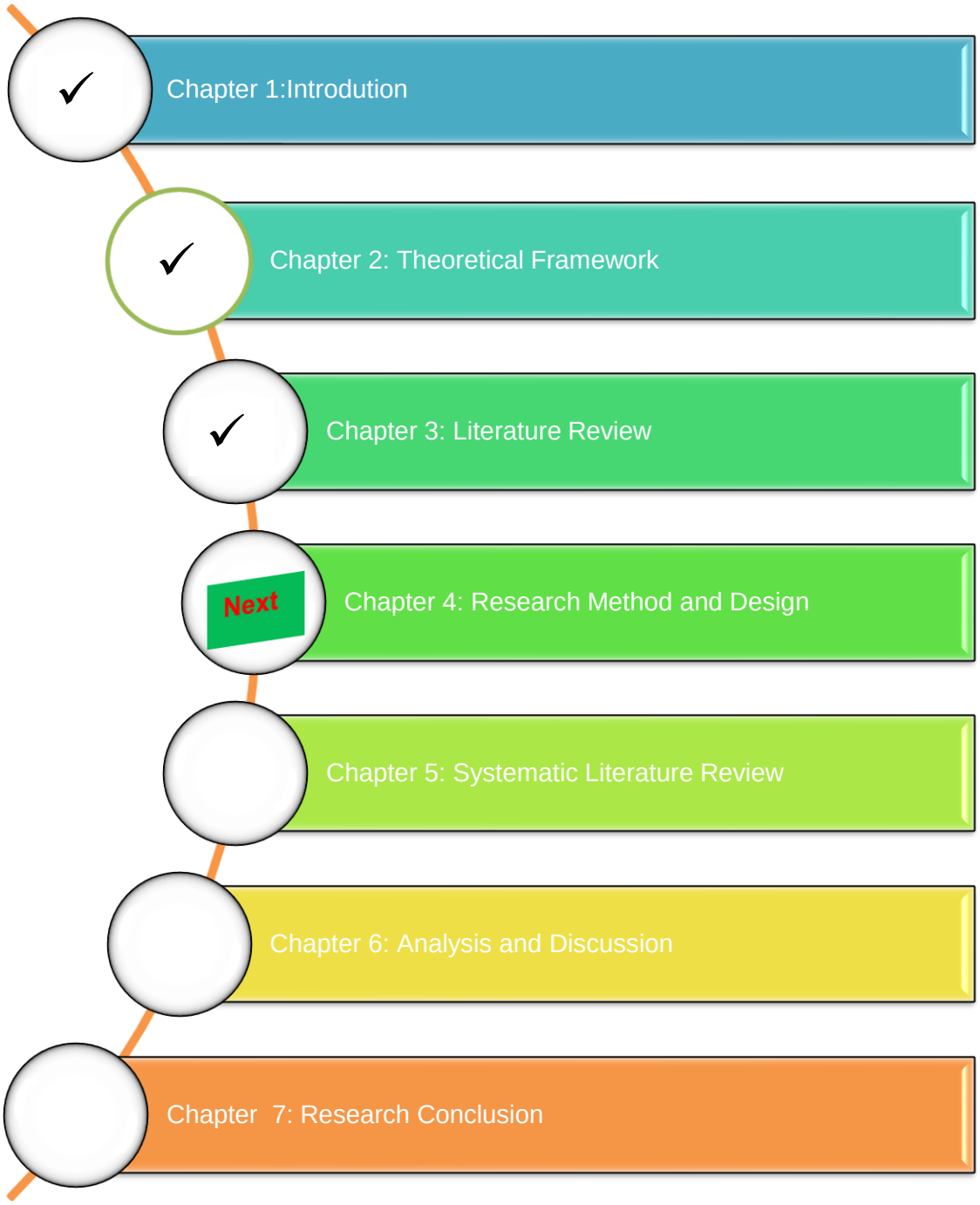
Capability	Description	Considerations*
	mitigate and/or avoid the risk of bad reputation (Ott and Theunissen, 2015; Roshan et al., 016).	
Learning	Learning capability refers to the ability to "remodel existing operational capabilities with new knowledge" (Pavlou and El Sawy, 2011).	***Success factors:*** Knowledge strategy, entrepreneurial, knowledge driven, flexible, and collaborative culture.
Integrating	Integrating capability refers to ability to "combine individual knowledge into the unit's new operational capabilities" (Pavlou and El Sawy, 2011).	***Challenges/Barriers:*** Technical barriers, Operational barriers *such as* lack of operational guidelines and technical support ***Success factors:*** Strategic alignment, knowledge strategy ***Failure factors:*** Poor integration
Innovating	This refers to the ability to enable and drive different kinds of innovation (Bhimani, Mention and Barlatier, 2019). Social media enables organisations to enhance their innovation process through the use of user-generated content and social networks as these are believed to reflect customer	***Challenges /Barriers****:* Rigid organisational culture, lack of management support, fear of negative outcomes ***Successes****:* Supportive, collaborative organisational culture, supportive management, strategic alignment, Innovation strategy ***Failure factors****:* Lack of collaboration

Capability	Description	Considerations*
	preferences (Fjeldstad *et al.*, 2012; Roberts and Piller, 2016).	
Coordinating	The coordinating capability is about reconfiguration of the operational activities where tasks, resources, and activities are deployed in the new capabilities (Kurtz and Varvakis, 2016).	***Success factors:*** Clear goals and purpose, strategic alignment ***Failure factors:*** Lack of clear purpose, guidelines and policies

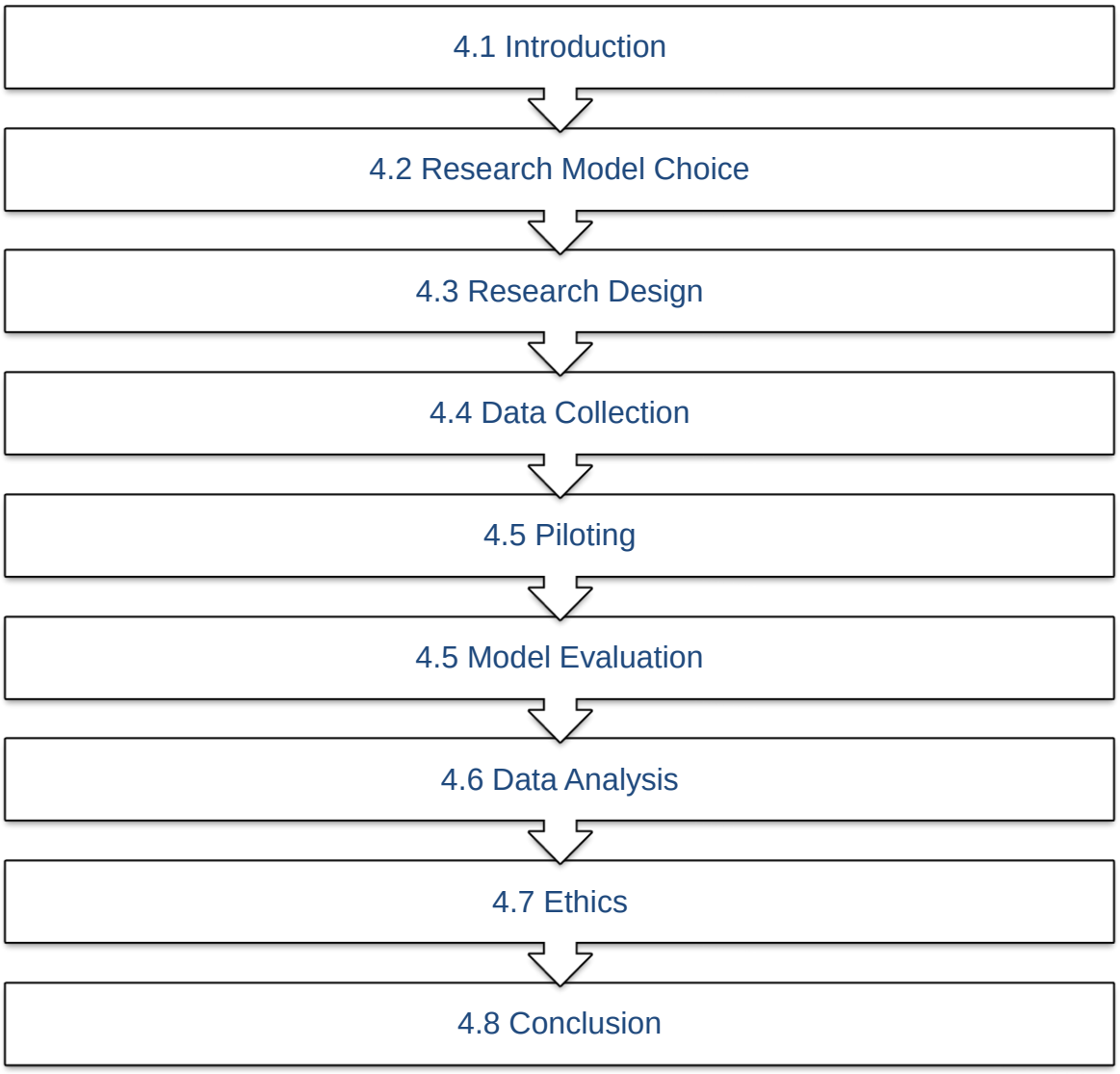
3.7 CONCLUSION

The objective of the chapter was to scrutinise the literature with a view to getting more information about the world of social media, knowledge management, and the alignment of the two concepts. Through this exercise, a model was developed that was both the confirmation of the existing theoretical framework as well as extension with two new capabilities. This model is evaluated in the next chapter.

The next chapter discusses the research method employed to get answers to the objectives of the current study and evaluate the developed framework.



4 RESEARCH METHOD AND DESIGN



4.1 INTRODUCTION

In Chapter 3, the researcher scrutinised existing literature with a view to attaining an in-depth understanding of the world of social media and knowledge management in organisations. To achieve the stated objectives of this study, this chapter discusses the research methodology that Oates (2006) refers to as the combination of methods and strategies that the researcher adopts. The research design that incorporates philosophical assumptions, research methods, data collection techniques and the data analysis approach is discussed in detail in the following sections.

4.2 RESEARCH MODEL CHOICE

The research onion in Figure 4.1 by Saunders, Thornhill and Lewis (2009) is the chosen model for the current study.

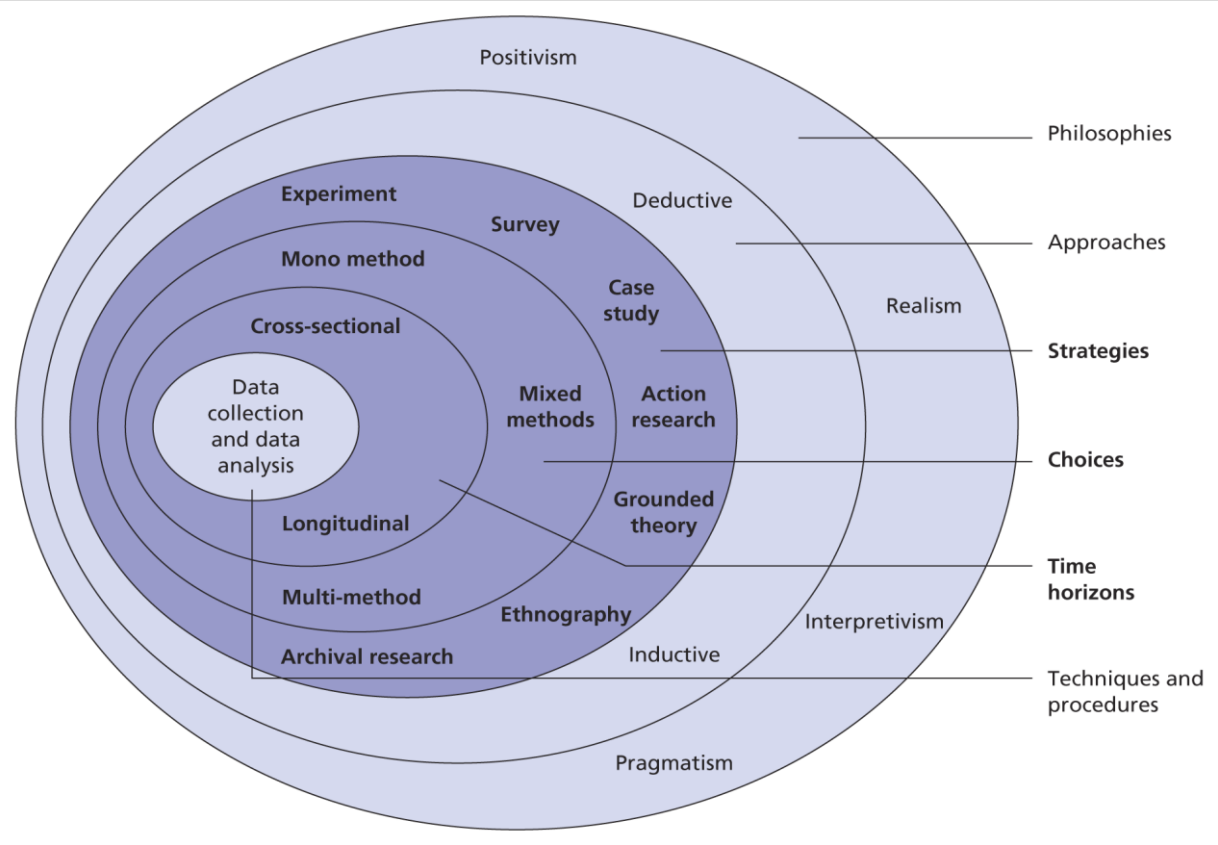


Figure 4.1. Research onion (Saunders, Thornhill and Lewis, 2009)

The layers of Saunders et al.'s (2009)onion represent the components that are essential in building the research design. The description of each layer of the onion is provided next:

Philosophies: A philosophy, also referred to as a paradigm, relates to the views or assumptions about the nature of the world (Oates, 2006; Myers, 2013). Saunders et al. (2009) identified four types of philosophy, namely realism, positivism, interpretivism and pragmatism. These philosophical assumptions relate to the knowledge (epistemology) and the way in which this knowledge will be obtained (Hirschheim, 1985).

Approaches: This layer refers to the types of reasoning that the researcher undertakes. The choice depends on whether the researcher intends to build theory or test the existing theory (Myers, 2013). Deductive and inductive are two research approaches that Saunders et al. (2009) suggest in the research onion model.

Strategies: According to Myers (2013) ,“A strategy is a way of finding empirical data about the world and it influences the way in which the researcher collects the data”; while Oates (2006) refers to strategy as “an overall approach to answering a research question”. The strategy should be suitable or appropriate to the research question and should have the ability to arrive at the envisaged result (Myers, 2013). Saunders et al. (2009) suggest action research, ethnography, surveys, experiment, case study, archival research and grounded theory as strategy options in the onion model.

Choices: This layer refers to whether qualitative or quantitative data collection techniques or both will be used. It is a means by which the researcher produces empirical data or evidence(Oates, 2006). Saunders et al. (2009) refer to these choices as “Mono Method”, “Multi-method” and “Mixed Methods”.

Time horizons: This layer refers to “the period (in time) in which the researcher aims to examine the phenomenon under study”. Saunders et al. (2009) suggest two main time horizons, namely cross-sectional and longitudinal.

Techniques and procedures: This layer refers to data collection as well as data analysis techniques that will help the researcher in examining the research problem (Saunders, Thornhill and Lewis, 2009).

4.3 RESEARCH DESIGN

According to Kumar (2011), "A research design is a plan, structure and strategy of investigation so conceived as to obtain answers to research questions or problems. It is a procedural plan that is adopted by the researcher to answer questions validly, objectively, accurately and economically". Myers (2013) defines research design (Consult Figure 4.2) as a plan for the research project that involves decisions on the employment of different components such as philosophical assumptions, research methods, data collection techniques, data analysis techniques and written record.

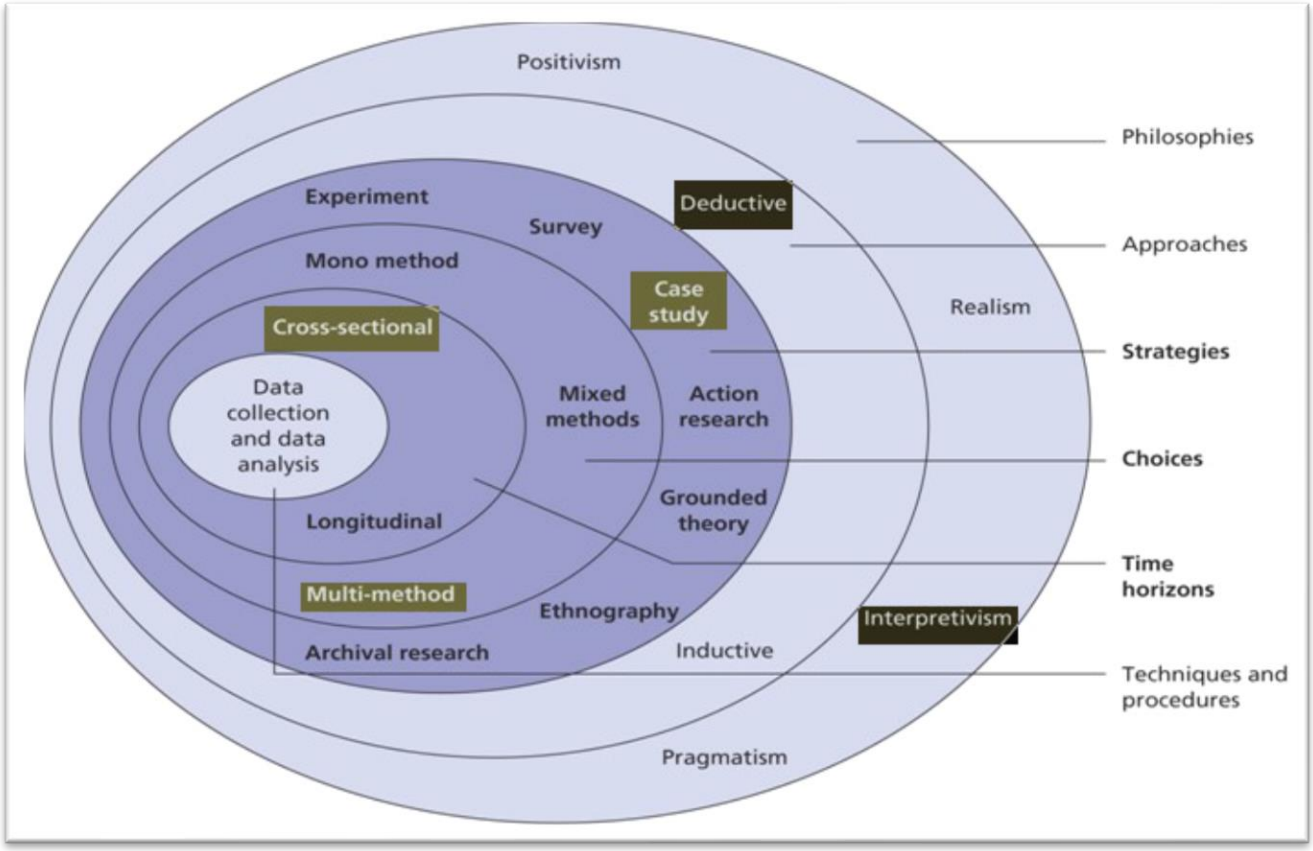


Figure 4.2. Research design choices

For the current study, the researcher chose interpretivism as research philosophy, deductive as an approach, case study as a research strategy, mixed methods, cross sectional as time

horizon as shown in Figure 4.2. The motivation for the research design choices is outlined in the following sections.

4.3.1 Research philosophy

Research philosophy as by defined Flowers (2009) as the perceptions, beliefs, assumptions, the idea of the real world and truth that impact the manner by which the research is undertaken, from design or configuration through to conclusions. The words “philosophy”, “paradigm”, or “philosophical perspective” are used interchangeably (Myers, 2013b). According to Fossey, Harvey, McDermott, and Davidson (2002, p.718), a paradigm refers to “a system of ideas, or world view, used by a community of researchers to generate knowledge. It is a set of assumptions, research strategies and criteria for rigour that are shared, even taken for granted by that community”. Oates (2006) defines a paradigm as a “set of shared assumptions or ways of thinking about some aspect of the world”.

A strong research design is attributed to the choice of a research paradigm that matches the researcher’s beliefs about the “nature of the world,” also known as “ontology” (Mills, Bonner and Francis, 2006). According to Myers (2013), philosophical assumptions as shown in Figure 4.2 form a base of the research design for all research whether quantitative or qualitative, and knowing these assumptions is important.

The literature shows that there are many paradigms in the field of research. Saunders et al. (2009) suggest four research paradigms: positivism, realism, interprevism and pragmatism while Oates (2006) and Myers (2013) choose to focus broadly on positivism, interpretivism, and critical research. Positivism and interprevism paradigms are said to be two main and commonly used paradigms that form the basis of research in social sciences (Kumar, 2011; Bhattacherjee, 2012).

The researcher chose the interprevism paradigm for the current study. Interprevist studies, according to Oates (2006), look at “how the people perceive their world (individually or groups) and try to understand phenomena through the meanings and values that the people assign to them”. According to (Myers, 2013), interpretive studies influence or guide

qualitative research, which then helps researchers understand “people and what they say and do”. The “context” within which actions and decision take place is one of the major benefits of qualitative research (Myers, 2013). Kumar (2011, p.103) states that “the main focus in qualitative research is to understand, explain, explore, discover and clarify situations, feelings, perceptions, attitudes, values, beliefs and experiences of a group of people”.

4.3.2 Research approach

Johnston (2014) defines research aproach as the “underpinning rationale” for the way the research is being carried out. In the research onion by Saunders et al. (2009), there are two research approaches that the researcher can choose from, namely deductive and deductive reasoning. Inductive reasoning is associated with theory building, which starts bottom-up while deductive reasoning is associated with theory testing as it begins with a broad and global view of the topic and narrows down into specifics (Myers, 2013). Johnston (2014) echoes Myers’s sentiments that inductive reasoning leads to “the creation of new theory from a given situation under consideration” while in a deductive approach the researcher has some kind of an idea of what to test.

For the current study, the researcher adopted a deductive approach. The reason for this choice is the fact that the literature that supports the topic under study already exists. Saunders et al. (2009) suggest that if the topic is not new, a deductive approach can be adopted. From the barriers, critical success factors, failure factors, principles for incorporating social media data into organisations’ knowledge base as revealed in the literature review, the researcher deduced the key considerations of incorporating social media data into the KB of the organisation.

4.3.3 Research strategy

Research strategy is defined as a way in which the researcher plans to answer the questions of the research (Saunders and Lewis, 2012). Oats (2006, p.35) defines strategy as “an overall approach to answering a research question” while Solomon, Wilson and Taylor

(2012) define research strategy as a sort of guide that is utilized to avoid wasting time and meandering aimlessly through the massive measures of data accessible in libraries, on the Internet, and somewhere else. There are seven research strategies as identified by Saunders et al. (2009), namely action research, case study, ethnography, experiment, grounded theory, survey, and archival research. The research question, research objectives, resources and time availability, and the researcher's perception of the research are all key considerations that should be taken into account when choosing a research strategy (Saunders, Thornhill and Lewis, 2009).

Case study was chosen as a suitable reasearch strategy to answer the research question and achieve the objectives of the current study. Myers (2013) defines case study as the description of a particular situation that is used to draw some conclusions about the phenomenon while Yin (2014) defines case study as empirical inquiry that researches a contemporary phenomenon inside its genuine setting, particularly when the limits among phenomenon and the setting are not plainly apparent. The phenomenon referred to here can be an organisation (as in the case of the current study), a department, a discussion forum, and so on(Oates, 2006). Case study is said to be characterised by focus on depth rather than breadth, natural setting, holistic study, multiple sources and methods(Oates, 2006).

Case studies can be conducted for exploratory, descriptive, and explanatory reasons to gain an in-depth understanding of a particular research problem, and draw conclusions(Oates, 2006). Case studies can be used in varous ways such as theory building, testing an existing theory, evualuating existing theories(Oates, 2006; Bhattacherjee, 2012).

Exploratory research is suitable where the topic of interest is unfamiliar and the researcher hopes to discover new possibilities of the phenomenon (Pinsonneault and Kraemer, 1993). Yin, (2003), Nardi (2015), as well as Jann and Hinz (2016) state that exploratory research is appropriate if there is not enough information regarding a certain topic of interest and the researcher wants a basic understanding of the phenomenon. These scholars suggest that this type of research is also appropriate for assessment purposes, be it assessment of

oportunities, assessment of the research subjects or needs analysis to address certain issues, challenges and/or problems.

Descriptive research aims at finding out what situations, events, attitudes or opinions are occurring in a population. It is not meant to test theory but to ascentain facts about the distribution of the phenomenon (Pinsonneault and Kraemer, 1993) and leads to a rich, detailed analysis, of a particular phenonmenon and its context(Yin, 2003).

Explanatory research focuses on causal mechanisms and requires a researcher to have a "comprehensive theoretical understanding of the social process under study" (Jann and Hinz, 2016). Explanatory research is done "to explain the relationships, to uncover the reasons "why" or "how" some social phenomena occur among respondents" (Pinsonneault and Kraemer, 1993; Yin, 2003); Nardi, 2015).

The researcher adopted exploratory case study research as a suitable strategy to explore what considerations are key to the incorporation of social media data into organisations' knowledge base.

4.3.4 Research choice

The decision that a researcher has to make between multi-method, mono method, and mixed methods to use as data collection method is referred to as the "research choice" (Saunders, Thornhill and Lewis, 2009). The use of one method of data collection (either quantitative or qualitative) is referred to as a mono method while multi-method refers to the use of at least two qualitative methods or at least two quantitative methods. A case where both qualitative and quantitative methods are used in a single study is referred to as mixed methods (Azorín and Cameron, 2010).

The researcher adopted a multi-method research choice. This is because the data collection made use of two qualitative methods, namely a systematic literature review and interviews. The analysis included both quantitative and qualitative techniques. With the adoption of a

multi-method, the researcher could collect data using both closed and open-ended questions as far as surveys and interviews are concerned (Creswell, 2014).

4.3.5 Time horizon

The decision that a researcher has to take regarding whether the study is going to be a snapshot taken at a specific point in time or an observation of events throughout a particular time-frame is referred to as the ”time horizon” (Oriesek, 2004). Adequacy of time and the nature of the research problem influence the decision regarding the selection of the time horizon. Because administrators are usually not in favour of researchers who would like to delve more deeply into the research topic the cross-sectional time horizon is the preferred choice for most academic studies (Saunders, Thornhill and Lewis, 2009). The current study adopted a cross-sectional time horizon due to time constraints.

4.3.6 Techniques and approaches

The current study employed case study as research strategy with the help of surveys and interviews as data collection methods. To get rich data from the research informants, the semi-structured survey and interview were the most suitable for the current study as they allowed utilising a mixture of closed and open-ended questions.

4.4 DATA COLLECTION

For qualitative research there are a number of data collection techniques to choose from; however, the researcher’s choice of the data collection method depended on the topic, the research method, and data availability (Myers, 2013). Kumar (2011) and Myers (2013) state that data can be collected using two major approaches; one is where the researcher needs to collect the required information him/herself; the second one refers to the case where the required information is readily available for extraction. The first one is called primary data and is generated from interviews, observations and questionnaires. This primary data is raw and unstructured while the second approach is categorised as gathering secondary data that can be sourced from articles, journals, magazines, books etc. Interestingly, primary data is said to be unique to the researcher and the research problem being studied and it

represents the “added value that the researcher brings to the table” (Myers, 2013, p.121). The current study surveyed the literature using a systematic literature review (see chapter 5) to collect data as well as expert interviews as shown in Figure 4.3.

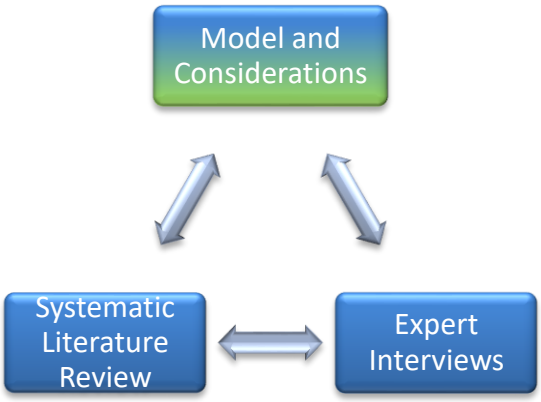


Figure 4.3. Data collection sources

4.4.1 Systematic literature review

A systematic literature review was employed as a data collection method for the current study and is discussed in Chapter 5.

4.4.2 Interviews

Interviews are said to be the most important techniques of collecting data from people (Myers, 2013; Kumar, 2011). They are commonly used in qualitative research regardless of the approach (positivist, interpretive or critical) used. It is said that data gathered through interviews is rich and detailed (Myers, 2013). An interview is a planned conversation that has an agenda between the interviewer and the interviewee(s) where the interviewer (the researcher) controls the discussion with the aim of getting detailed information about the topic of interest (Oates, 2006).

There are three types of interview the researcher can choose to use (Myers, 2013; Kumar, 2011; Oates, 2006):

Structured interviews: In a structured interview, the questions are pre-determined and standardised to ensure consistency and data comparability across all interviews. Usually

the time limit for each interviewee is pre-set. The drawback of unstructured interviews is that even if there is an interesting point raised by the interviewees and the interviewer wants more detail, the interviewer is limited in doing so. Commenting is prohibited as this might pose a risk of imposing interviewer views on the interviewees.

Semi-structured interview: This type of interview is a cross between the structured and unstructured interview. There are pre-determined questions, but there is flexibility to change the order in which the questions are asked. Probing for more detail on the interviewee's responses is allowed in this type. Semi-structured interviews involve a series of open-ended questions based on the topic areas the researcher wants to cover. Semi-structured interviews are said to be the most commonly used type of interview in qualitative research.

Unstructured interview: In an unstructured interview, the interviewees have freedom to air their views on the introduced topic. However, the researcher has limited control; there is a positive spinoff if the interviewer can speak freely about his/her stance on events, beliefs or matters considered important. New insights may come out of this type on an interview. The drawback of this type is that very little can be obtained if there is an imbalance in the characters of the interviewer and interviewee. The interviewee must have the ability to facilitate, probe, remove bottlenecks and break silences.

The characteristics of the different types of question are depicted in Figure 4.4 as inspired by Kumar (2011). In an unstructured interview, the structure, content and the questions are said to be flexible while in a structured interview the structure, content and questions are deemed to be rigid.

