

UNIVERSITY OF KWAZULU-NATAL

**SOCIAL MEDIA AS A COMMUNICATION TOOL DURING
CRISES AND DISASTERS: A SOUTH AFRICAN
GOVERNANCE PERSPECTIVE**

By

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A thesis submitted in fulfilment of the requirements for the degree of:

Doctor of Administration

Public Administration and Information Systems & Technology

School of Management, IT and Governance

College of Law and Management Studies

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2016

DECLARATION

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ACKNOWLEDGEMENTS

I would firstly like to express my appreciation to my supervisors, Dr. Mogie Subban and Prof. Brian McArthur, for their support and guidance for the duration of the study.

Furthermore I would like to express my gratitude to all those who supportively participated and contributed to the study. Special thanks should be given to my fellow colleagues and friends, for their support: Brett van Niekerk, Sayed Ally, Chris Skinner and Indrasen Moodley. A special thanks must be given to the professional bodies ISACA and IFIP for the distribution of the questionnaire.

And lastly I would like to express my gratitude to my family, in particular my Mom and late Dad for their patience through this study and my previous studies.

ABSTRACT

Good governance is often a prevalent theme within the public administration sphere; being politically, socially and economically inclined. The focus of good governance is based on the responsibility of governments and governing bodies for the safety and well-being of their stakeholders. With the dominance of the technology age, social media and related technologies have become a strategic communications tool for the citizens of democratic states to voice their needs and opinions. Social media has proved to be a useful and effective communications tool in many crises internationally. However, in South Africa social media has not been fully embraced as a strategic communications tool by public organisations and is an evolving one. There is a lack of studies and knowledge of how social media can be used for crisis communication in South Africa or the factors that may influence its usage in crises. The study identified the gaps, and factors of using social media, thereby establishing the need for inclusion of social media in an organisation's or government's crisis management plan.

Public Administrators play an important role in a crisis is to ensure that the citizens receive the vital information to ensure their safety in life-threatening situations and this became evident in the study. Therefore, the main aim of this study was to analyse the use of social media as a communication tool during crises and disasters from a South African governance perspective. As such, from the main aim, a few key objectives highlighted include amongst others: an investigation into the extent of social media usage in crisis and disaster communication; determining of the global factors affecting the use of social media in crisis and disasters and the proposal of updated communication flow models for the specific case of social media in crisis management; legislative and governance factors and developing an integrative model for the enhanced use of social media to address crisis communication whilst recommending social media strategies for effective use in crisis management for public/private South African organisations.

A mixed methods approach was used to gather and analyse the findings. The study involved the collection of empirical data incorporating the use of questionnaires, interviews, secondary data and content analysis from authoritative documents to elicit relevant information from the relevant experts, specialists and academics in this field of study, utilising the Task Technology Fit (TTF) and Technology Acceptance Model (TAM) as guidelines. From the identified factors which influence the adoption of social media, an issue regarding the awareness of the respondents toward the relevance of South African laws emerged. The #Feesmustfall campaign was one case study that revealed the extent to which social media was being used nationally and internationally. Key themes that emerged from the study include privacy and security which further emphasised the need for governing frameworks and legislation. Furthermore, social media strategies in terms of possible future legislation and or frameworks were recommended for the effective use in crisis

management. The study concluded that social media is an important channel of communication in crisis and disaster but control mechanisms are required for its effectiveness. Furthermore, the study establishes the need for future research in this important area, which would be beneficial to the global community as a whole.

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List of Acronyms

ADSA	: Association of Dietetics South Africa
APA	: Australian Privacy Act
APP	: Australian Privacy Principles
CobiT	: Control Objectives for Information and Related Technology
DOI	: The Diffusion of Innovation Theory
DPME	: Department of Monitoring and Evaluation
ECHR	: European Convention on Human Rights
ECTA	: Electronic Communications and Transactions Act
HTML	: Hyper Text Mark-up Language
IoDS	: Institute of Directors in Southern Africa
ICT	: Information Communication Technology
ISACA	: Information Systems Audit and Control
ITIL	: Information Technology Infrastructure Library
OODA	: Observe, Orient, Decide and Act
PAIA	: Promotion of Access to Information Act
PDCA	: Plan, Do, Check, Act
PIPEDA	: Personal Information Protection and Electronic Documents Act
POPI	: Protection of Personal Information Act
QDA	: Qualitative Document Analysis
RICA	: Regulation of Communication Act
SALGA	: South African Local Government Association
SEMA	: Swedish Emergency Management Agency

SANS	: South African National Standards
SHOR	: Stimulus-Hypothesis-Observe-Respond
SMS	: Short Messaging Service
SOX	: Sarbanes-Oxley Act
TAM	: The Technology Acceptance Model
TPED	: Tasking, Processing, Exploitation & Dissemination
TTF	: The Technology Task Fit

CHAPTER 1 INTRODUCTION AND OVERVIEW OF THE STUDY

1.1 Introduction

This study focused on the continuous development and evolution of the social technology that has become known as Social Media as a tool in crisis communication and management within the public domain, placing an emphasis on the importance and efficacy of this form of communication. There has been a continuous and a vastly increasing move towards social media usage by corporates and governments in crisis for the purpose of communication with relevant stakeholders (Gill, Dickinson & Scharl, 2008, 260). In order to gauge an in-depth understanding into the benefits of social media as an effective communications tool in crises, a number of influencing factors and components required analysis.

It is often the perception that many organisations and governments who do not meet or fulfil the needs of their public with reference to expectations of public responsibilities, become the focus of mass criticism, often resulting in a negative impact on an organisations' reputation. This often occurs through the perceptions of competitors, the public, non-governmental organisations, and the media. With the evolution of the Internet there has been a rapid increase in the accessibility of information. This has contributed to the empowering of stakeholders through easy methods of information sharing. With information sharing and readily available information, a number of corporate scandals have been publicly disclosed, which in some regards have prevented crises from ultimately turning into national disasters. The public expect full transparency and some social contribution, as government secrecy, corporate non-disclosure and egocentrism is no longer an acceptable social norm (Gill *et al.*, 2008: 260).

Electronic devices such as camera and video phones have the capability to capture almost any crisis as it unfolds. Traditional, well established, credible and accountable opinion leaders have the ability to compete with anyone with an opinion and a blog. Incomplete and inaccurate crisis analysis and public commentary can be passed from one blogger to another instantaneously through links, where they can be captured onto desktops, phones and mobile devices globally. In essence it takes less time for the international community to form their own opinions and make their own assessments than it takes to gather your own crisis assessment team, as evidenced by OneUpWeb (2007: 2).

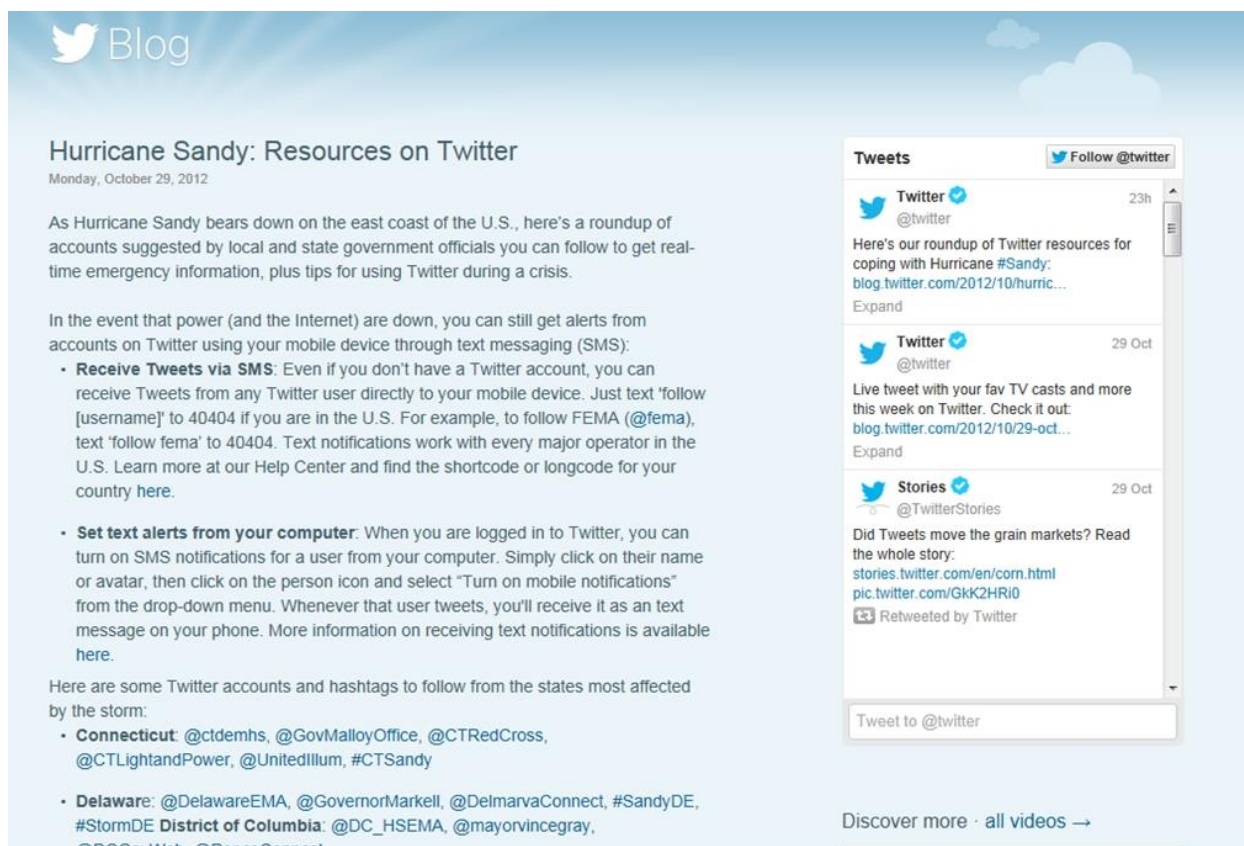
It is evident that new information and communications technologies are changing the way people communicate, more so in a crisis. This method of communication involves the management of data, information and knowledge in crisis readiness, the impending alerts, the consequences and crisis recovery. Modern and evolving technologies enables the capturing, verification, preservation and dissemination of information in crises. These types of applications have become known as crisis mapping tools e.g. Ushahidi. Ushahidi, as an example of a crisis mapping tool, utilised a form of

crowdsourcing to collect information through social media applications, verified the information and finally disseminated vital information to first responders and aid organisations in the Nepal Earthquake in 2015. Interestingly, social media platforms proved to be the most resilient form of communications when all other communications mediums such as SMS collapsed (Ushahidi, 2015). Social media enables the public either as individuals or collectively to mobilize like-minded collaborators and freely disseminate their messages, often where governments have censored the availability of such information. However, with the constant evolution of technology, and the rapid pace at which it is developing, there remains a number of challenges and influencing factors to its success as an effective communications tool in crisis and disasters especially in the South African context.

1.2 Background to the Study

Social media is rapidly becoming a ubiquitous information and communication tool, and has its foundation in user-generated content and user collaboration (Research Information Network, 2011). It comprises of websites such as Facebook, Twitter, MySpace, and Wikipedia. Some unique features of social media include its two-way communication and collaborations tools, as well as wide access. Social media has been used in, or contributed to, a variety of crises (United Nations Foundation, 2009): it was used in Haiti after the earthquake as a communication tool (Heinzelman & Waters, 2010: 1-14; Kennedy, 2010) and contributed to political uprisings and demonstrations, most notably in Iran and North Africa (Hodge, 2008; World Movement for Democracy, Date unknown). Israel has also been known to use social media to counter political fallout after military operations (Shachtman, 2010). Social media was also used as an effective communication tool in the recent Hurricane Sandy that affected the US, as is shown in Figure 1.1. Social media would be beneficial if applied to psychological operations, perception management, and strategic communication in military, political, corporate, and emergency response fields, as advanced by authors Pillay, van Niekerk, and Maharaj, 2010; van Niekerk, Ramluckan, and Maharaj, 2011. It may therefore, become a primary tool and play a key role in mass communication during crises.

Figure 1.1: Twitter Resources for Hurricane Sandy



Source: Twitter (2010)

As reflected in the above social media excerpt, the Internet, especially social media, is being incorporated by crisis managers in the execution of existing tasks that are communication based, without creating completely new tasks (United Nations Foundation, 2009). Similarly to the political arena, social media has resulted in or contributed to corporate crises (Dutta, 2010; 127-130). Companies have become accustomed to using social media for the purpose of marketing, public relations and community engagement (Kane, Fishman, and Gallagher & Glaser, 2009; 45-50); yet the risk is they may become embroiled in "Reputation Warfare" (Gaines-Ross, 2010; 70-76) on social media. Heinzleman & Waters (2010: 17) indicate that social media can and has been utilised as a "collaborative and collective intelligence" tool in corporations. On a number of occasions, there has also been this type of usage in response to natural disasters.

1.3 Significance of the study

This research study was selected due to its contemporary and relevant nature in modern society. The field of social media's relevance to crisis and disaster is relatively recent, even though its uptake has been prodigious. With the nature of such a rapidly evolving platforms and environments there has not been much time for adequate research and the average organisation or person still ill-equipped with

suitable understanding and experience when dealing with the arising challenges of the social media community. The current thinking is based on established theories from the fields of media and communication, mass communication, crisis management and crisis communication in particular, combined with various legislation and policies currently in place.

It is evident that searches conducted on Google Scholar, the EBSCO database, and JSTOR returned limited academic articles linking social media and crisis communication. Those that were found were primarily case studies, such as Yates and Paquette (2010, 236-238), Hjorth and Kim (2011, 187-199). The books that were used were located (Hagar 2012, White 2012), demonstrating that this area of research is relatively new. As demonstrated by these articles above, social media plays an important role in crisis management and communications; therefore there is a need to investigate a further understanding into this phenomenon and recommend strategies for effective use of social media in crises and disaster management. From the searches conducted, a gap was identified, it was concluded that no previous studies were conducted in this area in South Africa with specific reference to the governance of this form of technology and the need arose to conduct this study in such a growing and evolving area to contribute to awareness and enhancement of service delivery.

1.4 Research Problem

The study addressed the evolution of the social media in enhancing the management of disaster and crisis communication in the public domain. The main aim of this study is to establish the heightened prevalence of social media as effective tool in communicating to the various parties involved in a crisis. It may be argued that the rapid rise of social media evident in recent years has introduced additional complexities and opportunities for crisis management (Hagar, 2012:3). Public and private institutions, embraced the use of social media and social media technologies such as Facebook and Twitter in aiding its stakeholders, and local communities in communicating messages. However, there is a concern as most organisations seem to have used social media as more of a marketing and/or promotional tool. The problem becomes the lack of studies and/or knowledge of how social media can be used for crisis communication in South Africa or the factors that influences the decision to implement its usage. The study thus aimed to determine the extent, use and governing requirements of social media in crisis communication in South Africa.