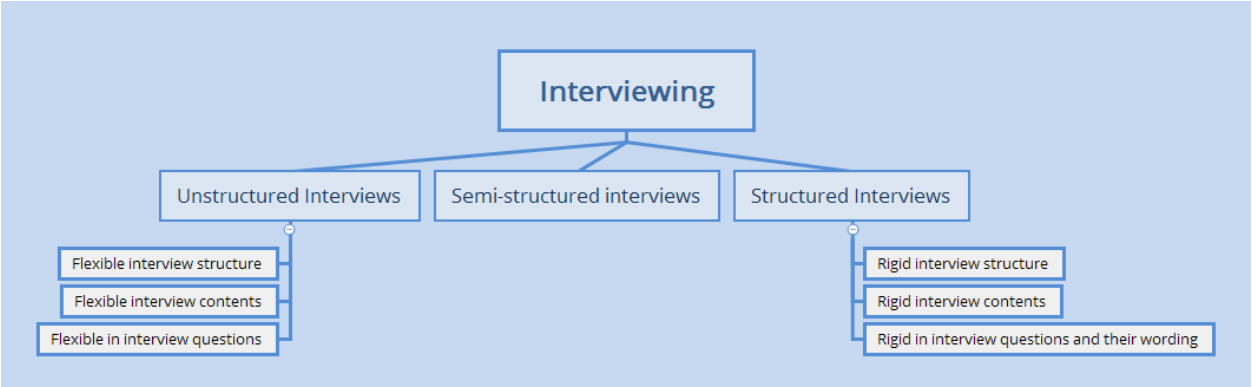


Figure 4.4. Types of interview and characteristics

4.4.2.1 Interview type

For the current study, the researcher utilised the structured interview.

4.4.2.2 The researcher's role and conduct

The researcher must exhibit professionalism and be courteousness; she had to take the respondents' schedule into consideration and minimise inconvenience by allowing them to specify the times that are suitable for them. The researcher had to be flexible by allowing reschedules requested by the respondents and may not force the respondents into participating in the interview.

4.4.2.3 Interview preparation

The purpose of the interview was to evaluate the framework explicated in Chapter 3 as well as determine the list of factors that an organisation would look at when embarking on innovative ways of taking advantage of social media data to benefit from it. The questions were based on the framework designed. A list of questions is found in Table 4.1. .

Table 4.1. Interview questions

Interview Questions	
Framework Evaluation	
No.	Question
1.	Do you think this framework represents all the elements that need to be considered to incorporate social media into your organisation's knowledge base?
2.	What elements do you agree about?
3.	What elements do you disagree about? Please justify your answer.
4.	What changes would you recommend?
5.	Please add additional comments relating to this model.

6.	Please add additional comments you feel are important in this research.
Key Considerations	
No.	Question: What are the challenges, success factors identified for each of the capabilities in the framework?
1.	Sensing Capability • Challenges/Barriers to implementation • Success factors • Failure factors
2.	Crisis Management Capability • Challenges/Barriers to implementation • Success factors • Failure factors
3.	Learning Capability • Challenges/Barriers to implementation • Success factors • Failure factors
4	Integration Capability • Challenges/Barriers to implementation • Success factors • Failure factors
5.	Innovation Capability • Challenges/Barriers to implementation • Success factors • Failure factors
6.	Coordinating Capability • Challenges/Barriers to implementation • Success factors • Failure factors

4.4.2.4 Pre-testing and piloting

The researcher conducted the piloting of the research interview questions to ensure readiness for the actual interview. Details of the pilot questions are discussed in Section 4.5 below.

4.4.2.5 Interview scheduling

The interviews took place remotely as it was impossible to meet the interviewees in person. The interviews were scheduled on the preferred online tool. Some preferred Microsoft Teams, while others preferred Zoom and Microsoft Lynch.

4.4.2.6 Interview recording

The interview was scheduled for a few preliminary minutes to give a briefing about the research. This was preceded by a summary page that was meant to give the respondents an idea of what the research was about. No recording was done as this was going to be followed by the questions where the respondent had to answer and communicate with the researcher. This preparation was done to minimise losing the message from the interviewees due to technical\network glitches that the research was exposed to.

4.4.2.7 Transcribing

As the responses were written down by the respondents themselves and no recording was made, transcribing was not necessary.

4.5 PILOTING

The aim of piloting was to find out if the questions were clear and the presented framework flow made any sense. The aim was to eliminate any ambiguity that questions might have had. Figure 4.5 below merely gives guidance of where the study is in terms of the framework development.9

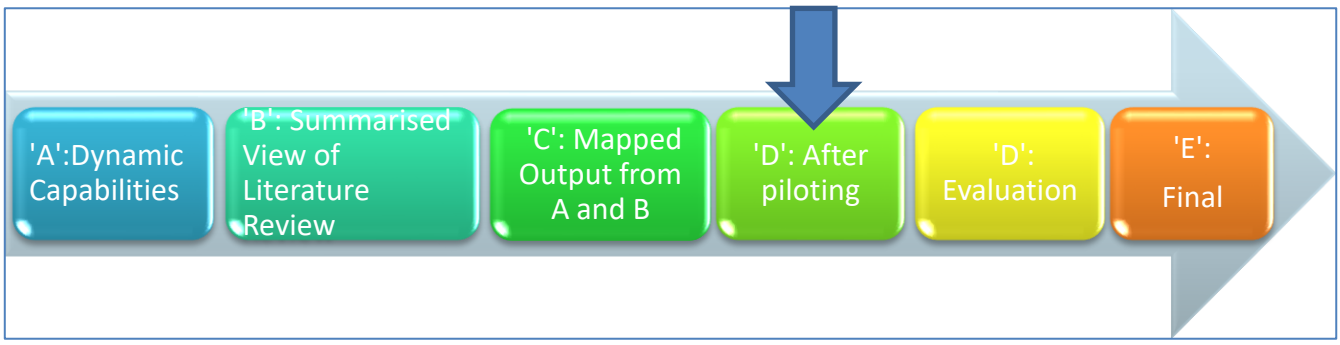


Figure 4.5. Framework development flow

'A' refers to the Dynamic Capabilities framework that is the adopted theoretical framework as is. The literature focuses on social media and knowledge management in organisations. The information obtained from the literature review is then used to produce 'B'. After this stage, 'A' and 'B' are mapped to produce 'C'. It is at this stage that initial interviews with a few individuals took place as part of piloting. After this piloting, interview questions were reviewed and finalised for the execution of the data collection at the case study company. 'D' is the model evaluated by the selected research participants. The input from the research participants was then included to build the final model ('E') that features a list of key considerations that organisations take into account to have social media-infused knowledge base.

The researcher selected four people for the pilot study. The researcher chose these people because of their interest in innovation as well as their objectivity stance in their line of work.

Table 4.2: Pilot profiles

Respondent	Job Role	Number of years in role	Number of years in organisation	Number of years in Financial Services Industry
Respondent 1	Business Systems Analyst	1	1	10
Respondent 2	Business Systems Analyst	10	3	20
Respondent 3	IT Developer	6	3	10
Respondent 4	Business Systems Analyst	3	3	3

Due to unforeseen circumstances, interview questions had to be sent to the respondents as it proved to be difficult record the interview session successfully without any network glitches. Their feedback resulted in changes having to be made to the developed model. The change that was made in Figure 4.6 was merely a logical one where it made sense to have innovation capability before integrating. In addition to this, a suggestion was brought forward to have a short verbal briefing with the respondents and clarify any misunderstanding in addition to the brief overview that the researcher had prepared for sending with the invitation. Revised Dynamic Capability Framework (Figure 4.6) below is revised framework that was evaluated during expert interviews.

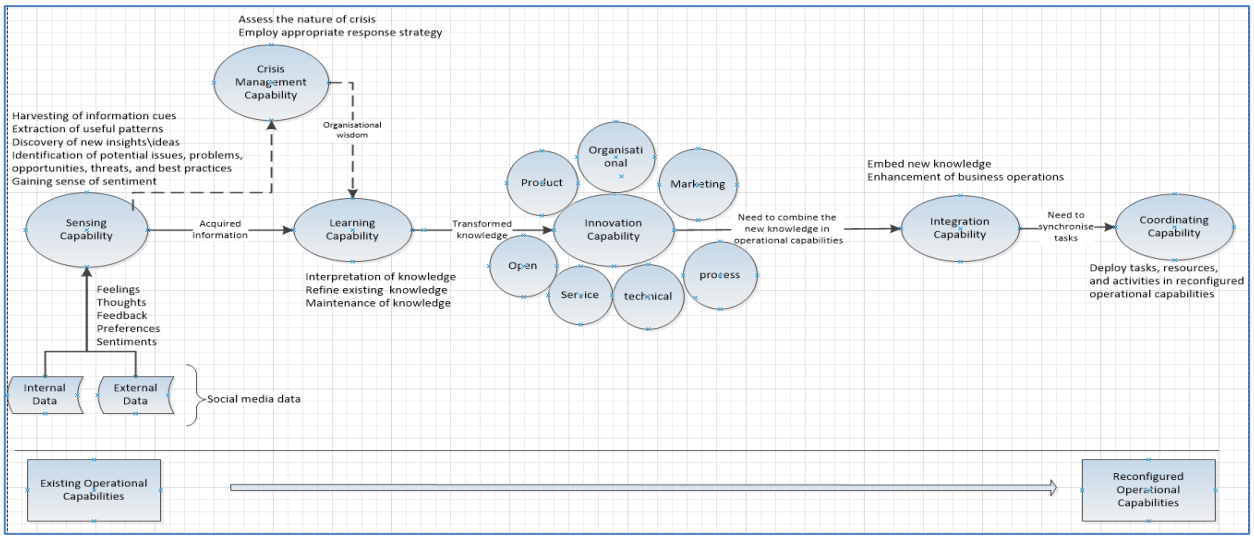


Figure 4.6. Revised Dynamic Capability Framework ('D' After Piloting)

4.6 EVALUATION

Evaluation of the framework was done by conducting expert interviews. These interviews were conducted with eight different personnel from IT and business from the case study company. They were presented with the developed framework for comments, additions, or subtractions. Their input formed part of the final model for this study.

The evaluation was conducted using brief discussions with each of the participants on Microsoft Teams, which was then followed by the completion of the questionnaire. This was

done during May 2020 and June 2020. Face to face interviews were not possible due to social distancing that had to be maintained.

4.7 DATA ANALYSIS

The current study employed both qualitative and quantitative data analysis methods. According to Oats (2006), qualitative analysis includes non-numeric data while quantitative includes numeric data. Qualitative data analysis focuses on extracting meaningful explanations or interpretations from the collected data; it enables the researcher to identify main themes from the collected data (Myers, 2013). Thematic analysis was used to analyse the collected data for the current study. Thematic analysis is "a method for identifying, analysing and reporting patterns (themes) within data" (Braun and Clarke, 2006, p.79). The data analysis is presented in Chapter 5.

4.8 ETHICS

Ethics refers to the principles of conduct that are considered correct and being ethical refers to the code of conduct that the researcher must adhere to (Kumar, 2011). Ethics includes aspects such as "voluntary participation, protection from all forms of harm, confidentiality, anonymity, informed consent, privacy and the conduct of the researcher when executing the research exercise" (Oates, 2006, p.56). In research, ethical issues relate to the following three pillars:

Participants (Research informants): Seeking consent, confidentiality maintenance, sensitive information, providing incentives are some of the aspects that might pose ethical issues and therefore these must be dealt with in an appropriate manner (R. Kumar, 2011). Oates (2006) states that the research informant must be treated with dignity at all times. He lists a number of rights that participants have, which include "Right not to participate, Right to withdraw, Right to be informed, Right to anonymity, and Right to confidentiality".

Researchers: Researchers have the responsibility to consider ethical issues very seriously. An ethical researcher should respect the rights of the research informants.

Unnecessary intrusion is undesirable. Behaving with integrity, acknowledging the work of others, and following appropriate codes of conduct are some of the responsibilities of an ethical researcher (Oates, 2006). Kumar's (2011, p.223) stance on unethical concerns as far the researcher is concerned includes “introducing bias, providing and depriving individuals of treatment, using unacceptable research methodology, inaccurate reporting, and the inappropriate use of information”.

Sponsoring Organisations: According to Kumar (2011, p.223), “Ethical considerations in relation to sponsoring organisations concern restrictions imposed on research designs and the possible use of findings”.

For the current study, the researcher observed all ethical considerations while collecting data. The researcher approached certain individuals in managerial positions to introduce the study and asked for permission to use Company A for data collection. She applied for ethical clearance from the University’s clearance committee to conduct data collection. Thereafter, the interviews were conducted. The interviewees were requested to sign a consent form (see Appendix B). The anonymity of the unit of analysis (organisation in this case) together with the research informants was upheld through the use of pseudonyms.

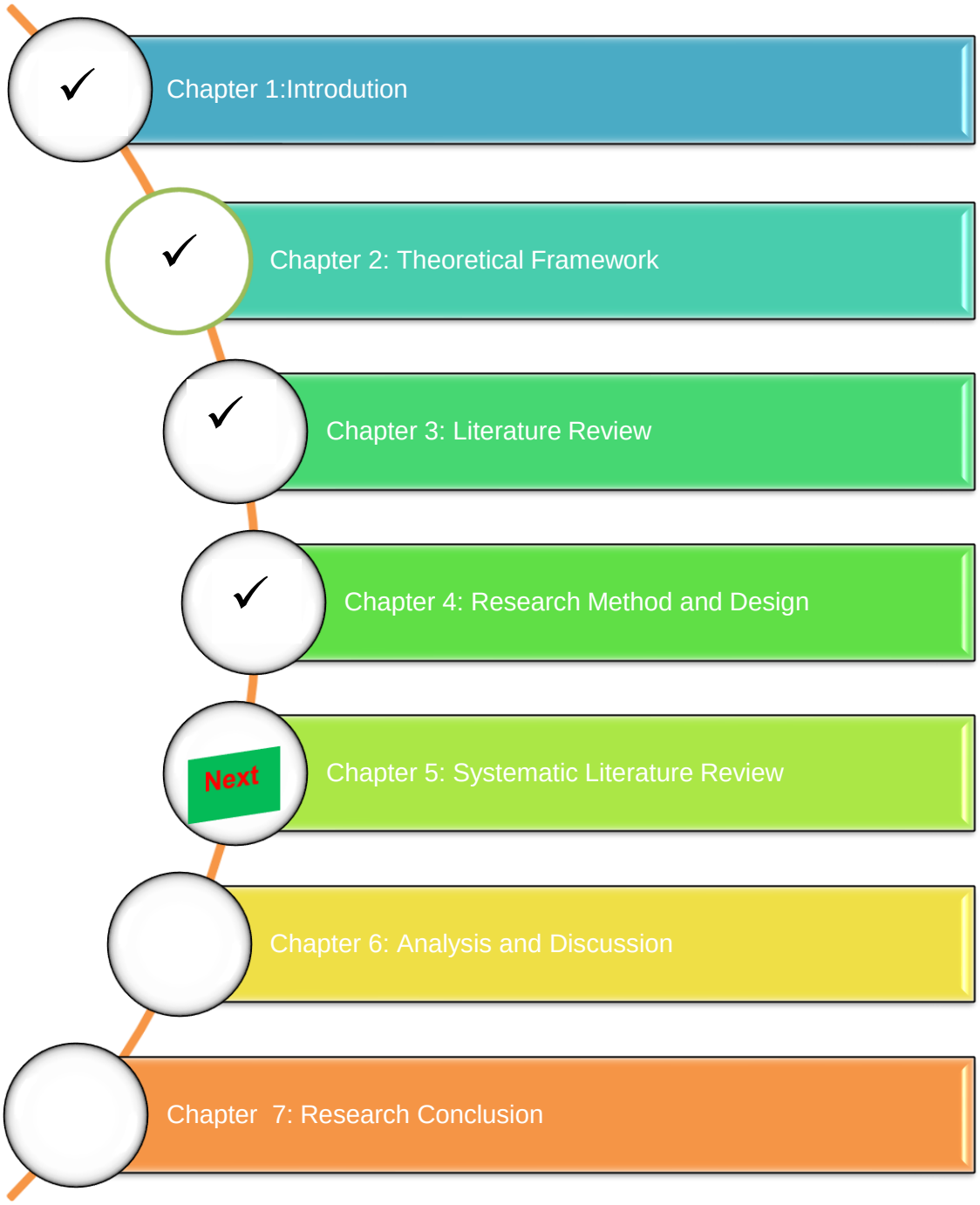
4.9 CONCLUSION

This chapter aimed at detailing the research design components (philosophy, method, strategy, approach, choice and time horizon) chosen to help answer the research questions of the study. Discussion of ethical considerations for the study took place. The summary of the research design is shown in Table 4.3.

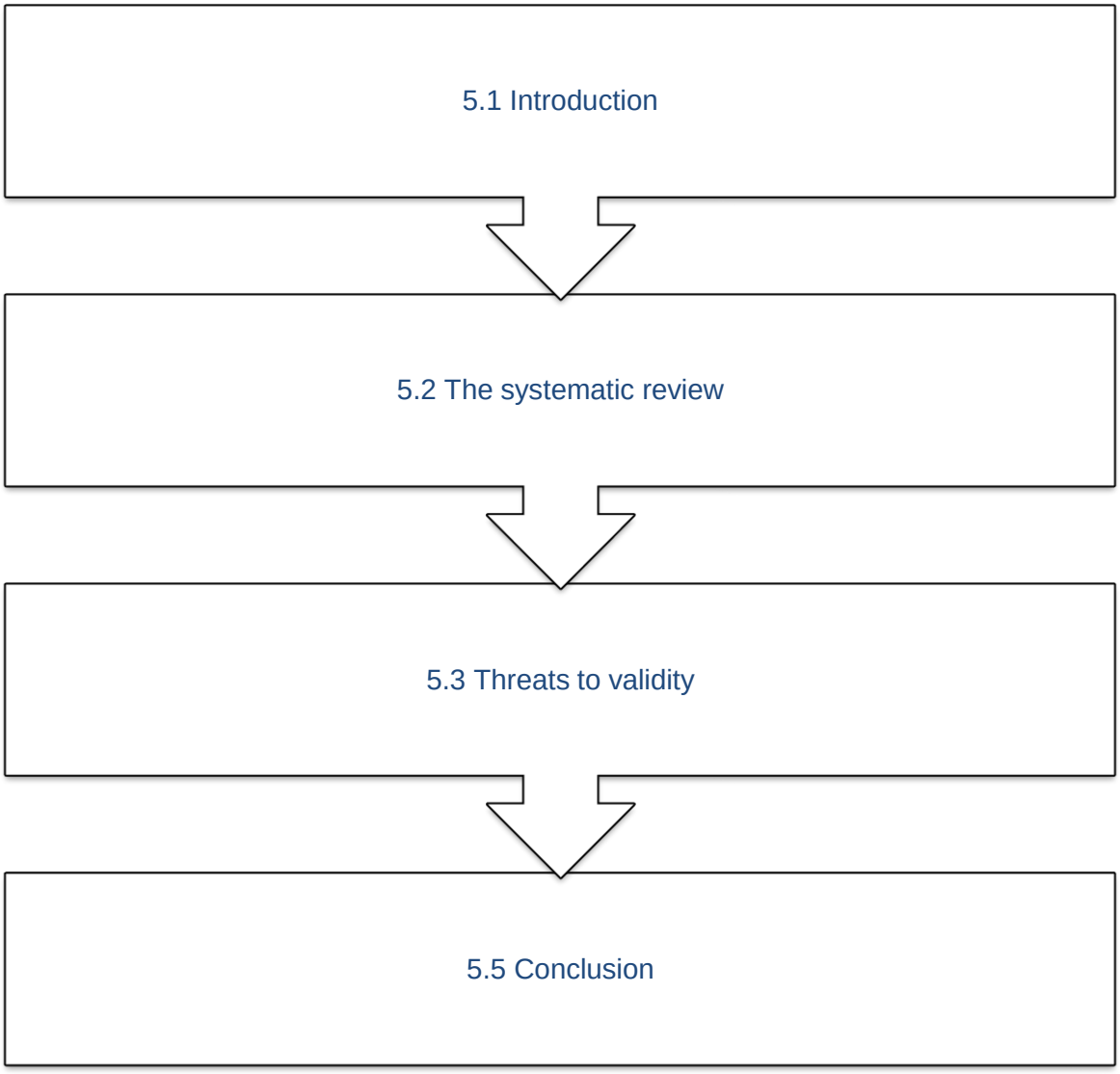
Table 4.3. Research design summary

Summary of the research design	
Philosophy	Interpretivism
Approach	Deductive
Strategy	Case Study research
Choice	Multi-method
Data collection method	Systematic Literature Review and Interviews

The next chapter looks at the systematic literature review as one of the data collection methods that were chosen for the current study.



5 SYTEMATIC LITERATURE REVIEW



5.1 INTRODUCTION

To identify, evaluate and interpret all the relevant material available to answer the research question, a systematic literature review approach was followed. In the following sections of the current chapter, the researcher goes through the steps of how the relevant material was obtained and outcomes are discussed in the end.

5.2 THE SYSTEMATIC REVIEW

A systematic literature review was conducted to cover factors such as barriers, success, failure, dangers and/or pitfalls in an attempt to understand the considerations that organisations look at when incorporating social media data into their knowledge base. The outcomes are referenced to the developed model to guide organisations that wish to consider implementing them to make informed decisions.

According to Kitchenham and Charters (2007, p.4), “A systematic literature review (often referred to as a systematic review) is a means of identifying, evaluating and interpreting all available research relevant to a particular research question or topic, area or phenomenon of interest”. Many reasons for employing a systematic literature review have been recorded; however, Kitchenham and Charters (2007) mention the most common ones that include (1) identifying gaps in the existing literature, thereby creating opportunities for further research; (2) providing a framework that positions new research activities, and (3) summarising existing evidence regarding a certain phenomenon. In addition to Kitchenham and Charters (2007), other authors like Petticrew and Roberts (2008) define systematic literature review (SLR) as a “method of making sense of large bodies of information, and a means of contributing to the answers to questions about what works and what does not – and many other types of question too. SLR is a method of mapping out areas of uncertainty, and identifying where little or no relevant research has been done, but where new studies are needed”. Traditional literature reviews are known to be susceptible to bias while systematic literature reviews aim to minimise the bias (Petticrew and Roberts, 2008; Nightingale, 2009). Systematic review should follow a clearly defined plan where the criteria are clearly stated before the review is conducted(McNally, no date). For the current study the researcher

followed the guidelines of Kitchenham and Charters (2007). The purpose of the literature review for the current study was to examine the literature thoroughly in a fair manner to determine the considerations that organisations look at when incorporating social media data into their knowledge management systems. Next, the researcher models *(*Consult Figure 5.1*)* and explains the detail of each of the phases (planning, conducting and writing) of the systematic literature reviews process as proposed by Kitchenham and Charters (2007) guidelines.

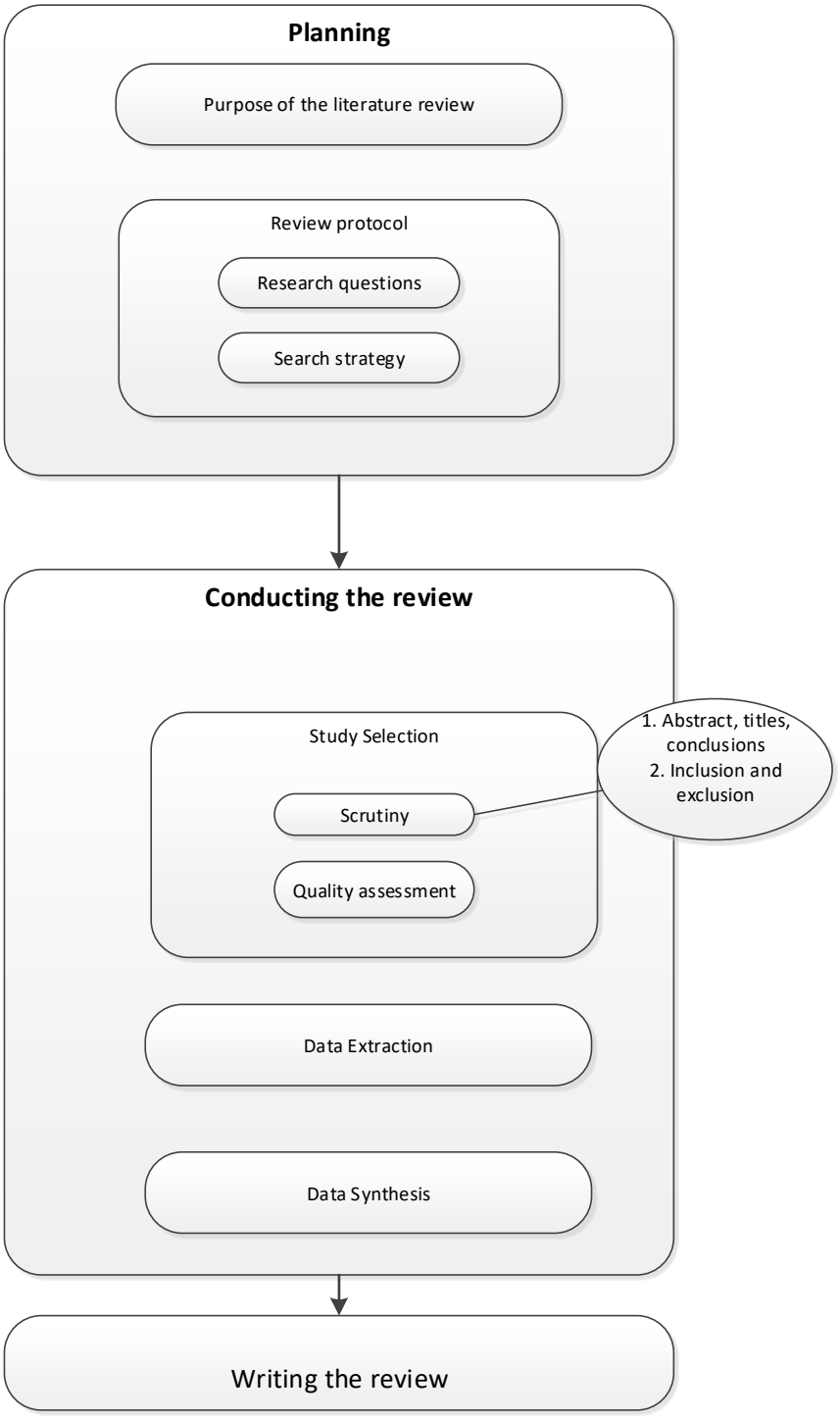


Figure 5.1. Phases of the Systematic Literature Review

5.2.1 Planning

5.2.1.1 The review protocol

Having a review protocol in place is one of the crucial steps for a systematic literature review as it outlines the methods that will be employed when undertaking the review. The perceived benefit of including this step is the reduction of researcher bias (Kitchenham & Charters, 2007). The protocol review includes components such as research questions, search strategy, selection of studies, extraction of data and data synthesis. The protocol for this review is available in Appendix A.

5.2.1.2 Research questions

The purpose of this study is to identify and present factors that are key considerations when organisations include social media data into their knowledge base. These factors include barriers, success factors, failure factors, dangers and/or pitfalls. The following secondary questions guided the research:

a) What are the barriers to including social media into organisations' KB?
b) What are the critical success factors of incorporating social media into organisations' KB?
c) What are the critical failure factors of incorporating social media into organisations' KB?

5.2.1.3 Search strategy

In a quest to find primary studies to answer the research questions, certain search strategies must be employed. These include terms and strings to be searched, sources of literature, and the search process proper.

5.2.1.4 Literature resources

Automated or digital search was the basic strategy adopted for the current study. Databases host valuable, comprehensive scholarly and full-text research material including journals, reports and conference proceedings. The following databases were consulted:

- Ebsco Host (www.ebsco.com/academic-libraries)

- Emerald Insight (www.emeraldinsight.com)
- Science Direct (www-sciencedirect-com)

These databases were chosen because they are a rich source for information systems(IS) literature from around the world.

5.2.1.5 Search terms and strings

Kitchenham and Charters (2007) provide guidelines for finding the appropriate terms; they suggest that the review or research questions be broken down into individual viewpoints, such as population, intervention, comparison, outcomes, context and study design. Synonyms and abbreviations of the search terms should also be considered to make sure that no relevant primary studies are left out. The use of Boolean operators such as “AND” and “OR” to construct the appropriate search strings as recommended by Kitchenham and Charters (2007) was employed in this current study.

Search terms

The following search terms were derived from the review questions for the current study:
Organisation; social media; knowledge management; organisational knowledge; institutionalisation; institutional memory use; impact; barrier; success; failure factor; adopt; integration.

Search string

One single string was constructed from the list of strings to cover all the keywords in an attempt to generate one big relevant set of articles that could be used in the identified database. This string (Consult the string below) included synonyms for the different interventions explored in this study.

> *“Social media”*
> *AND (impact OR use OR adopt OR effects OR implication OR success OR fail OR factor OR challenge OR problem OR issue OR barrier OR lesson OR agile OR Institutionalisation)*
> *AND (“Knowledge Management” OR “Institutional memory” OR “Organisational knowledge”)*

AND organisation

The researcher made the assumption that the string above may not be a one-size-fits-all kind of string. This assumption was influenced by looking at different literature reviews where a variation of strings was used on each database To be exact, the string for Science Direct had to be split into multiple strings as it could not be captured all at once. The strings used in each database search are shown in Table 5.1, Table 5.2 and Table 5.3 for EBSCOhost, Science Direct and Emerald Insight databases respectively.

Table 5.1. EBSCOhost Intervention string

String #	EBSCOhost Intervention string	Outcome
#1	“Social media” AND (impact OR use OR adopt OR effects OR implication OR success OR fail OR factor OR challenge OR problem OR issue OR barrier OR lesson OR agile OR Institutionalisation) AND (“Knowledge Management” OR “Institutional memory” OR “Organisational knowledge”) AND organisation.	65

Table 5.2. Science Direct Intervention strings

String	Science Direct String description	Outcome
#1	"Social media" AND (impact OR use OR adopt OR effects) AND ("Knowledge Management" OR "Institutional memory" OR "Organisational knowledge") AND organisation.	801
#2	“Social media” AND (implication OR success OR fail OR factor) AND (“Knowledge Management” OR “Institutional memory” OR “Organisational knowledge”) AND organisation.	791
#3	“Social media” AND (challenge OR problem OR issue OR barrier) AND (“Knowledge Management” OR “Institutional memory” OR “Organisational knowledge” AND organisation.	831

String	Science Direct String description	Outcome
#4	"Social media" AND (lesson OR agile OR Institutionalisation) AND ("Knowledge Management" OR "Institutional memory" OR "Organisational knowledge") AND organisation.	295
Total number of articles after removing the duplicates in this database:		**832**

Table 5.3. Emerald Insight intervention strings

Iteration	Emerald Insight intervention string	Outcome
#1	"Social media" AND (impact OR use OR adopt OR effects OR implication OR success OR fail OR factor OR challenge OR problem OR issue OR barrier OR lesson OR agile OR Institutionalisation) AND ("Knowledge Management" OR "Institutional memory" OR "Organisational knowledge") AND organisation.	504

5.2.1.6 Search process

A reference management tool called Zotero was used for collecting and organising the primary studies required for this research study. Using the search strings constructed in the above section, the identified databases were searched, and the results are recorded in Table 5.4.

Table 5.4. Number of studies per database

Database	Initial search	After initial screening	After full-text reading	After snowballing
EBSCOhost	65	20	7	9
Emerald Insight	504	54	18	22
Science Direct	832	56	21	26
Total	**1401**	**130**	**46**	**57**

In addition to the search terms, snowballing based on the suggested relevant articles as well as the bibliography of the primary articles was used. A chronological sequence of events that shows the study elimination process is shown in Figure 5.2.

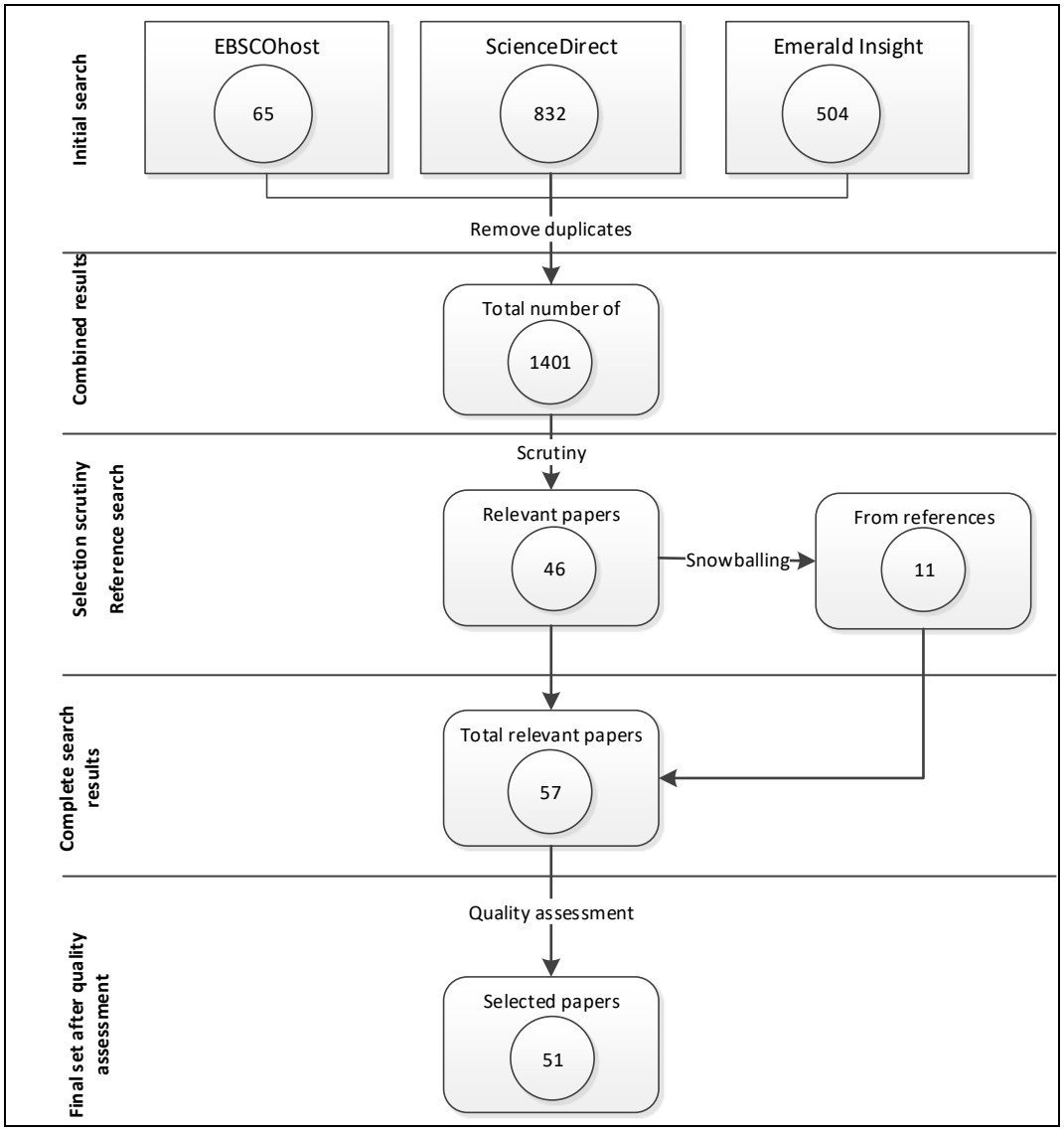


Figure 5.2. Search and selection process

Out of the 1 401 papers that were initially extracted from the selected databases, only 51 were included the final set from which the extraction of data was conducted.

Figure 5.3 and Figure 5.4 depict the distribution of studies by the year of publication and publication title, respectively.

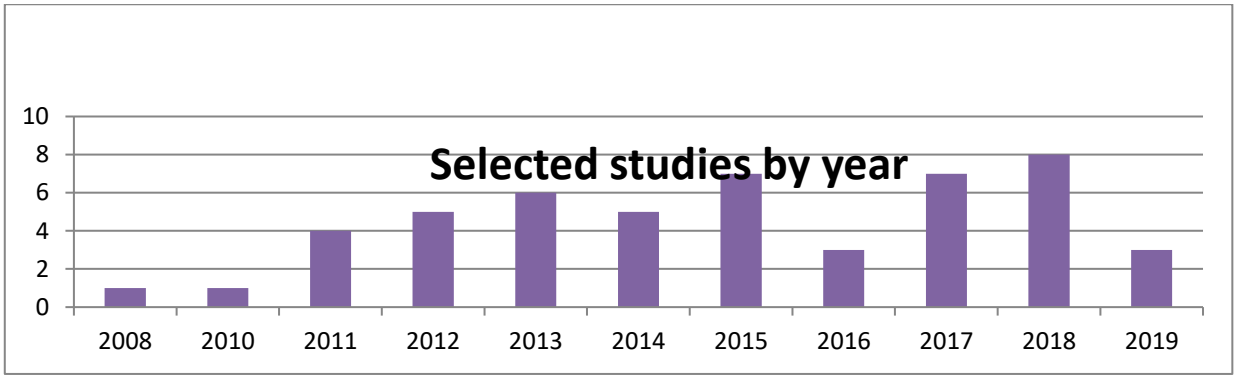


Figure 5.3. Distribution of selected studies by year

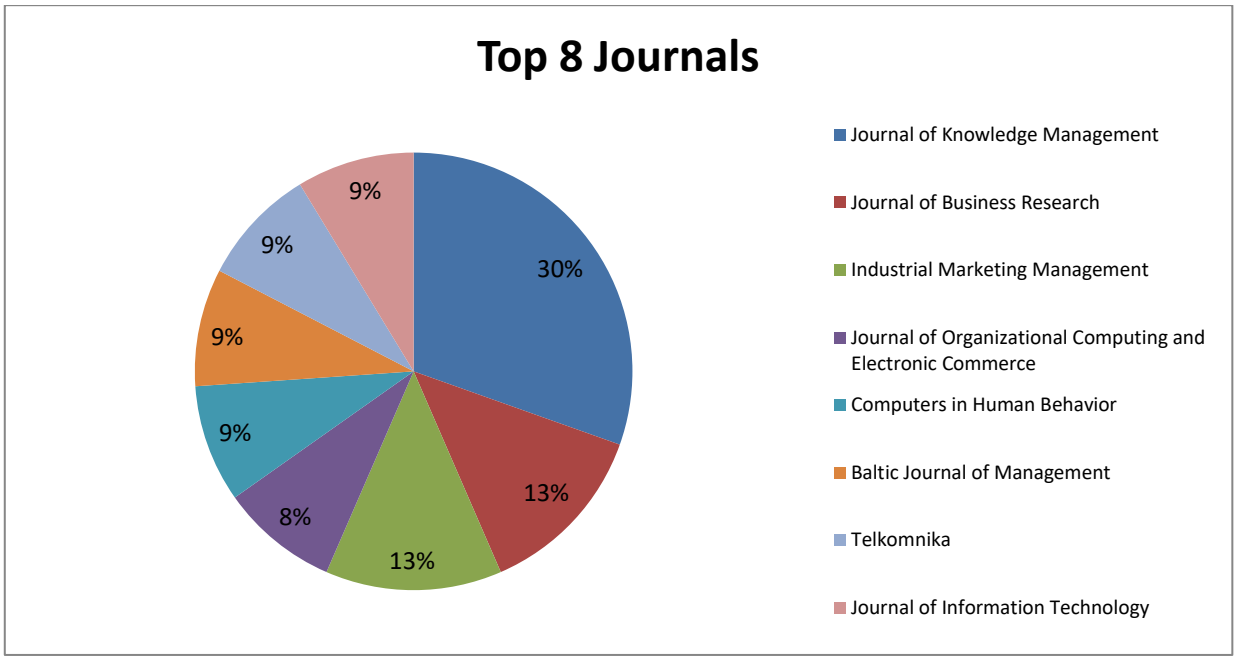


Figure 5.4. Distribution of selected studies by publication title

The distribution of papers shows that the combination of social media and knowledge management is widely spread across various disciplines and is still growing.

5.2.2 Conducting the review

5.2.2.1 Study selection

The initial search of the chosen databases resulted in 1 401 prospective studies. Thereafter, screening and scrutinising the articles based on titles and abstracts took place. This screening and scrutiny of the articles, which entailed elimination based on keywords and

abstract, exclusion and inclusion criteria resulted in 130 remaining papers. This was then followed by full-text reading after which 84 irrelevant papers were excluded from the sample. Following the full-text reading, snowballing took place and resulted in a total of 57 papers that were eligible for a quality assessment exercise.

Inclusion criteria

The following criteria were used to select the papers:

- Studies that were published from 2003 to 2019. Although the emergence of social sites started as long ago as 1997 with “Six Degrees”, 2003, 2004, 2005 and 2010 mark the birth of social sites such as LinkedIn, Facebook, YouTube and Tweeter respectively (Ahmad, 2018).
- Peer reviewed material
- Full-text publications

Exclusion criteria

The following criteria were used to exclude certain studies:

- Studies that were not written and/or presented in English
- Studies that did not answer any of the research questions
- Studies that were duplicated
- Studies that were not available in full-text
- Non-peer reviewed papers
- PowerPoint presentations

5.2.2.2 Quality assessment

Having selected the 57 papers indicated in the previous section, it was time to conduct quality assessment of the selected primary studies. According to Kitchenham and Charters (2007), quality assessment is considered critical “to provide still more detailed inclusion/exclusion criteria, to investigate whether quality differences provide an explanation for differences in study results, as a means of weighting the importance of individual studies when results are being synthesised, to guide the interpretation of findings and determine the strength of inferences, and to guide recommendations for further research”. For the current

study, the following questions were used to assess the quality of the primary studies selected:

- How clearly are the objectives of the study articulated?
- Is the methodology used clearly described?
- How clearly are the limitations defined?
- Does the study contribute new knowledge to the industry or academia?
- Are social media and knowledge management clearly described?
- Does the paper mention any of the dynamic capabilities?
- Is the paper properly referenced?

In the end, 51 primary studies remained and qualified for the rest of the systematic review process. Data extraction took place from the final primary studies.

5.2.2.3 Data extraction

After the primary studies had been identified, Kitchenham's guidelines on how to design the data extraction form to record information obtained from the primary studies were adopted. The extracted information is categorised into general information (see Appendix E) and specific information. Specific information relates to answering the research questions.

General information

- Author
- Title
- Key ID
- Item type, e.g. journal article or conference paper
- Year of publication e.g. 2015
- Publication title e.g. *Journal of Knowledge Management*

Specific information

- Challenges, barriers, pitfalls or dangers (RQ1)
- Success factors (RQ2)
- Failure factors (RQ3)

5.2.3 Data synthesis

Data synthesis is about collating and summarising the results from the selected primary studies with the intention of answering the research questions (Kitchenham and Charters, 2007). For each of the questions, similar items or themes from different papers were grouped together. The following sub-sections detail the considerations extracted from the primary studies.

5.2.3.1 Challenges/Barriers (RQ1)

As much as social media data is a source of new business insights, challenges to business are also on offer (Zhao, Yeung, Huang, and Song, 2015). In other words, the use of social media for knowledge creation is not a challenge-free smooth process. A pictorial view of the challenges from different papers is shown in Figure 5.5. Each of the rectangles in the picture represents a single study.

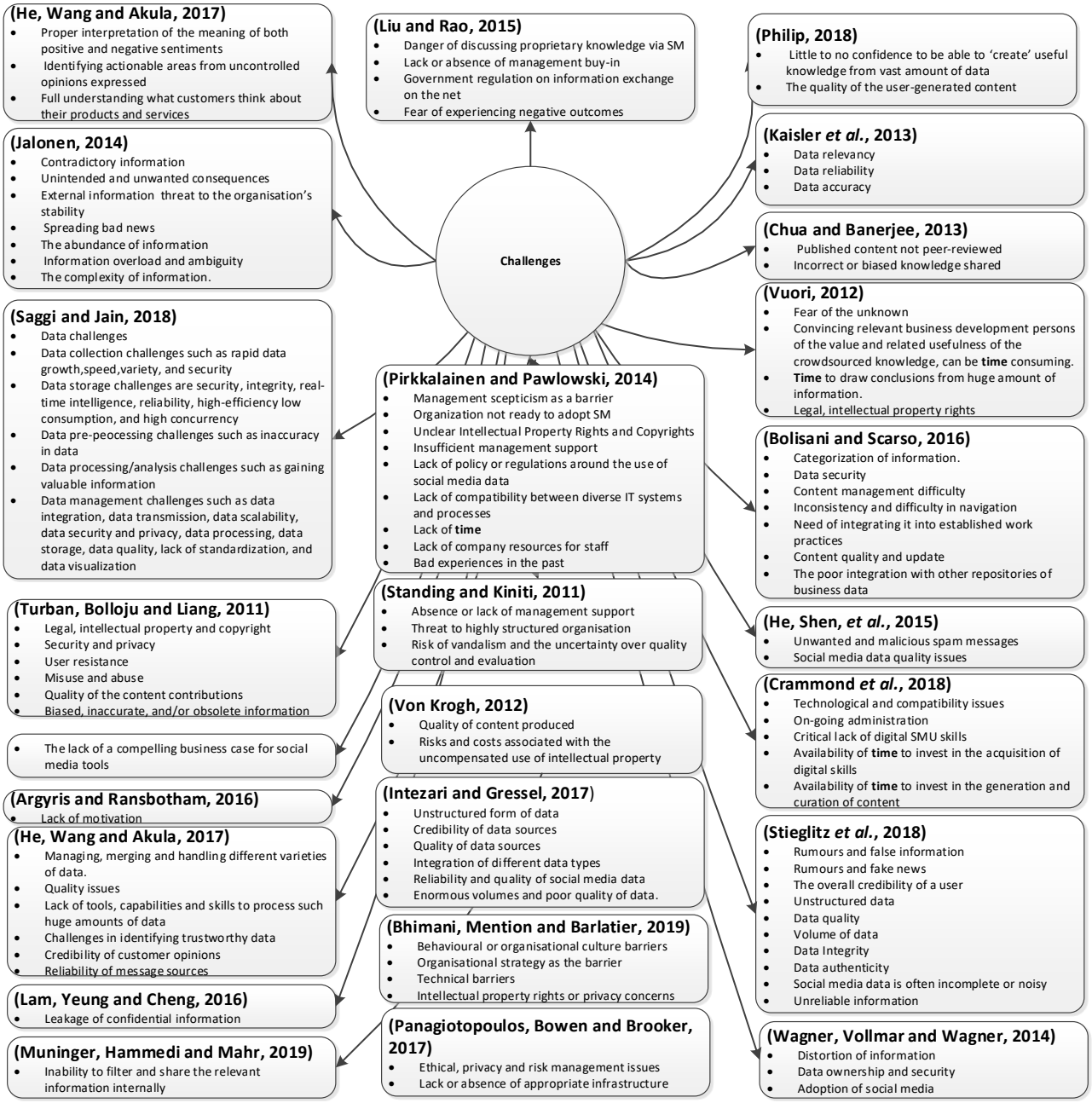


Figure 5.5. Identified challenges in selected studies

In the diagram there are common themes that surfaced in a number of studies. The following sub-headings group the identified barriers into different categories.

1. ***Intellectual property rights and copyright***: Intellectual property rights and copyright are highlighted in seven studies as one of the challenges that organisations should take cognisance of when deciding to use social media-generated content. The organisations using the socially-generated content are exposed to the possibility of legal risks pertaining to violation or unauthorised use of the data as some might have been copyrighted (Turban, Bolloju and Liang, 2011). As Von Krogh (2012, p.159) puts it, "the use of external content not owned by the firm may create risks and costs associated with the uncompensated use of intellectual property in task/problem formulation and solutions, decision-making, service delivery, product innovation, etc." Scholars such as Pirkkalainen and Pawlowski (2014) as well as Bhimani et al. (2019) identified a number of articles that mention unclear intellectual property rights and copyright as barriers to using social software. This also addresses ethical sourcing of user-generated content that if not done correctly, may lead to management issues (Panagiotopoulos, Bowen, and Brooker, 2017).
2. ***Quality and reliability issues***: Quality and reliability issues feature in most studies; ten of the selected studies in the current research touched on quality issues (Bharati et al., 2015; Bolisani and Scarso, 2016; He et al., 2015a; 2017; Intezari and Gressel, 2017; Kaisler, Armour, Espinosa, and Money, 2013; Saggi and Jain, 2018; Stieglitz, Mirbabaie, Ross, and Neuberger, 2018; Turban et al., 2011; Von Krogh, 2012). These include the poor quality of content produced, questionable reliability and credibility of data sources, authenticity and integrity of data as well as accuracy of data. Social media data is often noisy, incomplete and contains rumours and/or fake information (Stieglitz *et al.*, 2018).
3. ***Lack of management support:*** Lack of management support was also identified as a barrier to exploring the possible benefits of incorporating social media data into the knowledge acquisition process. Management scepticism is said to be a barrier to using social software as concluded by Pirkkalainen and Pawlowski (2014). This means that success in exploring social software benefits for the organisation lies in the unwavering support of leadership. So, the lack of a compelling case for the adoption and use of the social business remains a barrier (Kane, Palmer, Phillips, and Kiron, 2014; Standing and Kiniti, 2011). Leadership support is discussed further under success factors in the section below.

4. ***Volume of data***: Apart from other barriers, volume or the vast amount of user-generated content has been some kind of repellent to organisations' acceptance of social media-related initiatives as a number of studies highlight a concern around the availability of time for processing such a huge amount of data (Crammond, Omeihe, Murray, and Ledger, 2018; He et al., 2017; Intezari and Gressel, 2017; Jalonen, 2014; Pirkkalainen and Pawlowski, 2014; Saggi and Jain, 2018; Vuori, 2012).

5. ***Regulation***: Regulations posed by government on the free sharing of information over the internet may be a barrier for both the organisation and individuals. These restraints and controls make the organisational decision-makers reticent to share knowledge on the web (Liu and Rao, 2015). Regulations or policies that describe the standpoint on the use of social media by organisations are a necessity. Lack of such policies is regarded as a challenge and may lead to organisations missing benefiting from social media advantages (Pirkkalainen and Pawlowski, 2014).
6. ***Time Constraints***: Three authors have looked at time from different angles when it comes to social media. While exploring the uses of social media, Vuori (2012) identified time to draw conclusions as well as presenting the usefulness of the knowledge derived from the social media data as a challenge. This lack of time manifests in terms of investing in the acquisition of the social media usage skills needed as well as selecting, organising and presenting the user-generated content (Pirkkalainen and Pawlowski, 2014; Crammond *et al.*, 2018).
7. ***Data security and privacy:*** Data security and privacy is another major challenge highlighted in a number of studies. Regarding the flow of the information in and out of the organisation, a concern about leakage of trade secrets as well as confidential information of the organisation has been recorded (Lam, Yeung, and Cheng, 2016). This information leakage can be either intentional or unintentional. Furthermore, information flow on the internet is exposed to hackers (Turban, Bolloju and Liang, 2011). In their "survey towards an integration of big data analytics to big insights for value-creation" Saggi and Jain (2018) identified data security and privacy as challenges in the management of big social media data. Other authors such as Bhimani et al. (2019),

Panagiotopoulos et al. (2017) and Wagner et al. (2014) also raise security and privacy concerns when dealing with social media.

8. ***Data complexity***: Data complexity relates to large data sets that may be semi-structured, unstructured or structured (Chen, Chen, Du, Li, Lu, Zhao, and Zhou, 2013). Comments and feedback from social media users across various networks − simply described as data derived from human interactions − are examples of unstructured data. This can be in the form of text, videos, photos, recordings (Intezari and Gressel, 2017). This variety of data makes it difficult to manage, merge and handle (He, Wang and Akula, 2017). Koppenhagen (2011) describes structured data as "data with fixed coded meanings and formats, mostly numeric, and normally stored in database fields". This variety data is deemed a challenge when trying to discover or making sense of the social media-generated content (Intezari and Gressel, 2017; Saggi and Jain, 2018; Stieglitz *et al.*, 2018).
9. ***Data analysis challenges***: Due to the large scale of data − structured and unstructured − generated from social media, the analysis of this kind of data to gain valuable insights is a challenge (Saggi and Jain, 2018). Proper interpretation and understanding of the users' thoughts, opinions, sentiments and feelings as well as identifying areas that need action is a mammoth task (He, Wu, *et al.*, 2015). In addition to the analysis challenges mentioned by the previous authors, Muninger, Hammedi, and Mahr (2019) identified that the use of social media data remains underexploited due to inability to filter and share relevant information within the organisation for innovation purposes. The abundance and complexity of information from social media makes it difficult for analysts to differentiate between what is trivial and what is vital. This ambiguity may then result in unintended and unwanted outcomes (Jalonen, 2014).
10. ***Organisational cultural barriers***: A total of seven studies identified organisational culture as a barrier. According to Bhimani et al. (2019), behavioural or organisational culture is identified as one of the most recorded barriers to social media adoption. Other authors in the selected studies consulted for the current research have highlighted organisation culture that is supportive, entrepreneurial, knowledge-driven, flexible and collaborative; this may pave the way for a successful consideration of social media and their benefits, particularly innovation (Antonius, Xu, and Gao, 2015; Argyris and

Ransbotham, 2016; Bolisani and Scarso, 2016; Liu and Rao, 2015; Muninger et al., 2019; Standing and Kiniti, 2011). This suggests that if the organisational culture does not display these characteristics, such culture can be regarded as a barrier. Standing and Kiniti (2011) add that highly structured organisations can be a barrier to the inclusion of social media initiatives due to fear of the democratic nature of social media.

11. ***Technical barriers:*** Technical barriers are also identified in the literature. Lack or absence of tools, infrastructure, capabilities and skills for processing vast amounts of social media-generated content is regarded as a barrier to taking advantage of knowledge acquisition from social media data (He, Wang and Akula, 2017). It is said that efforts for capturing, storing, retrieving and managing any possible knowledge such as insights they can extract from user-generated social media content related to the organisations and their competitors require a combination of knowledge management infrastructure and Big Data initiatives (Barbier and Liu, 2011; He, Zha, and Li, 2013; Wamba and Carter, 2016). Panagiotopoulos et al. (2017) identified the challenge of choosing appropriate infrastructure to acquire the social media-generated content and enable the flow of information in the organisation. In their systematic review of social media and innovation, Bhimani et al. (2019) found that eight articles discussed technical barriers to adopting social media for innovation purposes. Difficulty in managing the content has been identified as a barrier to the inclusion of social media data in the organisation's database (Bolisani and Scarso, 2016).
12. ***Operational barriers***: The successful implementation of the social media-infused knowledge management is faces operational obstacles. Kiniti and Standing (2013) found that integrating social media-sourced knowledge into long established work practices may be a challenge. They add that poor integration with other repositories of organisational data is a concern for organisations. Lack of operational guidelines and technical support may be a barrier to integrating social media into the existing operational activities of the organisation (Bolisani and Scarso, 2016)

A summarised view of challenges from the selected studies as discussed above are shown in Table 5.5 below.

Table 5.5. ***Summary of challenges***

Author	Intellectual property	Quality and reliability issues	Lack of management support	Volume of data	Regulation	Time constraints	Data security and privacy	Data complexity	Data analysis challenges	Organisational cultural barriers	Technical barriers	Operational barriers
(Antonius, Xu and Gao, 2015)										x		
(Argyris and Ransbotham, 2016)										x		
(Bharati, Zhang and Chaudhury, 2015)		x										
(Bhimani, Mention and Barlatier, 2019)	x						x			x	x	
(Bolisani and Scarso, 2016)		x								x	x	x
(Crammond *et al.*, 2018)				x		x						
(He, Shen, *et al.*, 2015)									x			
(He, Wang and Akula, 2017)		x		x				x			x	
(Intezari and Gressel, 2017)		x		x				x				
(Jalonen, 2014)				x					x			
(Kaisler *et al.*, 2013)		x										
(Kane et al., 2014)			x									
(Kiniti and Standing, 2013)												x
(Lam, Yeung and Cheng, 2016)							x					
(Liu and Rao, 2015)					x					x		
(Muninger, Hammedi and Mahr, 2019)									x	x		
(Panagiotopoulos, Bowen and Brooker, 2017)	x						x				x	
(Pirkkalainen and Pawlowski, 2014)	x		x	x	x	x						
(Saggi and Jain, 2018)		x		x			x	x	x			
(Standing and Kiniti, 2011)			x							x		
(Stieglitz *et al.*, 2018)		x						x				
(Turban, Bolloju and Liang, 2011)	x	x					x					

Author	Intellectual property	Quality and reliability issues	Lack of management support	Volume of data	Regulation	Time constraints	Data security and privacy	Data complexity	Data analysis challenges	Organisational cultural barriers	Technical barriers	Operational barriers
(Von Krogh, 2012)	x	x										
(Vuori, 2012)				x		x						
(Wagner, Vollmar and Wagner, 2014)							x					
	5	9	3	7	2	3	6	4	4	7	4	2

5.2.3.2 Success factors (RQ2)

Factors that are considered critical for the successful incorporation of social media data into the knowledge base of organisations that wish to exploit the benefits of social media are recorded in the literature. Each of the rectangles in Figure 5.6 represents views from individually selected studies.

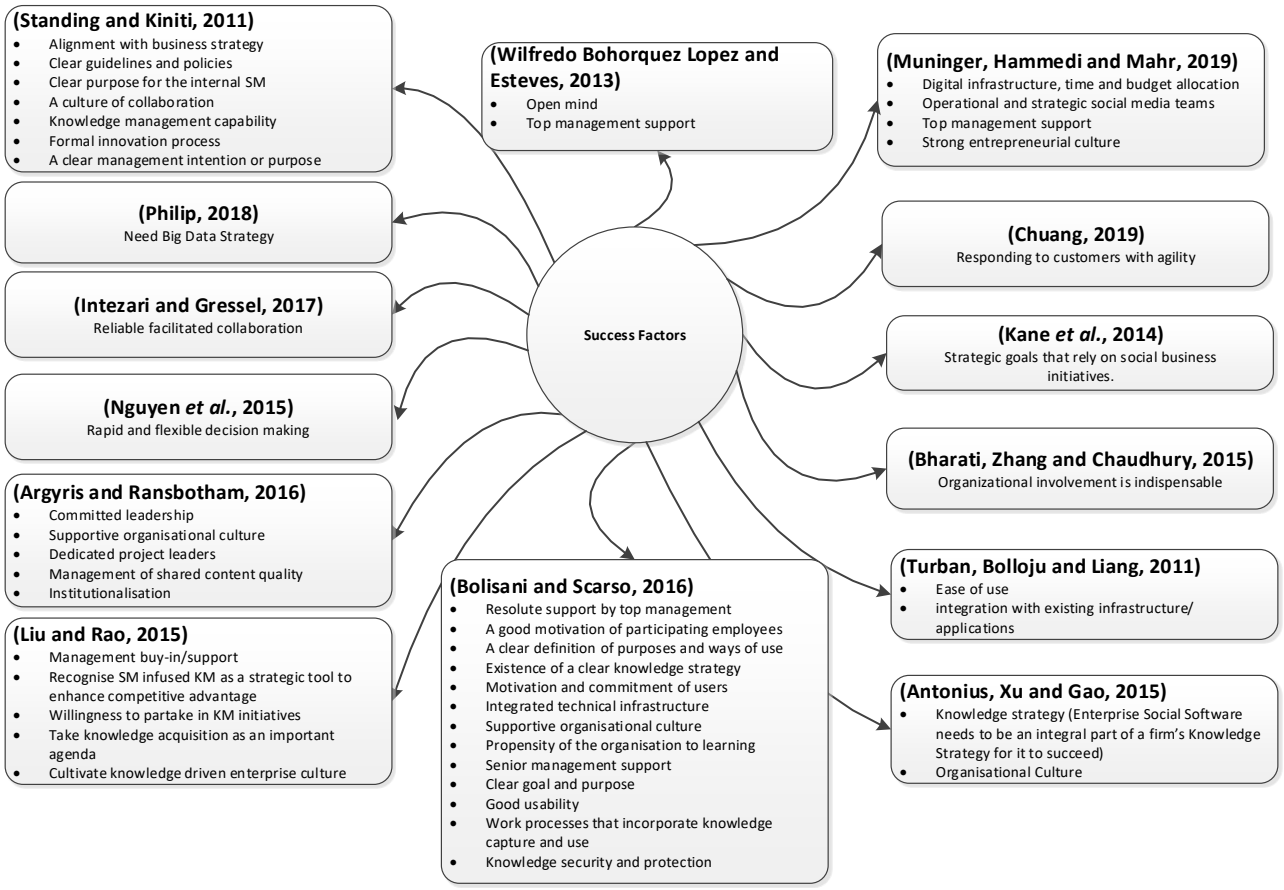


Figure 5.6. Identified successes in selected studies

As with the challenges or barriers discussed in the earlier section, there are common themes that surfaced from the identified success factors found during the review of the literature. The following sub-headings represent the identified themes or categories of success factors.