1.5 Objectives of the Study

Since social media is a global phenomenon, the intention was to first analyse the use social media in the global context, and then localize the study to the South African public governance perspective. The objectives of the study were to:

- Investigate the extent of social media usage in crisis and disaster communication

- Determine global factors influencing the use of social media as a crisis communications tool and propose updated communication flow models for the specific case of social media in crisis management;
- Identify the possible South African legislative and governance requirements that influence the use of social media as a crisis communications tool;
- Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management; and,
- Propose an integrative model for the enhanced use of Social Media to address crisis communication and recommend social media strategies for effective use in crisis management for Public/ Private South African organisations.

1.6 Research Questions

The following research questions were developed from the Research Objectives:

- To what extent is social media being used in crisis and disaster communication?
- What are the global factors affecting the use of social media in crisis and disasters?
- What are the possible South African legislative and governance requirements that influence the use of social media as a crisis communications tool?
- What is the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management?

1.7 Adopted Research Methodology

A mixed methods approach was used for the research methodology, in relation to the outcomes of the different research objectives. With reference to the Foodrisc Resource Centre (2016) and Creswell (2006), the mixed methods approach is defined as “the methodology used for the purpose of conducting research by the process of collecting, analysing and integrating both quantitative and qualitative research approaches.” This approach is focused on the formulation for an in-depth understanding into the research problem. The study was primarily qualitative however, some quantitative data together with content analysis was used to strengthen the qualitative analysis.

Elements of various models such as “Task Technology Fit” (TTF) and “Technology Acceptance Model” (TAM) was used to guide the study in assessing the application and relevance of social media to crisis communications and as a basis for the Objectives of the study. An example of a combined model is the linking of TAM and TTF as proposed by Dishaw, Strong, and Bandy (2002). Roger’s (1995) “Diffusion of Innovation Theory” (DOI) was also applicable. These are predictive social models relating to acceptance and use of technology, rather than technical models, and can therefore be used in a public administration context when referring to the use of technology to bridge the

communication divide and create awareness of crisis when working with communities at large. They incorporate constructs which aim to predict the acceptance and future usage of technologies. The constructs that are particularly relevant to this study include:

The Technology Acceptance Model is an information systems model which illustrates the ways in which users accept and use technology. The model considers a number of factors that may influence the user's decision about how and when they will use technology (Davis, 1989:14). The model includes the following two aspects which is relevant to the study are Perceived usefulness and Perceived ease of use.

The Technology Task Fit is a model which tests the suitability of a technology to perform a specific task by examining the task requirements and the technical capabilities (Goodhue and Thompson, 1995). The aspects of TTF are relevant to the use of Social Media are Task requirements for crisis communication, limited by legislation and existing policy and Technology capability.

The Diffusion of Innovation Theory (Rogers, 1962) seeks to examine the rate at which new concepts together with technology spread through a community or culture. Social Media can be seen as a new concept with the University's population being the selected community. The aspects of DOI will be looked at in more detail with relation to the study were the Nature of social system and the Type of innovation decisions are involved.

The next section describes the methodology that was used with relevance to each objective. The Objectives to the study were based on the theoretical models including the "Technology Acceptance Model", the "Task Technology Fit" model and the "Diffusion of Innovation Theory" which are discussed in more detail in Chapter 4 and Chapter 5 (Section 5.2) of the study.

1.7.1 Research Objective 1

Questionnaires were distributed to social media experts, using electronic platforms i.e. Google docs. The questionnaire was used to gauge the extent to which social media is used in South Africa. Interviews were also conducted and thematic analysis utilized to identify the key patterns to the responses.

1.7.2 Research Objective 2

Qualitative Document Analysis (QDA) was conducted on previous research, 'best practice' white papers, authoritative documentation and journals.

Bearing in mind that this objective took into account the global context, some international participation was required as a focus of the objective. In-depth interviews were conducted with both international and South African respondents, who are knowledgeable in the relevant area of study.

Furthermore these respondents were identified by their publications and work experience in their field. It included academics and practitioners in the relevant fields.

E-Interviews were conducted through electronic means for the qualitative part of the study as the location of the participants did not accommodate for face-to-face interviews. Guest, Bunce and Johnson (2006) indicate that six to twelve interviews will be sufficient. Content analysis was used together with the interviews and questionnaires to gain more depth to the study.

Furthermore, an online questionnaire was distributed through relevant professional bodies. This provided a broader understanding from multiple respondents using convenient snowball sampling. Due to the nature of this study, only descriptive statistics was required for the quantitative data analysis.

1.7.3 Research Objective 3

Objective 3 seeks to achieve a detailed understanding of both the barriers and attractors of using social media for crisis communications and the frameworks and legislation that inhibits or promotes the use thereof. In-depth interviews were conducted, together with content analysis. A questionnaire was also distributed through electronic means.

1.7.4 Research Objective 4

Objective 4 focuses on organisations that have used social media for strategic corporate communication and perception management in crisis and disaster management. The effect that the use of social media has in such situations was ascertained through in-depth interviews and questionnaires (5 point Likert Scale).

1.7.5 Research Objective 5

The global perspective and proposed models from Research Objective 2 was used to contextualise and triangulate the results from Research Objectives 3 and 4. These objectives were be primarily desk-based research, where the relevance and impact of social media in crisis communications in organisations was assessed.

1.8 Outline of the Study

Table 1.1 gives an outline of the chapters of which the study comprises.

Table 1.1: Outline of Chapters

Chapter	Brief Overview
Chapter 1: Introduction	This Chapter introduces the study and discusses its relevance within the South African context. It also highlights the need for engaging on crisis communication to enhance the inter-relationship with communities whilst emphasising the use of the dominance of social media in the current era.

Chapter	Brief Overview
Chapter 2: Public Administration and its role in Crisis Communications	This Chapter establishes the context of the study and provides the discussion around public administration and crisis communication within a South African context. The notion of a proactive approach is advanced to ensure that service delivery is not compromised through a lack of communication.
Chapter 3: Technology Evolution and Governance	This Chapter provides the discussion around technology evolutions and its governance within a South African context. The legislative frameworks influencing social media usage are discussed in light of the changing communication landscape.
Chapter 4: Research Methodology	This Chapter presents the various research approaches and methodologies used in conducting this study. The discussion of the various research methodologies is provided.
Chapter 5: Development of the Conceptual Model	This Chapter presents the models for social media and its incorporation into crisis communications strategies within the various crisis communications sectors.
Chapter 6: Content Analysis	This Chapter analyses the various authoritative documents that apply in some context to social media usage. It is important to analyse the existing legislative frameworks and policies in place for the effective use of social media, especially in times of crises.
Chapter 7: Primary Data	The Chapter discusses the primary data collected and analysed from the interviews and questionnaires.
Chapter 8: Discussion	This Chapter evaluates the use of social media as a tool in crisis and disasters in South Africa by discussing the results of three-fold methodology involving content analysis, interviews and questionnaires.
Chapter 9: Conclusions & Recommendations	This Chapter provides the conclusion and recommendations for the study.

1.9 Research Output

The PhD is a Doctorate by thesis but as an administrative requirement one journal paper is to be submitted to an accredited journal. Due to extensive nature of this study, the following research output was produced:

Ramluckan, T., Subban, M., McArthur, B. (2016). "The Relevance of South African Legislation on Social Media as a Strategic Disaster and Crisis Communications Tool". *Journal of Information Warfare*. Vol. 15, Issue 1.

Ramluckan, T. (2016a). "Factors Affecting the Use of Social Media as a Crisis Communication Tool in South Africa". *IST-Africa 2016 Conference Proceedings*. Paul Cunningham and Miriam Cunningham (Eds). IIMC International Information Management Corporation

Ramluckan, T. (2015b). "The Relevance of South African Legislation on Social Media as a Disaster and Crisis Communications Tool". Presented at the ISACA South African Chapter Conference. Johannesburg

Ramluckan, T. (2014c). "Social Media in Crisis Communications". Presented at the Military Information Communications Symposium South Africa (MICSSA).

Apart from the journal articles and conference proceedings the following book chapter is related to but not from the thesis:

Ramluckan, T., Ally, S. and van Niekerk, B. (*in press*). "Twitter use in Student Protests: The Case of South Africa's #FeesMustFall Campaign".

1.10 Summary

Social media is a phenomenon that has crossed the boundaries of being merely a "social interactive" platform. Its usage has grown into the various organisations, including the public, private and non-governmental sectors. The objectives of the study was therefore, to determine the use and extent of social media by organisations, the factors influencing its implementation as a crisis communications channel, as well to assess the legislation and frameworks governing its use in South Africa. The study follows the mixed methods approach which formed the foundation in the development of the conceptual model. The next chapter forms the theoretical foundation which introduces and contextualises the discussion on the role of public administration in crisis communications.

CHAPTER 2 THE ROLE OF PUBLIC ADMINISTRATION IN CRISIS COMMUNICATION

2.1 Introduction

Public safety and security remains a key responsibility of governments. It becomes the duty of law and policy-makers within public administrations to protect its citizens and stakeholders from the various types of disasters, either man-made or natural. Most governments have implemented emergency management processes and operations to define the procedures to be followed when its citizens are at risk in terms of health, safety and security. Public Administrators definitive role in a crisis is to ensure that the citizens receive the vital information to ensure their safety in life-threatening situations. In light, thereof, this chapter identifies concepts of legitimacy, democracy and public service delivery. The role of Public Administrators in Crisis Communication is also discussed.

2.2 Definition and Context of Public Administration

The field of Public Administration is a rather broad one – authors discuss the various definitions of Public Administrations by first generally defining the concept of “Administration”. Marx (year unknown) defined Administration as “any action that is taken in pursuit of a conscious purpose – a systematic arrangement of affairs and the estimated use of resources with the main objective being making those happen which one wants to happen.”

Public administration is more complex consisting of various operations for the purpose of the fulfilment or enforcement of public policy. Furthermore as per the definition by Woodrow Wilson in 1887, “Public Administration is a concise and systematic application of law.” So one may postulate that the concept of Public Administration is indeed the act of putting various policies, practices, rules and regulation in practice.”

The scope of Public Administration is too large to define in its entirety, but can be discussed by the various relations to its elements. Although the source by Nigro (1980: 4) seems dated the significance of the meaning of Public Administration by one of the leading proponents in the field still has relevance in contemporary times. The author (1980: 4) proceeds to argue that “Public Administration is essentially a co-operative group effort in a communal setting.” Furthermore, Public Administration is considered an “umbrella” concept, covering all three branches of government which are the executive, the legislative and the judicial. The commonality that the author adds further is that “since public administration plays a vital role in the formulation of policies, it is therefore a part of the political decision making and implementation process – inclusive of Bills and Acts.” Nigro (1980:5) further states that “public administration is different from private administration in numerous ways

and that it interacts with various private groups and individuals in providing services to the community”.

Nicolas (2006: 6) states that Public Administration is a “device” used to reconcile two important political ideologies - bureaucracy and democracy. A bureaucracy designed to “effectively manage” a democracy. And along with the ideology of democracy, “responsible” government needs to be established. The concepts and interlinking of democracy and public administration as significant aspects is discussed further in the next section.

2.3 The Concept of Democracy in Public Administration

The word democracy is a Greek word evolving from two separate words “demos”, translating as the people and “kratos” translating as rule, literally meaning the people rule. Democracy is defined as, “a political system which enables the self-rule of a country's population in which the will of the majority of the people is the law of the land in every regard.” The Webster Dictionary (2016) defines democracy as, “a government in which the supreme power is vested in the people and exercised by them directly or indirectly through a system of representation usually involving periodically held free elections.”

Although authors’ provide numerous definitions of democracy, the characteristics remain the same. The definitions of democracy include the characteristics of equality, legitimacy, and the process of decision-making. The concept of legitimacy is discussed in the next section since this element forms an important area in crisis communications.

2.4 The Theory of Legitimacy

Within the field of Public Administration, the ideology of legitimacy is a pertinent one. According to Suchman (1998: 5) legitimacy may be defined as an “acceptance of an authority, which could refer to a particular law or possibly a political authority or regime.” One of the defining characteristics that is encompassed within legitimacy is the “ideal” of transparency. Suchman (1998: 5) further stipulates that transparency refers to the process followed by public authorities in decision-making, which is in an open and understandable format. Furthermore, the decisions made must be arrived at through reasoning and should be made publicly available (Suchman, 1998: 6). For the purpose of this study transparency is defined as, “as an everyday tool that promotes participation in the governance processes by both effective communications channels and the public in times of crisis” (Schenk, 2011).

The general suggestion as stated by Lord (2006:23) is that transparency requires that “members of public office be as open as possible about all decisions and actions they implement”. As stated by Curtin (2000:26) and Meijer (2006, 111), transparency includes the “proactive duty of the responsible administration to ensure that information about its policies and actions are presented in an easily accessible manner.” In a study conducted by Moon, Welch and Wong (2005) on the “effects of government websites on transparency” the conclusion that was reached was that the “ more transparent

an organisation is, the more willing it is to allow citizens to monitor its performance and to participate in its policy processes.” With regard to this study, transparency is an important element to consider especially in times of crisis. According to Meijer (2003) the use of ICTs strengthens the informational transparency of the government. Therefore it can be assumed that transparency between governments or organisations is aligned to legitimacy by definition as transparency can enable the public’s acceptance of organised structures offering them the option of monitoring policy-making and analysing the results (Meijer, 2003).

It becomes a necessity for public involvement and participation in a crisis. Transparency is a key tenet for this type of public participation to occur – the basis for this type of transparency is the sharing of quick, accurate information, however, democratic reasoning for the use of such communication platforms does carry consequences for public policymakers.

2.5 Structures of the South African Government

South Africa is what can be termed as a constitutional democracy. It consists of three spheres within its government structure, which is inclusive of a judiciary. All three spheres of government have the authoritative powers of legislative and executive decision-making defined within their individual levels – they are referred to as being “distinctive, interdependent and interrelated (the South African Constitution, Section 40; 1996). Each of these spheres of government is allocated its own functions in the intergovernmental relationship of government departments.

From the three spheres of government, the local government is responsible for municipal governance and service delivery in a local context. The South African Local Government Association (SALGA) was created to “represent, promote and protect” the interests of the local sphere of government. SALGA’s aim is to promote good governance amongst local municipalities in alignment to the other spheres of government.