1. ***Leadership support***: Direction, commitment and support by the senior leadership of the organisation are said to be crucial in the implementation of the knowledge management initiatives via social media (Liu and Rao, 2015). Bolisani and Scarso (2016) agree by saying that the successful implementation of projects of this nature is "not a spontaneous and automatic result, but requires resolute support by top management" (p.424). Charismatic, strong, and dedicated leadership is indispensable in the successful institutionalisation of social media-based knowledge initiatives (Argyris and Ransbotham, 2016). Knowledge acquisition and appropriation without the support of the top brass of the organisation is impossible as the top management role acts as a sponsor

of the project (Wilfredo Bohorquez Lopez and Esteves, 2013). Muninger et al. (2019) summarise the significance of top management support in embracing social media affordances as follows:

> *Firms that leverage social media most effectively for innovation have top managers who envision a future in which social media are fully integrated into their organisation. Top managers of innovative companies active in social media also understand that employees need to receive training and attend external meetings that cover topics such as digital transformation.*

2. ***Organisational Culture***: One of the characteristics considered as successful factors for organisations that adopt social media-infused knowledge management initiatives is culture. Five of the studies selected for this study discuss culture as a success factor for the consideration of social media in knowledge management efforts. Liu and Rao (2015) discovered that progressive organisations continuously made efforts to cultivate a knowledge-driven culture by encouraging every employee in the organisation, regardless of level, to jump on the knowledge-sharing bandwagon using company approved social media tools. Bolisani and Scarso (2016) also acknowledge the factors that were identified by other scholars; organisations must display a culture that is supportive and open to learning. The learning organisation must be tolerant of errors and encourage learning from such rather than punishing them as this will signify a culture that does not embrace innovation. For an organisation to step out of its traditional ways of doing things and tap into completely different projects, e.g. collaboration of social media into existing knowledge acquisition practices, it needs to approach such with an open mind (Wilfredo Bohorquez Lopez and Esteves, 2013). Flexible organisational culture is likely to benefit more from knowledge management initiatives than a rigid and bureaucratic hierarchical organisation culture (Antonius, Xu and Gao, 2015). Organisations that are surrounded by a strong entrepreneurial culture “exhibit high market reactivity, which translates into quick responses to feedback gathered from social media” (Muninger, Hammedi and Mahr, 2019).

3. ***Strategy Alignment***: Seven studies touch on the importance of strategies that projects of incorporating social media into knowledge management activities should be aligned with to claim success. These strategies include knowledge strategy (Bolisani and Scarso, 2016), innovation strategy (Standing and Kiniti, 2011; Muninger, Hammedi and Mahr, 2019) and big social media data strategy (Philip, 2018). It all starts with the top management of the organisation. An open mind by top management and recognition of knowledge shared via social media as a strategic weapon to be ahead or different from competitors are characteristics of the successful implementation of social media-based knowledge management initiatives (Liu and Rao, 2015). It would be incorrect to talk about social media data and the ways in which organisations can extract insights, innovate and gain competitive advantage without having a proper strategy in place. Organisations need to discuss ways to detect and seize opportunities presented by the external environment. This is where "big data strategy" fits in (Philip, 2018). Therefore, reliable facilitated collaboration among the strategists, managers and data analysts is required and vital to ensure the alignment of big data analysis and organisations' strategic direction (Intezari and Gressel, 2017). Another important strategy that is worth mentioning is the existence of knowledge strategy within an organisation (Bolisani and Scarso, 2016). According to Antonius et al. (2015), adoption of social software by the organisation should be an "integral part of a firm's knowledge strategy for it to succeed" and this is not possible without the support of top management. Standing and Kiniti (2011) sum it up by saying social media usage must be aligned with organisational strategy.
4. ***Clear Goals and Purpose***. A compelling business case for the adoption of social media usage together with its required tools is a must (Kane et al., 2014). Among other key factors that the organisation must consider for the use of social media is clear definition, purpose and expectations (Standing and Kiniti, 2011; Antonius, Xu and Gao, 2015; Bolisani and Scarso, 2016).
5. ***Organisational Agility***: The agility of an organisation, according to some selected studies, is regarded as a successful factor for the consideration of incorporation of social media into knowledge management. According to Akhtar et al. (2018, p.5) organisational agility refers to "the ability of organisations to swiftly react to changes and uncertainties".

A social media environment is dynamic and turbulent in nature (Nguyen, Yu, Melewar, and Chen, 2015). Therefore it is important for organisations' decision-making to follow suit by being rapid and flexible (Nguyen *et al.*, 2015; Muninger, Hammedi and Mahr, 2019). Organisations should possess agility to respond effectively and efficiently to rapid changes in the market and customer demand (Chuang, 2019).

6. ***ICT Infrastructure***: Four of the selected studies identified technical infrastructure, which includes security, as a prerequisite for the successful integration of social media into knowledge management for innovation purposes (Bolisani and Scarso, 2016; Muninger et al., 2019; Najmi, Kadir, and Kadir, 2018; Turban et al., 2011). Turban et al. (2011) underscore the fact that there should be adequate infrastructure in place while the availability of ICT infrastructure is significant in the implementation of knowledge management (Najmi, Kadir and Kadir, 2018).

A summarised view of the success factors as identified in the selected studies is shown in Table 5.6 below.

Table 5.6 Summary of success factors

Author	Management Support	Organisational culture	Strategy alignment	Clear goals and purpose	Organisational agility	Infrastructure
(Antonius, Xu and Gao, 2015)		x	x	x		
(Argyris and Ransbotham, 2016)	x	x				
(Bharati, Zhang and Chaudhury, 2015)						
(Bolisani and Scarso, 2016)	x	x	x	x		x
(Chuang, 2019)					x	
(He, Wu, *et al.*, 2015)						
(Intezari and Gressel, 2017)			x			
(Kane *et al.*, 2014)			x	x		
(Liu and Rao, 2015)	x	x	x			
(Muninger, Hammedi and Mahr, 2019)	x	x	x		x	x
(Najmi, Kadir and Kadir, 2018)						x
(Nguyen *et al.*, 2015)					x	
(Philip, 2018)			x			
(Standing and Kiniti, 2011)			x	x		
(Turban, Bolloju and Liang, 2011)						x

Author	Management Support	Organisational culture	Strategy alignment	Clear goals and purpose	Organisational agility	Infrastructure
(Wilfredo Bohorquez Lopez and Esteves, 2013)	x					
	5	5	8	4	3	4

5.2.3.3 Failure factors (RQ3)

Factors that are critical and may lead to the failure of the implementation of a social media-infused knowledge base, if not paid attention to, are recorded in the diagram below (Consult Figure 5.7). The rectangles in the diagram represent the view extracted from each study.

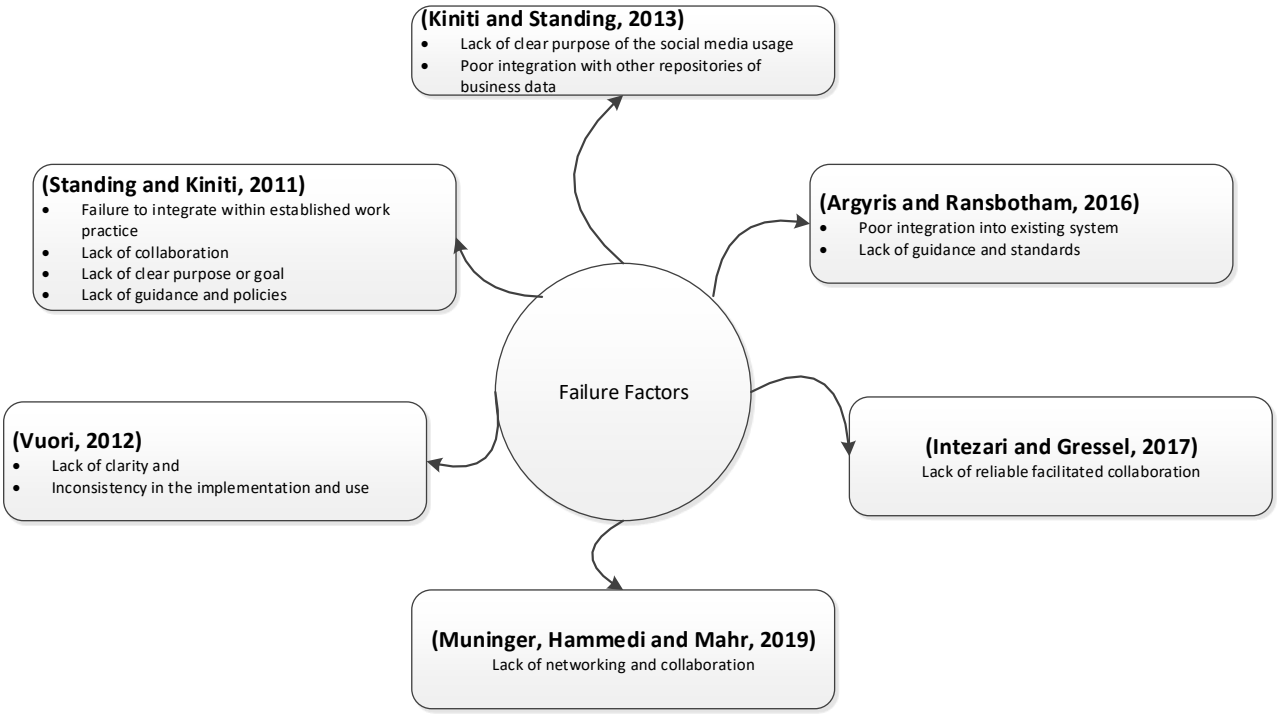


Figure 5.7. Identified failure factors in selected studies

A limited number of studies out of the selected pack mention factors that may lead to failure in the implementation of innovative projects, such as incorporating social media data into a knowledge base. Below is a discussion of the identified failure factors.

1. ***Poor integration:*** Different aspects of integration are highlighted in the literature, e.g. new content integration into existing structure and integration into existing corporate culture. New content integration relates to quality issues and requires constant quality control and maintenance. Failing to control quality issues may hinder the integration of the content into the existing structure (Kiniti and Standing, 2013; Argyris and Ransbotham, 2016). Organisational culture that is open to learning and innovation and the culture that is rigid or hierarchically structured may give rise to integration issues where exploratory initiatives such as incorporation social media data into organisations' knowledge assets may fail if not architected properly in terms of fitting into existing organisational standards and culture to a point where knowledge assets are enhanced in terms of "flexibility", "productivity", and "innovation"(Standing and Kiniti, 2011; Argyris and Ransbotham, 2016).
2. ***Lack of clear purpose, guidelines and policies***: Clear purpose and goals were identified as success factors in the previous sections. When the purpose is not clear, definition of the solution will not be clear either, which may raise usability concerns, create confusion and end up failing (Standing and Kiniti, 2011; Kiniti and Standing, 2013). Lack of clear guidelines, standards, or policies as identified by Argyris and Ransbotham (2016) and Standing and Kiniti (2011) leads to confusion among users and this reduces the chances of successful innovation efforts.
3. ***Lack of collaboration***: Collaboration is one of the key success factors identified in the selected studies. As the definition of social media mentions networks and people, collaboration of various stakeholders through these networks leads to the establishment of the unique knowledge. This collaboration can be inbound, e.g. across departments and/or external such as. suppliers and customers (Muninger, Hammedi and Mahr, 2019). Standing and Kiniti (2011) underscore the fact that the culture of collaboration and willingness to share is critical. A rigid culture that is not open to collaboration with other stakeholders negates the creativity and innovation that is afforded by social media. By

implication, innovative efforts to incorporate social media data into the creation of new knowledge will fail. Reliable facilitated collaboration is said to be a requirement for the incorporation of big social media data into strategic decisions as this is deemed vital if organisations want to align its strategic direction with the analysis of big social media data (Intezari and Gressel, 2017).

A summary of failure as identified in the selected studies is shown in Table 5.7 below.

Table 5.7. Summary of failure factors

Author	Lack of purpose	Poor integration	Lack of collaboration
(Vuori, 2012)	x		
(Standing and Kiniti, 2011)	x	x	x
(Intezari and Gressel, 2017)			x
(Argyris and Ransbotham, 2016)	x	x	
(Muninger, Hammedi and Mahr, 2019)			x
(Kiniti and Standing, 2013)	x	x	
	4	3	3

5.2.4 Writing the review

The benefits of social media are adequately reported in the literature; organisations have an opportunity to derive and offer great value to their customers in terms of innovative products and services. However, a gap in understanding how this is executed was identified.

The aim of the review was to identify the considerations that organisation would take into account when incorporating social media data into their knowledge base. The considerations were divided into three categories that were presented in the form of research questions. These categories were challenges or barriers to implementation,

success factors, and factors that lead to failure in the execution of the approved use of social media-generated knowledge extraction as shown in figure 5.8.

Figure 5.8. Summary of considerations

Challenges/Barriers: From the results of data synthesis section above, it became clear that social media data presents more challenges and/or barriers than successes. Twenty-six studies, which translate to just over 50%, reported a wide variety of challenges. These challenges included data quality issues, volume of data, data privacy and security, organisational cultural barriers, and intellectual property rights as most common across the selected studies.

Success factors: Factors that the selected studies deemed to be of critical importance when embarking on a project of this nature were also recorded. These include strategy alignment, organisational culture, management support, clear goals and purpose, and infrastructure.

Failure factors: Factors that contribute to failure in the execution of a project of this nature include lack of purpose, poor integration and lack of collaboration.

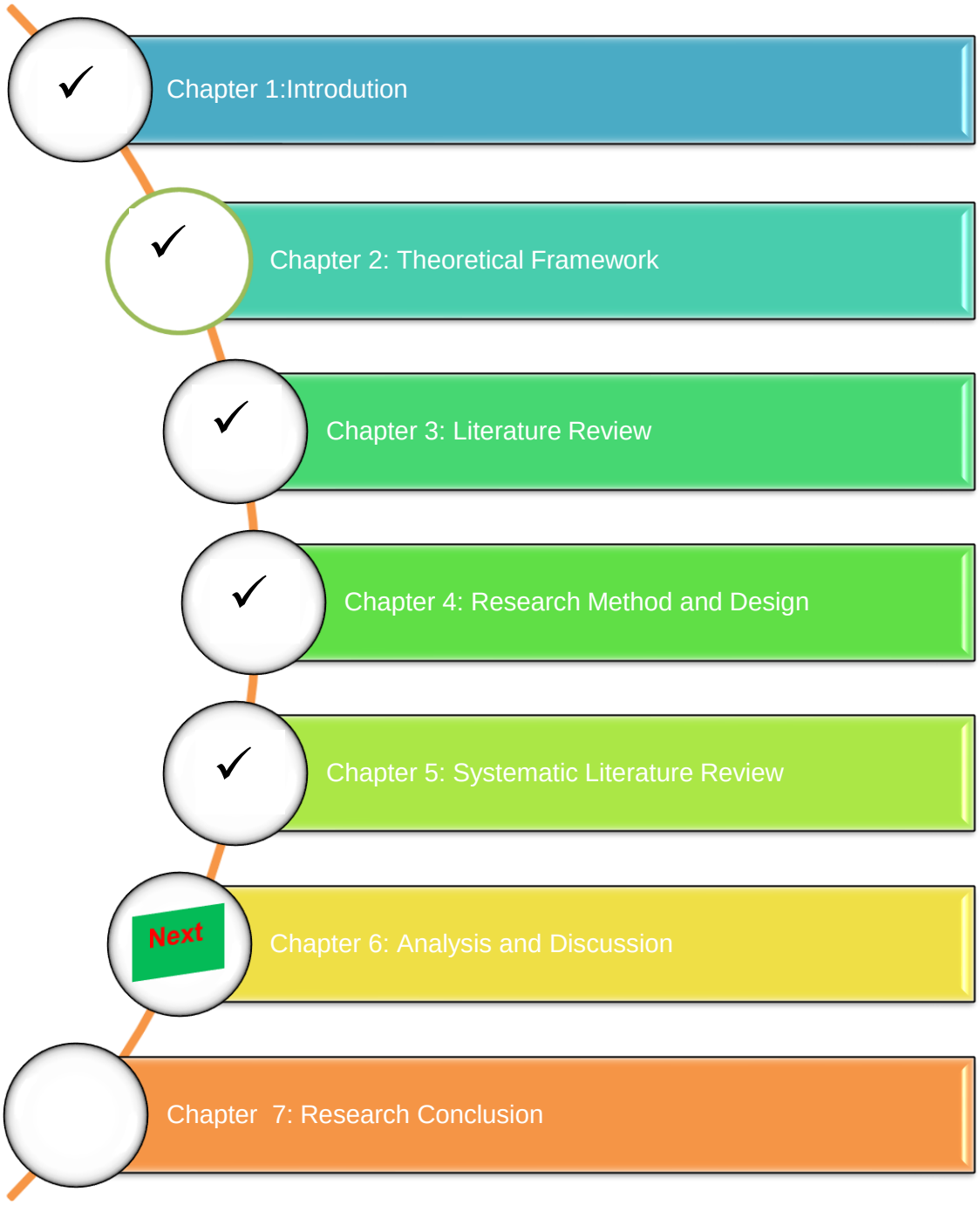
5.3 THREATS TO VALIDITY

Naturally, a literature review is exposed to validity threats. This study is not immune to such threats. The threat of the inaccurate extraction of data and maximum coverage of the relevant papers was identified for this study. To mitigate the inaccuracy of data extraction threat, search terms related to the research questions were identified and discussed with the supervisor. Synonyms for the search terms were considered when constructing the search string of the current study. This was done to make sure that the research did not omit relevant papers. In order to maximise coverage of the relevant papers, the researcher searched the reference or bibliography section of the identified papers. The perusal of the bibliography is referred to as snowballing. Another threat to the validity of the study was researcher bias in the inclusion and exclusion criteria. This was discussed at the inception of the literature review process in what is called review protocol. Reasons for choosing papers that were published in a specific period were provided. It is possible that relevant papers that were published after the search was completed. The findings of the current research therefore exclude any views expressed in such papers.

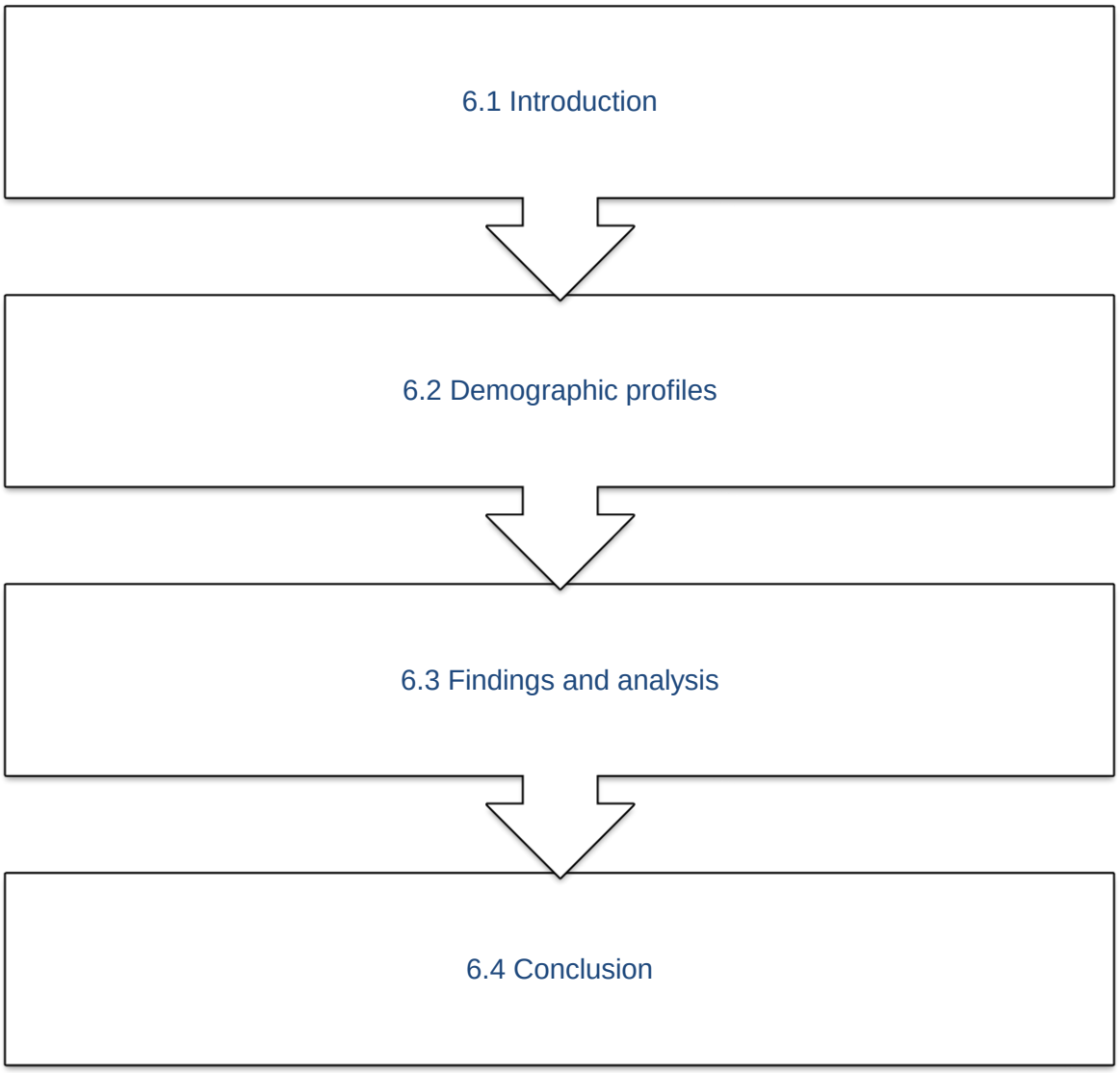
5.4 CONCLUSION

The objective of the chapter was to utilise the systematic review process to answer the research questions. Concerns such as challenges and/or barriers to implementation, success factors, and failure factors were extracted from the data and analysed accordingly.

The next chapter discusses the findings of both the evaluation of the framework as well as the considerations that the organisations take into account when incorporating social media data into their knowledge bases.



6 ANALYSIS AND DISCUSSION



6.1 INTRODUCTION

The aim of this chapter is to dissect feedback that was obtained from interviews held with the research informants from the case study company. The researcher's interpretation of the data collected, and the drawing of conclusions form the basis of this chapter. In Chapter 1, objectives were clearly stated and interview questions were developed to achieve the objectives of the current study.

For the current study, the researcher extended an invitation to twelve potential respondents of which only eight participated as informants. The researcher presented a twenty to thirty minutes research overview briefing, using online tools such as Microsoft Teams, Microsoft Lynch and Zoom due to the fact that physical face-to-face contact was impossible due to distractions caused by the Covid-19 pandemic. The researcher chose knowledge base consumers open to innovative initiatives. These included business analysts, an IT Architect, IT Manager, Chief Information Officer, a Call Centre Service Head, and DevSecOps Manager. The researcher believed that these informants had the ability to answer all the questions and add value to the current study.

6.2 DEMOGRAPHIC PROFILES

The informants were from different departments of the case study company and the majority of their sections relied greatly on the organisation's knowledge base to find answers. In order to observe their right to anonymity and confidentiality, their names have been omitted.

6.2.1 Gender distribution

The respondents were a mixture of females and males. Figure 5.1 depicts the gender distribution of the respondents.

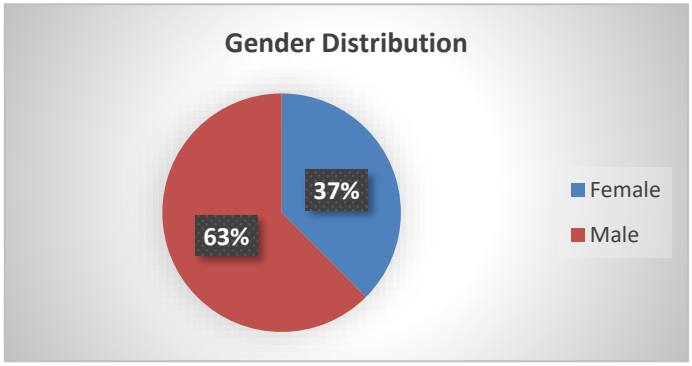


Figure 6.1. Gender distribution

Figure 6.1 shows that majority of the respondents were males (63%) and 37% were females.

6.2.2 Job roles

The research participants were requested to provide details regarding their job roles that they held at the time and the number of years served in the organisation as well as in financial services. Table 6.1 shows the data.

Table 6.1. Job Roles

Respondent	Job Role	Number of years in role	Number of years in organisation	Number of years in Financial Services Industry
Respondent 1	Business Systems Analyst	1	1	2.5
Respondent 2	Chief Information Officer	6	28	29
Respondent 3	DevSecOps Manager	3	11	11
Respondent 4	IT Manager	2	14	16
Respondent 5	IT Architect	7	12	16
Respondent 6	Business Analyst	18	10	18
Respondent 7	Business Analyst	8	14	14
Respondent 8	Head: Life Services	1.7	20	24
Total		**46.7**	**110**	**130.5**

Seven out of eight participants were senior in their roles and held managerial positions. This is a position of influence as far as the researcher is concerned. The job roles table above shows that the collective number of years served by the participants in their current roles was 46.7 years. Being consumers of the knowledge that is currently stored in the knowledge

base as well as being in the position to influence the innovative initiatives, their experience made them suitable participants to respond to the research questions.

6.2.3 Number of years in the current organisation

A considerable number of years in terms of experience in the current organisation was required for considering their input of value for the research. One participant with the least number of years was considered to be part of the research due to his open attitude and exposure to previous innovative organisations. The experience of the participants in the current organisation is shown in Figure 6.2.

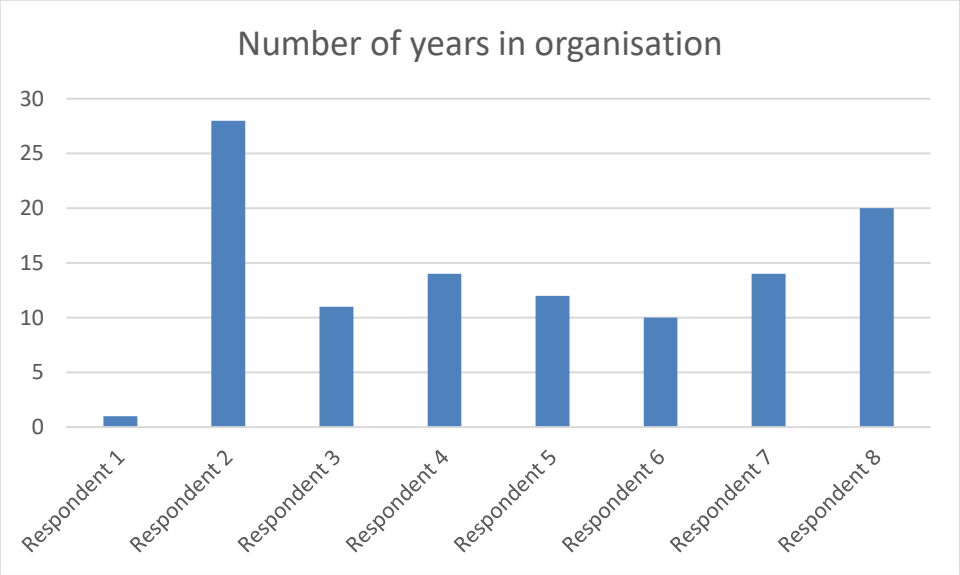


Figure 6.2. Experience in the organisation

Figure 6.2 shows that seven out of eight (87.5%) participants had been with the organisation for ten years and more. The researcher stressed that the respondents had to be open to innovation. With this set of respondents with this much experience the researcher believed that their input would be solid.

6.2.4 Demographic profiles summary

The summary of the demographic profiles of the participants is provided in Table 6.2.

Table 6.2. Demographic profiles summary

Summary of demographic profiles
The aim of Section 6.2 is to provide a detailed demographic profile of the research participants. The researcher took into consideration gender distribution, job roles and the experience of the participants. With regard to gender distribution, 63% were male participants and 37% were females. In terms of the roles that the participants were holding, seven out of eight (87,5%) were in managerial positions. The analysis shows that 87,5% had been with the organisation for at least 10 years. These details about the research participants are an indication that their input and/or contribution to the study would be significant.

The next section presents the findings of the data analysis.

6.3 FINDINGS AND ANALYSIS

The literature review led to an expansion of the dynamic capabilities model that outlines the process in which social media data is converted into meaningful knowledge that would add value to any open-minded organisation. This model required evaluation by the selected participants in this research. The aim of this section is to present the evaluation results and report on the key considerations of implementing the model proposed (Consult Figure 6.3. **Error! Reference source not found.**). It is also in this section that the objectives of the research are achieved, which is to determine the key considerations that are taken into account when organisations embark on including social media data into their knowledge base. Therefore, these are discussed in detail below.

6.3.1 Evaluation of the model

As highlighted in the previous paragraph, the researcher expanded the framework as a result of the information found during the review of the literature. This necessitated the evaluation of the model. A series of questions was developed to evaluate the model (See Appendix C and D). The questions were aimed at evaluating the applicability of the model, elements that the participant agreed on/or disagreed about, their views on the research

itself, and finally their recommendations. Figure 6.3 is the model to be evaluated by the research participants.

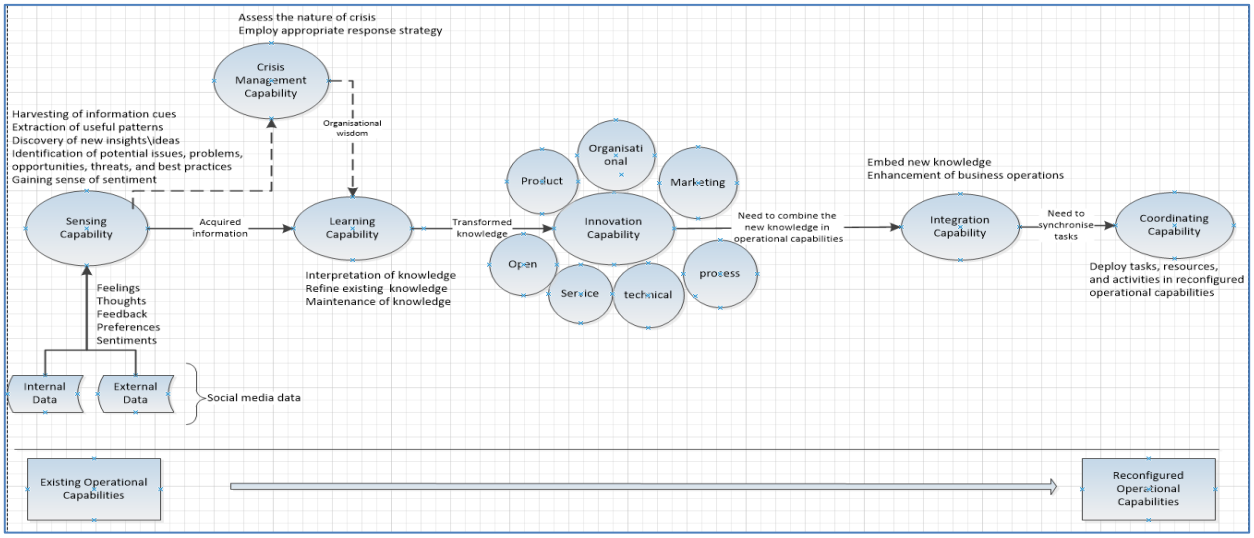


Figure 6.3. DCF for integrating SM content into organisations' KB

In an attempt to find out whether the participants viewed the model as complete and significant in accomplishing the intended purpose of converting social media data into useful knowledge that can be used by an organisation to stay resilient in the turbulent environment of social media, the participants shared their views on this matter. They were in agreement about the model although they highlighted some concerns about the authenticity of the data as social media is deemed to be littered with fake news and manufactured information, calling for validation. This went hand in hand with the view of another participant that proposed an ongoing assessment of the social media landscape as necessary before going on to the sensing capability*

> *I would add a validation capability. Social media is littered with fake and manufactured information. People post all kinds of things. Sometimes not even intended to be false or cause someone harm, but then it is taken by other parties and turned into fake news.* Participant 3.

* Responses are provided verbatim and have not been edited.

Yes, it covers the key elements, as this model is developed a second level of element could be added one that comes to mind is ongoing assessment of the social media landscape and some views and inputs on each source that would be useful in the actual sensing element. Participant 2.

One of the participants mentioned the impact that the model would have on the organisational culture and business operating model as well as the feasibility of implementation.

At first glance, the proposed model was well received by the participants as no one objected to any of the model components. However, when the participants were afforded an opportunity to give closing arguments around the model, this is what they had to say:

The model may consider adding a security element within the innovation component. Participant 1

Sensing element - Recent work in the AI space around bubbling up themes that the business knows are important for is mission from all the unstructured social media data would be part of this to then identify/slow changing patterns or if necessary the data and client or societies feelings/insights about a product service or specific tone the organisation taking on important societal matters. The organisations mission and strategic intent need to be included at the beginning of this model as the anchor. But that said even the mission and strategy could change as knowledge is matured and enhanced through the inclusion of social media insights. Participant 2

Social media can be a valuable source of data in research and AI. It unfortunately can also be the source of a company's downfall if not used responsibly and with due diligence. We have all heard horror stories of people using social media to fight their battles for them. What could be a valuable source of information can very quickly become the enemy and a source of destruction. Participant 3

This model was well thought off. Definitely can be used in the organisation to create hype in social media and to assist the organisation from learning quickly from data and to innovate and implement solutions based on needs of consumers and based on interrogating the information gained.it will assist the organisation to also understand consumers out there. Participant 4

This diagram is an excellent illustration of flow. Time is always a challenge and alignment especially if it overflows between different departments. Participant 7

It is a great model and culture is very important in order to take on something like this. Participant 8

From the comments of the participants it is clear the model has obtained acceptance with some additional caution. As much as social media can be used as a valuable source of data, some due diligence and responsible use need to be considered. It was also advised that the model be anchored by the strategic intent and the organisational mission. The benefits of social media such as learning, innovation and implement solutions based on customer needs were underscored. Another interesting concept that emerged from the research participants is artificial intelligence, implying that the users of the model can tap into the AI space to make a success of it.

Gauging the relevance of this research now and in the future, the participants shared their views. The general feeling was that this research is relevant and practical for long established organisations; however, certain things like integrity, the validation of data, the right skills and organisational needs should be taken into account. The question whether it would apply to start-up organisations was posed. The researcher proposes that this question form part of future research.

5.3.1.1 Recommended changes

The reason for requesting participants for recommendations was to evaluate the preference of the research respondents and make them part of the design. This is what customer co-

production is about − collaborating with the client in designing new solutions (Wang and Xu, 2018). The following recommendations were made by the participants:

- The security component of the innovation capability. How the organisation responds to potential security threats should be determined. If the organisation can apply predictive analysis to social media through artificial intelligence (AI) and machine learning capabilities, these could significantly reduce security threats by identifying them before they become a threat. As a result, resources required in the crisis management capability would be reduced, enabling the organisation to re-deploy these resources elsewhere to generate revenue.
- Introduce an overarching champion of a culture open to new knowledge and supportive of change; utilise some form of executive monitoring that is not disconnected from the elements that need to be transformed.
- All data harvested from social media should be thoroughly validated before being considered for incorporation.
- Coming out from the crisis management capability the flow should go to an Immediate Response Team as well depend on what was identified. So, if applicable, it must go to the learning capability. If there is something that must be handled immediately it should go to the Immediate Response Team. The Immediate Response Team will act accordingly to avoid reputational damage or risks and to highlight and broadcast positive news and messages from the company to social media to create a buzz about the company.
- Consider having a layer between the source data and the sensory capability that prepares the unstructured data first before it can be processed.
- Consider incorporating the Innovation Capability into the Integration Capability. This will assist with the implementation and co-ordinating of the solutions and insure strategic alignment.

5.3.1.2 Evaluation summary

Table 6.3 summarises the main points that have been taken from the model evaluation exercise. This summary is followed by the implementation of the recommendations shown in Figure 6.5.

Table 6.3. Model Evaluation Summary

Evaluation summary
Generally, all the elements in the framework were accepted with few suggestions on what can be added to the framework to make it more viable. The validation capability was strongly recommended. This is where the data is validated and untrustworthy information is discarded before being used in the sensing capability. Another recommendation was the addition of a security component to the innovation capability to minimise threats with a view to alleviating pressure on the crisis management capability. One last recommendation was executive monitoring driven by the change champion in each of the capabilities. This will make sure that there is a "golden thread" from one capability to the next. All of this should be anchored by the strategic intent and organisational mission.

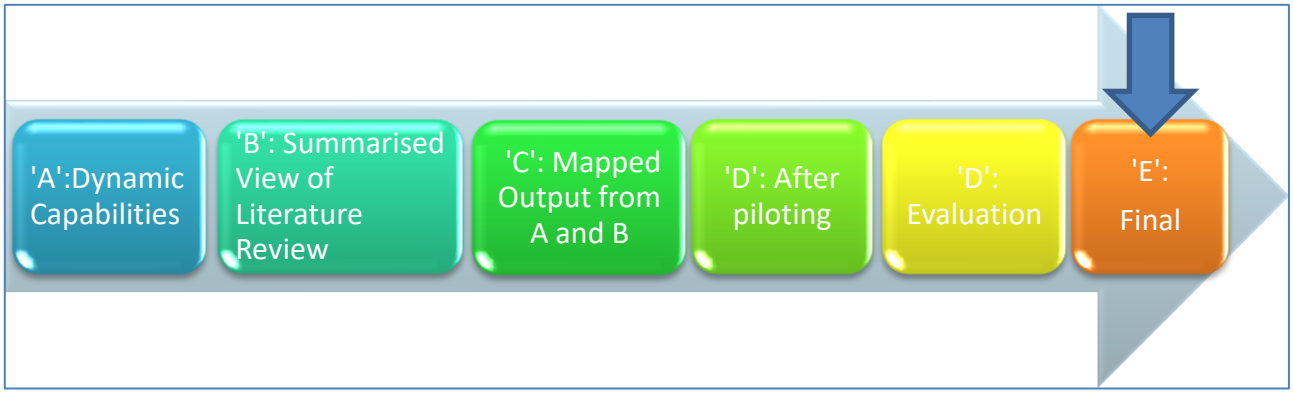


Figure 6.4. Framework development flow

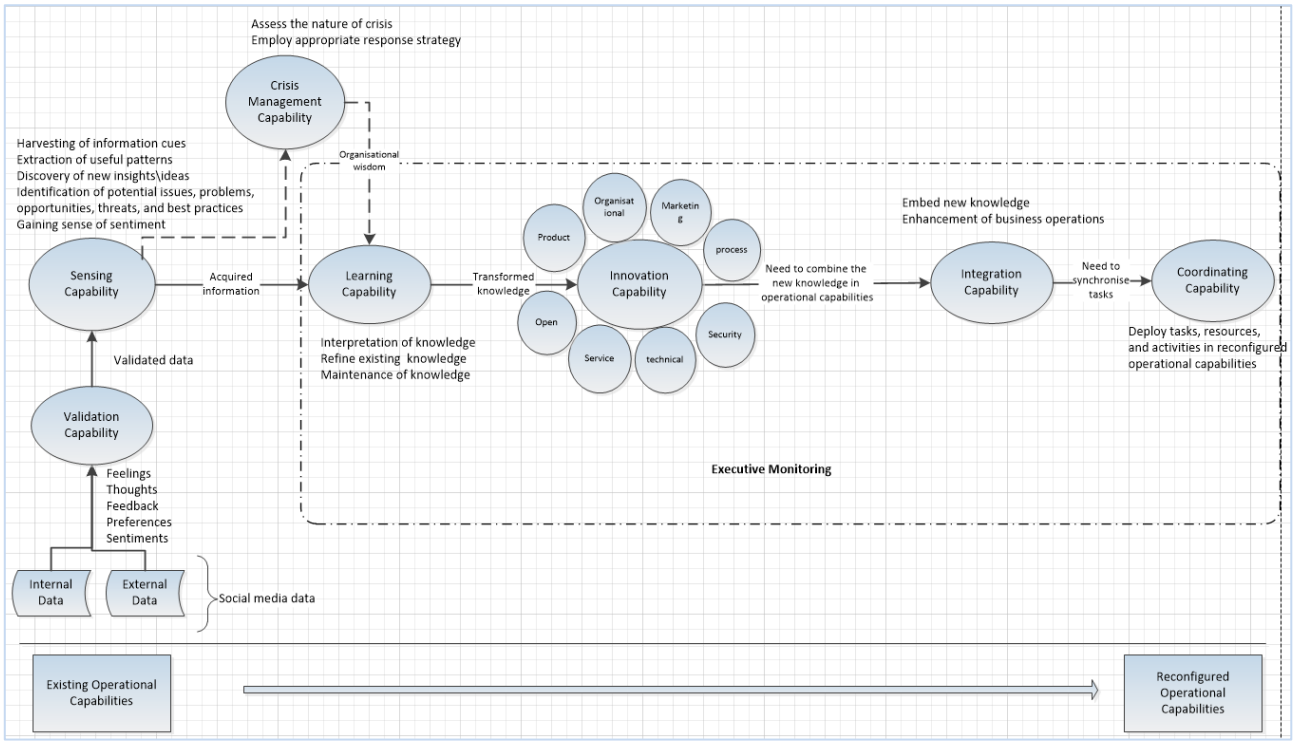


Figure 6.5. DCF for integrating SM content into organisations' KB (Final)

The dynamic capabilities model (DCF) for integrating SM content into organisations' KB (Consult Figure 6.5) aims to source internal and external social media data, validate the data, and extract useful information from it. The useful information can then be consumed by crisis management in case of a potential problem or threat detected, or it can be consumed by the learning capability where knowledge is refined. It is expected that some information from the crisis management is transferred to the learning capability where it will be used to refine existing knowledge. The enhanced knowledge from the learning capability is then consumed by the innovating capability where different types of innovation are discussed and effected. It is after this stage that knowledge about new and enhanced products and services are embedded into the business operations and thereafter deployed by the activities in the reconfigured operational capabilities. All of this is championed by someone who is responsible for the executive monitoring function, just to make sure that the elements of the model are executed as they should be.

6.3.2 Determining the key considerations

The objective of this study was to determine the key considerations that organisations need to take into account when incorporating social media data into their knowledge base. To answer these questions, three sub-questions were proposed. Answers to each of the questions are used to compare the results that were obtained from the systematic literature review. The researcher anticipated that some of the responses would be a matter of confirmation while others would be novel. Under a separate heading “Theme discussion”, reflections on what was found in the literature review compare what the respondents had to say. The answers to each of the sub-questions are discussed in the following sections.

6.3.2.1 Barriers (challenges) to implementation

As stated in Section 5.2.3.1 the use of social media for knowledge creation is not a challenge-free smooth process. As much as social media data is a source of new business insights, challenges to business are also on offer (Zhao *et al.*, 2015). The main reason for this section was to find the obstacles that the organisation would face as a basis for not implementing a model (Consult 5.5) discussed above. The respondents identified a number of barriers to integrating SM into KB (knowledge base). These themes include Data quality and reliability, Data volume, Buy-in from relevant stakeholders, Lack of skills, Absence or lack of appropriate or suitable technology, No proof of concept, Risk factors, Regulatory matters, Financial impact and economies of scale, Organisational culture, Lack of strategic support or alignment, Operational barriers, Inability to harvest valuable information, Poor motivation/incentive schemes, Closed-mindedness, No clear leadership direction, Resistance to change, No change capability. Table 5.4 shows the themes that have been derived from the respondents’ views. The participants were asked to give their responses for each of the capabilities.

Table 6.4. Barriers (Challenges) to implementation

Themes	Capabilities	Barriers to implementation (Raw from participants)
• Data quality and reliability	Sensing	Standardising information (Participant 1), Accuracy of information (Participant 1) Fake news (Participant 1) Deliberate attempts to provide misleading sentiments (fake social media accounts) (Participant 1) Truth vs Fake (Participant 3)
• Data volume	Sensing	Too much unprocessed data in the system (Participant 5) Data availability (Participant 7)
• Buy-in from relevant stakeholders	Sensing Crisis Management Learning Innovation Integration Co-ordination	Lack of willingness and support from senior management (Participant 1) To get the applicable buy-in from the marketing and research teams and from the executives (Participant 4) Buy-in by management (Participant 7) Management support (Participant 8) People factor. If they do not buy into the proposed system (Participant 5)
• Lack of skills	Sensing Learning Innovation Integration Co-ordinating	Lack of technical skill (Participant 1) Not finding the skills, business partners and technology that will enable the “bubble up” of accurate themes and messages from large amounts of unstructured data (Participant 2) The ability to monitor social media constantly and be alerted to any positive or negative information being socialised regarding the company (Participant 3) Skills sets needed for each capability (Participant 4) Technical skills (Participant 8)
• Absence or lack of appropriate or suitable technology	Sensing Crisis Management Learning Innovation	Not having some model that can be incorporated into the AI to guide what the business needs to be sensitive to (Participant 2) What infrastructure is needed (Participant 4) Maturity of tools that can accurately sense the data coming in (Participant 5)

Themes	Capabilities	Barriers to implementation (Raw from participants)
	Integration	Not having a sufficient listening and responding capability from where initial insights can be recorded (especially externally) (Participant 6) Infrastructure (Participant 7) Technology (Participant 4) Correct resources with regards to people, tools and IP (Participant 7) Technology is readily available (Participant 7)
• No proof of concept	Sensing Crisis Management Learning Innovation Integration	The pace at which the world moves and expects things to happen challenges our ability to determine relevance and usability (Participant 3) How will it give the organisation a competitive edge? (Participant 4) Will have to demonstrate and show statistics financially of how this will better the company financially (Participant 4) Need to demonstrate the difference it will make in terms of organisation reputation (Participant 4) Also show stats on companies that are currently using a similar model and highlight their successes and struggles (Participant 4) We need to show costs and what exactly would be needed in each capability (Participant 4) To understand potential ROI and value of money for investment (Participant 7)
• Social media risk factors	Sensing Crisis Management Innovation	Risk factors need to be highlighted (Participant 4) Delayed response (Participant 1) No immediate response, hence alignment is needed (Participant 7) Risk appetite (Participant 7)
• Regulatory matters	Sensing	Demonstrate how POPIA will be considered when using data (Participant 4)
• Financial impact and economies of scale	Sensing Crisis Management Innovation	Financial: To purchase/source tools for data analysis (Participant 7) Costs (Participant 4) Cost and economies of scale favour the larger players in an industry. Smaller players may lack the funding to run innovation, given high rates of spending on maintenance and support of the existing operations (Participant 2)
• Organisational culture	Sensing Innovation	Organisational culture (Participant 8) Organisational culture (Participant 1)

Themes	Capabilities	Barriers to implementation (Raw from participants)
		Organisational culture not aligned – federated/silo/Owner-Manager Business Models might be more difficult wherever one needs consistency, standardisation and governance practices (Participant 6)
• Lack of strategic support or alignment	Crisis Management Innovation Integration	No clear strategy (Participant 1) Not filtering strategy throughout the whole organisation (Participant 1) Organisational culture not aligned – federated/silo/Owner-Manager Business Models might be more difficult wherever one needs consistency, standardisation and governance practices (Participant 6) Strategic support (Participant 7) No strategic alignment (Participant 7) Priorities are aligned (Participant 7)
• Operational barriers		Uncoordinated effort between departments in the organisation (Participant 1) No co-ordination (Participant 1) No management oversight (Participant 1) Those working in this element on the coalface of the business a) Feel the learning and experimenting are done to them b) Cannot relate the new knowledge and changes other elements recommend (Participant 2) Not making it part of the business value-chain (Participant 6) Selecting a product in the market that can integrate well with the data/knowledge developed (Participant 5) Inflexibility in the system (Participant 7) No excellent way-of-work exists to deal with the crisis (Participant 7)
• Inability to harvest valuable information	Sensing Crisis Management Learning	Harvesting and using valuable information and not just information (Participant 3) How to use this information sensibly and to promote growth (Participant 3)
• Poor motivation Incentive schemes	Innovation	Poor motivation/incentive schemes (Participant 1)
• Closed-minded	Innovation	Being open-minded and futuristic while also being protective of the truth and the company's integrity (Participant 3)

Themes	Capabilities	Barriers to implementation (Raw from participants)
• No clear leadership direction		No clear organisational or departmental direction from leadership (Participant 1)
• Resistance to change	Co-ordination	Resistance to change (Participant 3)
• No change capability	Co-ordination	Not having an agreed, aligned and focused implementation/change capability for corrective action application (Participant 6) Environment must be available (Participant 7)

6.3.2.1.1 Theme discussion for barriers

As anticipated by the researcher, some of the themes are in agreement with what was found in the systematic literature analysis. Below is a discussion of considerations that prohibit the organisation from making use of the model that promises to convert social media data into something of high value.

1. ***Data quality issues*:** The issue of data quality and its reliability featured as a concern due to challenges of differentiating between truth and fake. One of the participants cited fake social media accounts. It was added that standardising information, accuracy of information, fake news and deliberate attempts to provide misleading sentiments can be a blocker to the implementation of the proposed model. The fake news concern was also identified by Stieglitz et al. (2018). Ten of the selected studies including Stieglitz et al. (2018) raised alarms about the quality and reliability of social media data. These included poor quality of content produced, questionable reliability and credibility of data sources, authenticity and integrity as well as accuracy of data.

2. ***Data volume issues*:** The issue of too much unprocessed data that social media platforms hold is seen as a repellent to the implementation of the innovative initiatives that the proposed model is aiming to achieve. As stated in the literature review , a number of studies highlight a concern around the availability of time for processing such huge amount of data (Vuori, 2012; Jalonen, 2014; Pirkkalainen and Pawlowski, 2014; He, Wang and Akula, 2017; Intezari and Gressel, 2017; Crammond *et al.*, 2018; Saggi and Jain, 2018). One of the participants applauded the sheer volume of data; however, a stern warning about irresponsible harvesting was given. On the flipside, another concern was raised in the case where there is no relevant data available to be consumed by the organisation.

3. ***Lack of skills*:** A set of skills was deemed necessary in each of the capabilities to make a success of the proposed model. This implies that technical and non-technical skills are equally important. Without the required skills, business partners and

technology that would enable the "bubble up" of accurate themes and messages from a large amount of unstructured data was highlighted as an issue. It was further highlighted by participant 3 that "the ability to constantly monitor social media and be alerted to any positive or negative information being socialised regarding the company" requires a certain skill. As identified in the literature review, skills for processing vast amounts of social media-generated content were regarded as barriers to taking advantages of knowledge acquisition from social media data (He, Wang and Akula, 2017). Furthermore, Kiniti and Standin (2013) found that integrating social media-sourced knowledge into long established work practices may be a challenge. They add that poor integration with other repositories of organisational data is a concern for any organisation.

4. ***Lack of appropriate technology or infrastructure***: According to He et al., (2017), lack or absence of tools, infrastructure, capabilities and skills for processing vast amounts of social media-generated content is regarded as a barrier to taking advantage of knowledge acquisition from social media data. A combination of knowledge management infrastructure and Big Data initiatives is required to capture, store, retrieve and manage any possible knowledge such as insights they can extract from user-generated social media content related to their organisations and their competitors (Barbier and Liu, 2011; He, Zha and Li, 2013; Wamba and Carter, 2016). These assertions were strengthened by the concerns that the participants of this study highlighted, such as "Not having some model that can be incorporated into the AI to guide what the business needs to be sensitive to", "Maturity of tools that can accurately sense the data coming in", "Correct resources with regard to people, tools and IP", and technology and infrastructure terms generated in numbers.

5. ***Lack of stakeholder buy-in*****:** This is one barrier that was voiced by almost all the participants in this study. Assertions from the participants included "Lack of willingness and support from senior management", "To get the applicable buy in from the marketing and research teams and from the executives", "Buy-in of

management", "Management support", and "Support from Exco". It is clear that without the support of management, initiatives of this nature will never see the light. This is not surprising, though, as the literature had already highlighted management scepticism of using social software as a barrier (Pirkkalainen and Pawlowski, 2014). So, the absence of the unwavering support of leadership is a major barrier.

6. ***No proof of concept*:** Without clear proof of concept, a new idea cannot easily be accepted. According to Jain (2018) "A Proof of Concept (POC) is a small exercise to test the design idea or assumption. The main purpose of developing a POC is to demonstrate the functionality and to verify a certain concept or theory that can be achieved in development." The participants highlighted that there will be a need to demonstrate and show statistics of how it would be a better company financially. The following are relevant questions: What will be the potential return on investment be (ROI?)Are there any organisations that are currently using a similar model with clear successes and struggles? What difference will using the model make in terms of the organisations' reputation? With no measurements of success, it may be difficult for an organisation to take on innovative projects like this. All these questions confirm Kane et al.'s (2014) findings that lack of a compelling business case continues to be a barrier in the adoption and/or implementation of social media-motivated innovation.

7. ***Social media risk factors*:** Concern about the risk factors associated with using social media data was raised. Due to quality and reliability concerns about social media data, the organisation would be worried about its reputation after taking on incorrect social media information. However, one of the participants mentioned that the risk appetite of the organisation may be a blocker. It all depends on how much risk the organisation is willing to take to reach greater heights. Regarding the crisis management capability, it was anticipated that a delayed response may damage the reputation of the organisation. Ott and Theunissen (2015) and Roshan et al. (2016) believe that organisations should employ appropriate strategies to mitigate and/or avoid the risk of a bad reputation.

8. ***Regulatory matters*:** Regulation in terms of the protection of personal information act (POPIA) is relevant when using social media data. This is in addition to regulatory considerations that were mentioned in the literature review. As organisations must abide by the regulations, it is important that regulations or policies that describe the standpoint and the use of social media by organisations are in place. Not knowing where the organisation stands in terms of certain regulations like POPIA may be a challenge and may lead to organisations missing on benefiting from social media advantages (Pirkkalainen and Pawlowski, 2014).

9. ***Financial impact and economies of scale*:** The impact that the model has on the financial front was foregrounded by the participants. This included the costs involved in purchasing or sourcing the required tools and skills for data analysis. These concerns are supported in the literature that initial investment may be costly due to the sourcing of tools, specialised personnel and organisational learning costs (Banker and Kemerer, 1989). It was noted that large organisations have a better chance of gaining from the implementation of the model compared to smaller organisations. One participant reported that “Cost and economies of scale favour the larger players in an industry. Smaller players may lack the funding to run innovation given high rates of spending on maintenance and support of the existing operations”. During the evaluation of the model another participant raised a concern that the model does not seem to fit the start-up business. Although there is this concern about large and small players in the industry, Banker and Kemerer (1989) point out that economies or diseconomies of scale all depend on the size of the project.

10. ***Lack of strategic support or alignment***: Strategic alignment was mentioned by some participants, citing that if the initiative of converting social media data into knowledge does not support the strategy of the organisation, it is a fruitless expenditure to get into such projects. No having a clear strategy on taking advantage of social media data, a strategy that filters throughout the organisation where

priorities are aligned with it is regarded as a barrier to considering an innovative initiative like this. Absence of a clear strategy implies an inability to articulate clear success measurements. Strategy alignment discussion took place in the systematic review section where Antonius et al. (2015, p.35) argue that adoption of social software by the organisation should be "integral part of a firm's knowledge strategy for it to succeed" and this is not possible without the support of the top management. Sanding and Kiniti (2011) sum it up by saying social media usage must be aligned with organisational strategy.

11. ***Inability to harvest valuable information*:** Harvesting information can always be done. However, the question remains: "How valuable is the information?" Therefore, the inability to extract valuable information may be a blocker. The inability to distinguish relevant and usable information quickly may be a challenge. "The ability to constantly monitor social media and be alerted to any positive or negative information being socialised regarding the Company" can benefit the organisation; it will be able to develop strategies of how best to respond to such information. In their research on the value of social media for innovation, Muninger et al. (2019) found that the inability to filter and share the relevant information remained a challenge.

12. ***Organisational culture*:** The culture of organisations was identified as a potential barrier to implementation. Organisations whose culture is closed-minded may reject opportunities of taking advantage of social media. This concurs with what was found in seven of the selected studies in the literature review. These studies argued that organisational culture that is not supportive, entrepreneurial, knowledge-driven, flexible or collaborative may be a barrier to the implementation of innovative initiatives like these (Standing and Kiniti, 2011; Antonius, Xu and Gao, 2015; Liu and Rao, 2015; Argyris and Ransbotham, 2016; Bolisani and Scarso, 2016; Muninger, Hammedi and Mahr, 2019).

13. ***Poor motivation/incentive schemes***: Another point that came across was poor motivation or incentive schemes. If there is no or poor incentive for novel ideas, then people get discouraged. This point relates to management as project sponsors. The absence of support in the form of incentives from management may be regarded as a barrier. As argued in the literature review, knowledge acquisition and appropriation without the support of the top brass of the organisation is impossible as the top management role acts as a sponsor of the project (Wilfredo Bohorquez Lopez and Esteves, 2013).

14. ***Operational barriers*:** Operational barriers were also identified by the participants. These barriers included "Uncoordinated effort between departments in the organisation", "No excellent way-of-work exists to deal with the crisis", "Not making learning part of the Business Value-chain", "No co-ordination and management oversight", and "Inability to relate the new knowledge and changes other elements recommend" and "Inflexibility in the system". It was then recommended that the function of co-ordinating the entire process be assumed by someone or a group of people. If there is no-one to assume this responsibility, taking over a project of this nature (or any other project) may be a challenge. Operational guidelines may then be established in the coordination function to avoid what Bolisani and Scarso (2016) identified as a possible barrier when there is lack of operational guidelines and technical reports. Some of the mentioned operational issues concur with what was revealed in the literature review where authors such as Kiniti and Standin (2013) found that integrating social media-sourced knowledge into long established work practices may be a challenge. They further add that poor integration with other repositories of organisational data is a concern for the organisation. The "Inflexibility in the system" assertion supports the argument of these authors.

15. ***Resistance to change:*** How open is the organisation to new ways of doing things? According to Yılmaz and Kılıçoğlu (2013, p.15), "No matter how successfully or administratively perfect a proposed change may be, individuals in an organisation

implement or break the change due to representing a form of influence". Resistance to change relates to rigidity, inflexibility and unwillingness to move from known to unknown territory. If the organisation does not have an attitude that embraces change, it cannot implement an innovative project such as the one referred to in this study. Another participant highlighted the "People factor. If they don't buy into the proposed system", which points to reluctance in implementing the proposed solution.

16. ***No change capability*:** An organisation that does not have a change management champion will let go of opportunities for innovation. During the evaluation of the model, it was recommended that executive monitoring be driven by the change champion in each of the capabilities. It was said that this will make sure that there is a "golden thread" from one capability to the next. The change capability drives the strategic intent and organisational mission. "Not having an agreed, aligned and focused implementation/change capability for corrective action application" was identified as a possible challenge by one of the participants.

6.3.2.2 Success factors

Anything undertaken that is supposed to bring desired outcomes has to have some minimum requirements met to make it a success. The conversion of data into meaningful knowledge that can offer resilience and competitive advantage to the organisation has to have certain checkboxes ticked. It was therefore the aim of the question to find out what the participants viewed as a recipe for success in a project of this nature. The views of the participants include clear objectives, goals and priorities, technology, strategic alignment, executive management buy-in, sensible harvesting, technical skills, an open mind, collaboration, agility, learning, insight integration, innovation encouragement, growing information libraries, sustained growth and proven client centricity as well as positive reporting. These themes are recorded in Table 6.5.

Table 6.5. Success factors

Themes	Capabilities	Success factors (Raw from participants)
• Clear objectives, goals and priorities	Sensing Learning Innovation Integration Co-ordination	Can we visually and graphically demonstrate the purpose and value this will make to the organisation? (Participant 4) Clear objectives (Participant 7) Clear KPIs and objectives (Participant 7) Must be able to demonstrate how the data will be analysed (Participant 4) What will be done with the analysed data (Participant 4) Clear KPIs and objectives (Participant 7) Clear SLAs in place (Participant 7) Way of work in clear and practical (Participant 7) Can prioritise based on knowledge what need to be changed and not have mission creep (Participant 2) Clear goals (Participant 7)
• Technology	Sensing Innovation Co-ordinating	Ensuring that the sensing technology is refined and self learns from business experts who understand the impact of specific patterns (Participant 2) Fit for purpose infrastructure and platform (Participant 5) Agreement and investment in efficient and effective listening and responding capabilities (Participant 6) Clear technology/digital roadmaps (Participant 7) Technology is available (Participant 7)
• Strategic alignment	Sensing Learning Innovation Integration Co-ordination	Strategic alignment (Participant 7) Business strategic intent/strategy (Participant 6) Alignment between business, technology and risk management strategies (Participant 1)

Themes	Capabilities	Success factors (Raw from participants)
• Executive management buy-in	Sensing Integration Crisis Management Innovation	Buy-in from Executives (Participant 4) Senior/Executive Level Business Sponsorship and buy-in aligned with at least some or other Business Strategic intent/Strategy (Participant 6) Exco support (Participant 7) Inspiring leadership (Participant 1) Co-ordinated leadership (Participant 1)
• Sensible harvesting	Sensing	The sheer volumes of information and the possibilities of value if harvested sensibly (Participant 3)
• Technical skills	Sensing Co-ordinating	Availability of technical skills (Participant 1) Competency of junior-mid level management (Participant 1) Selecting proper machine learning (and human) capability for the purpose (Participant 5) Making use of the right skills sourced externally (Participant 8)
• Open mind	Innovation	Open-minded thinkers who are prepared to look outside of the box, perhaps collaborate with other partners and build an ecosystem to bring new thinking into the organisation (Participant 2)
• Collaboration	Innovation Integration Co-ordination	Collaborate with other partners and build an ecosystem to bring new thinking into the organisation (Participant 2) Great collaboration (Participant 7)
• Agility	Crisis Management	Early implementation of response (Participant 1) Instant response to the crises and building knowledge on the reactions (Participant 5) Timeous response (Participant 7)
• Learning insights integration	Learning Integration	All elements can see how the mission they are empowered to work towards needs to take new learning knowledge on board (Participant 2) Integrate the learning insights back into the business value chain for application/change purposes (Participant 6)
• Innovation encouragement	Innovation	Incentivise individuals to innovate, celebrate successes openly, do not punish failures (Participant 1)

Themes	Capabilities	Success factors (Raw from participants)
• Growing information libraries	Learning	Determining that which is valuable and using it to enhance the information libraries and ultimately the company (Participant 3)
• Sustained growth and proven client centricity	Integration	Sustained growth and proven client centricity (Participant 3) Finding the balance between using information harvested to grow and the volumes harvested (Participant 3)
• Positive Reporting	Sensing	Actual output and recurring reports on findings (Participant 7)

6.3.2.2.1 Theme discussion of successes

Table 5.4 contains themes extracted from the raw responses of the participants in the study. Each theme represents the factors that organisations would take into account when incorporating social media data into their knowledge base. The discussion of each of these themes and an indication of which capabilities are picked from are given below.