The term “Good Governance”, as defined by the Good Governance Guide refers to “the processes for making and implementing decisions- these decisions are not necessarily the best decisions but involves the best possible processes leading to the ultimate decision.”(GoodGovernance.Org). The key characteristics of good governance is accountability, transparency, responsive, participatory, effective and efficient and equitable and inclusive and applies to corporate, international, national and local levels, but is inclusive of interactions between these spheres and other sectors and the public as a whole. Furthermore, these principles are synonymous with a significant aspect of Section 195 of the Constitution of the Republic of South Africa (1996) which highlights the values and principles of public administration. Transparency, again, is a recurring element. With regards to sharing information, transparency allows for the public to view the consistency of information from the three spheres of government in terms of communication, coordination and control in a crisis. Planning

forms a large part of good governance and planning decisions are extremely intricate and significant within the local government sphere. To this end, the integrated development plans of local municipalities relates to the strategic focus of aligning its planning to the development agenda. In this regard, it follows then that public participation is a significant aspect of the integrated development planning discussion. It is the responsibility of governments' and governing bodies to accomplish or meet the needs and demands of the masses (UNESCAP) - this also applies to the safety and dissemination of information to the public in times of crisis. Ultimately the characteristics that make up "good governance" would lead to effective communications, which is the basis for effective and enhanced service delivery.

2.6 Public Service Delivery

Linked to the concepts of transparency, accountability and liability in government, is a term that is often loosely mentioned. The term service delivery can apply to corporates and governments usually referring to the policies, procedures and principles that define the interaction between a customer and the service provider (Cambridge Dictionary, 2016). However with reference to Crous (2002; 18), service delivery within the context of South Africa refers to the provision of basic services and resources e.g. water and electricity. However, it is important to regard communication as a means to effective service delivery, especially in crisis situations. With reference to participation and communication, e-Government is one such method that promotes public participation for open dialogue, ensuring that government is practicing the principles of service delivery. In this regard, the thrust of the e-Government policy, are three important constructs that relate to: "government-to-government"; "government-to-business" and "government-to-communities" as part of its interaction to improve service delivery on all platforms. The notion of e-Government will be explored in the following chapter in more detail.

Governments need to consider strategic communications such as social media platforms in order to capitalise on the range of services these platforms can provide. Furthermore, with reference to Nica, Popescu, Nicolăescu and Constantin (2014:153) social media platforms are being used by governments and government agencies to engage constituencies, thereby promoting transparency and openness leading to improved provision of services or service delivery. In times of crisis, the management of the strategic communications tool is of high importance to promote the principle of trust, which is prevalent in an open and transparent government. It follows then that within South Africa as a case in point, that there is a commitment by the government to use various strategic platforms to engage with citizens to ensure that information which is regarded as a strategic resource, is communicated so as to ensure that the safety and general welfare of the citizenry is not compromised in any way.

2.7 Public Management and Disaster Risk Reduction (DDR)

As explained by van der Walt (2009, 18) Public Management remains a difficult field to define. The general consensus however, is that it refers to the role of service delivery, which is vested in the best interests of the general population. With this perspective on Public Management, public safety becomes the key responsibility of Public Managers, in crisis and disasters. Thus creating the relationship between Public Management and Disaster Risk Reduction (DDR).

Disasters can be defined as an occurrence that is sudden and/or unexpected, resulting in the loss of lives (Webster Dictionary). Van der Walt states that disasters are no longer just considered as natural occurrences, but now includes the social and economic environments as well. Le Roux (2013, 2) suggests that the prevention of disasters and/or preparedness for Disaster Risk Reduction must be developed for the purpose of disaster resilience. This will also prevent a crisis from becoming a disaster as it would ensure the successful management of disasters, leading to a decreased loss of lives, lower costs and damage to property. However, for this to occur, Le Roux (2013, 2) states that there must be transparent and ethical communication between all stakeholders.

Furthermore two-way communication enables response organisations the autonomy to fulfil their responsibilities while at the same time reducing the overall expenses incurred for regulation and litigation and the risk of implementing all decisions. This ultimately means maintaining a good public image and reputation (Grunig 2006:3; Hon & Grunig 1999:7–9, 11; Phillips 2006a:34, 35; 2006b:212).

2.8 Crisis Communications and Management

Coombs and Holladay (2012) explain crisis management to be a process that is designed with the objective of either preventing a crisis or reducing the impact that a crisis might have on both an organisation as well as its stakeholders. This includes the relationship between government administrations and its citizens as it can be considered to be good governance and provision of effective service delivery. It can be said that bridging the communication divide between government and the citizenry is considered a key aspect of good governance within the context of this study. Being a process, crisis management entails more than one element. Crisis communications is the means of communication before a crisis, during a crisis and after a crisis and falls under the crisis management umbrella. Crisis communications can be considered a strategic tool in communicating to the various stakeholders. As explained in more detail, there are three main elements of crisis management, otherwise known as the three C's, and they include the elements: Communicate, Co-ordinate and Collaborate. For this study looking at crisis management, Communicate is an important element which necessitates the combination of the other two elements. Communicate refers to the “communication process” which involves “push pull” communications technologies. The “push” refers to pushing crisis notifications through a resilient platform such as social media platforms and the “pull” refers to obtaining crisis notifications through a website or even a blog, a concept similar to that of

crowdsourcing. Coordination allows for the implementation of contingency planning to effectively collaborate with the crisis team, while Collaboration is necessary for organisations and departments to work together in times of a crisis (Heighington, 2011: 17).

2.8.1 Definitions & Structure for Crisis Management

Hagar (2012: 1) defines a crisis as being any form of interruption to business or social life. The occurrence of a crisis amplifies communication and creates a complex environment for information. A crisis can also be described as a strategic organisational threat that may compromise business continuity (Fearn-Banks 2007: 8). There are often differing views on the strategic fit of the crisis management function. Chong (2004: 43) is of the view that crisis management must be aligned to an organisations strategic management process. This view is, however, not shared by Pollard and Hotho (2006: 726) who argue that managers have little concern for the crisis management function. The importance of strategically aligning the crisis management function is echoed by Ashby and Diacon (2000: 7) and Verwey, Crystal and Bloom (2002: 33). Verwey et al., (2002: 33) argue that crisis which has the potential to threaten the survival of an organisation must be acted on by management. . Over the past ten years alone, the world has witnessed numerous crises such as the Haiti earthquake, the Nepal earthquake and the Syrian war. The alarming increase in natural and man-made crises have shown that it is vital to understand how information is acquired, organised, retrieved, shared and disseminated between governments, organisations and individuals. These incidents themselves have demonstrated that there is a great need to understand how individuals, government and nongovernmental organisations acquire, organize, access, share, co-ordinate and disseminate information within communities in times of crises.

2.8.2 Types of Crisis & Disaster

Disasters can be described as being a crisis situation that causes damage on a large scale, making recovery operations difficult. The main differences between a disaster and crisis are as follows:

A disaster is described as an unexpected event of substantial extent that causes extensive damage, destruction and devastation to the community as a whole, whereas a crisis is considered as an abnormal situation which is characterized by a high risk to the social, cultural, economic and political status or situation with the potential to develop into a disaster. Whilst disasters have severe negative effects, a crisis can take on a positive or negative form depending on how it is managed. Most disasters arise due to an accumulated number of unnoticed events, whereas crises have a structure of development.

Whilst SmallBizConnect (2015) states that disasters are unpredictable Pullwarty (2008) contends that not all disasters are completely unpredictable and that there is a possibility of being able to accurately predict the occurrence of such disasters.

Disasters which is the evolution of crises consists of two main types, which according to Pullwarty (2008) are natural and man-made disasters.

The phases of all disasters, be it natural (which include earthquakes, floods, landslides, tsunamis) or man-made (which include war, bomb blasts, chemical leaks, and technological crisis) are the same. Disasters often differ in the severity of damage and the scale of response required. The main characteristic of a disaster is the loss of lives involved or the extremity of the crisis i.e. a crisis can soon become a disaster if it not managed efficiently.

Crisis can be further broken down into the following types, as illustrated in Table 2.1.

Table 2.1: Types of Crisis and Characteristics

Type of Crisis	Characteristics
Natural Crisis	These represent the disruptions in and around the environment as well as in nature. The events are considered as being “beyond human control or intervention”. Examples of a natural crisis or disaster include Tornadoes and Earthquakes.
Technological Crisis	A “Technological Crisis” is usually characterised by a failure in technology. Problems in the systems or corrupt software are examples of vulnerabilities that may lead to a technological crisis.
Confrontation Crisis	A Confrontational crises usually occurs when there is conflict between the stakeholders and/or citizens within a company or state. This leads to tension amongst these individuals resulting in possible strike actions or boycotts. In this type of crisis, more often than not employers’ are forced to concede to the demands and ultimatums of the employees. The factors of ineffective communications as well as the lack in coordination often lead to a violent confrontational crisis.
Crisis of Malevolence	A “Crisis of Malevolence” occurs when disgruntled employees turn to criminal activities to gain unlawfully from the organisation. Acts of malevolence include the spreading of fake rumours and possibly kidnapping of company officials.
Crisis of Organisational Misdeeds	Crises of organisational misdeeds occur when management makes important decisions knowing the decisions could be potentially harmful to the stakeholders and external parties. Even with such knowledge superiors still choose to implement strategies and decisions.
Bankruptcy	This type of crisis when an organisation becomes indebted to creditors and/or other parties and due to a lack of funds which they are unable to pay leads to bankruptcy e.g. the 2008 Financial Crisis

Source: Adapted from Rosenthal & Kouzmin, (2007: 77)

2.8.2.1 Stages of a Crisis

Crisis management is divided into the pre-crisis, crisis response and post-crisis phases. The first phase, pre-crisis, deals with preventing and also preparing for a crisis situation. During the crisis response phase, the organisation and its management must respond to the crisis. The post-crisis phase deals with developing strategies to prepare for possible future crisis events (Coombs & Holladay, 2012).

2.8.2.1.1 The Pre-Crisis Stage

When a critical crisis situation is discovered, the person responsible for the discovery will normally alert the appropriate parties. Normally, the crisis situation is only known internally and is not public knowledge initially.

The responsible parties then have the responsibility of analysing the situation and determining whether it has the potential to become a critical threat. If it is believed the situation is not critical, then no action is taken. Alternatively, if the situation has the potential to become serious, then there will be actions to mitigate the risk.

Once this has been brought to the attention of management, the responsibility lies with them to take control of the situation and prevent the crisis from growing. If this is done properly, the crisis will be turned from a negative one, to a positive one.

2.8.2.1.2 The Acute-Crisis Stage

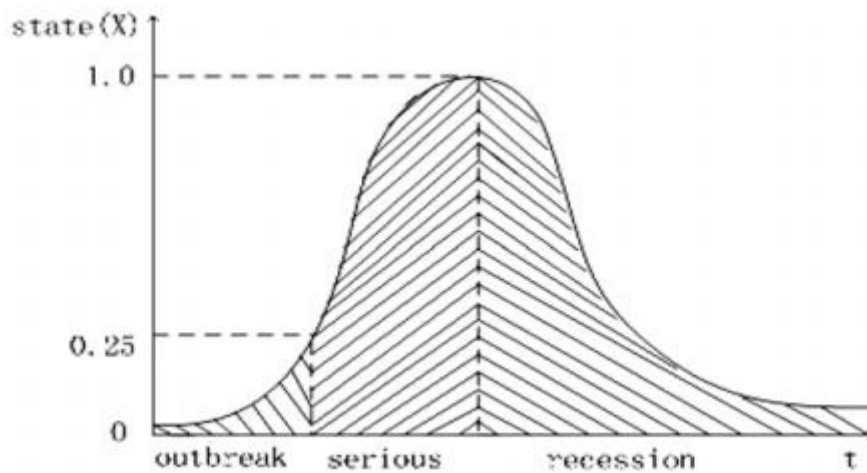
When a crisis is known and visible beyond the boundary of an organisation, then it has become acute. Once the crisis has become acute, there is no other option but to address the issue directly. This stage does not allow for preventative action but is more concerned with minimising damage. A crisis at this stage must be managed by a crisis management team. This is a cross-functional team made up of people with expertise and experience in managing crises.

2.8.2.1.3 The Post-Crisis Stage

After a crisis has been somewhat contained, it moves into the post-crisis stage. During this stage, the organisation will assess the impact of the crisis. The organisation must be able to show to stakeholders that it is aware of the impact the crisis has had on them, and that it has a vested interest in correctly dealing with the crisis situation and delivering value to all stakeholders.

An example of crisis evolution is the Fukushima Earthquake in 2011. This was considered as the worst nuclear disaster since Chernobyl (Fukushima on the Globe, 2016). The nuclear leakage accident that occurred after the earthquake and tsunami left thousands homeless and led to numerous health conditions. As a result of the nuclear disaster, other countries began to view the Japanese in a negative light and began spreading malicious rumours- some of which implied that by consuming products containing iodine could prevent the absorption of nuclear radiation – this in turn resulted in a sharp increase for iodine containing products such as iodised salt and seaweed. This contributed to the psychological effect on the people affected by the disaster. Chinese residents purchasing iodized salt by the tons. Such crises can lead to widespread economic losses and examples include the shortage of iodised salt during the Japanese earthquake and the demand for Radix Isatidis during the SARS crisis. (World Nuclear Org, 2003:3)

Figure 2.2.1: Evolution of the Crisis



Source: World Nuclear Org (2003:3)

Figure 2.2.1 attempts to explain the stages of the “salt” crisis, from the outbreak of the crisis, to the serious phase and finally to the recession. The event began slowly with the onset of the earthquake and tsunami, then began gaining momentum through rumours- as a result of the rumours, the crisis spiralled out of control, into a full crisis.

The most prevalent form of communication during this crisis was considered to have been television, newspapers and then the official websites. The rumour had begun through word of mouth, and since so much damage was caused due to the preceding disaster, communications channels were not as easily accessible, to obtain the accurate information needed to prevent the onset of the “salt” crisis (World Nuclear Organisation, 2003)

2.8.3 The Public Crisis

It is important to remember that a public crisis is referred to as an abrupt accident or a state of emergency, however many authors and academics views’ on the subject matter may seem to contradict each other’s notions. According to Zhu (2003) a scholar, Kathleen Fearn-Banks, proclaims that “crisis is that one incident obstructs normal business transactions and potentially threatens business survival”. While another author (Otto Lebinger) explains “the crisis as the event threatening the company’s interest rates obtained in future, growing, even survival”

Other scholars provide the explanation that “crisis is the incidents or actions potentially making the downside to the honour or credit, even the economy of local organisation (government or enterprise)” (Zhong-Ren, 2003). A public crisis provides both precarious circumstances as well as many opportunities- reflecting two sides of the development of the crisis (Zhang, 2003). Considering the differing views and opinions, a common characteristic can be identified. A crisis can be considered a

type of disadvantage given the scale of severity and the organisation impact and “they rarely have the deep anatomy on the origin of crisis” (Zhu, 2003).

It follows then from the foregoing discussion that the urgency to address communication (being enabled by social media) necessitates the critical need for the development of an integrated approach to address and enhance communication in the public sector.