1. ***Clear Objectives, goals and priorities:*** In the systematic literature review, it was discovered that purpose, goals, and/or objectives of any initiative, task or project must be clear (Standing and Kiniti, 2011; Antonius, Xu and Gao, 2015; Bolisani and Scarso, 2016). The participants in this research concurred that visually and graphically demonstrating what the purpose of and value to the organisation are count as a success factor. Clear service level agreements (SLAs) and key performance indicators (KPIs) are indispensable.
2. ***Technology*:** The availability of appropriate technology was identified as a success factor. Continuous refinement of the sensing technology and learning from business experts who understand the impact of specific patterns must take place. Clear digital roadmaps are believed to be essential to pave the way for the successful adoption of the capabilities model. Literature supports the importance of technology availability as Turban et al. (2011) state that there should be adequate infrastructure in place. Bolisani and Scarso (2016), Muninger et al. (2019) and Najmi et al. (2018) underscore the importance of technical infrastructure as a prerequisite for the successful implementation of social media into knowledge management for innovation purposes. One of the respondents referred to the appropriate infrastructure as “fit for purpose infrastructure and platform”.
3. ***Strategic alignment*:** Strategic intent and organisational mission is one of the factors identified as critical for the successful adoption of the model. The purpose for which the model is used, which is to extract, convert social media data into valuable knowledge, must be aligned with business strategies. This was not only repeatedly highlighted by the participants in the current study, but is a talking point in a number of studies. Standing and Kiniti (2011) argue that social media usage must be aligned with organisational strategy. A reliable facilitated collaboration among the strategists, managers and data

analysts is therefore required and vital to ensure the alignment of big social media data analysis and organisations' strategic direction (Intezari and Gressel, 2017).

4. ***Stakeholder Buy-in*:** Another success factor that was identified is that of support by the senior stakeholders of the organisation. This view is well supported in the literature where Liu and Rao (2015) state that direction, commitment and support from the senior leadership of the organisation are said to be crucial in the implementation of the knowledge management initiatives via social media. It is interesting that one of the participants highlighted "inspiring leadership" as a success factor. This confirms what Argyris and Ransbotham (2016) found, namely that charismatic, strong and dedicated leadership is indispensable to the successful institutionalisation of social media based knowledge initiatives.
5. ***Sensible harvesting*:** It is believed that in the sheer volume of information exist possibilities of value that will promote the growth of an organisation provided the information is harvested sensibly. Sensible harvesting implies extracting information that is relevant and usable. The ability to find a balance between using information harvested to grow and the volumes harvested increases the propensity to succeed. In the literature review it was discovered that information acquisition involves new possibilities presented by social media for the harvesting of information cues that emanate from the interactions from within and across the organisations, thereby gaining insight that can be useful to the organisation (Hanna et al., 2011 ; Kietzmann et al., 2011). He et al. (2015) also stated that from the massive amount of social media data arise possibilities for the extraction of useful patterns, discovery of new insights as well as the enhancement of business operations.
6. ***Suitable skillset*:** Having a suitable skillset from extraction to deployment of the project is seen as a success factor in the execution of this model. Sourcing and making use of the right skills when embarking on a project of this nature is of paramount importance. Selecting proper machine learning (and human) capability contributes to the success of this model. Competency of junior-mid level management in driving the co-ordination component of this model with clear direction is desirable. He et al. (2017) imply that success in implementing this kind of model is on the cards if absence of tools,

infrastructure, capabilities and skills for processing vast amount of social media generated content are addressed accordingly.

7. ***Open mind*:** With an open mind, success is on the horizon. According to one of the participants, "Open-minded thinkers who are prepared to look outside of the box, collaborate with other partners and build an ecosystem to bring new thinking into the organisation" are desirable in ensuring the success of this model. Encouraging different views, open engagement and diversity constitute open-mindedness. In their "Acquiring external knowledge to avoid wheel re-invention" study, Bohorquez Lopez and Esteves (2013) argue that "when organisations deal with projects that are completely different to previous ones, it is important to have an iterative approach without punishing mistakes to encourage the emergence of new initiatives, to address them with an open mind" (p.99). Interestingly, incentivising individuals to innovate, celebrating successes openly, and non-punishment of failures were highlighted by the participants.
8. ***Collaboration*:** Success in the implementation of this model requires great deal of collaboration. Collaboration was highlighted in three separate capabilities by three different respondents. This implies that collaboration throughout the stages of converting the social media data into knowledge and eventually realising its benefits is of utmost importance. In their "The value of social media for innovation: A capability perspective", Muninger et al. (2019) state that collaboration can be inbound, e.g. across departments, and/or external, e.g. suppliers and customers. This concurs with what one of the participants suggested, namely that "perhaps collaborate with other partners and build an ecosystem to bring new thinking into the organisation".
9. ***Agility*:** An output of sensing capabilities enables the crisis management capability to detect risk earlier and implement a response timeously. Akhtar et al. (2018) point out "the ability of organisations to swiftly react to changes and uncertainties". Chuang (2019) argues that organisations should poses the agility trait to respond effectively and efficiently to rapid changes in the market and customer demand.
10. ***Proactivity:*** Early detection gives rise to proactivity. With information that is sourced in time and knowledge built from the social media reaction, the organisation is able to minimise surprises. Proactivity therefore helps the organisation continuously to be on the lookout for issues that are prone to becoming big crises and eventually affect their

reputation in a negative way (Coombs, 2014). Having organisational design and staffing with specific focus is a step in the right direction.

11. ***Learning insights integration*:** What would be the point of learning the insights if these cannot be applied back to the business value chain? Two of the participants regard it as necessary to take the new knowledge and insights on board as one of the success yardsticks.

    Integrate the Learning insights back into Business value chain for application / change purposes.

    Insight integration is in agreement with Teece et al.'s (1997) definition of dynamic capabilities where they refer to dynamic capabilities as an ability of the firm to incorporate, form, and reconfigure inside and outer skills to address rapidly changing environments. According to Pavlou and El Sawy (2011), an organisation has to be dynamic to take advantage of the external knowledge and incorporate it into the knowledge that it already has for survival purposes. This supports the view of the participants of integrating the insight back to the business value chain to stay relevant in the rapid changing market.

12. ***Innovation encouragement*:** Retaining positivity goes a long way. It was highlighted that it is a good trait to incentivise individuals to innovate, celebrate their successes openly, and not punish failures. This is where "Inspiring leadership" fits in. Bolisani and Scarso (2016) acknowledge the factors identified by other scholars that organisations must display a culture that is supportive and open to learning. A learning organisation must be tolerant of errors and learn from such rather than punish the individual as this will signal a culture that does not embrace innovation.
13. ***Growing information libraries*:** "Determining that which is valuable and using it to grow the information libraries and ultimately the company". This statement from one of the participants highlights the benefit that the organisation stands to get. It is in line with the ultimate goal of the model, which is to convert social media data into valuable knowledge with the intention of benefiting the organisation.

14. ***Sustained growth and proven client centricity:*** One of the participants underscored sustained growth. This echoes the sentiments of Griffith and Harvey (2001) that dynamic capabilities are a source of sustainable advantage. It was stated that finding the balance between using information harvested to grow and the volumes harvested would yield success. If using the model leads to sustained growth and proven client centricity for the organisation, this would qualify as a success factor.
15. ***Positive reporting*****:** Some of the barriers that were reported by the participants in this study included, "How will it give the organisation a competitive edge, Will have to demonstrate and show stats financially how this will better the company financially, Need to demonstrate the difference it will make in terms of organisation reputation, Also show stats on companies that are currently using a similar model and highlight their successes and struggles, We need to show costs and what exactly would be needed in each capability, to understand potential ROI and Value of money for investment". Having an actual output and recurring reports on findings that shine a light on the concerns listed here would constitute success for organisations.

6.3.2.3 Failure factors

There is always the possibility of failure in any project undertaken. The aim of the failure factor question was to elicit what could possibly lead to collapse on the execution of the proposed model after its adoption or implementation. The failure factors as viewed by the research participants included No management buy-in, No adherence to Regulatory standards, No collaboration, No tangible change, Missed Opportunities, Lack of analytical skills, Poor project/change management controls, Lack of sponsorship, Organisational politics and power play, Costs involved, Vindictive and malicious information, Infrastructure, Lack of open-mindedness, Not making learning a priority, No strategic alignment, No motivation, Misalignment with organisational mission, No return on investment (ROI), No agility, Bad client experience, Poor integration capacity, Lack of oversight, No clear expected outcomes, and No innovation appetite. Each of these identified factors is discussed below.

Table 6.6. Table 6.6 indicates what could potentially lead to failure if the model was to be adopted by an organisation. The failure factors as viewed by the research participants included No management buy-in, No adherence to Regulatory standards, No collaboration, No tangible change, Missed Opportunities, Lack of analytical skills, Poor project/change management controls, Lack of sponsorship, Organisational politics and power play, Costs involved, Vindictive and malicious information, Infrastructure, Lack of open-mindedness, Not making learning a priority, No strategic alignment, No motivation, Misalignment with organisational mission, No return on investment (ROI), No agility, Bad client experience, Poor integration capacity, Lack of oversight, No clear expected outcomes, and No innovation appetite. Each of these identified factors is discussed below.

Table 6.6. Failure factors

Themes	Capabilities	Failure Factors (Raw from participants)
• No management support	Sensing Crisis Management Innovation Co-ordination	No executive buy-in (Participant 4) If there is no buy-in from executives (Participant 4) No buy-in (Participant 7) Poor support from top management may lead to failure (Participant 8)
• No adherence to regulatory standards	Sensing Crisis Management	Does not meet POPIA standards (Participant 4) Regulations like POPI act (Participant 7) In a crisis situation, the only failure would be if we lose our trading license (Participant 5)
• No collaboration	Sensing Learning Crisis Management Integration	Disjointed response effort, lack of co-ordination (Participant 1) If the learning element is not in touch and valued by those in the various domains that are expected to make changes (Participant 2) No collaborative approach (Participant 5) Lack of collaboration throughout and poor integration indeed (Participant 8) No collaboration or co-ordination (Participant 7)
• No tangible change	Sensing Integration	If the model will not shift or affect the organisation in any way (Participant 4) No competitive advantage achieved (Participant 4) No knowledge gained (Participant 7) Nothing is implemented (Participant 7)
• Missed opportunities	Sensing Learning	If the sensing model is slow to identify themes matching the sensitivities the business knows it need to look out for, or the business is blinded to messaging that it does not want to see or does not have the ability to connect the dots (Participant 2) Missed opportunities. Inability to make sense of the new unique information from the sources (Participant 5) Inability to record, store and retrieve sensing insights gathered for predictive analytics – aka closing the loop (Participant 6) No action taken from learning (Participant 7)
• Lack of analytical skills	Sensing Learning Integration	Skills and lack of contracting to use the new knowledge (Participant 2) Mistaking fake for true, and true as fake (Participant 3) Failing to identify redundancies in harvested information (Participant 3)

Themes	Capabilities	Failure Factors (Raw from participants)
		Skillsets (Participant 4)
• Poor project/change management controls	Learning Integration Co-ordination	Not in touch with the realities of all elements and components in the business and underestimates what the change journey is likely to take. Oversimplifying the change, not addressing change fears and unrealistic deadlines make buy-in a big risk and failure factor (Participant 2) A serious lack of change management; do not just do this because we believe it is right type messaging; it needs to be connected to enabling a successful mission (Participant 2) No update of what was implemented (Participant 7) No communication (Participant 7) Poor project management (Participant 7)
• Lack of sponsorship	Innovation	The innovation needs sponsorship if it is to get to the implementation phase (Participant 2) Not having or at least confirmation on the previous two points – basically the inverse (Previous point: Senior/Executive Level Business Sponsorship and buy-in aligned with at least some or other Business Strategic intent/Strategy) (Participant 6)
• Organisational politics and power play	Learning Innovation Integration	Organisational politics and power play. Hence needing the oversight of this entire process from a mission/ product owner (Participant 2) Lack of synchronisation among leaders in departments (Participant 1) Lack of transparency among departments (Participant 1)
• Costs involved	Sensing Crisis Management Learning Innovation	Lack of resources (Participant 1) Costs (Participant 4)
• Vindictive and malicious information	Crisis Management	The possibility of vindictive and malicious information being socialised (Participant 3)
• Infrastructure	Crisis Management Learning	Infrastructure (Participant 4)
• Lack of open-mindedness	Learning	Lack of open-mindedness (Participant 1)

Themes	Capabilities	Failure Factors (Raw from participants)
• Not making learning a priority	Learning	Poor capability set for enabling learning (Participant 5) Making the learning a second-class citizen and not applying the feedback from a corrective action perspective will lead to failure (Participant 6)
• No strategic alignment	Co-ordination Learning	Unclear strategy (Participant 1) No strategic alignment (Participant 7)
• No motivation	Innovation	No motivation (Participant 1)
• Misalignment with organisational mission	Innovation	Innovation is misaligned with the organisation mission. Sometimes the mission needs to change, but it must change first before extensive work on innovation is carried out (Participant 2)
• No return on investment (ROI)	Innovation	Innovation with no real return on investment (Participant 3)
• No agility	Innovation	How quickly can we do something, aka how agile are we? (Participant 7)
• Bad client experience	Integration	Bad client experience due to fake or malicious data finding its way into our database (Participant 3)
• Poor integration capacity	Integration	Poor integration capacity (Participant 5) Knowledge of technology can contribute to failure (Participant 7)
• Lack of oversight	Co-ordination	Lack of oversight from top management (Participant 1)
• No clear expected outcomes	Co-ordination	Failure to define the desired and expected outcome (Participant 3) System not used for the intended purpose (Participant 5)
• No innovation appetite	Sensing	There is no appetite to innovate and compete (Participant 4)

6.3.2.3.1 Theme discussion for failures

This section presents themes that have emerged from the data detailing what could lead to the collapse of the innovative initiative after the model has been implemented. Below is a discussion of each of the factors that have the potential to extinguish the hopes of continuously benefitting from the proposed model's intended purpose.

1. ***No management support****:* Continuous support by management is of paramount importance; if it fades away, the innovative initiatives will die too. As discussed in the barriers and successes sections, management's stand on issues of this nature is that it is a factor that has the ability to swing to either success or failure. Three of the participants shared the view that poor support by management may lead to failure. The results of the systematic review revealed that direction, commitment and support by the senior leadership of the organisation are crucial in the implementation of the knowledge management initiatives via social media (Liu and Rao, 2015) and that knowledge acquisition and appropriation without the support of the top brass of the organisation is impossible as the top management role acts as a sponsor of the project (Bohorquez Lopez and Esteves, 2013).
2. ***No adherence to regulatory standards***: Non-compliance with regulations was identified as a factor that may lead to failure. Seeing that social media data contains personal information, two of the participants raised a flag around adherence to the POPI act; if this regulatory standard is not followed, it will be incorrect for the organisation to continue with an initiative like the one discussed in this study. Possible slack in following the regulations was identified in the systematic review results; regulations or policies that describe the standpoint and the use of social media by organisations are a necessity, failing of which may lead to collapse of initiatives of this nature (Pirkkalainen and Pawlowski, 2014).
3. ***No collaboration*****:** "Disjointed response effort, lack of co-ordination", "No collaborative approach", "Lack of collaboration throughout and poor integration indeed", "If the learning element is not in touch and valued by those in the various domains that are then expected to make changes", and "No collaboration or co-ordination". These statements from the participants show that with no collaborative

effort, failure is inevitable. Standing and Kiniti (2011) state that the culture of collaboration and willingness to share is critical, while Intezari and Gressel (2017) assert that reliable facilitated collaboration is a requirement for incorporating big social media data into strategic decisions; this is deemed vital if organisations want to align their strategic direction with analysis of big social media data. It has been mentioned that collaboration can be inbound, e.g. across departments and/or external, e.g. with suppliers and customers .As collaboration was identified as a success factor in both the systematic review result and the participants' statements, it makes sense that lack or absence of collaboration will do the inverse. This non-collaboration failure factor was mentioned in sensing, crisis management, and integration capabilities.

4. ***No tangible change***: What will be the point of implementing a project that does not reflect or yield any visible change? Does the initiative yield the intended results such as competitive advantage, generation of valuable knowledge, and steering the organisation to greener pastures? A negative response to these questions points to failure. The participants flagged what the researcher called "non-tangible change" as a failure factor. "Won't shift or affect the organisation in any way", "No competitive advantage achieved", "No knowledge gained", and "Nothing gets implemented" are the direct statements from participants that suggested the "non-tangible change" term. These were highlighted in the sensing and integration capabilities.
5. ***Missed Opportunities***: According to He et al. (2015, p.1623) "User-generated social media content is offering unprecedented opportunities as well as challenges to organisations because they contain a deluge of opinions, viewpoints and conversations by millions of users". The participants in this study felt that the inability to spot, make sense of, and take action from learnings will result in missed opportunities. Missing out on opportunities that would have made a positive difference to the organisation would render taking on innovative initiatives like this a "failure". Slowness in identifying themes matching the sensitivities the business knows it needs to look out for as well as the inability to connect the dots may result in missed opportunities. One of the participants reported that the inability to record,

store and retrieve sensing insights gathered for predictive analytics as a failure. The participants laid out these factors in the sensing and learning capabilities.

6. ***Lack of analytical skills****:* As already discussed in the success factors, sharp analytical skills are needed to make a success of implementing these innovative initiatives. It was again identified that a lack of analytical skills may lead to failure. "Failing to identify redundancies in harvested information", "Mistaking fake for true, and true as fake", and "Skills and lack of contracting to use the new knowledge" are the statements from the research participants. This possible failure due to lack of skills set was identified in the sensing, learning and integration capabilities.
7. ***Poor project/change management controls***: According to one of the participants, "Not in touch with the realities of all elements and components in the business and underestimates what the change journey is likely to take. Oversimplifying the change, not addressing change fears and unrealistic deadlines make buy-in a big risk and failure factor". Absence in communication and/or update on what was implemented constitutes poor project or change management. In the evaluation of the model, it was suggested that an executive champion was needed to play a co-ordinating role across capabilities. This strengthened a suggestion by Argyris and Ransbotham (2016) that dedicated and charismatic leaders are indispensable and key in the facilitation and institutionalisation of knowledge processes. This was identified as one of the failure factors in the integration and co-ordination capabilities.
8. ***Lack of sponsorship*****:** It was said that "innovation needs sponsorship if it's to get to the implementation phase". Therefore not having senior/executive level business sponsorship and buy-in aligned with at least some or other business strategic intent will lead to failure. These are the sentiments shared by the participants of this study. As acknowledged in the systematic review results, knowledge acquisition and appropriation projects need sponsorship from top management (Bohorquez Lopez and Esteves, 2013).These were specifically pointed out in the innovation capability. Bucero and PMP (2015) describe the main purpose of a good sponsor, usually a high level authority with business experience who knows the strategy of the organisation, as the one that adds value to the project and is critical to the success of the project, while Bryde (2008) describes the project sponsor as the provider of the resources

and a primary risk taker. The project sponsor is regarded as an enabler, engager, embedder and an enhancer in the sense that he provides the resources, communicates to the rest of the organisation regarding the project, brings in "new thinking", and provides value-added services, insights, advice that augment and integrate all project-based work respectively (Bucero and PMP, 2015)

9. ***Organisational politics and power play*:** One of the participants pointed out that a lack of synchronisation between leaders in departments may lead to failure in the execution of an innovative project. This echoes the argument of Frost and Egri, (1991) that the interplay of power and politics at individual, intra-organisational, inter-organisational, and social levels determines the success or failure of proposed innovations. In their processual perspectives on change and innovation, Buchanan and Badham (2008) argue that these are politicised processes. The backing of the participants' statement by these two authors makes "organisational politics and power play" a considerable failure factor for an innovative project such as the one introduced through the proposed model. What this implies is the need to work collaboratively in a transparent manner.
10. ***Costs involved*:** As with any other project, there will always be costs involved for paying for the required resources, whether human, technical or otherwise. These costs are usually covered by the project sponsor. Hence lack of sponsorship would mean an inability to cover the costs involved. These costs or financial impact also featured as a barrier to implementation of the project. Costs can then be a contributor to the failure of the innovative initiatives.
11. ***No agility*:** Agility was identified as one of the success factors. As Chuang (2019) argues that organisations should possess the agility 'trait' to respond effectively and efficiently to rapid changes in the market and customer demand, absence of agility will then serve no purpose if the organisation will not make it first to the market with innovative solutions. The organisation has to be agile.
12. ***Vindictive and malicious information*:** The possibility of vindictive and malicious information being socialised may lead to the demise of the promising initiatives. This ties up with the quality and reliability issues that were identified by various authors such as Bharati et al. (2015), Bolisani and Scarso (2016), He et al., 2015a (2017),

and Intezari and Gressel (2017) as barriers to the implementation of innovative initiatives. The presence of vindictive and malicious information underscores the importance of having the crisis management capability.

13. ***Lack of Infrastructure*:** Najmi et al. (2018) argue that the availability of ICT infrastructure is significant in the implementation of knowledge management while Turban et al. (2011) emphasise that there should be adequate infrastructure in place to acquire the information successfully and turn it into useable knowledge. The absence of the appropriate infrastructure will lead to failure.
14. ***Lack of open-mindedness*:** The approach to certain initiatives requires an open mind. This is argued in the success factor discussions where one of the participants said, “Open minded thinkers who are prepared to look outside of the box, perhaps collaborate with other partners and build an ecosystem to bring new thinking into the organisation are needed to make a success of innovative initiatives”. This statement concurs with Wilfredo Bohorquez Lopez and Esteves's (2013) view that encourages the emergence of new initiatives and addresses any mistakes that may occur with an open mind when dealing with untapped ground. It is in this context that lack of open-mindedness was identified as a failure factor.
15. ***Not making learning a priority*:** Knowledge-facilitated learning, according to Zheng, Li, and Zheng (2010), enables growth for organisations operating in the dynamic environment. This is possible if the learning element is in touch and valued by those in the various domains that are then expected to make changes. Therefore, if an organisation makes the learnings a second-class citizen and not applying the feedback from corrective action perspective, this would be regarded as a failure.
16. ***No strategic alignment:*** Strategic alignment has been identified as key in the adoption of innovative projects. Standing and Kiniti (2011) argue that social media usage must be aligned with organisational strategy; so did the participants of the current study. According to the participants in this study, unclear strategy or misalignment of the strategy will give no direction and will lead to failure.
17. ***Misalignment with organisational mission*:** Organisational mission is about the organisational reason for existence and it serves “to communicate purpose and direction to employees, customers, vendors and other stakeholders”

(Managementinnovations, 2008). Having innovation that is misaligned with the organisational mission is a recipe for failure. One participant went on to say that "Sometimes the mission needs to change, but it must change first before extensive work on innovation is carried out". This implies that there is a need to have executive monitoring in place as suggested in the model evaluation section.

18. ***No motivation*:** If there is no drive to take on tasks and/or projects, then chances of success are slim. Poor motivation or incentive schemes were identified as a barrier to the implementation of innovative initiatives. Again, as Wilfredo Bohorquez Lopez and Esteves (2013) point out, knowledge acquisition and appropriation without the support of the top brass of the organisation is impossible as the top management role acts as a sponsor of the project, it is clear that continuous lack of motivation will definitely lead to failure of projects.
19. ***No return on investment (ROI):*** It has been highlighted that there are certain requirements for making a project a success. These requirements include resources such as ICT infrastructure, certain skillsets and time. In addition to this, expectations such as competitive edge, positive organisational reputation, potential ROI, and value of money for investment were highlighted by the participants. These expectations are taken as returns for embarking on innovative projects like these. Innovation with no real return on investment was thus identified as a possible failure.
20. ***Bad client experience*:** Failure to identify true information from the social media data may be a recipe for disaster. "Mistaking fake for true", as one of the participants phrased it, may lead to incorrect information being stored in the organisations' database. This then may lead to bad client experience. In turn, the organisation will suffer the consequences, such as a bad reputation. It is therefore imperative for organisations continuously to be on the lookout for issues that are prone to becoming big crises and eventually affect their reputation in a negative way (Coombs, 2014).
21. ***Poor integration capacity*:** Poor integration was identified in the literature review as one of the failure factors. It was again mentioned in the participant interviews that poor integration capacity may lead to failure. Argyris and Ransbotham (2016) and Kiniti and Standing (2013) refer to new content integration into the existing structure that might be a hindrance if quality control of the content is not proper.

22. ***Lack of oversight*:** The executive monitoring function that oversees the elements of the model and its workings was proposed during the evaluation of the proposed model. Some participants identified a lack of oversight on the side of top management as a possible failure. One of the participants highlighted that due to organisational politics and power play, oversight on the entire process is needed. Project sponsorship would perform the oversight role in addition to the roles that Bucero and PMP (2015) already identified.
23. ***No clear expected outcomes*:** The outcomes of the systematic literature review revealed that a clear definition, purpose and expectations must be considered (Standing and Kiniti, 2011; Antonius, Xu and Gao, 2015; Bolisani and Scarso, 2016). The participants in this study concurred that failure to define the desired and expected outcomes as well as not using the system for its intended purpose may lessen the chances of successful innovative efforts.
24. ***Lack of innovation appetite:*** Innovative initiatives are sustainable if there is an appetite for innovation. If for some reason the innovation appetite graph goes down, it is highly likely that the innovative initiatives will fail.

6.3.2.4 Considerations summary

The aim of this section was to discuss what the participants of the current study regarded as key considerations to take into account when embarking on using social media data as a source of new insights that can be turned into valuable knowledge for the benefit of the organisation that operates in a turbulent environment. The participants of this study were not shy in activating their thinking tanks and this is evidenced by the lengthy list of barriers, success and failure factors as shown in Table 5.7. As anticipated in the introduction to Section 6.3.2, some factors are a confirmation of what was found in the systematic literature review, while some are novel. The new ones are indicated as “new”.

Table 6.7 Summary of considerations

Failure factors	Barriers	Success factors
• No management support • No adherence to regulatory standards • No collaboration • No tangible change (***new***) • Missed opportunities (***new***) • Lack of analytical skills • Poor project/change management controls (***new***) • Lack of sponsorship(***new***) • Costs involved • Organisational politics and power play (***new***) • Vindictive and malicious information (***new***) • No strategic alignment • No motivation (***new***) • Misalignment with organisational mission (***new***)	• Data quality and reliability • Data volume • Buy-in by relevant stakeholders • Lack of skills • Absence or lack of appropriate or suitable technology • No proof of concept (***new***) • Risk factors • Regulatory matters • Financial impact and economies of scale • Organisational culture • Lack of strategic support or alignment • Operational barriers • Inability to harvest valuable information (***new***) • Poor motivation/ incentive schemes (***new***) • Closed-minded	• Clear objectives, goals and priorities • Technology • Strategic alignment • Executive management buy-in • Sensible harvesting (***new***) • Technical skills • Open mind • Collaboration • Agility • Learning insights integration (***new***) • Innovation encouragement (***new***) • Growing information libraries (***new***) • Sustained growth and proven client centricity (***new***) • Positive reporting (***new***)

Failure factors	Barriers	Success factors
• No return on investment (ROI) (***new***) • No agility • Bad client experience (***new***) • Poor integration capacity • Lack of oversight (***new***) • No clear expected outcomes • No innovation appetite (***new***)	• No clear leadership direction (***new***) • Resistance to change (***new***) • No change capability (***new***)	

Looking at the summary of considerations as shown in Table 5.7 above, it is clear that there is more that could go wrong and/or prevent the adoption of the model than what results in success. Of the twenty-four identified failure factors, fourteen (58%) are new, while barriers showcase more new items than confirmed ones. Most of the success factors have been re-affirmed to be key considerations; however, it seems that these factors have not been exhausted as a few more have been identified. Figure 5.6 shows the direct comparison between factors from the systematic literature review and those that were reported by the research participants.