2.8.4 Interlinking Public Governance, Crisis Management and Communication

As mentioned in Section 2.7 communication forms the basis for the effective dissemination of vital information by public administrators during a crisis. Modern society is more vulnerable to risk events in comparison to earlier decades. The threat of technological, social and political crisis is much higher in the 21st century. As such, all the elements of these events such as risk, uncertainty, crisis and collective stress, must form part of a broader framework of understanding of the typical responses to managing and mitigating crisis situations. And the question arises as to what governments’ role is in the undoing or in mitigating crisis. There is always an unpleasantness in times of crisis emanating from these unprecedented circumstances and their considerable impacts on normal routines and standards (Rosenthal & Kouzmin, 2007:67). Crisis is considered as indiscriminate but preventable. It can have many different dimensions i.e. International, domestic, local, or organisational, or they can involve a combination of dimensions: As an example, we can use the Iranian Nuclear crisis of late- it included the threat of a nuclear onslaught as well as an embargo on the export of oil but included sanctions imposed on themselves. Crises can in some instances involve elements of danger to the lives of citizens, inflicting some extent of damage e.g. a hostage taking situation in a hijacking. The Marikana strike provides an example of crises emanating from the threat to economic prosperity which ultimately lead to a drop of investment in the South African national economy and a lack of faith in the government. When communicating to various stakeholders and citizens in times of a crisis, a more in depth analysis of crisis management is required which looks at the processes and challenges of these processes for administrations.

Rosenthal and Kouzmin (2007:68) make the distinction in the way crisis management is reflective of governments and its relation to both the political actor and the observer and their perceptions on crises - Governments may in fact perceive a situation as a crisis, but critics may see this as an opportunity to initiate and implement, what they regard as necessary, policy or changes in regime. Most critics’ perceptions remain that governments disregard or misjudge the severity or gravity of threats. Rosenthal and Kouzmin (1997:68) refer to such administrations as autistic as the failure they displayed in responding to imminent warnings of impending crises e.g. in 2011, a massive tsunami struck Japan, killing an estimated 15 891 people.

The major issue was that Japanese scientists had predicted that a smaller earthquake would strike in the northern Honshu region, which represents the mainland. Despite this, their warnings were not heeded by those responsible for monitoring earthquake hazards. In the aftermath of the disaster, tsunami experts are assessing the past history of tsunami events in Japan to help them better predict and forecast for future possible disasters. This will assist in developing risk probabilities for earthquake strikes and also shows a hypervigilance for disasters (Oskin, 2005). Hypervigilance does have a downside. In their zeal to mitigate risk events, administrators may even prepare for the wrong threat or risk event. They may even incorporate contingencies for a threat that may never materialise.

Axelrod (1976:42) explains that cognitive mapping and research in strategic management is not limited to individuals but extends to cognitive structures and processes that can be shared with strategists during a crisis situation. Modelling the complex intellectual processes involved in social, political and organisational contexts is a difficult undertaking (Jarman & Kouzmin 1994a and 1994b). In order to craft appropriate response strategies and understand how decision makers develop risk responses, consideration must be given to the areas that are linked to crisis cognitions. Hewitt (1983: 10) explains that mitigating crisis situations is a complex task that is further exacerbated by unprecedented, unscheduled events that can sometimes be difficult to manage. Despite this relative complexity, there has been successful maintenance of cognitive simplicity in managing crises. There are two-ways of achieving this, as proposed by Hogarth (1980). The first way is by simplifying biases, although this has the potential to create significant errors in crisis forecasting. The second way is to operate via cognitive maps at different levels of an organisation. Cognitive maps, apart from their traditional role of representing individual views, can also be used to map the shared assumptions of decision makers (Suchman, 1998: 46).

With reference to the Swedish Emergency Management Agency SEMA (2008, 67), it states that the new media has changed the reporting methods in crisis communications. Further stated by SEMA (2008: 67) the objective for effective crisis communications contains three main elements which are speed, transparency and functionality. The element of speed, is important in terms of communicating vital information in a timely manner. Transparency is an interesting element as it overlaps in many different areas including that of public administrators as discussed in Section 2.4. In the context of crisis communication it refers to the ability to provide all necessary information to those affected by the crisis. Functionality within crisis communications refers to the functionality of the communications channel being used for example, since time is of the essence in a crisis, a simple, easy to use but resilient communications channel would be important to those affected by the crisis.

Furthermore, in a similar study conducted in the US by Graham, Avery and Park in 2015, with data collected from over 300 local government officials in municipalities across the US, it revealed that social media in crisis communications was still an unexplored area of research. While 70 percent of

government officials stated that they used social media in crisis, 29 percent had not considered its usage. Facebook was the most popular social media platform used by local government officials with 53 percent, followed by Twitter with 27 percent and lastly official blogs. The outcome of the study was that social media should be regarded as a strategic communications tool in crisis. Legislation and governance was not considered as an influencing factor in social media usage in the study conducted by Graham *et al.* (2015:80).

2.8.5 Crises Communications Models

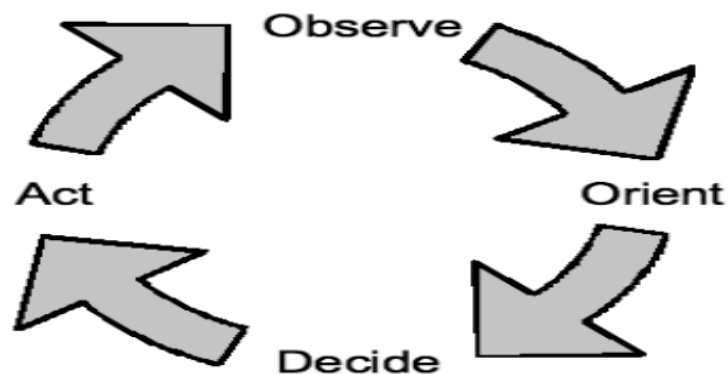
The decision-making process is an important facet in in any field especially in Public Administration where governments are required to quickly address and mitigate the effects of a public crisis. But in order to mitigate the effects of a crisis, effective decision making needs to occur. This section presents the various decision making models that were consulted in context for this study. These included the Plan, Do, Check, Act (PDCA) Model, the Observe, Orient, Decide and Act (OODA) Model, the Stimulus- Hypothesis- Observe-Respond (SHOR) Model, and the Tasking, Processing, Exploitation & Dissemination (TPED) Model.

2.8.5.1 The OODA Model

The OODA Model was developed as a strategic intelligence model developed by Boyd. The model consists of four stages, and what started off as a military model, became incorporated into the different spheres of business management. Figure 2.3.5.1 is an illustration of the OODA Floating Head Model by Boyd.

The model consists of four phases which are Observe (O), Orient (O), Decide (D) and Act (A). The model explains that decision-making follows a specific process. Upon a decision being made, the next step involves taking action. This model is important for Public Administrators, as there should be a quick response time from the occurrence of a crisis to the required action being taken.

Figure 2.3.5.1: OODA Floating Head Model by Boyd

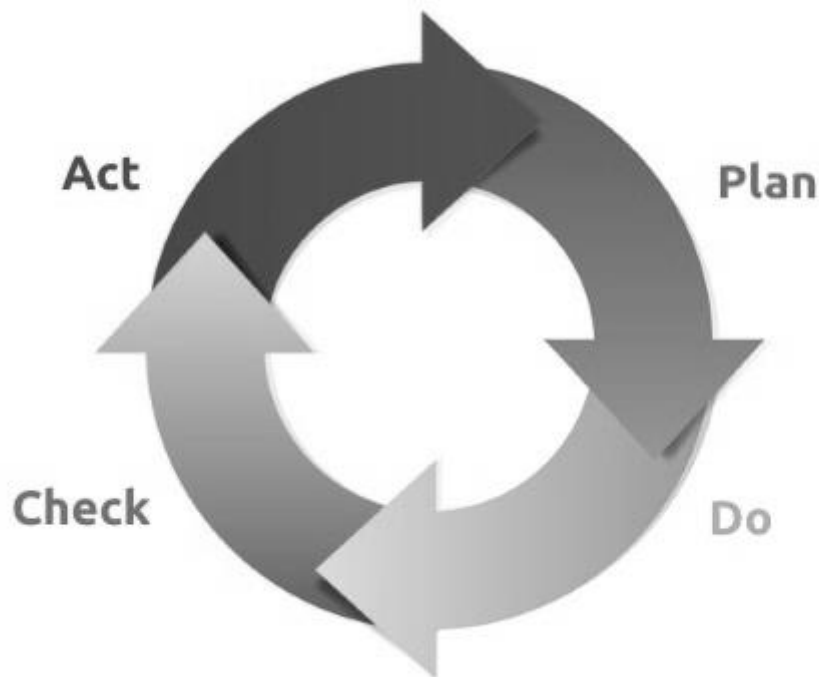


Source: Boyd (year unknown)

2.8.5.2 Plan Do Check Act Model

The Plan, Do, Check, Act (PDCA) was a normative guide applied to the decision-making model for business continuity after a crisis. The ISO Standards utilise the PDCA as part of their Business Continuity Management and as well in other corporate best practices (ISO 22301, ISO 22313). The model is illustrated by Figure 2.3.5.2. The PDCA model was developed by W Edwards Deming. Deming advocated that the key to effective decision-making was being able to achieve defined quality and process control management that can be repeated with similar results (Revolution Learning, 2016).

Figure 2.3.5.2: Demming’s Plan Do Check Act Lifecycle Model

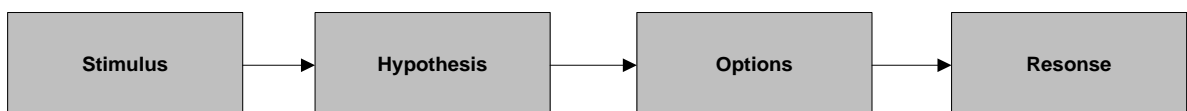


Source: Revolution Learning (2016)

2.8.5.3 SHOR Model

The Stimulus Hypothesis Options Response Model also known as the Stimulus Response Framework is representative of a human decision making model consisting of four elements : Stimulus-Hypothesis, Options and Response. Stimulus can be assumed to be data that has been collected and analysed, providing different options or methods for response (Olson, Thomas and Malone, 2012).

Figure 2.3.5.3: A basic SHOR Model

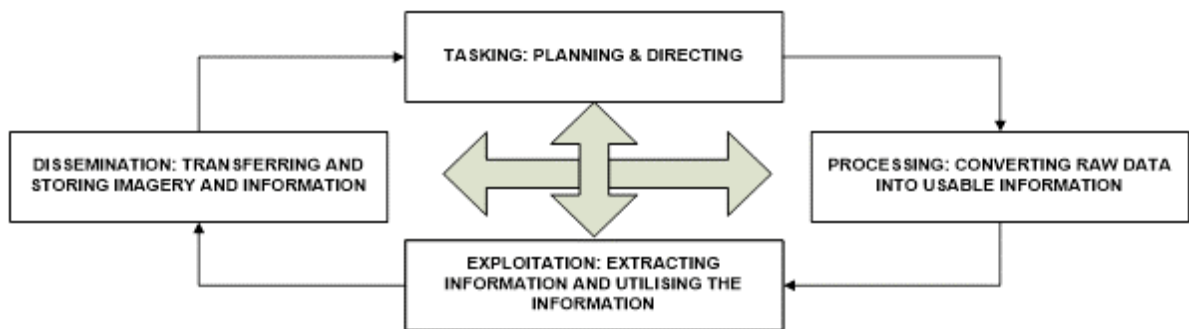


Source: Olson, Thomas and Malone (2012)

2.8.5.4 TPED Model

The TPED Model is described as “a system of systems”. TPED refers to the processes of “tasking, processing, exploitation, and dissemination”. TPED is cyclical as it involves the development of raw data into finished information which makes it simpler for policymakers to understand and to use effectively in the decision making process. The action is aligned to intelligence principles or collection of assets. Tasking can refer to a reconnaissance drone, "processing" its raw collection, "exploiting" its processed collection, and "disseminating" the resultant information products (Penn State, 2007).

Figure 2.3.5.4: TPED Model



Source: ESRI (2016:1)

The key element of these four models is the decision-making process. It is applicable especially to Public Administrators in a crisis, as their main responsibility is to the protection of its citizens, which means making the right decisions for the public. Effective decision-making ultimately results in enhanced service delivery.

2.8.6 Message Flow Model for Communications

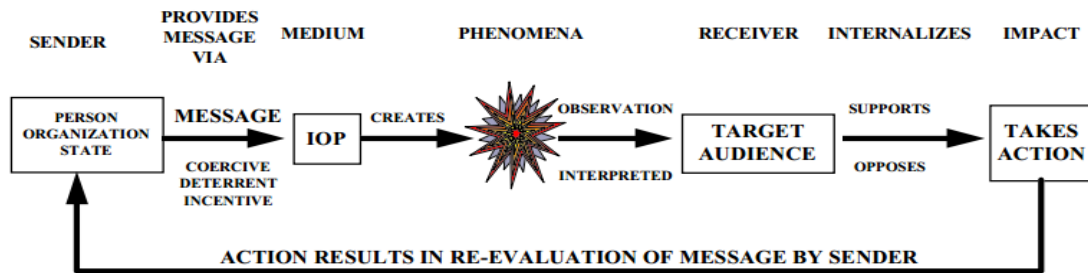
The process that involves the dissemination of accurate information through a process described by Cox (1997:42).

The first step involves the sender developing a message that will persuade the receiver to take actions that will support the objectives of the message and the sender. Messages can seek to coerce, deter or provide incentive to the receiver. The second step involves the sender transmitting the message using one or more instruments of power (IOP). The intention is to create the desired phenomenon. Examples of IOP applications include military activities, NGO activities and resolutions, economic sanctions and so forth.

Next, the phenomenon is observed by the receiver. The receiver then processes the information and also integrates his or her own perception into the message. This is known as internalisation. Next, upon internationalising the message, the receiver finds themselves influenced to act on the message. The action taken may either support or oppose the objective of the message. Also, the receiver may take no action at all. From the preceding step, the action that the receiver takes will influence the

sender's decision. Based on what the response is, the sender will send a new message, use a different medium or, in exceptional cases, create new objectives for the message.