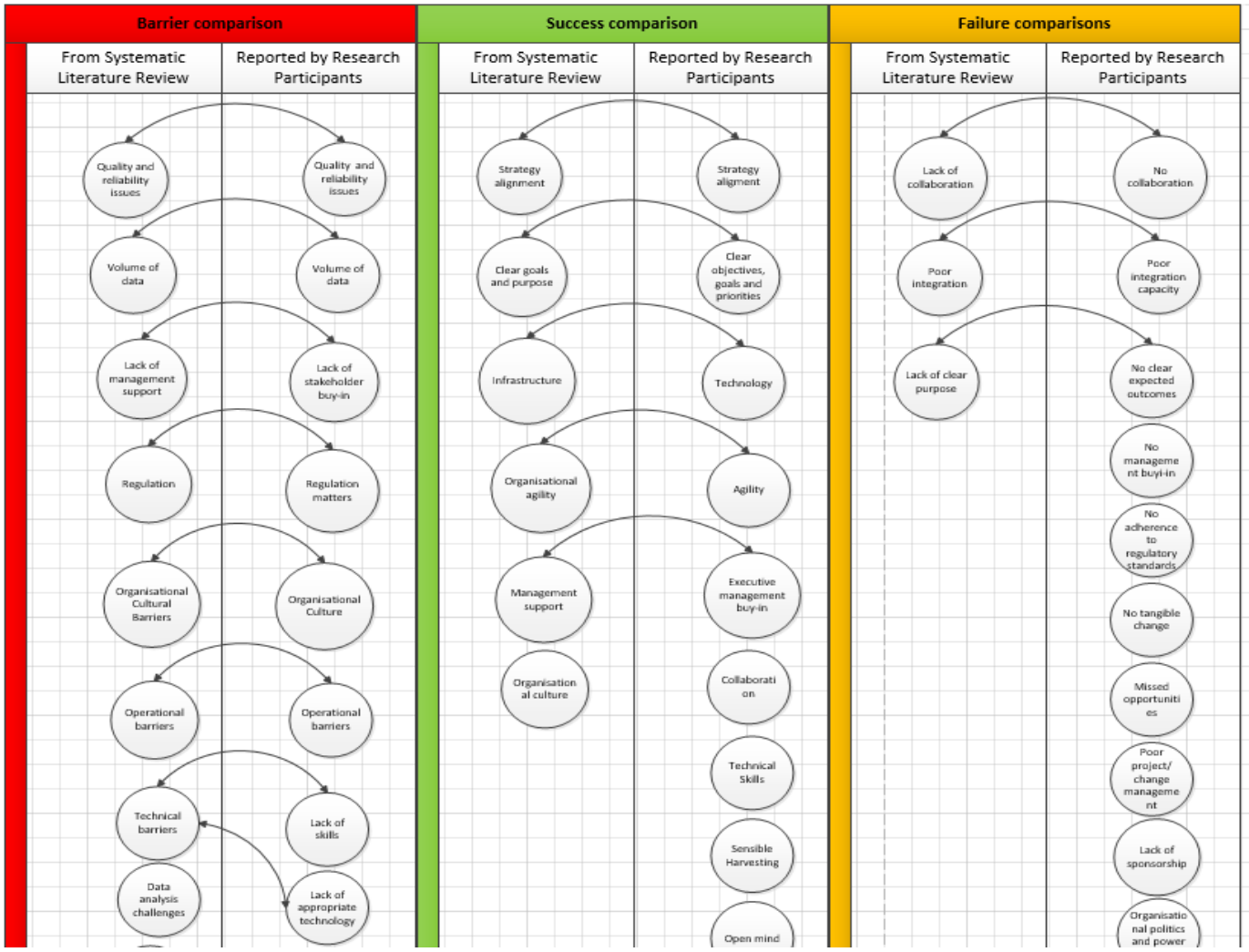


Figure 6.6. Consideration comparison between systematic results and participant reports

Figure 6.6 above shows the pictorial view of the side by side comparison of the results obtained from the systematic literature review with those reported by the research participants. In the diagram above, those that match are indicated by a connector while the non-matching ones are standalones. A brief discussion of each of the categories follows.

1. **Barrier comparisons**

The participants agreed about seven (58%) of the barriers that were discovered in the literature. They reported more factors that they considered as barriers and these include no proof of concept, data risk factors, financial impact and economies of scale, strategic misalignment, poor motivation or incentive scheme, and absence of clear direction from leadership. While 58% agreed about the previously identified barriers, the additional 42% implied more reasons were not exhausted and challenges would continue to be discovered. Overall, the growing list of barriers implies either an increasing low risk appetite, growth in scepticism, an indication of growth opportunity or a missing gap. An example of a missing gap can be found in the misalignment of organisational strategy. The organisation could review its strategy if there is growth opportunity presented by innovative solutions such as the one afforded by social media.

2. **Success comparisons**

Almost all the success factors (83%) that were identified from the systematic literature results were confirmed by the participants, except organisation culture. The participants identified nine more factors that they considered critical to the success of implementing the proposed model. These include collaboration, an open mind, sensible harvesting and growing information libraries, to name a few. Successful implementation of the model is a function of many variables. Getting these right minimises the chances of failure and possibly weakens the barriers reported in the previous section.

3. **Failure comparisons**

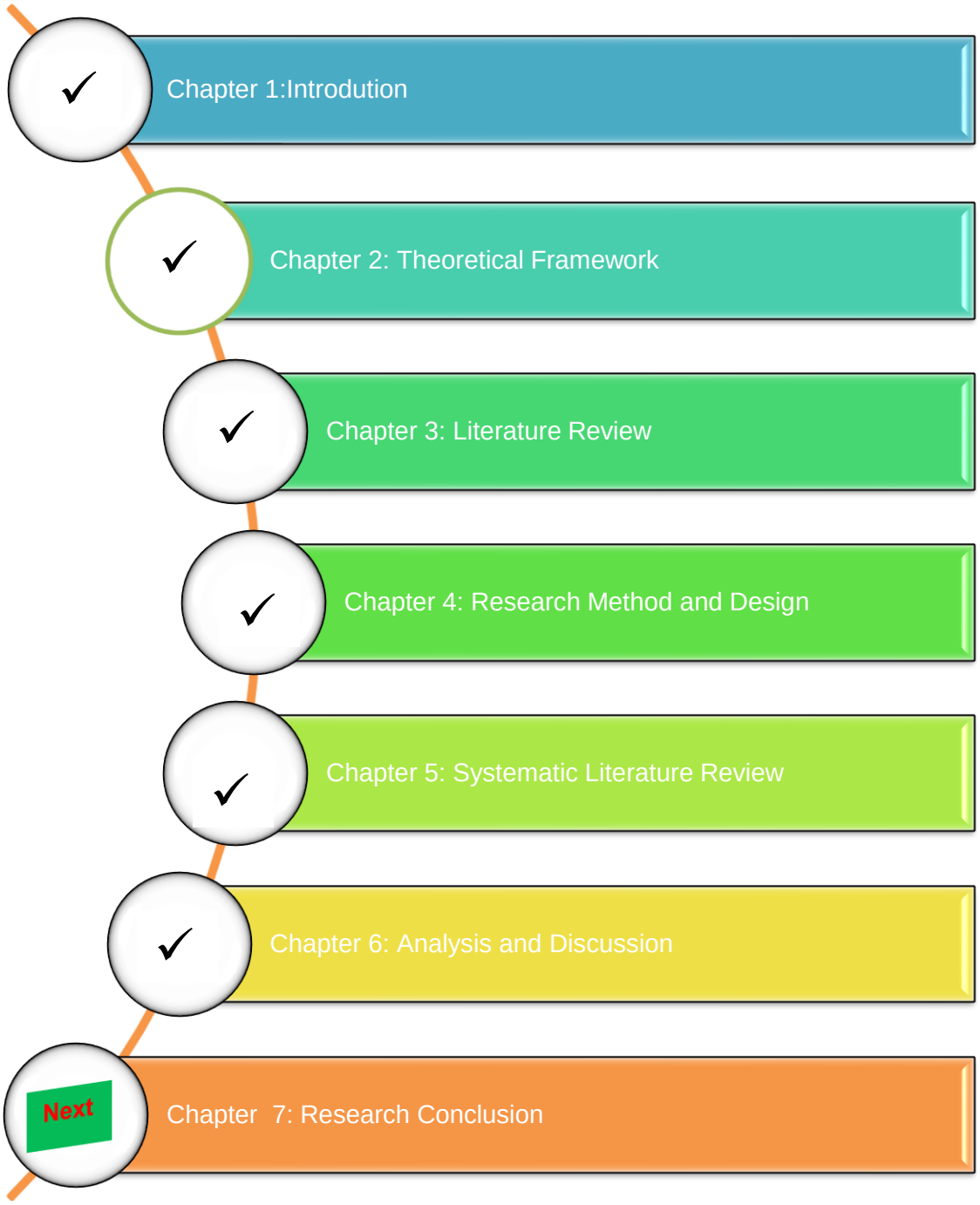
In addition to the factors that were found in the literature the participants reported an additional nineteen failure factors as depicted in figure 5.6. The long list of possible failures presents organisations with loopholes to avoid if they are determined to make a

success of embarking on innovative initiatives such as implementing the dynamic capabilities model that converts social media data into meaningful knowledge to gain competitive advantage and resilience in turbulent environments.

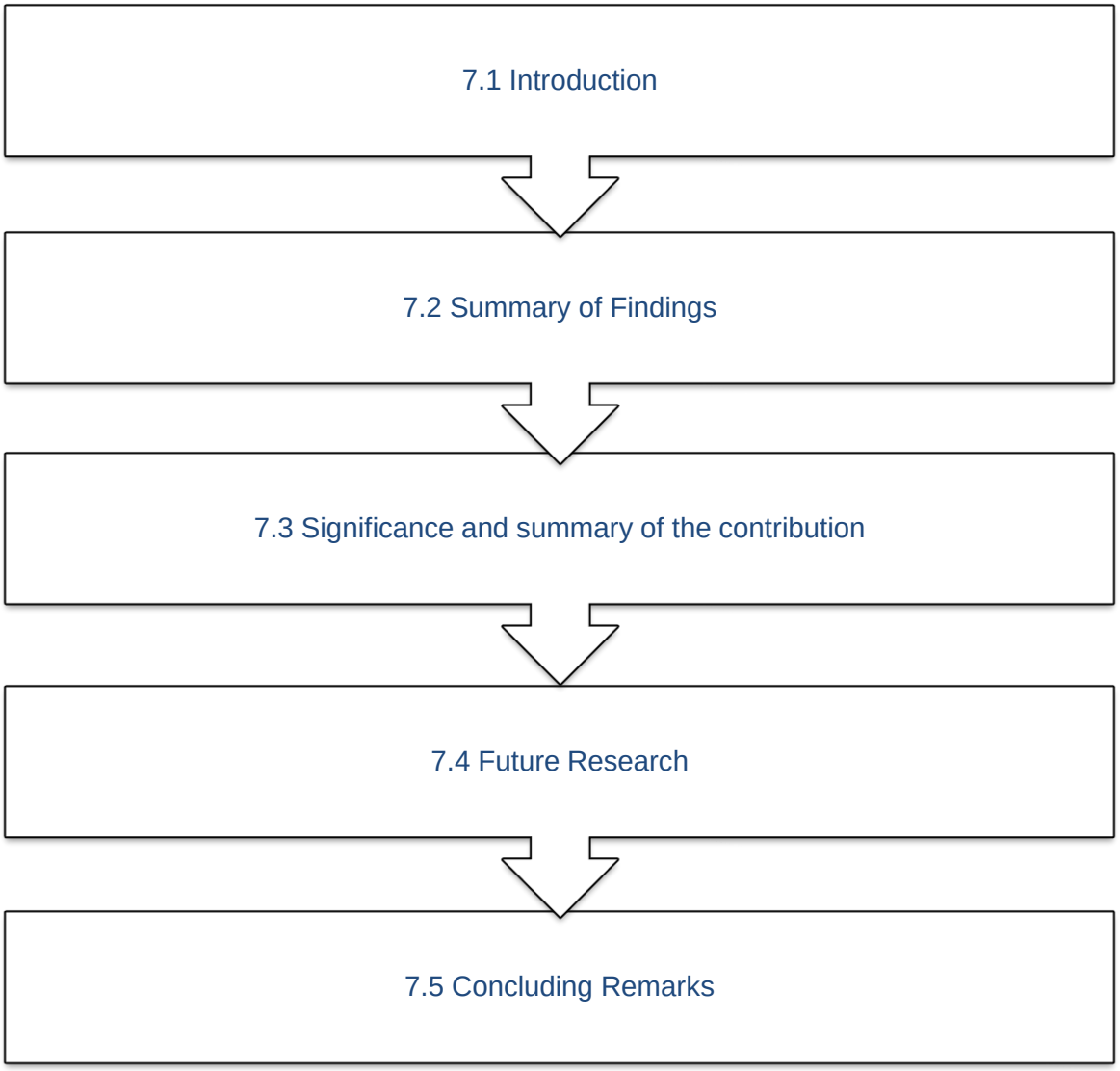
6.4 CONCLUSION

The aim of this chapter was to analyse feedback from the research participants and present the findings. As per the stated objectives of the current study, the researcher sourced the answers to the research questions in order to realise these objectives. Along the way, the scope of the research expanded as the adopted research model was augmented, which then led to its need for evaluation. The model was well accepted with a few suggestions on what can be added to it to make it more viable.

The next chapter focuses on the research conclusions where the summary of findings, summary of contributions, recommendations for future research, and concluding remarks are presented.



7 RESEARCH CONCLUSION



7.1 INTRODUCTION

The previous chapter discussed and analysed the empirical investigation. In this chapter, the researcher considers what was discussed in the previous chapter and draws conclusion from the research. The researcher concludes the research by presenting a summary of the findings, a summary of contributions, concluding remarks, and lastly recommendations for future research.

7.2 SUMMARY OF FINDINGS

The objective of the current study was to determine key considerations that organisations should take into account when incorporating social media data into their knowledge base. Giving direction on how things should be done practically (Cushing, 1990), providing a lens through which the world can be explained or viewed (Orlikowski and Robey, 1991), the provision of logic on the occurence of the social phenomenon where key drivers and outcomes are explained and the reasons therefor, and providing an opportunity to make sense of what influences the relationships between constructs before empirical findings are discovered (Bhattacherjee, 2012a) are some of the reasons that were stated in Chapter 2 as important for using a theoretical framework. The current study adopted the "Dynamic Capabilities framework" to give direction to the merging of social media data with organisations' knowledge base. The model was modified and new capabilities emerged, namely validating, crisis management, and innovating capabilities. Findings from the literature as well as from the research participants allowed the research questions to be addressed and finally the objective of the current study to be met.

7.2.1 ANSWERING THE RESEARCH QUESTIONS

In Chapter 1 of the current research, the main research question was stated as follows:

- ✓ What are the key considerations for incorporating social media data into organisations' knowledge base (KB)?

To answer the main research question, the secondary questions had to be addressed and were formulated as follows:

- What are the critical success factors in incorporating social media into organisations' KB?

- What are the barriers to including social media into the organisations' KB?
- What are the failure factors that may affect the incorporation of social media into organisations' KB?

Secondary research question 1 (SRQ1): What are the critical success factors of incorporating social media into organisations' KB?

SRQ1 was addressed in both Chapter 5 and Chapter 6. Literature on what would facilitate the implementation of the model that focuses on converting social media data into valuable source for organisational resilience for organisation operating in a turbulent environment was explored. In addition to this, the research participants reported on what they thought would be considered as success factors. A considerable number (15) of success factors were found in the literature and from the research participants. Table 6.7 and figure 6.6 show the empirical investigation results and comparison between findings in the literature and from the empirical investigation respectively. A high degree of correlation between the literature and research participants' inputs was achieved. Management buy-in, strategic alignment, technical skills, infrastructure and clear goals, among others, were underscored as critical in the successful implementation of the dynamic capabilities model. It was clear from the empirical investigations that *management support* is highly crucial in the successful implementation of innovative initiatives such as the one discussed in the study. The other people related success factors identified were that of *collaboration*, *open mind*, and *suitable skillsets*. This implies that willingness and readiness to step out the comfort zone and collaborate with others in order to grab opportunities that have a potential to change the organisation for the better, by successfully *integrating the insights learnt* back to the value chain, may only lead to success. With *clear objectives, goals and priorities* supported by *strategic and organisational mission* as well as *agility* and *proactivity*, it is impossible an organisation to deny itself the potential competitive advantage brought by innovative solutions such as the one discussed in the study. *Growing information libraries* as well as *sensible harvesting* were some one of the novel outputs that should exhibit success in the implementation of the proposed model. Having identified all the other success factors, it will

be senseless to think that these can just set these factors in motion without the enablement by *technology*.

Secondary research question 2 (SRQ2): What are the barriers of incorporating social media into organisations' KB?

SRQ2 referred to barriers to the implementation of the inclusion of social media data into organisations' knowledge base (KB). As per SRQ1, this question was also addressed in Chapter 5 and Chapter 6. Some degree of similarity between the sources that were consulted in an attempt to answer this question was recorded. Many more barriers were discovered through the empirical investigations as shown in Figure 6.6. *Lack of stakeholder buy-in* was one of the barriers that mostly highlighted in the study. The bus stops with management. In addition to this, *lack of strategic alignment* as well as *organisational culture* were identified as potential barriers to implementation. *Resistance to change*, which speaks volumes about the culture of the organisation, was also identified as a barrier to implementation. Concerns surrounding the data from social media were raised where *data quality issues, data volume issues, risk factors* such potential reputational damage were identified as deterrence factors. This was followed by an *inability to harvest valuable* information where distinguishing relevant and usable information quickly posed a blocker. *Poor motivation or incentive schemes* would discourage the people from having an interest in getting involved in innovative projects. With *no proof of concept*, it would be difficult to have a way in the adoption of social media motivated innovation. External barriers such as *regulatory matters* pertaining to personal information as well as intellectual property were identified. Lastly, a barrier termed "*financial impact and economies of scale*" was identified where it referred to an assertion that large organisations have a better chance of gaining from the implementation of the framework compared to smaller organisations. "Cost and economies of scale favour the larger players in an industry. Smaller players may lack the funding to run innovation given high rates of spending on maintenance and support of the existing operations".

Secondary research question 3 (SRQ3): What are the failure factors that may affect the incorporation of social media into organisations' KB?

SRQ3 aimed at identifying what could go wrong in the implementation of the proposed model. The literature cited in Chapter 5 was consulted and the research participants expressed their views on the topic. In the empirical investigation, the participants reported a number of factors that would lead to collapse of the implemented model. *Lack or absence of management support* was identified as a failure factor. Management is the sponsor of the projects, therefore no support from management means *no sponsorship* either. One of the participants in the study stated that "innovation needs sponsorship if it's to get to the implementation phase". Again, looking the challenges from people's point of view, *lack of collaboration, lack of analytical skills, organisational politics and powerplay, lack of open-mindedness, lack of motivation* were highlighted by the participants. From the strategic point of view, *misalignment to organisational strategy, misalignment to organisational mission, vague expected outcomes, lack of innovative appetite, and not making learning a priority* were identified as factors that would lead to failure in implemented innovative initiatives such as the one discussed in the current study. From an operational point of view, *poor project/change management controls, poor integration capacity, and lack of oversight* were identified as some of the failure factors. *Lack of infrastructure* was identified a as failure factor as it implied inability to successfully acquire information and turn into useable knowledge. As there are *costs* involved in the implementation of project, the was identified as a deterrence. Other failure factors that the participants highlighted were *bad client experience* which result from failure to identify true information and mistaking fake for true, *vindictive and malicious information* from social networks, *non-tangible change* as a result of adoption of the proposed framework.

Main research question (MRQ): What are the key considerations for incorporating social media data into organisations' knowledge base (KB)?

To answer the research question, a suitable framework that features both social media and knowledge management was adopted. Most organisations operate in a turbulent environment and therefore need capabilities to adapt and to be resilient in challenging times. The components of the framework include validating, sensing, crisis management, learning, innovating, integrating and coordinating capabilities. The main research question relates to a list of perceived factors that are considered critical before making a decision to implement the model that aims to convert social media data into the organisations' KB. These considerations were extracted in Chapter 5 and the findings emanating from the study were discussed Chapter 6. Factors that affect each of the capabilities were identified and recorded. SRQ1, SRQ2 and SRQ3 in the preceding discussion address the factors that this study explored. These factors revealed a combination of people factors, process factors and technology factors can make or break the project implementation.

7.3 SIGNIFICANCE AND SUMMARY OF THE CONTRIBUTION

Firstly, the outcomes of the current study indicate that the findings of this research are significant and contribute to the information systems research community that is interested in affordances and the adoption of social media innovative initiatives. The emergence of the crisis management capability is significant as it addresses the social media backlash suffered by organisations. In South Africa alone, there is a number of organisations, inter alia. Woolworths, Clicks and Momentum that were crucified by social media and ultimately forced to either rethink their policies, overrule their business terms and conditions, apologise to the public, or even pull-out their product offerings (Erasmus, 2019). Social media and knowledge management are said to be intertwined as the changes in policies, business terms and conditions have to be embedded into the existing knowledge base and can thereafter enhance business operations that can be deployed in reconfigured operational capabilities (Pavlou and El Sawy, 2011; Kurtz and Varvakis, 2016). Social media is instrumental in the knowledge creation process of the organisation as it makes it possible

to take people-created knowledge and integrate it into organisations' knowledge base (Jalonen, 2014).

Erasmus (2019) raises an important point that businesses should be much more "in tune with the conversations that their audiences are having and to be sensitive to their causes". This is in line with the sensing capability of the dynamic capabilities model:

> *It is critical that companies are proactive when problems do arise to explain, apologise, repair the damage and rebuild trust on the premise that a problem will not reoccur. Business must be able to answer the question, 'What is the worst thing that could happen to our company on social media today, and are we ready to deal with it?'* (Erasmus, 2019)

This statement supports the claims made by other researchers such as Ott and Theunissen (2015), and Roshan et al. (2016) that social media can be used for crisis management, citing that organisations should employ appropriate strategies to mitigate and/or avoid the risk of a bad reputation. They also warn of igniting further social media crises that can cause more harm to the organisation if an inappropriate strategy is used. The statement also supports the assessment by Jahng and Hong (2017) that "Social media has become an indispensable tool for corporates' crisis communication because it offers direct and timely interaction that the public perceives as authentic".

Secondly, the research findings should be of interest to organisations that are open to innovation and could be used as yardsticks for decision-making. Organisations can look at the recorded factors and make informed decisions on whether it will be of benefit to them to embark on innovative projects that include social media. Philip (2018) argues that the knowledge generated from big social media data can be used for better decision-making.

The contribution of the current study to the body of knowledge is twofold. Firstly, this study resulted in a revised dynamic capabilities model where three capabilities were added due

to information obtained from the literature (crisis management and innovation capability) as well as from the research participants during the evaluation of the proposed model. These three added capabilities are important because organisational environments have become more dynamic. The validating capability is important in the sense that legitimacy, reliability, and quality of social media content is questionable. Therefore it is important for the consumers of the content to validate the data before making use of it, hence sensible harvesting is called for in the empirical investigation. The crisis management capability plays an important role in safeguarding the reputation of organisations. Social media has the power to put pressure on and influence decision-makers. It is the responsibility of the crisis management capability to absorb that pressure and apply appropriate strategies to respond to threats from social media. The innovating capability plays an important role in applying the knowledge gained from social media to improve and/or develop new products and services, marketing strategies, processes, technical competencies, as well as finding innovative ways for responding to potential threats before they become problems that result in crises.

Thirdly, this study produced a significant number of factors that both the literature and the research participants considered key in implementing the proposed model. These factors can be categorised into people, processes and technology. Successful project implementation and organisational change are anchored in people, processes, and technology (PPT) trinity, also known as “The Golden Triangle”, coined by Bruce Schneier in the late 90s of the 20th century (Banks, 2016; Dolfing, 2020). The people aspect of the triangle refers to 1) senior management buy-in as the project will fail without it; 2) the right people with the appropriate skillset, experience, and the right attitude because without buy-in by the people, the envisaged project implementation may be impossible. These factors feature in both the systematic literature review results and the research participants’ reports. Fitting factors into the people category as reported in the current study included: management buy-in, project sponsorship, being open-minded, collaboration, skills, organisational culture, and incentive schemes to motivate people. The process aspect of the triangle refers to “a series of actions or steps taken in order to achieve a particular end as people are ineffective without processes in place to support their decisions” (Smartsheet,

no date; Banks, 2016; Dolfing, 2020). The steps include making sure people know how they fit into the workflow, they are given proper training where necessary, they are provided with proper guidelines, and know exactly how the success of the process will be measured. The literature study results as well as the research participants' views prove that there must be clear purpose, goals, objectives, priorities and expected outcomes. The results also point out the need for change capability and that leadership must give clear direction. According to Bolisani and Scarso (2016), a lack of operational guidelines and technical supports may be a barrier to social media inclusion into the existing operational activities of organisations. The technology aspect of the triangle refers to technology use as an enabler and support to the people and processes that have been clearly understood and adequately defined (Schneier, 1999; Banks, 2016; Dolfing, 2020). The results of the study also underscored technology and/or technological infrastructure as one of the important factors to be considered when implementing innovative initiatives such as the proposed model.

7.4 FUTURE RESEARCH

The current research focused on one case study in a single sector. Therefore the results of the study cannot be taken as a single version of the truth. Further studies spanning industries and sectors could be initiated and possible expansion of the considerations identified can be considered. The researcher proposes future research in the following:

- Validation of the proposed considerations in other sectors.
- The possibility and viability of applying the dynamic capabilities model by start-up organisations not yet using social media.
- Validating the generality of the proposed model in different sectors.
- Assessing economies of scale in the implementation of the proposed model in small and large players in industries.

7.5 CONCLUDING REMARKS

The current study used the "Dynamic capabilities and organisational resilience in turbulent environments" framework as a lens to determine how organisations can and should integrate social media into their knowledge base. The results show that a number of factors

must be considered to implement the integration of social media and knowledge management successfully. These factors include various people aspects, process aspects, and technology aspects

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9 APPENDICES

APPENDIX A: Review protocol

Title of the review	A systematic review to examine barriers, critical success factors, dangers/pitfalls of incorporating social media data as well as dynamic capabilities' role in enhancing organisational resilience in the turbulent environments.
First reviewer	Zoleka Boqwana
Second reviewer	Dr M Hattingh
Supervisor	Dr M Hattingh
Project title	Towards understanding how organisations incorporate social media data into their knowledge base.
Protocol development	
Step 1: Background	
Reason for conducting the review	There are two reasons for conducting the systematic review: 1. To find answers to the questions below. 2. To find information that can be included in the chosen framework with the ultimate aim of the answering the main research question.
Research questions (main)	What are the key considerations for incorporating social media data into an organisation's knowledge base (KB)?
Additional questions	a) What are the barriers for including social media into the organisation's KB? b) What are the critical success factors of incorporating social media into the organisation's KB? c) What are the failure factors of incorporating social media into the organisation's KB?
Step 2: Search Strategy	

Basic strategy	Automated search
Search terms / Strings	***Terms*** "Organisation", "Social Media", "Knowledge management", "Organisational knowledge", "Institutionalisation", "Institutional memory","use", "impact", "barrier", "success", "failure" "factor", "adopt", 'integration" ***Strings*** *"Social media"* *AND (impact OR use OR adopt OR effects OR implication OR success OR fail OR factor OR challenge OR problem OR issue OR barrier OR lesson OR agile OR Institutionalisation)* *AND ("Knowledge Management" OR "Institutional memory" OR "Organisational knowledge")* *AND organisation*
Sources	Ebse Host Emerald Insight Science Direct
Time period covered	2006 to 2019 Social media started in 2006 although knowledge management existed before then.
Step 3: Selection Criteria	
Inclusion criteria	Literature must have been published between 2006 and 2019. Literature must relate to at least one of the questions stated above.

	Only published peer-reviewed articles to be considered. Empirical research must have been conducted in order to produce the results. Only studies written in English to be considered.
Exclusion criteria	Non-peer reviewed papers not to be considered. PowerPoint presentations would not be considered. Studies that were not written and/or presented in English. Studies that did not answer any of the research questions. Studies that were duplicated. Studies that were not available in full text.
Step 4: Study Quality Appraisal	
Quality checklist	
Procedure	
Step 5: Data Extraction	
Extraction procedure	The remaining literature after the previous stages must be examined in depth.
Step 6: Synthesis of studies	
Form of analysis	Thematic
Threats to validity	
Step 7: Study Limitations	
Step 8: Writing the Review	

APPENDIX B: Consent Form

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Economic and Management Sciences

Dept. of Informatics

Towards understanding how organisations incorporate social media into their knowledge base

Research conducted by:

Ms. Z Boqwana (26309646)

Cell: 083 424 7278

Dear Participant

You are invited to participate in an academic research study conducted by **Zoleka Boqwana** a Masters student from the Department of Informatics at the University of Pretoria.

The purpose of the study is to determine the key considerations that the organisations take into account when incorporating social media data into their knowledge base.

I …… hereby voluntarily grant my permission for participation in the research study conducted by

Zoleka Boqwana……

Please note the following:

- This is an anonymous study survey as your name will not appear on the questionnaire. The answers you give will be treated as strictly confidential as you cannot be identified in person based on the answers you give. The identities of the respondents will not be published or released to anyone.
- The nature and objectives of the research have been explained to me and I fully understand the purpose of participation and feel comfortable with the kind of information that will be required from me as a participant.
- I understand my right to choose whether or not to participate in the project and have been assured that the information furnished will be handled with confidentially.

- Your participation in this study is very important to the researcher. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the attached questionnaire as completely and honestly as possible. This should not take more than 45 minutes of your time.
- The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.
- Please contact my study leader, **Dr. M.J. Hattingh** and can be contacted via email or telephone at (marie.hattingh@up.ac.za , (012)4205322 if you have any questions or comments regarding the study.

Please sign the form to indicate that:

- You have read and understand the information provided above.
- You give your consent to participate in the study on a voluntary basis.

_____ _____

Participant's signature **Date**

APPENDIX C: Interview Questionnaire

Towards understanding how organisations incorporate social media into their knowledge base

1. **Section A: Interview Details**

   Date of the interview: ……

   Time of the interview: ……

   Venue: ……

   Total duration of the interview (Minutes): ……..

2. **Section B: Interviewee Details**

   Current Position/Role in Organisation: ……..

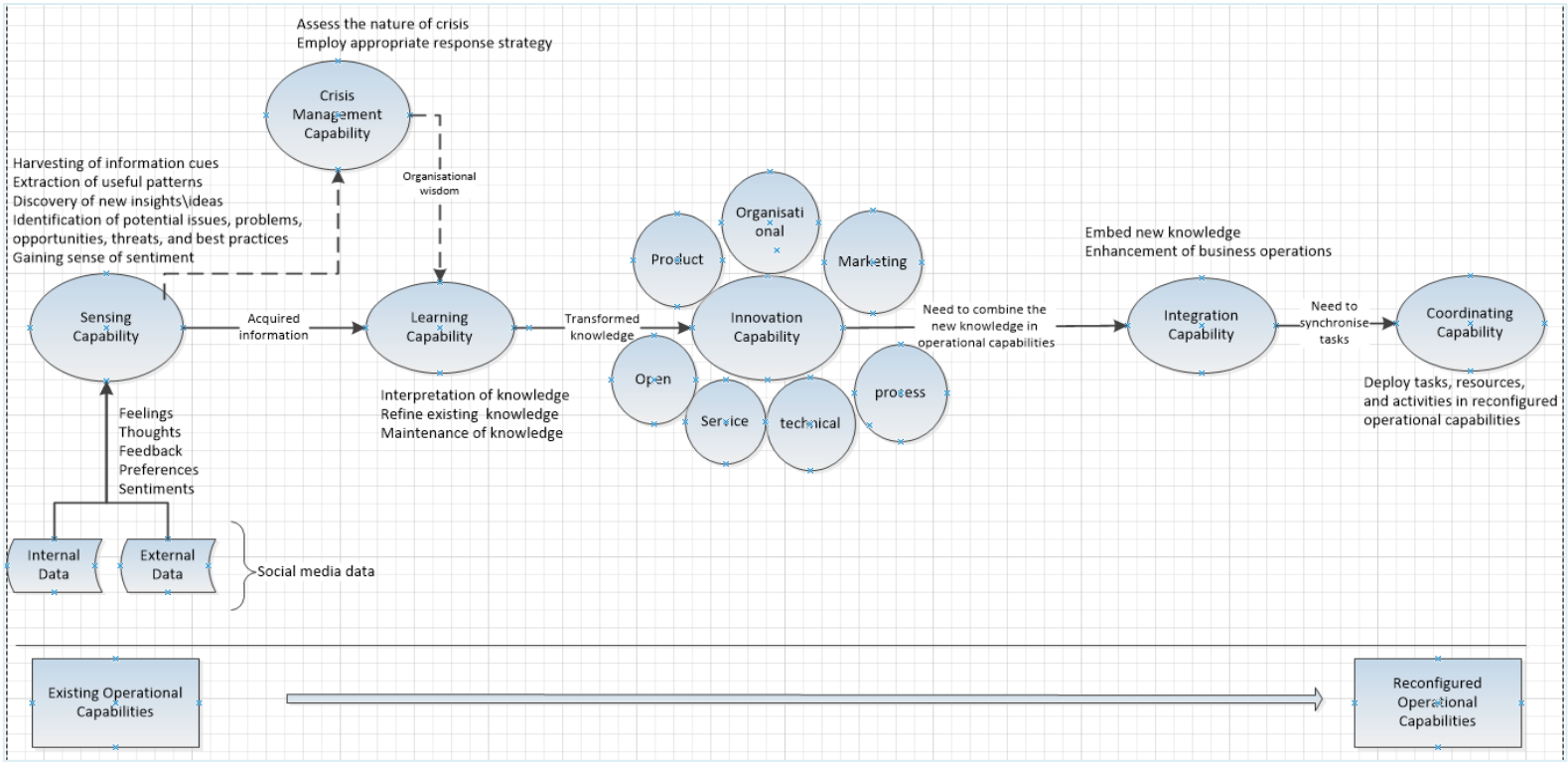
   Number of years in the Financial Services Industry: ……..

   Number of years in your current company: ……

   Number of years in your current role: ……

3. **Section C: Framework Evaluation**

   Please answer the following questions regarding the framework created to assist organisations in incorporating social media into their knowledge base.



Dynamic capabilities and organisational resilience in turbulent environments

3.1. Do you think this framework represents all the elements that need to be considered to incorporate social media into your organisation's knowledge base?

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3.2. What elements do you agree about?

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3.3. What elements do you disagree about? Please justify your answer.

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3.4. What changes would you recommend?

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3.5. Please add additional comments relating to this model.

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3.6. Please add additional comments you think are important for this research

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4. Section D: Key Considerations

Please answer the following questions regarding key considerations that should be taken into account when organisations want to incorporate social media into their knowledge base.

4.1. Sensing Capability

Challenges/Barriers to implementation

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Success factors……

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Failure factors……

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4.2. Crisis Management Capability

Challenges/Barriers to implementation

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Success factors……

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Failure.factors……

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4.3. Learning Capability

Challenges/Barriers to implementation

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Success factors……

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Failure factors……

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4.4. Innovation Capability

Challenges/Barriers to implementation……

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Success factors……

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Failure factors……

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4.5. Integration Capability

Challenges/Barriers to implementation

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Success factors……

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Failure factors……

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4.6. Coordinating Capability

Challenges/Barriers to implementation

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Success factors……

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Failure factors……

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APPENDIX D: *Model Evaluation and Key Considerations Responses†

Model Evaluation	Respondent 1 (TM)	Respondent 2 (MF)	Respondent 3 (EL)	Respondent 4 (PP)	Respondent 5 (AL)	Respondent 6 (OC)	Respondent 7(SW)	Respondent 8 (SK)
4.7. Do you think this framework represents all the elements that need to be considered to incorporate social media into your organisation's knowledge base?	No, the innovation capability could also consider a component to proactively manage security threats before they become a threat in order to reduce the likelihood of crisis management. So there could be an additional component called "security" in the innovation capability.	Yes, it covers the key elements, as this model is developed a second level of element could be added one that comes to mind is ongoing assessment of the social media landscape and some views and inputs on each source that would be useful in the actual sensing element	I would add a validation capability. Social media is littered with fake and manufactured information. People post all kinds of things. Sometimes not even intended to be false or cause someone harm, but then it is taken by other parties and turned into fake news. In my neighbourhood we recently had an incident where a reporter harvested photos and a post off Facebook and published it as an article in a local newspaper. Completely manufactured and false	Yes, I agree	Yes	Yes. Maybe just emphasis or reference somewhere in regards to impact of Organisational Culture and Business Operating Model structuring on Implementation feasibility	Yes, it is detailed already	Yes, it does

*

† Responses are given verbatim and have not been edited.

Model Evaluation	Respondent 1 (TM)	Respondent 2 (MF)	Respondent 3 (EL)	Respondent 4 (PP)	Respondent 5 (AL)	Respondent 6 (OC)	Respondent 7(SW)	Respondent 8 (SK)
4.8. What elements do you agree about?	The ordering of the components and the knowledge management process.	I do not see any issues with the elements mentioned. It may be necessary to show the Crisis Management and the adapting process as iterative and having micro iterations before new wisdom is formed or meaningful lasting changes are implemented. Some form of Agile	I agree with all the elements that are included. The more detailed and integrated the process of data collection from social media is, the better the chances of harvesting valuable and true data that will be supportive of our company's future	The crisis management capability, the learning and innovation capabilities	The fact that you have highlighted the two main sources of data i.e. internal and external to the organization. And the various components that processes the data into meaningful knowledge	All – well done. Really nice framework design and thinking	All of them	I agree everything.
4.9. What elements do you disagree about? Please justify your answer.	Apart from my comment in 3.2 I'm happy with the elements in the model.	None, but see comments below…	I really don't disagree with any elements. I would add the additional capability, not remove anything	I don't disagree with anything mentioned above, I think it's just to ensure that the above mentioned capabilities are adequately equipped, and that the way of work be mapped out properly which will highlight things like how to handle specific scenarios and to also ensure that everyone understands the purpose and what each capability needs to achieve. So each capability should be equipped with a vision and mission that must drive them	None	None	None that I disagree with.	I agree with everything that is here.

4.10. What changes would you recommend?	Innovating in how the organisation responses to potential security threats in order to minimise resource allocation into the crisis management capability. If the organisation can apply predictive analytics from social media through artificial intelligence and machine learning capabilities, these could significantly reduce security threats by picking them up before they become a threat. As a result, resources required in the crisis management capability would be reduced, enabling the organisation to re-deploy these resources elsewhere to generate revenue.	Two things Generally could this model show a more integrated approach – the diagram shows events in a procedural step one two three… I am not a fan of learning and innovation being separate from the responsible parts of the business that run operations. I would prefer multidisciplinary teams who have all of the steps in their engineering and change / evolutionary processes. To this end I would recommend that you look at introducing perhaps a concept in the model showing an overarching champion of a culture open to new knowledge and then supportive of change. Perhaps a skill within the	I would recommend that all data harvested from social media be thoroughly validated before being considered for incorporation.	I would maybe add coming out from Crisis management capability the flow should go to an 'Immediate Response Team' as well depending on what was identified. So where applicable it must go to the learning capability but if there is something that must be handled a.s.a.p. then that should go to the 'Immediate Response Team.' The 'Immediate Response Team' will act according to immediately assist to avoid reputational damage or risks and to also highlight and	I'm not sure maybe between the source data and the sensory capability you can have a layer that prepares the data first before it can be processed due to the unstructured nature of the data	None	Maybe incorporate the Innovation Capability within the Integration Capability. This will assist with the implementtion and co-ordinating of the solutions and also insure strategic alignment.	When I looked at the model, I just want to say that we are always operating in constant crisis.

Model Evaluation	Respondent 1 (TM)	Respondent 2 (MF)	Respondent 3 (EL)	Respondent 4 (PP)	Respondent 5 (AL)	Respondent 6 (OC)	Respondent 7(SW)	Respondent 8 (SK)
		organisation that shepherds important perhaps difficult changes that will in the short term impact profits or a long held and supported status quo. Some form of Executive monitoring but not disconnected to the elements that will need to be transformed. This structure would then oversee the Learning and Innovation within the transformation elements so that learning and innovation happens in the teams and not to them. **What I am referencing could be seen in the Coordinating element. But this can't be at the end of the model, I feel it needs to be run and present in all the elements. It's "THE GOLDEN THREAD"**		broadcast positive highlights/news and messages of the company immediately to social media to create a buzz about the company				

4.11. Please add additional comments relating to this model.	The model may consider adding a security element within the innovation component.		Sensing element - Recent work in the AI space around bubbling up themes that the business knows are important for is mission from all the unstructured social media data would be part of this to then identify / slow changing patterns or if necessary the data and client or societies feelings / insights about a product service or specific tone the organisation taking on important societal matters. The organisations mission and strategic intent need to be include at the beginning of this model as the anchor. But that said even the mission and strategy could change as knowledge is matured and enhanced through the inclusion of social media insights	Social media can be a valuable source of data in research and AI. It unfortunately can also be the source of a company's downfall if not used responsibly and with due diligence. We have all heard horror stories of people using social media to fight their battles for them. What could be a valuable source of information can very quickly become the enemy and a source of destruction.	This model was well thought off. Definitely can be used in the organisation to create hype in social media and to assist the organisation from learning quickly from data and to innovate and implement solutions based on needs of consumers and based on interrogating the information gained.it will assist the organisation to also understand consumers out there	I'm struggling to connect the arrow/continuum from existing capability and the reconfigured ops capability. Maybe explain a bit there	Nothing to add	This diagram is an excellent illustration of flow. Time is always a challenge and alignment especially if it overflows between different departments.	It is a great model and culture is very important in order to take on something like this.

Model Evaluation	Respondent 1 (TM)	Respondent 2 (MF)	Respondent 3 (EL)	Respondent 4 (PP)	Respondent 5 (AL)	Respondent 6 (OC)	Respondent 7(SW)	Respondent 8 (SK)
4.12. Please add additional comments you think are important for this research.	The model appears to be tailored for existing organisations as it appears to slot into the operations of the organisation. Does it apply to start up organisations that are still in a founding phase and have not commenced full operations yet?	Perhaps some scan of what is currently possible in the Sensing element given the work being done by some of the tech giants who are "democratising" and making the use of complex AI components easier by a wider range of staff / teams in a business i.e. Googles Bert AI offering	Social media, although valuable, should never be considered the ultimate source of data or information. Validation is extremely important and integrity even more so.	As mentioned above	It's important to highlight that the will be new knowledge and its not static. I'm not sure how you can present that. Especially in the innovation capability bubble.	Please refer to same input here as per point 3.1	Very practical and important in our industry	It is a good research. I am just concerned about the right skills and flexibility in the culture of the organisation.

Below is the considerations table:

Capability	Key Considerations	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7	Respondent 8
Sensing Capability	Challenges/barriers to implementation	Standardising information, accuracy of information, fake news, deliberate attempts to provide misleading sentiments (fake social media accounts)	Not finding the skills, business partners and technology that will enable the "bubble up" of accurate themes and messages from large amount of unstructured data Not having some model that can be incorporated into the AI to guide what the business needs to be sensitive too.	Truth vs Fake The pace at which the world moves and expects things to happen, challenges our ability to determine relevance and usability quickly	To get the applicable buy in from the marketing and research teams and from the executives Will have to demonstrate and show stats financially how this will better the company financially Need to demonstrate the difference it will make in terms of organisation reputation Also show stats on companies that are currently using a similar model and highlight their successes and struggles We need to show costs and what exactly would be needed in each capability, The layout of each capability Skills sets needed in each capability. How many people required per capability What infrastructure is needed Risk factors need to be highlighte Demonstrate how POPIA will be considered when using data How will it give the organisation a competitive edge Robotics/humans	Maturity of tools that can accurately sense the data coming in	Not having a sufficient Listening and Responding capability from where initial insights can be recorded (especially external)	Data availability Infrastructure Buy-in of management Financial: To purchase/source tools for data analytics To understand potential ROI and Value of money for investment	I agree with the considerastions that you have already found.

	Success factors	Availability of technical skills	Ensuring that the sensing technology is refined and self learns from business experts who understand the impacts of specific patterns	The shear volumes of information and the possibilities of value if harvested sensibly	Buy in received from EXCO. Can visually and graphically demonstrate the purpose and value this will make to the organization Show how the organisation can gain financially and reputational How will this give the organisation a competitive edge	Proper engagement/tagging/funneling on the social media sources	Agreement and investment in efficient and effective Listening and Responding capabilities	Clear objectives Strategic alignment Actual output and recurring reports on findings	In addition with what you have I would like to add integration of systems and making use of the right skills sourced externally.
	Failure factors	Lack of resources	If the sensing model is slow to identify themes matching the sensitivities the business knows it need to look out for, or the business is blinded to messaging that it does not want to see or does not have the ability to connect the dots.	Mistaking fake for true, and true as fake	If there is no buy in from executives Or they is no appetite to innovate and compete Cost Skills sets No competitive advantage Won't shift or affect the organisation in any way Don't meet POPIA standards	Missed opportunities. Inability to make sense of the new unique information from the sources	Inability to record, store and retrieve sensing insights gathered for predictive analytics – aka closing the loop	No collaboration No knowledge No buy-in Regulations like POPI act	Lack of collaboration throughout and poor integration indeed. Poor support from top management may lead to failure.
Crisis Management Capability	Challenges/barriers to implementation	Delayed response,unco-ordinated effort between departments in the organisation		The ability to constantly monitor social media and be alerted to any positive or negative information being socialised regarding the company	Costs Skills set No Competitive edge Buy in Infrastructure	None	Not making this capability explicitly part of design, development and implementation as part of PEOPLE, PROCESS AND TECHNOLOGY CAPABILITIES and end-to-end.	Well, if no crisis arises Strategic support Excellent way-of-work exists to deal with the crisis No immediate response, hence alignment Is needed	
	Success factors	Early detection of risks, early implementation of response		The possibility of growth and support	Demonstrate the value of this capability Buy in from Executives	Instant response to the crises and building knowledge on the reactions	Organisational design and staffing – with specific focus. Also ensure good communication back into the framework – closing the loop	No crisis would be ideal Timeous response No surprises and there was pro-active knowledge about what was to come	
	Failure factors	Disjointed response effort, lack of co-ordination		The possibility of vindictive and malicious information being socialised	Costs Infrastructure No executive buy in	No collaborative approach		In a crisis situation, the only failure would be if we lose our trading license	

Learning Capability	Challenges/barriers to implementation	Lack of technical resources, lack of willingness and support from senior management	As mentioned about, this needs to be perhaps a ring through each of the element in the circle of innovation and then have a coordination Executive sponsored mission owner element that ensures all component of the business take learnings into their domains. It is crucial that this oversight element is able to see changes that require coordination through multiple domains / elements	Harvesting and using valuable information and not just information	Same as above	Too much unprocessed data in the system	Not making it part of Business Value-chain	Financial Infrastructure Correct resourcs with regards to people, tools and IP.	
	Success factors	Encourage different views, encourage open engagement, encourage diversity	All elements can see how the mission they are empowered to work towards needs to take new learning knowledge on board	Determining that which is valuable and using it to grow the information libraries and ultimately the company	Must be able to demonstrate how the data will be analysed What will be done with the analysed data	Selecting proper machine learning (and human) capability for the purpose	Integrate the Learning insights back into Business value chain for application / change purposes	Alignment Clear KPIs and objectives	
	Failure factors	Lack of open-mindedness, lack of transparency between departments	If the learning element is not in touch and valued by those in the various domains that are then expected to make changes. A serious lake of change management not just do this because we believe its right type messaging, it need to be connected to enabling a successful mission..	Failing to identify redundancies in harvested information	Same as Crisis Management capability	Poor capability set for enabling learning	Making the Learnings a second-class citizen and not applying the feedback from corrective action perspective.	No action taken from learnings Nothing gets implemented No strategic alignment	

Innovation Capability	Challenges/barriers to implementation	Lack of technical skill, lack of top senior management support, Organisational culture, Lack of transparency, Poor motivation/ incentive schemes	Cost and economies of scale favour the larger players in an industry. Smaller players may lack the funding to run innovation given high rates of spend on maintenance and support of the existing operations.	Being open minded and futuristic while also being protective of the truth and the company's integrity	Same as Crisis Management Technology Robotics/Human	N/A	Organisational Culture not aligned – federated/silo/Owner-Manager Business Models might be more difficult wherever one needs consistency, standardization and Governance practices	Technology is readily available Update of initiatives Strategic alignment Priorities are aligned	
	Success factors	Incentivise indviduals to innovate, celebrate successes openly, do not punish failures	Open minded thinkers who are prepared to look outside of the box, perhaps collaborate with other partners and build an ecosystem to bring new thinking into the organisation	Finding the balance between using information harvested to grow and the volumes harvested	Same as Crisis management	N/A	Senior / Executive Level Business Sponsorship and buy-in aligned to at least some or other Business Strategic intent / Strategy	Clear KPIs and objectives Strategic focus and alignment Clear technology/digital roadmaps Exco support Flexibility of your system and people	
	Failure factors	Lack of transparency between departments, no motivation	Innovation is misaligned to the organisation mission. Sometime the mission needs to change, but it must change first before extensive work on innovation is carried out. The innovation needs sponsorship if it's to get to the implementation phase	Innovation with no real return on investment	Same as Crisis management	N/A	Not having or at least confirmation on the previous 2 points – basically the inverse	Risk appetite should be there How quick can we do something, aka how agile are we	
Integration Capability	Challenges/barriers to implementation	No co-ordination, no management oversight, no clear strategy, not filtering strategy throughout the whole organization	Those working in this element on the coal face of the business a) Feel the learning and experimenting is done to them b) Can't relate the new knowledge and changes other elements recommend	How to use this information sensibly and to promote growth	Same as Innovation Capability	Selecting a product in the market that can integrate well with the data/knowledge developed	Think maybe same comments and input as per 4.3 Learning Capability	Strategic alignment Support from Exco Flexibility in system Technology Risk appetite	

	Success factors	Inspiring leadership, co-ordinated leadership, alignment between business, technology, and risk management strategies	This element must be involved and part of all the other elements. Some skin in the game	Sustained growth and proven client centricity	Same as Innovation Capability	Fix for purpose infrastructure and platform	Think maybe same comments and input as per 4.3 Learning Capability	Great collaboration Way of work in clear and practical Clear SLAs in place Deadlines are met	
	Failure factors	Lack of synchronisation between leaders in departments	Skills and lack of contracting to use the new knowledge. Organisational politics and power play. Hence needing the oversight of this entire process from a mission / product owner	Bad client experience due to fake or malicious data finding its way into your database	Same as Innovation Capability	Poor integration capacity	Think maybe same comments and input as per 4.3 Learning Capability	No collaboration or co-ordination Poor project management Financial support Knowledge of technology can contribute to failure	
Coordinating Capability	Challenges/barriers to implementation	Lack of technical skill, No clear organizational or departmental direction from leadership	Will work well if this is part of each element	Resistance to change	Same as Above	People factor. If they don't buy into the proposed system	Not having an agreed, aligned and focused implementation/change capability for corrective action application	Quality in testing must be set Environment must be available Success measurements should be defined	
	Success factors	Competency of junior-mid level management, clear departmental direction	Can prioritise based on knowledge what need to be changed and not have mission creep.	Valuable input in growth and client experience	Same as Above	End user's taking ownership and providing feedback		Collaboration Strategic alignment Clear goals Technology is available	
	Failure factors	Unclear strategy, lack of oversight from top management	Not in touch with the realities of all elements and components in the business and underestimates what the change journey is likely to take. Oversimplifying the change, not addressing change fears and unrealistic deadlines make buy-in a big risk and failure factor.	Failure to define the desired and expected outcome	Same as Above	System not used for the intended purpose		No update of what was implemented No communication No adoption	

APPENDIX E: Data Extraction Detail

Key	Item Type	Publication Year	Author	Title	Publication Title
PQSA8357	journalArticle	2015	Antonius, Nicky; Xu, Jun; Gao, Xiangzhu	Factors influencing the adoption of Enterprise Social Software in Australia	Knowledge-Based Systems
NTF3UATM	journalArticle	2016	Argyris, Young 'Anna'; Ransbotham, Sam	Knowledge Entrepreneurship: Institutionalising Wiki-based Knowledge-management Processes in Competitive and Hierarchical Organisations	Journal of Information Technology
ZDLA6AK4	journalArticle	2015	Bharati, Pratyush; Zhang, Wei; Chaudhury, Abhijit	Better knowledge with social media? Exploring the roles of social capital and organizational knowledge management	Journal of Knowledge Management
TUX3XVK2	journalArticle	2019	Bhimani, Hardik; Mention, Anne-Laure; Barlatier, Pierre-Jean	Social media and innovation: A systematic literature review and future research directions	Technological Forecasting and Social Change
XP6L2ZSD	journalArticle	2016	Bolisani, Ettore; Scarso, Enrico	Factors affecting the use of wiki to manage knowledge in a small company	Journal of Knowledge Management
AAUBDG4D	journalArticle	2017	Braganza, Ashley; Brooks, Laurence; Nepelski, Daniel; Ali, Maged; Moro, Russ	Resource management in big data initiatives: Processes and dynamic capabilities	Journal of Business Research
I2HRG9TX	journalArticle	2013	Chua, Alton Y.K; Banerjee, Snehasish	Customer knowledge management via social media: the case of Starbucks	Journal of Knowledge Management
SCFZDNF2	journalArticle	2019	Chuang, Shu-Hui	Co-creating social media agility to build strong customer-firm relationships	Industrial Marketing Management
CLFLI48W	journalArticle	2018	Crammond, Robert; Omeihe, Kingsley Obi; Murray, Alan; Ledger, Kirstin	Managing knowledge through social media: Modelling an entrepreneurial approach for Scottish SMEs and beyond	Baltic Journal of Management
GES4978G	journalArticle	2013	Delen, Dursun; Demirkan, Haluk	Data, information and analytics as services	Decision Support Systems
VLB3W262	journalArticle	2008	Easterby-Smith, Mark; Prieto, Isabel M.	Dynamic Capabilities and Knowledge Management: an Integrative Role for Learning? [*]	British Journal of Management
JEVWXSS5	journalArticle	2018	Garcia-Morales, Victor Jesus; Martín-Rojas, Rodrigo; Lardón-López, María Esmeralda	Influence of social media technologies on organizational performance through knowledge and innovation	Baltic Journal of Management
NM8QQK78	journalArticle	2015	He, Wu; Shen, Jiancheng; Tian, Xin; Li, Yaohang; Akula, Vasudeva; Yan, Gongjun; Tao, Ran	Gaining competitive intelligence from social media data: Evidence from two largest retail chains in the world	Industrial Management & Data Systems
BQKUKFF6	journalArticle	2017	He, Wu; Wang, Feng-Kwei; Akula, Vasudeva	Managing extracted knowledge from big social media data for business decision making	Journal of Knowledge Management
QJ2VDVSS	journalArticle	2015	He, Wu; Wu, Harris; Yan, Gongjun; Akula, Vasudeva; Shen, Jiancheng	A novel social media competitive analytics framework with sentiment benchmarks	Information & Management
NBNC9WJS	journalArticle	2013	Hemsley, Jeff; Mason, Robert M.	Knowledge and Knowledge Management in the Social Media Age	Journal of Organizational Computing and Electronic Commerce

Key	Item Type	Publication Year	Author	Title	Publication Title
JRL9G87X	journalArticle	2017	Intezari, Ali; Gressel, Simone	Information and reformation in KM systems: big data and strategic decision-making	Journal of Knowledge Management
5Y7KUYLI	journalArticle	2014	Jalonen, Harri	A framework for dealing with fundamental knowledge problems through social media	VINE
MVPZXDTM	journalArticle	2012	Jantunen, Ari; Ellonen, Hanna-Kaisa; Johansson, Anette	Beyond appearances – Do dynamic capabilities of innovative firms actually differ?	European Management Journal
ZPCAPL2H	conferencePaper	2013	Kaisler, Stephen; Armour, Frank; Espinosa, J. Alberto; Money, William	Big Data: Issues and Challenges Moving Forward	2013 46th Hawaii International Conference on System Sciences
U6IEQQ7C	journalArticle	2017	Kane, Gerald C.	The evolutionary implications of social media for organizational knowledge management	Information and Organization
9PA3Y3QM	journalArticle	2014	Kane, Gerald C; Palmer, Doug; Phillips, Anh Nguyen; Kiron, David	Finding the Value in Social Business	SOCIAL BUSINESS
7KKPB36F	journalArticle	2010	Kaplan, Andreas M.; Haenlein, Michael	Users of the world, unite! The challenges and opportunities of Social Media	Business Horizons
HVN75G2H	journalArticle	2013	Kiniti, Sarah; Standing, Craig	Wikis as knowledge management systems: issues and challenges	Journal of Systems and Information Technology; Bingley
GDD2SR27	journalArticle	2016	Lam, Hugo K.S.; Yeung, Andy C.L.; Cheng, T.C. Edwin	The impact of firms' social media initiatives on operational efficiency and innovativeness	Journal of Operations Management
3X9V9X2R	journalArticle	2015	Liu, Michelle; Rao, Pramila	A comparative perspective of knowledge management via social media: India and China	The Learning Organization
WSW7QUYD	journalArticle	2011	McKenzie, Jane; van Winkelen, Christine; Grewal, Sindy	Developing organisational decision-making capability: a knowledge manager's guide	Journal of Knowledge Management
M5KDE7QM	journalArticle	2011	Michaelidou, Nina; Siamagka, Nikoletta Theofania; Christodoulides, George	Usage, barriers and measurement of social media marketing: An exploratory investigation of small and medium B2B brands	Industrial Marketing Management
2H3X5395	journalArticle	2012	Munene, John; Ntayi, Joseph; Mafabi, Samuel	Knowledge management and organisational resilience: Organisational innovation as a mediator in Uganda parastatals	Journal of Strategy and Management
CRP5V4IH	journalArticle	2019	Muninger, Marie-Isabelle; Hammedi, Wafa; Mahr, Dominik	The value of social media for innovation: A capability perspective	Journal of Business Research
MY4EY4RR	journalArticle	2018	Najmi, Kamariah; Kadir, Abdul Rahman; Kadir, Abdul Rahman; Kadir, Abdul Rahman; Kadir, Muh. Isa Ansari	Mediation effect of dynamic capability in the relationship between knowledge management and strategic leadership on organizational performance accountability	International Journal of Law and Management
PFLLB2GM	journalArticle	2015	Nguyen, Bang; Yu, Xiaoyu; Melewar, T.C.; Chen, Junsong	Brand innovation and social media: Knowledge acquisition from social media, market orientation, and the moderating role of social media strategic capability	Industrial Marketing Management
H2LCLGQG	journalArticle	2017	Panagiotopoulos, Panos; Bowen, Frances; Brooker, Phillip	The value of social media data: Integrating crowd capabilities in evidence-based policy	Government Information Quarterly

Key	Item Type	Publication Year	Author	Title	Publication Title
J8P89BG9	journalArticle	2014	Pentina, Iryna; Tarafdar, Monideepa	From “information” to “knowing”: Exploring the role of social media in contemporary news consumption	Computers in Human Behavior
R88DHLPR	journalArticle	2018	Philip, Jestine	An application of the dynamic knowledge creation model in big data	Technology in Society
KTW3F9ZV	journalArticle	2014	Pirkkalainen, Henri; Pawlowski, Jan M.	Global social knowledge management – Understanding barriers for global workers utilizing social software	Computers in Human Behavior
JC64XLN4	journalArticle	2018	Saggi, Mandeep Kaur; Jain, Sushma	A survey towards an integration of big data analytics to big insights for value-creation	Information Processing & Management
8ZNMCY33	journalArticle	2012	Santos-Vijande, María Leticia; López-Sánchez, José Ángel; Trespalacios, Juan Antonio	How organizational learning affects a firm's flexibility, competitive strategy, and performance	Journal of Business Research
4ANETZJW	journalArticle	2017	Schlagwein, Daniel; Hu, Monica	How and why Organisations Use Social Media: Five Use Types and their Relation to Absorptive Capacity	Journal of Information Technology
J66EMSFT	journalArticle	2018	Shrafat, Fayiz Dahash	Examining the factors influencing knowledge management system (KMS) adoption in small and medium enterprises SMEs	Business Process Management Journal
6SKCVVW3	journalArticle	2015	Sigala, Marianna; Chalkiti, Kalotina	Knowledge management, social media and employee creativity	International Journal of Hospitality Management
KFGIEFB8	journalArticle	2011	Standing, Craig; Kiniti, Sarah	How can organizations use wikis for innovation?	Technovation
YIAHF4N8	journalArticle	2018	Stieglitz, Stefan; Mirbabaie, Milad; Ross, Björn; Neuberger, Christoph	Social media analytics – Challenges in topic discovery, data collection, and data preparation	International Journal of Information Management
PPBDZ8H8	journalArticle	2018	Surendro, Kridanto; Satya, Dicky Prima; Yodihartomo, Farrell	Integrated Social Media Knowledge Capture in Medical Domain of Indonesia	Telkomnika
X8QL7KYH	journalArticle	2017	Tanty Oktavia; Spits Warnars, Harco Leslie Hendric; Suroto Adi	Integration Model of Knowledge Management and Social Media for Higher Education	Telkomnika
FXV33E4I	journalArticle	2011	Turban, Efraim; Bolloju, Narasimha; Liang, Ting-Peng	Enterprise Social Networking: Opportunities, Adoption, and Risk Mitigation	Journal of Organizational Computing and Electronic Commerce
CETV7E3B	journalArticle	2012	von Krogh, Georg	How does social software change knowledge management? Toward a strategic research agenda	The Journal of Strategic Information Systems
NREEBL62	journalArticle	2012	Vuori, Mervi	Exploring uses of social media in a global corporation	Journal of Systems and Information Technology
2X6MUEB9	journalArticle	2014	Wagner, David; Vollmar, Gabriele; Wagner, Heinz-Theo	The impact of information technology on knowledge creation: An affordance approach to social media	Journal of Enterprise Information Management
WMZS7RH9	journalArticle	2013	Wilfredo Bohorquez Lopez, Victor; Esteves, Jose	Acquiring external knowledge to avoid wheel re-invention	Journal of Knowledge Management
DAANG34G	journalArticle	2013	Yuan, Y. Connie; Zhao, Xuan; Liao, Qinying; Chi, Changyan	The use of different information and communication technologies to support knowledge sharing in organizations: From e-mail to micro-blogging	Journal of the American Society for Information Science & Technology