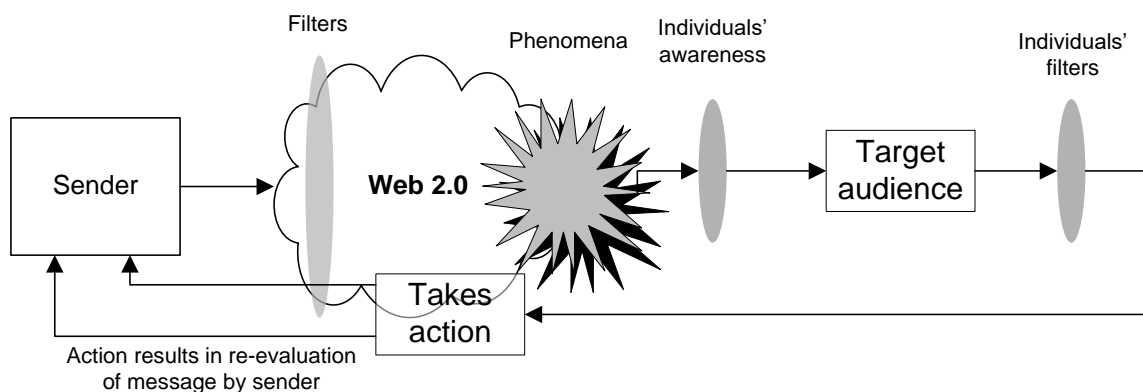
Figure 2.3.5.5: Cox Message Flow Model



Source: Cox (1997, 42)

Organisations and administrations have the ability to monitor the progression or mitigation of a crisis through the perception of their stakeholders and citizens, with the provision of effective message flow models as illustrated by Figure 2.3.5.5. Figure 2.3.5.6 illustrates that the two-way communication of social media affects the communication flow adapted to social media usage. The action that the target audience takes may be online, in the real world, or both. Therefore social media can be used to monitor the online reaction in real-time.

Figure 2.3.5.6: Message Flow Model for Social Media



Source: van Niekerk, Ramluckan & Maharaj (2011)

Communication plays a significant role in a crisis. The incorporation of an effective message flow model could result in the reduction in the effects of a crisis. Since every crisis is unique in some way, it becomes a requirement to re-evaluate and possibly redesign the model to adapt to each crisis.

2.9 Chapter Summary

This chapter established the role of public administrators in the public distribution of possibly life-saving information during a crisis or disaster. The chapter discussed the concept of democracy as South Africa is still considered a relatively new democracy. Furthermore, the concepts of crisis management and the elements of crisis communication were discussed. Transparency was established as an important element in the role of Public Administration in crisis communications. The important areas of Public Governance, Crisis Management and Communications were interlinked to illustrate the role of Public Administrators in mitigating crisis and disasters by using effective communication tools. Whilst social media as a communications channel or rather the use thereof seems appropriate and applicable in times of crises, it still contains challenges in the area of its governance in establishing its possible legitimacy in the aforementioned role. Therefore, the next chapter will discuss the evolution of technology and address the policies and legislation that need to be considered when disseminating vital information through new technology.

CHAPTER 3 TECHNOLOGY EVOLUTION AND GOVERNANCE

3.1 Introduction

Corporates, governments, non- governmental organisations and people of all ages and status are using Web 2.0 platforms on a daily basis. These applications which include Twitter and Facebook are considered to combine technology with social interaction- providing a relatively inexpensive and easily accessible means to communication. This platform is no longer considered as a luxury but a necessity in the age of the new media. For Public Administration, social media platforms have emerged as an effective and innovative medium in establishing and maintaining two-way communication between administrations and its citizens. According to the European Institute of Public Administration (2014), it is evident that public sector initiatives in this day have demonstrated “the value of social media for mobilising citizens, developing collaborative content or raising their community’s profile”.

New technologies hold the potential in the ways of modern communication techniques (Feldman, 2007). The technologies that have become to be known as social networking or more plainly referred to as Web 2.0, have become widely accepted by billions of end users in the world- due to its multi-functional capabilities and services. Although the terms social media and Web 2.0 are interchangeably used, there is a definitive distinction as social media is just one aspect of Web 2.0 and this is discussed further on in this chapter.

The growth of Web 2.0 technology was considered by some authors as a potential risk to reputation and it was suggested that risk mitigation strategies needed to be implemented prior to the unfolding of a reputational crisis (Aula, 2010). Businesses through the use of Web 2.0 platforms have been provided with the opportunity of establishing direct access to existing and potential customers. However, by creating a presence on social media, businesses, both public and private, administrations and citizens either knowingly or unknowingly subscribe to the varying challenges inherent with the use of new social platforms by means of “open participation.”

It should be considered that new technologies require new skills and awareness of the challenges as well as mitigating factors that accompany the acceptance and use of these technologies including social media. The use of new platforms, whilst providing easy access, poses various regulatory issues not only concerning privacy and the protection of data but requires new skills including image control and monitoring and evaluation as well as maintenance which may include updating content and managing customer relationships.

According to Kim, Halligan, Cho, Oh, & Eikenberry (2005) the concept relating to “openness and transparency” combined with the different types of accountability become the key elements of “good

governance”. It has been discussed by authors Demchak, Friis, La Porte (2000: 4) and Drüke (2007) as to the potential contribution that the Internet and related Internet technologies hold enhancing the areas of “interactivity, transparency and openness” of the public sector, thereby promoting new forms of accountability (Cyberspace Public Research Group, 2001). According to Demchak et al. (2000:5) and Kim et al. (2011:2), these form important elements of good governance, promoting positive values, thereby increasing citizens trust in government administrations.

Web 2.0 is evolving and expanding with the uptake of social platforms and virtual societies promoting a universal culture of information sharing and reciprocal learning (Elia, Margherita, & Taurino, 2009). Governance with reference to social media websites has the ability to be monitored and evaluated in terms of compliance or non-compliance to the external legal prescriptions, the social morals, values and economic standards. The use of social media is affecting modern crisis communications which has been observed during recent major crises. This Chapter addresses the evolution of social media, and the laws and legislation influencing its usage.

3.2 The Evolution of Information Technology and Web 2.0

In the nineteen nineties, the Internet with the inclusion of the World Wide Web fast became indispensable tools for any business. These forms of media allowed the organisation to improve the way it communicates internally and externally. The fact that the World Wide Web is a control channel provided the main advantage. Through the Web, organisations were able to communicate internally and externally without media filters being imposed on them (Taylor and Kent, 2007). From the discussion by O’Reilly & Battelle (2009), the underlying fundamentals of web 2.0 technologies consists of applications, which act as systems, laying on the network, which are used as a control mechanism for collective intelligence. This concept as proposed by Brabham (2008), is referred to as “crowdsourcing”. It consists of a network based dimension producing solutions by collecting information from various sources and collating them (Brabham, 2008).

With reference to O’Reilly Media (2015), the concept of the “dot-com” era began its evolution in 2001. Web 2.0 had evolved and is defined as without geographical constraints or boundaries comprising of just a gravitational core. In addition it consists of a group of behaviours and principles collectively holding together a number of services and sites portraying some or all of these principles. Web 2.0 is a web application which is acknowledged as a shift from static HTML webpages, offering ease of use and interoperability, which ultimately promotes user generated content. The defining feature of web 2.0, according to O’Reilly Media (2015) is the pace at which information is evolving as it travels. In comparison to web 1.0, in which information remained static until it was updated, web 2.0 provides updated feeds as the information changes.

Government websites usually provide web television and live streaming videos over the Internet, however, it lacks the element of interactivity with reference to two-way communication. Social networking is just aspect of Web 2.0 functionality.

The Internet has truly become a global phenomenon, ever evolving and ever expanding. The expansion of the traditional web to Web 2.0 and its functionalities have been accepted and implemented by various sectors including that of government administrations. Web 2.0 remains characteristic of human interactions and communications (Fuchs, 2010).

Although Web 2.0 has been around for a while, it still remains difficult to define. The simplest way to explain this concept is by defining it is by its characteristics of interaction, collaboration and the functionalities it provides.

3.2.1 Functionalities of Web 2.0

Web 2.0 has provided the global village with many services and functionalities. It leads to an arduous of gauging how to analyse how these functionalities of Web 2.0 and determine how it can be used without examining the different functionalities. The researcher then needs to categorise what is currently in use and then, using this, craft a new theory for the use of emerging technologies as a viable platform for the public sphere (Benkler, 2006). O'Reilly provides an analysis of the services or functionalities of Web 2.0 in Table 3.1 A and Table 3.1 B Functionalities of Web 2.0.

Table 3.1 A: Services of Web 2.0 Technologies

	Features	Utility
Web 2.0 Technology		
Content Syndication	These are elements of software contained in conventional websites including social network platforms that enable users to receive updates automatically concerning the condition of the syndicated resource.	This results in the viral dissemination of the information on the official website including news, documents, video or audio files. Users are permitted to automatically subscribe and receive all council news.
Widgets	Widgets allow for the inclusion of various content such as video, text and audio by means of a mini application in a web page by end users. Used for a means of syndication, widgets are described as a tool used for the conveying of information from a web source onto a number of other devices or pages.	Considered a stand-alone application, widgets can be embedded into any type of website through authorship or administrative permissions- this includes social media sites.
Sharing and bookmarking	These refer to pieces of software within websites which allow for end users to share content and collaborate with friends through social media platforms.	This enables end users to disseminate contents through their own social media platforms. This leads to openness and transparency or visibility of material produced.
Mashups	This contains a combination of different technologies as well as a variety of services which include both conventional and web 2.0 sources.	This type of technology enables the organisation to integrate, maps, videos and presentations in its official website.

Source: O'Reilly (2009)

Table 3.1 B: Functionalities of Social Media Platforms

	Features	Functionality
Social Media Platform		
Blogs	It is regarded as a type of diary where “diary” entries appear in order of new to old. Blogs allow the end users or authors to control the limitations to their own content. But blogs also allow for interactivity by allowing visitors to the blogs to leave comments.	Blogs assist local governments in its ability to collect opinions from the different stakeholders which would include citizens, employees and beneficiaries of their social and general activities. Blogs help to identify any social problems that may occur, providing for new improved services or initiatives.
Wikis	Wikis are networks that enable the end users to collaborate on, share and classify knowledge on a general or specific topic and to update the content when required and in real time.	Wikis are knowledge oriented and can be used for a variety purposes including disseminating the history of an organisation or city and gaining the input from employees or citizens. A local government department may use wikis to promote its image through reporting on its corporate social responsibility initiatives or other relevant projects.
Social networks	Platforms that allow the users to make contact with friends, share videos and other content, collaborate with like-minded individuals across the globe through the administration of their own online communities.	Platforms that incorporate all members of the public as well as organisational stakeholders in providing insight and comments about an to the organisation providing for the distribution and analysis of important information.

Source: O’Reilly (2009)

The functionalities of web 2.0 has enabled end users with the ability to share information instantaneously through social media platforms. Further descriptions of the various functionalities of social media platforms are discussed in sections 3.2.1.1-3.2.1.6.

3.2.1.1 Social Networking

Social networking includes networks such as Facebook, which is the second most popular Internet site, after Google. It is the biggest social network with a membership of over eight hundred million and available in a variation of dialects. (Socialbakers, 2011). Schroeder (2010) estimates that users of social networking sites spend approximately five and half hours per month online, with Facebook accounting for the majority of that time. While Facebook may be the social networking site with the largest user base, it is by no means the only social networking site. Other niche sites focus on specific issues like music and entertainment (MySpace) and professional networking (LinkedIn), while others still are popular in specific countries(Rigby, 2008). As an example, in Brazil the popular professional networking site is Orkut, in France it is Skyrock, in Russia it is VKontakte and in South Korea it is Cyworld (Rigby, 2008). Currently, there are just over four and a half million Facebook users in South Africa. In terms of Facebook rankings, this places South Africa at position thirty. (World Wide Worx, 2011). Statistically this means that Facebook has achieved a 9.19% penetration of the country’s population and an 85.12% penetration of Internet users. Globally, sixty-one percent of users are aged between eighteen and thirty-four (Socialbakers, 2011).

3.2.1.2 *Wiki's*

Wiki means quick and refers to the online encyclopaedia which provides fast information on any subject. According to Pillay (2012; 43) Wikis provide information on specific topics, which can be edited by any user who has access to that webpage and in essence they are online encyclopaedias built through ad-hoc collaboration.

Wikipedia is the most widely recognised example of a wiki. This wiki was developed by Jimmy Wales (an Internet entrepreneur). His creation was the online encyclopaedia referred to as Nupedia (Brafman & Beckstrom, 2007), but his development had a major flaw in that to publish any content was a long and tedious process, hence leading to the creation of Wikipedia. Wikipedia was designed incorporating the element of the collaborative functionality used by wikis – this functionality allowed for the collective presentation of content after it was verified. This type of platform also used hyperlinks to provide as a means of cross references between different subject materials (Governor *et al.*, 2009).

The success rate of Wikipedia can be illustrated by the fact that it has an estimated fifteen million registered users who have contributed approximately 3 832 264 pages of content, 800 000 uploaded documents and massive number of collaborative pieces (Wikipedia, 2011b). Open access systems do encounter a fair amount of criticisms due to false reporting. For Wikipedia this was evident in the false report on the apparent death of Senator Ted Kennedy. The false report through a negative light on Wikipedia termed “death by Wikipedia” by the Washington Post (Pershing, 2009).

However, some of the reputation damage that had been done to Wikipedia was later mitigated when a study conducted by Nature Magazine (Giles, 2005), revealed factual accuracy of Wikipedia compared to that of Encyclopaedia Britannica. The study showed that Wikipedia, in relation to the accuracy of science articles, was almost as accurate as Encyclopaedia. Brafman & Beckstrom (2007) state that content on Wikipedia is of a high standard and that people are more confident in contributing to an open system contend that people in an open system, which is illustrative of the concept of crowdsourcing i.e. how an unconnected group of people can work together to produce information on the Internet.

The challenging question of accuracy regarding Wikipedia content becomes more problematic with contentious topics such as politics, religion or historical views.

3.2.1.3 *Blogs and Blogging*

Blogs refer to online diaries or journals. These are used by people to communicate their thoughts and ideas to a broad audience using the Internet as a medium. Usually, people share thoughts, ideas, experiences and even advice on blogs. This is known as blogging. Blogs posts are relatively short and are mainly interest pieces directed at specific readers or groups. A web-log, commonly known as a blog is a webpage which requires no HTML knowledge, but which allows users to update the site

using plain text. Blogs are date and time specific, and posts are reflected in chronological order. The interactive nature of blogs ensures that it is easy for anybody to reply to a post. Blogs are generally used as personal opinion or diary sites. The nature of the blog also allows users to easily find the geographical location of the blog (Bansal & Koudas, 2007). With regards to the architectural patterns, introduced in section 2.3.2.3(e), blogs are an example of declarative living and tag gardening.

The ability of blogs to report on current events in almost real-time makes them strong competition to commercial mass media. Benkler (2006) wrote of the ‘weighted conversation’, which refers to the exchange of views resulting from the posting of comments.

This interactive nature has grown because of software development which enables users to easily set up discussion forums, post comments, link to other blogs (blog roll) and tag content. Blogs are evolving from being purely text and graphics-based to mobile blogs (moblogs), video blogs and even group-based blogs. The community of weblogs is known as the blogosphere, an entity that grew by two orders of magnitude between 2003 and 2006, and was estimated to be doubling every two hundred days (Bansal & Koudas, 2007). In the beginning of the 1990s Beppe Grillo, an Italian activist directed his satire at the ruling Socialist Party and as a consequence was banned from television (Pepe & di Gennaro, 2009).

Unable to access the public broadcaster, Grillo began to blog about events affecting the country including politics, the environment, corruption and activism. His blog grew in popularity and was eventually listed as one of the top ten most influential blogs in the world. Grillo’s blog is a good demonstration of how powerful forums offering a platform for uncensored information, where differing political opinions are traded freely, can be.

With the protests involving government dissension in China the Chinese government became extremely popular online with an estimated seventy million bloggers. This massive blogging was termed the “nationalist-leaning” curve according to Friedman (2010) and became known as the voice of the Chinese people.

3.2.1.4 *Microblogging and Twitter*

A variation of blogging is microblogging, the most popular example being Twitter. Users of Twitter are allowed to send short messages of no more than one hundred and forty characters, which are known as tweets. The main characteristic of Twitter is its innate ability for real time information sharing on any capable device (Rigby, 2008).

Twitter has become a common platform for politicians and celebrities in order to gain the most followers. Outgoing US President Barack Obama featured at number seven, with an estimated

seventy-seven million followers. Singer Katy Perry filled the number one spot with an estimated ninety-three million followers (Socialbakers, 2011; Twitter Counter 2016).

3.2.1.5 Social Bookmarking & Folksonomies

The social bookmarking tool enabled users to centrally or remotely save their favourite websites, which could be shared or saved to be accessed at a later date. These websites are assigned what is termed “tags”. Tagging (collecting and annotating) can be found in a number of other applications which includes Flickr and YouTube allowing for the tagging of images, videos and podcasts. Social bookmarking is also referred to as social indexing and collaborative tagging.

While tagging promotes flexibility of definitions, this flexibility is also the source of problems that plague tagging: including typographical errors, tags on different levels of abstraction, and the use of synonyms to tag the same object (Zacharias, Braun, & Schmidt, 2010). The incentive for bookmarking includes the ability to retrieve information in the future, the contribution and sharing of information and opinions, the need for attention and also for online gaming and competitions (Yanbe, Jatowt, Nakamura, & Tanaka, 2010). Tagging is sometimes called ‘folksonomy’ and refers to the classification of knowledge (Cannata, 2009). Folksonomies illustrate the defining characteristics of Web 2.0 which includes collaboration as well as openness.

3.2.1.6 Multimedia Sharing and Podcasting

Sharing on Multimedia enables end users to use as well as to actively produce Web content. Anderson (2007) stated that the writeable Web, which is a space where users create, store and share content with YouTube being the fastest growing example of this phenomenon. YouTube (2011a) witnesses approximately forty-eight hours of video being uploaded per minute, resulting in nearly eight years of content uploaded daily or the equivalent of two hundred and forty thousand full-length films every week. YouTube is localized in twenty-five countries across forty-three languages with over three billion videos being viewed a day. The age group of the majority of its users is between eighteen and fifty-four years old.

As a tool of protest YouTube has made possible the large-scale dissemination of videos showing many acts of atrocity e.g. the invisible children campaign of 2012.

3.2.2 Information Technology and Social Media

Facebook became the most popular social media platform of choice, with over 250 million end users at the end of 2011 (Nielsen Company, 2011) The number of Facebook users in the Middle East doubled from the periods 2010-2011 (Dubai School of Government, 2011). Facebook is now one of many such web 2.0 designed technologies enhancing easy, quick, real-time communications so much simpler than the traditional means. Facebook, YouTube, Foursquare and Twitter are all social media

information sharing platforms which capture the attention of a mass audience in cyberspace. With the development of web 2.0 technologies, the way people and governments interact is evolving.

Previously terms like “terrorist attack” and “personal data theft” were unheard of but today they represent their own area of crisis planning as organisations and governments scramble to prepare for the next potential disaster. Traditional media outlets have undergone a major evolution. According to OneUpWeb (2007:2) the concept of the traditional media has expanded into vast multi-media, which is easily accessible and downloadable through the Internet. Online media, due to its accessibility has had the greatest impact and the way people collect and disseminate information is rapidly expanding. The Internet offers fast, real-time access to the multi-media through search engines, email, blogs, podcasts, and an increasing number of information sharing sites such as YouTube and Flickr. Many organisations have honed in on using social media applications such as Facebook, Twitter, and YouTube.

3.2.3 Information Quality and Social Media Aspects

As described by Denning (1999: 37) there are a number of attributes of information that ensures that it remains secure. These elements or attributes are integrity of information, confidentiality of information, the availability of information as well as non-repudiation. In addition to these attributes Laudon and Laudon (2013: 26) included the seven dimensions of information quality. These seven dimensions refer to the integrity of information, the consistency of the information, completeness, timeliness, relevancy, accuracy and validity. The dimensions proposed by Laudon and Laudon can be related to the attributes of Denning (1999: 37), in the following manner: the dimensions of completeness, relevancy, consistency, validity and accuracy affect integrity while the timeliness dimension ultimately affects availability. The element or attribute of confidentiality may relate to the basic “right to privacy” as stipulated by the Constitution of the Republic of South Africa 1996. Good corporate governance incorporates the dimensions of timeliness and accuracy as its key elements when addressing the organisations stakeholders. To some extent the elements that are contained within “good corporate governance” can be governed, in part, by the Promotion of Access of Information Act of 2000. From a crisis communications perspective, the importance of the timeliness and accuracy of information cannot be over emphasised as the lack of information integrity may lead to relatively poor decision making worsening a crisis. While the timeliness and accuracy of information is important, the rights of organisations and individual need also be protected highlighting the need for confidentiality. The basic tenet of crisis communication is that in order for credibility to be maintained, there must be consistency of information received and sent during a crisis. Due to the nature of social media with regard to its reach and real-time access, it has the potential to assist in areas of timeliness and availability. However, social media by its name is of a “social” nature, so it is imperative to ensure that the legitimacy (which is the accuracy) of the information, and confidentiality must be upheld.

This discussion is an integral aspect of governance in relation to social media and crisis communication management.

With social media enabling the population with easy access to information on a global scale, it can be considered beneficial to both the private and public sectors, to embrace its offerings, which include the access to instantaneous real-time communication without being restricted by regional and other boundaries. With the progressive nature of some crisis, the timeliness of information remains at the core for crisis communication. Information Technology in Public Governance

Information technology implementations in the public sector has experienced many transformations since its initial introduction. There have been considerable efforts by countries to build and improve their telecommunications infrastructure. To foster competitiveness in a country, information technology (IT) is a crucial enabler, especially against the backdrop of a dynamic global economy. Having strong capabilities in Information Technology provides a vital difference both for the marketplace and for governance. The concept of governance can be described as dealing with rulemaking and collective action in society. This also covers the structures and dynamics of each. Contrary to conventional thinking, governance processes are not solely nested with the state. This is based on the fact that governments are limited in their capacity to act. When designing public programmes, these limitations need to be taken into consideration. Bhatnagar (2014) supports this view, stating that integrating participatory elements when making decisions is crucial to ensure effective public management as discussed in Section 2.8.

With the recent advances in Information Technology there have been considerable effects on governance. Examples include increased performance and availability at lower prices, the use of fibre optics, voice and video compression, large storage facilities and improved data packet switching can be used to make public administration more efficient. The low cost provision of public services has been largely enabled through a convergence of technology arising from digitalisation, broadband technologies, and compression technologies and standards development. The greater the diversity of communication sources and networks, the greater the degree of democratic governance that can be achieved. An enabling factor is the emergence and proliferation of competing technologies, the widespread nature of market intelligence through massive communication networks, user demands and market competition. As an example, in the Philippines, communication at the grassroots level has been facilitated by Information Technology. Networking technologies enhance democratic politics through the improvements in technologies such as routers, intelligent hubs and asynchronous transfer of information, facilitated through hardware and software improvements. Northfield (1999) explains that cultivating an environment for good governance is facilitated through the increased mobility and portability that has been enabled through distributed intelligence and the innovations in wireless technologies.

Magno & Serafica (2011) and Pierce (2010) propose that information technology enhances good governance in three specific ways which includes an increase in information, accountability and transparency, the promotion of public participation and facilitated decision-making, as well as the promotion of efficient service delivery ethics and principles. The constitution grants citizens the right to have access to public documents. Much of this access is enabled through the Internet. Information technology is used by government agencies to provide the public with access to information. Access to government information is an important requirement when developing transparency in governance. With this technology and the access to information enables the government and civil society to inform the public about their rights and privileges.

With government websites, the public is able to send and receive information to the relevant persons. This promotes good communications between government and the public. As an example, the Department of Trade and Industry (DTI) website has a link where stakeholders have the opportunity to ask questions and get feedback on key issues. This promotes a more informed citizenry. Another example of this being used is the drafting on the Implementing Rules and Regulations of the Electronic Commerce Act. This act was posted on the website for public comment and consultations. Stakeholders were able to access this through the website directly and provide their comments on the Act.

With the exception of the Internet, transparency and accountability are enhanced and encouraged through other forms of information technologies e.g. computer kiosks. Through these kiosks, the public is able to obtain openly available information including information on an individual's contributions to certain financial organisation's sites e.g. Social Security Services in the US. This demonstrates the easy access to information obtained both the public and government organisations, thereby promoting two-way interaction for effective decision-making through electronic mediums. Furthermore this reiterates the importance of e-government policies as discussed in the preceding chapter.

The technological era allows for an environmentally beneficial society as it makes for a paperless generation, allowing governments and government agencies to consolidate all collected and updated information on their databases. With the digitization of documentation the cost of administrative processes and maintenance in terms of paperwork is reduced, and with fast accurate information being available at the click of a button, effective decision making can be provided, producing better service delivery to the stakeholders.

3.2.4 Information Technology Governance

According to Gartner (2010) Information Technology governance refers to the "structure, oversight and management processes which ensure the delivery of the expected benefits of IT in a controlled way to help enhance the long term sustainable success of the enterprise." Information Technology

governance ultimately becomes the responsibility of management. Enterprise governance forms an important part of an organisations structures, processes and leadership. These aspects must be designed to ensure that the organisation's information technology is sustainable and promotes the organisation's strategies, goals and objectives. The premise of information technology governance focuses particularly on information technology systems, the systems performance as well as risk management. The main goal of Information Technology Governance is primarily to assure that the investments made in Information Technology are able to generate some business value, but at the same time enables the mitigation of the risks that are associated with this type of Information Technology. According to Gartner (2010) this can be achieved by simply implementing an organisational structure with "well-established roles for the responsibility of information, business processes, applications and infrastructure." The role of Information and Technology governance is to create and contribute to the corporate governance strategy within the organisation but cannot be considered as an isolated field. What is important to establish is that with the amount of information sharing occurring, there must be shared responsibility and acceptance for the use of critical systems which enhances more accurate decision making aligned to the strategic business objectives of the organisation.

3.2.5 Information Technology & Social Media in Crisis Management

Information technology has undergone a major evolution in the systems that are being used by governments and organisations for crisis management. One important question emerges from this. How can social media be used for managing and mitigating a crisis? Crisis-mapping is an example of such a technology. Developed for use by humanitarian and relief organisations, it assists in coordinating aid efforts to victims of disasters and conflicts. With crisis-mapping, communication is provided through eyewitness accounts through email, text messaging, instant messaging and social media. This provides information that can be used to generate reports. The reports are normally plotted on graphs to create a real-time illustration of the crisis situation. InSTEDD, Sahana and Ushahidi are examples of the first generation of crisis-mapping technologies. These technologies were first used during the troubled Kenyan elections of 1998. They made use of an interactive mapping platform to document the violence that occurred.

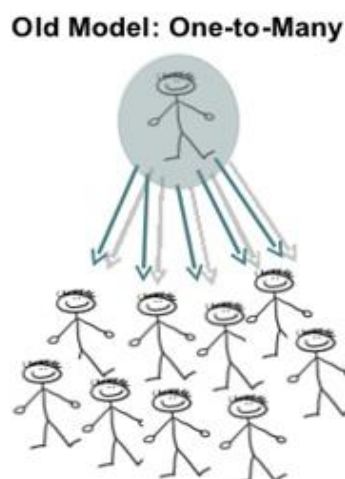
Eyewitness accounts of the violence were sent to the Ushahidi website by emails or text messages. Using this information, Ushahidi developed a graph of incidents against a map of the country. This created a public record of events and improved awareness. McKinsey (2014) explains that the Ushahidi tool was used to crowdsource the Haitian earthquake map of 2010. Through this platform, real-time information was gathered of the disaster and were used to coordinate humanitarian relief efforts. The maps and graphs generated were used to locate victims who needed rescue and also to determine where medical supplies were needed.

Used by the US Marines, the Ushahidi developed maps and graphs were an indispensable tool in managing the relief effort. Since then, the Ushahidi tool has been used numerous times as a crisis communication platform. Historically, hackers were the first pioneers of such open-source software and were behind the first crisis-mapping tools. They use a combination of data analytics, artificial intelligence and social networking platforms when developing crisis-mapping software. This kind of expertise and skill can be found in think tanks and research institutes where idea and knowledge generation are promoted and prized. Understanding the limitations of crisis-mapping software will help us to understand what the next generation of software will bring. With a major crisis, one of the shortcomings will be managing big data. Massive amounts of data can bring down a website and quickly fill up inboxes. Twitter, as an example, can be brought down by big data if the servers are not designed to handle this. McKinsey (2014) further supports the view that managing big data is crucial to the success of crisis communications platforms.

3.2.6 Social Media Changing Communication

Internetworked technologies provide the first credible medium for different forms of communication but enhances the functionality of Web 2.0 as interlocutors are able to support large-scale, interlinked, synchronous and asynchronous contact. Murugesan (2010) provides the explanation that Web 1.0 or the traditional Web is a one directional communication or information publishing medium One-to-One or One-to-Many, as represented in Figure 3.2.6.1, while Web 2.0 is representative of the Many-to-Many communication model, as illustrated in Figure 3.2.6.2, which continues a historical trend in new technologies increasing the scale of mass communication that both accommodates and facilitates more complex communities.

Figure 3.2.6.1 One-to-Many Communications Model

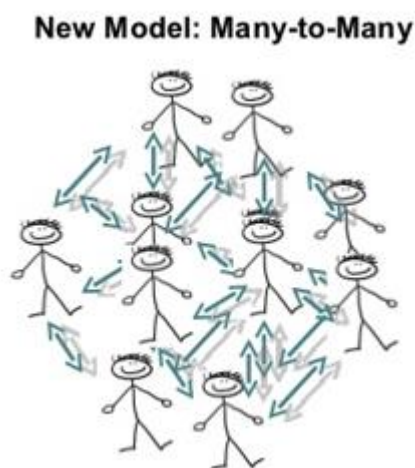


Source: Rutledge (2010:1)

One-to-many communication can be described as the counsellor model, as explained by Johnson (2003). A counsellor in ancient times, would claim special knowledge from individual experience, collective narratives or myths, or even prophecy. The counsellor and his audience co-create knowledge through a dialogue.

Web 2.0 supports the human rights premise that every human has the right to communication and to be heard. The Internet is the most important invention in communicative mediums allowing individuals, societies and nations to express their views on topical issues - a freedom explicitly provided for in the International Human Rights Charter.

Figure 3.2.6.2 Many-to-Many Communications Model



Source: Rutledge (2010:1)

Many-to-Many communication, enabled by Web 2.0 technologies allow for digital mediation, generating novel innovative practices and principles through active participation in the area of expertise. The participatory model was actually created by the ancient Athenians within their networked environment. The main aim of this model- mobilisation of the masses for a similar belief or cause. These earlier media cultures, however, were limited by social codes and norms that limited participation to the elite which defeats the democratic theme provided by modern many-to-many communication.

According to Johnson (2003), Wikipedia is the perfect example of many-to-many communication, as it consists of a multitude of articles which are the product of hundreds or thousands of different contributors, who use a variety of ways to negotiate differences of opinion in real time and over time.

The Internet hosts many-to-many communications and is a medium unlike any other, supports the earlier communication models of one-to-one, one-to-many, and many-to-one (Stalder, 2006: 181). Indeed, rather than conceptualizing many-to-many contact as the pinnacle of human communicative

achievement or the inevitable telos of technological development, these different modes of interaction are synchronous and overlapping in contemporary communication systems.

3.2.7 How Social Media changes Crisis Communication

This is the digital age and social media platforms are the new means of communication. It has changed the way people relate to each other and their communities with reference to communication, interaction and engagement with each other. Organisations are also using “social” media for collaboration with stakeholders and the public. With such a platform being inexpensive, fast and relatively resilient, the majority of like-minded people are using it for collaborative and mobilisation purposes (Ramluckan, 2016a) e.g. “The KONY 2012 Campaign” was a well-established example which had notably acquired more than 43 million views in a space of two days on YouTube. The fascinating thing about the KONY 2012 Campaign was that it was an unfamiliar political situation to the better part of the world until the thirty minute long video went viral on YouTube. As a result of this single video going viral, thousands of invisible children were freed with global pressure forcing Kony to be brought to justice. Furthermore with low costs individuals, with similar interests and goals can mobilise the masses and demonstrate for change as illustrated by the KONY 2012 Campaign. Social media itself has enabled the easy mobilisation and collectivisation of the public to bringing much needed attention to crises such as this. Various social media platforms serve different methods in crisis communications as illustrated in Table 3.2.

Table 3.2: Social Media Platforms and use in Crisis Communications

Type of Social Media	Platforms	Use in Crisis Communication
Social Networking	Facebook My Space	Improves the efficiency between emergency response services, providing information sharing and updates
Content Sharing	Flickr YouTube	Promotes real time situational awareness for example relating to a missing person
Collaborative Knowledge Sharing social media	Podcasts Wikis	Promotes two-way instantaneous dialogue between the affected persons and emergency response services
Blogging	Twitter Tumblr	Provides warnings and information sharing. Provides recommendations to pending issues
Specialised Crisis Management platforms	Mapping collaborative tools for example. Google maps Online crisis monitoring platforms for example Ushahidi	Acts as a community response service facilitator by mapping out emergencies

Source: Wendling, Radisch and Jacobzone (2013; 12)

The benefits of social media platforms in crisis communication over traditional communications methods include social media’ quick response times, for example the publication process of a newspaper would take hours for the news of a crisis to be released to the general public. With social

media, response times are drastically reduced by the creation of online posts and/or tweets. However, should an organisation elect not to use social media, they should understand the strategies and processes involved in its usage should the need for it arise especially in a crisis (Wendling et al., 2013; 13)

According to Gartner (2010) social media not only brought about quick response times but also a more complexities e.g. social media brings information to your fingertips but cannot be sufficiently monitored in terms of the accuracy of the news or information received. With the vast number of information sources, a case of “information overload” may occur, which would require sifting through and separating the relevant from the irrelevant in times of crisis. Whilst there may be established sources of information including Facebook, Twitter and YouTube, Wikis or campaign platforms can be created especially for a crisis situation – which would require a form of monitoring to sift through large amounts of information, selecting the most vital in a crisis. The most difficult task when consulting social media platforms in times of crisis is separating truth from rumour.

Rumour more often than not has the ability to induce rather than mitigate a crisis situation. When rumours spread, a person’s rational thought process becomes almost non-existent under the pressure, panic and fear they might succumb to. With reference to Rosnow and Foster (2005) an emergency has the ability to inflict negative reactions in a person’s life in varying ways. This may not necessarily result in an individuals’ physical personal injuries or loss in finances but may result in irrational behaviour of the affected party. At the opposite end, a rumour can act as an enabler for the public to obtain information or warnings of potential social risks early on. It has been stated that people who are aware of impending situations, even through rumours, have a higher chance of survival capabilities over those lacking the required information.

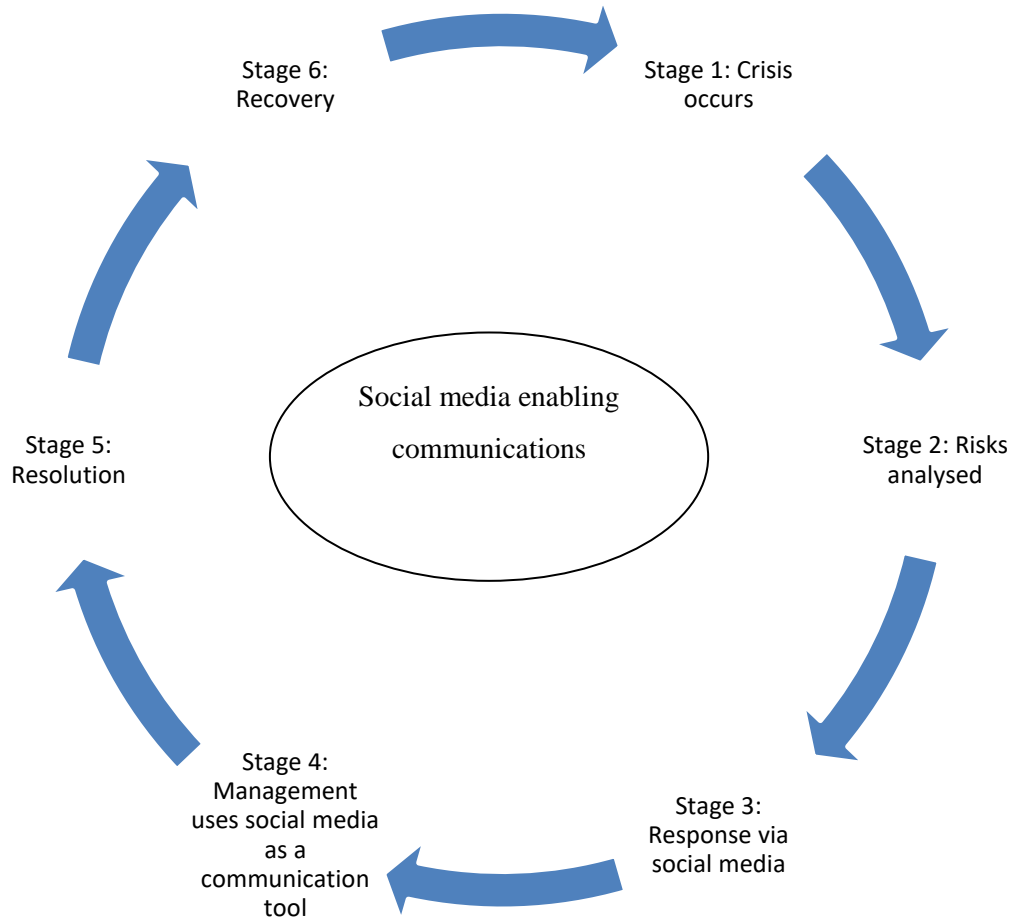
With social media platforms being so readily available, it is rather simple for a created rumour to go viral which can result in causing much distress to the aggrieved parties. This in itself has the ability to intensify an impending situation resulting in a crisis or disaster.

Electronic devices such as camera and video phones have the capability to capture almost any crisis as it unfolds. Traditional, well established, credible and accountable opinion leaders have the ability to compete with anyone with an opinion and a blog. Incomplete and inaccurate crisis analysis and public commentary can be passed from one blogger to another instantaneously through links, where they can be captured onto desktops, phones and mobile devices globally. In essence it takes less time for the international community to form their own opinions and make their own assessments than it takes to gather your own crisis assessment team, as evidenced by OneUpWeb (2007: 2).

Figure 3.3.7 illustrates the phases of a crisis incorporating social media as a communications platform, from the occurrence of the initial crisis to the recovery stage. As illustrated the key stages of a crisis

that needs to incorporate social media are stages 3, which is the communication of the crisis and stage 4, which is the management of the selected social media tool. The organisation will have to incorporate social media enabling communications as a pervasive communications technology.

Figure 3.3.7: Crisis Communications Model



Source: Authors Perspective

With the constant evolving nature of information and communications technologies, the management of information with reference to crisis preparedness, initial warning, impact and response has become simpler than ever. Information is easily captured, collated and preserved in a crisis as a result of new enabling technologies (Ramluckan, 2016). Social media platforms enable stakeholders, organisations and citizens to mobilize and disseminate important information especially in crisis. Given the high success rate in reporting in crisis and disaster, social media is not without its challenges According to the Federal Emergency Management Agency (FEMA) (2011, cited in Hagar, 2012: 1), some of these challenges include possible network outages and overload e.g. the Blackberry’s Messaging service outage, the complexities involved in the coordination and integration of information by all parties concerned, the connectivity of all formal and informal channels of information, the evolution of a crisis and its changing information needs, the volatile nature of information including conflicting

information, the timeliness and trustworthiness of information. Social media must be properly organized, aligning to the goals and objectives of the organisation or party involved for it to be considered as a useful dissemination of information tool (White, 2012:3).

Postmodern societies are highly dependent upon various forms of information. According to Starbuck and Baumard (2001: 523) this is as a result of most of their technical, societal, social, and economic subsystems consuming as much information as they produce. Since information is fairly accessible to everyone, it can serve as a crises management tool. With the rise of electronic communications, and in particular of the Internet in the late 1990s, the distance and privileges in accessing, producing, discussing, or emitting information has been immensely reduced.

According to Kettl and Fessler (2009:47) public administration is “the translation of politics into the reality that citizens see every day”. The main task of public administration is to provide services, to legislate and to protect the citizens. The use of social media in the public sector would be a vital tool in a crisis situation as it should act as a “public protector” providing it follows best practices in achieving this goal. Figure 3.3.7 illustrates how social media can be incorporated into the best practices and communications model for successful crisis communication.

Pollard and Hotho (2006: 731) also propose that since the media has the power to influence public opinion towards an organisation, good relations with the journalists and media companies are of the highest importance. Because many crisis and communication theorists (Hoggan 1991: 3; Pollard & Hotho 2006: 731; Skinner von Essen & Mershan, 2005: 8) are of the view that building good media relations is a on-going process, and not just a reactive effort only when need be. The argument formed relates to the benefits that media relations offers prior to a crisis that has the ability to assist an organisation in resolving a crisis. Therefore from a strategic communication viewpoint, it can be argued that “crisis communication from an Integrated Communications (IC) perspective should prevail before, during and after a crisis, to encapsulate the entire crisis management process with proactive, reactive and post-evaluative crisis management stages” (Pollard and Hotho, 2006: 731). This in turn enhances a reciprocal relationship between crisis management and crisis communication.

To be effective it is imperative to consider each stage of a crisis as a silo due to the fact that each stage determines the audience’s information requirements and the reaction. According to Chandler (cited in Everbridge, 2009:4) a crisis has six stages, as shown in Figure 3.3.8.

Figure 3.3.8: Crises Communication Stages



Source: Everbridge (2009:4)

As illustrated in Figure 3.3.8 stage 1 of the crisis communication process begins with the dissemination of the warning once an incident occurs, stage 2 involves the risk assessment, stage 3 the response (this could either mitigate the effects of the crisis or exasperate the situation). Stage 4 refers to the management of the crisis (it escalates or de-escalates depending on how well the crisis is managed), stage 5 means the resolution of the crisis (the crisis being resolved) and stage 6 is the recovery.

There are a number of factors that influence the use of social media, which sometimes inhibits its usage in a crisis. Section 3.3 analyses of the possible factors that may influence the use of social media.

3.3 Legislation and Frameworks Influencing Social Media

3.3.1 Introduction

The concept of disruptive justice is characterised by the transformative potential of the integration of digital technologies with disruptive innovation as applied to aspects of governance inclusive of politics and law (Disruptive Justice Organisation, 2016). Disruptive justice is often believed to be incongruous to the Rule of Law, which can be said to control or govern social technologies (Ramluckan, 2016). It

has become increasingly evident that the mobilisation of the masses has become easier than ever with influence, emergence and continuous advancements of social media and has ultimately provided the public with an enabling platform to influence both corporates and governments (Ramluckan, 2016). According to Babcock and Loewenstein (1997), when society's needs and expectations cannot be met by their organisations or governments, the stakeholders have the potential to encourage negative publicity and criticisms which can certainly effect the reputation and/or image of that particular government or organisation.

Social media is influencing many areas of law and vice versa whether it is the discovery and service of documents to influencing roles in family law, workplace issues or defamation and harassment. Some of the laws influencing social media are privacy laws, interception of information laws, cyber laws and general communications laws. These laws will be discussed in two contexts i.e. that in the context of international laws and that in the context of South African laws and governance frameworks.

3.3.2 International laws

Section 2.5.2 discusses the various international legislative frameworks selected due to the nature of the topic of the study. The international legislative frameworks that are discussed include, the general privacy laws in Australia, Brazil, Canada, China, India and the United Kingdom.

3.3.2.1 Privacy Laws

In Australia, the state of privacy laws include that of the “Federal and State Information Privacy Legislation”, a few sector-oriented legislation and related frameworks based at the provincial sphere, as well as a few criminal sanctions on the regulation of the media. Although there are a number of legislative frameworks in place, the actual position of cases or action lawsuits based on the invasion of privacy still remains uncertain. However, in 2008 the Australian Law Reform Commission advised as to the development of a statute dealing with the “invasion of privacy”.

The “Australian Privacy Act of 1988” (Hereafter known as the Privacy Act) remains one Australian law which was enacted to regulate the controlling of personal information about individuals. The “Privacy Act of 1988” included the “collection, use, storage and disclosure of personal information, and access to and correction of that information.” The “Privacy Act of 1988” includes thirteen “Australian Privacy Principles” which are applicable to the handling including the dissemination of an individual's information by the majority of Australian and Norfolk Island Government organisations as well as a few private sector organisations. In terms of credit reporting, the Act makes provisions for the controlling of all financial details pertaining to an individual personal information which credit providers have the authority to report on to the relevant credit reporting bodies for the inclusion on individuals' financial reports.

The “Privacy Act of 1988” in addition regulates the “collection, use, disclosure, storage, security and disposal of individuals' income tax registration numbers.” The Act provisions for the handling of medical data and information as well as for medical purposes in specific extenuating circumstances, where medical researchers do not have the consent of the subject. The Act further permits for the Information Commissioner to approve and register the enforceable “Australian Privacy Principles” “(APP) codes” that have been created by “Australian Privacy Principles” (APP) code developers, or developed by the Information Commissioner directly. Permission is also given to the small business operator, who would otherwise not be subject to the “Australian Privacy Principles” (APPs) and any relevant privacy code, to be included by the “Australian Privacy Principles” (APPs) and any relevant “Australian Privacy Principles” (APP) code and lastly it permits for privacy legislation to be developed.

With reference to Brazil the ambit of a citizen’s privacy falls under the Brazilian Constitution. The Brazilian Constitution being similar to that of the “South African Constitution of 1996” provisions for the right to privacy for every citizen- privacy is regarded as being the “highest” held right above honour and human dignity.

The “Canadian Federal Personal Information Protection and Electronic Documents Act” (PIPEDA) is an act which governs the “collection, use and disclosure” of personal information with regards to commercial activities as well as personal information about the employees of “federal works, undertakings” and various businesses in Canada. The Act only applies to commercial organisations and not to non-commercial or the provincial governments. This legislation, however, does not apply to non-commercial organisations or provincial governments. The “Federal Personal Information Protection and Electronic Documents Act” evolved from the privacy act demonstrating the value of privacy in numerous countries.

The “Computer Processed Personal Information Protection Act” (Enforcement Rules of the Personal Information Protection Act) of China was enacted in 1995 with the intention of protecting a citizen’s personal information when being processed by computers or computer system. The law further premised for the prohibition of the waiving of specific rights by China’s public.

India, being the world’s largest democracy enacted a new privacy legislation in 2011. This legislation is applicable to both consumers and organisations, which the main element being the requirement that any organisation that “processes personal information must obtain written consent from the data subjects before undertaking dissemination activities”. Although this legislation has been enacted, the actual extent of its application and usage remains uncertain, as India’s “Information and Technology Act of 2008” incorporated changes to the “Information Technology Act of 2000” inclusive of two additional sections on privacy. The amendment’s included the incorporation of Section 43A, which provisions for the implementation of “reasonable security practices” for the handling of sensitive

personal information, as well as provisions for compensation for the wrongful loss or wrongful gain for the affected party. The incorporation of Section 72A into the "Information Technology Act of 2000", provides for "imprisonment for a period up to 3 years and/or a fine for a person who causes wrongful loss or wrongful gain by the intentional disclosure of personal information of another person while providing services." (Dalmia, 2011). India's Privacy legislation is similar to the South African "Protection of Personal Information Act of 2013".

The United Kingdom is a member of the European Convention on Human Rights. As such the United Kingdom must adhere or comply with Article 8 of the "European Convention on Human Rights" (ECHR). Article 8 provisions the "right to respect for privacy and family life", including state parties which are subject to the restrictions as brought about by law and which are necessary in a legitimate democratic society.

Whilst privacy is given recognition as an important human right, there still remains no specific legislation on privacy itself. In most countries as evidenced in the discussion, privacy was incorporated into already existing legislation as an addendum to the legislation.

If the Social media sharing services are carefully examined, it can be stated that these platforms provide services, permitting its subscribers to create, store, and distribute various types of content. Platforms such as YouTube is just one example of a video and audio streaming website, whilst Instagram and flicker are platforms for photo and image sharing. Due to the easy access to information that the Internet provides, online privacy requires proper governance and security. Internet technologies have created the majority of issues relating to privacy. These issues affects the public as technology continues evolving.

Smartphone penetration together with their capabilities enable the public to post videos and images online in an instant. The posting of such content creates new privacy concerns, as the data subject's details may inadvertently be released. A study conducted by Ahern, Eckles et al. (Cited in Zhang 2007: 357) in analyzing the issue of privacy and related patterns and considerations in mobile application and online photo sharing revealed the following:

The increasing posting of personal information online leaves the user vulnerable to new types of privacy concerns. Modern mobile device and digital cameras together with the new online applications allow the user to directly post photos or videos onto social platforms, thereby drastically simplifying the process of publishing personal content. Privacy concerns then become acute in the sense that such online applications incorporating numerous multi-media files have the potential to reveal details of the user's life and daily surroundings.

Awareness becomes a key concern as online users do not consider the risks they may encounter when they share content or information online. Based on a study by Das and Sahoo (2011), it emerged that more often than not the decision about sharing content or information is “made at the spur of the moment”, but do not think that in such a networked society that whatever content or information that has been posted is also easily accessible by other online users.

Once the content is made available online, it becomes extremely difficult to have it removed and tends to have a persistent presence online in some form for public access. Another study conducted by Aware and Obama (2009) revealed that the majority of online users are under the impression that their online exchanges and activities are private amongst those communicating. However, the reality is that online information has the capability of being copied or saved or shared. In addition to this, ownership of the content being posted no longer lies with the user who posted the content but rather with the site the content has been posted on. In many cases explicit content including pictures and videos distributed or viewed online have led to a numerous people losing their jobs and even ruining their potential future employment. An example provided by Das and Sahoo (2009) where “the president of a consulting company in Chicago decided to check one of the candidate’s Facebook page, and found descriptions of marijuana, shooting people and obsessive sex. Finally the candidate was rejected for this,” illustrates that for many employers searching the material about prospective employees online has become an essential part of hiring process.

3.3.2.2 *Interception Laws*

With the numerous advancements in information and communications technologies, it has become much simpler to improve real-time, instantaneous communication and information-sharing. By improving the access to information and developing a global network, democratic participation is enhanced. But these evolving technologies can also be used by human rights organisations to expose the abuse by many thus providing the enjoyment of human rights to all people.

Whilst advancing technologies do have the potential to expose the corrupt e.g. KONY 2012, it has come along with its potential risks which remain vulnerable to electronic surveillance and interception, therefore it is pertinent to examine the various interception of communications laws in place both for the safety and protection of the online users as well as state information. Recent studies have also revealed how new technologies are being developed covertly, more often than not to facilitate covert practices, with extremely high efficiency. Surveillance is in direct contradiction to the privacy of online users as it “inhibits the free functioning of a thriving civil society.”

In December 2013, “resolution 68/167” was adopted by the United Nations General Assembly which expressed a “deep concern at the negative impact that surveillance and interception of communications could potentially have on human rights”. The General Assembly stated that the “rights held by people offline must also be protected online, and it called upon all States to respect and protect the right to

privacy in digital communication.” Furthermore the General Assembly called on all States to “cautiously and with integrity re-evaluate all procedures, practices and legislation that may potentially relate to communications surveillance, interception and collection of personal data and continued to emphasise the need for States to ensure the full and effective implementation of their obligations under international human rights law.”

As the General Assembly resolution (67/68) states, “international human rights law provides for a universal framework against which any interference in individual privacy rights must be assessed.” Further than this the International Covenant on Civil and Political Rights, states that “no person shall be subjected to arbitrary or unlawful interference with his or her privacy, family, home or correspondence, nor to unlawful attacks on his or her honour and reputation.” It further states that “Everyone has the right to the protection of the law against such interference or attacks.”

Many other international human rights documents also provision for “the right to privacy”. Whilst the right to privacy under international human rights law is amendable, any type of interference can and must be subjected to careful and critical assessments of its necessity and legitimacy.

Most governments maintain and monitor public online activity to ensure the safety of their citizens, as well as secret government information. Whilst the majority of western democracies deploy surveillance cameras, there are still legal provisions in existence to control and limit the extent to which information is “collected, stored and retained” within government databases. These governments must adhere to the code of conduct established to provide a service for the surveillance and interception of information. Section 3.3.2.3 discusses the general communications laws. General Communications Laws

According to Kang (2001), “communications law refers to the control of any form of electronic communications including broadcasting and telecommunications services. Every state and country have set out a number of communications laws including the UK, US and India.”

3.3.3 South African laws

In keeping with the various legislative frameworks, this section discusses the South African legislative and related frameworks that may to an extent govern the use of social media. The analysis of these legislative frameworks, is conducted in Chapter 5 of the thesis where they are discussed in applicability to the title of the study.

3.3.3.1 Constitution of the Republic of South Africa (1996)

The “South African Constitution of 1996” was created post the Apartheid era. The general purpose of the Constitution is to promote the basic rights to all citizens of South Africa. For the purpose of the study the following sections are discussed. Section 1 of the Constitution was designed to ensure

“accountability, responsiveness and openness” by a democratic government, promoting a form of “participatory” government. Section 1 of the constitution states the relevant founding provision as, “Universal adult suffrage, a national common voter’s roll, regular elections and a multi-party system of democratic government, to ensure accountability, responsiveness and openness.” Section 1 of the constitution in accordance with the King III Report is relevant with regards to the key elements of accountability, responsiveness and openness to some corporate crises. Organisations must be accountable and held liable for their actions – this is due to the nature and scope of their business. The majority of their clientele remains the general population and possibly smaller surrounding communities - and social media by its nature and characteristic is the ideal tool to communicate to the relevant stakeholders.

Section 14 of the Constitution provisions for the “right to privacy”, stating “the right to privacy, including protection against search and seizure, and the privacy of correspondence”. This section is imperative as it establishes the right to privacy, however, social media does to an extent infringes on this “right to privacy” especially with regard to public figures. Although social media does promote freedom of expression, in cases where a crisis revolves around a specific individual, there should be controls in place to ensure that their right to privacy is upheld.

Section 16 of the constitution states, ““Everyone has the right to freedom of expression, which includes freedom of the press and other media; freedom to receive or impart information or ideas; freedom of artistic creativity; and academic freedom and freedom of scientific research.” But also states, “The right in subsection (1) does not extend to propaganda for war; incitement of imminent violence; or advocacy of hatred that is based on race, ethnicity, gender or religion, and that constitutes incitement to cause harm.” So whilst Section 16 protects the freedom of expression, it clearly limits hates speech, but this in turn has created some issues with the use of social media for example in the case of Woolworths. Woolworths had removed racist comments off their webpage but members of the public felt that their right to freedom of expression was being censored which aggravated the already tense situation (Paradigm Alpha:2012). This can be viewed as difficult to manage, as legally Woolworths did have the right to remove comments that it felt was viewed as offensive.

3.3.3.2 *The Batho Pele Principles*

The Batho Pele Principles is a South African governance initiative meaning “people first” in Sotho. The purpose for its creation was “to promote the better delivery of goods and services to the citizens of South Africa.” In general Batho Pele consists of the eight main principles (KZN Department of Public Works). These principles are:

- Consultation: Refer to an inquiry regarding the needs of the public.

- **Setting Service Standards:** This principle refers to the “quality” of services provided to the public.
- **Increasing Access:** Can be considered as an “open” principle which may refer to the concept that everyone has access to basic service delivery necessities.
- **Ensuring Courtesy:** This principle refers to being courteous to the public.
- **Providing Information:** This principle refers to the “right to know”, meaning that the public has the right to be informed and provided with accurate information by the relevant public service providers.
- **Openness and Transparency:** Openness and Transparency refers to the right of the public to view the reports, service agreements and strategic plans.
- **Redress:** Redress refers to the “remedying” of a situation that may arise, this could include something like an apology.
- **Value-for-Money:** This principle refers to the assurance that the best possible resources are being used, and best services offered to the public. Furthermore it promotes against fraud and corruption within service delivery departments.

The Batho Pele Principles is considered a relevant and collaborative framework for good service delivery and governance, and is viewed as statutory performance measures for benchmarking and setting standards to strive for quality service delivery.

3.3.3.3 *King III Report on Corporate Governance*

As a requirement for effective information and technology governance, proper control mechanisms need to be established and implemented. The process involves the inclusion of stakeholder decision making and input, as well as defined responsibilities. This, however, also requires the right capacity building in order to achieve the perfect alignment, the management and mitigation of risks, the ability to enable change, and the ultimate delivery of accurate and relevant Information and Technology services thereby managing the service cost. The end goal of Information and Technology (IT) Governance involves the development of rules and the capabilities to run IT thus creating stakeholder value.

The King III report was created on the premise of “good corporate governance” and can be used in conjunction with the Constitution of South Africa in terms of accountability and transparency in relation to the dissemination of information through social media.

According to the Institute of Directors in Southern Africa (IoDS), the governance of corporations can be on a statutory basis, or as a code of principles and practices, or a combination of the two. This was evident when the United States of America chose to codify a significant part of its governance in an act of Congress known as the Sarbanes-Oxley Act (SOX). This statutory regime quickly became

known as 'comply or else' legislation. The importance of this piece of legislation meant that companies had a framework to comply with which meant that the ethical principles within companies must be upheld. The Act promoted a sense of "trust" between the stakeholders within any company by promoting openness and transparency. Similarly in a South African context the King report was created, originating from the Companies Act. The Batho Pele Principles is considered a relevant and collaborative framework for good service delivery and governance, and is viewed as statutory performance measures for benchmarking and setting standards to strive for quality service delivery. Governance occurs at the "strategic, tactical and operational" levels through the allocation of a decision-making body with accountability as the end goal encouraging desirable behaviour in the use of Information Technology. The first stage of an "accountability framework" involves clarifying the allocation various roles. Current role descriptions are formulated which list the key tasks that underpin the IT services provided using the "COBIT" and "ITIL" process models as an important reference. This allows for any duplications to be removed and remaining gaps closed, and in this regard, the elimination of duplication and wastage of resources is fundamental for good governance. Given the resource constraints, efficient, effective and economic use of resources must be upheld to ensure that crisis situations are minimised by all role-players and stakeholders.

3.3.3.4 The Electronic Communications and Transactions Act 25 of 2002 and the South African e-Government Policy

The "Electronic Communications and Transactions Act, No 25 of 2002" acts as a guideline or framework toward the responsible use of social media. The "Electronic Communications and Transactions Act" (hereafter referred to as the ECT Act) officially became law in August of 2002. The ECT Act was created to maximize the benefits that the Internet and related services provided by promoting a "universal access" in poorly maintained areas thereby ensuring that the special needs of under privileged communities are taken into account. Furthermore the ECT Act provides a framework for the establishment of a formal structure to "define, create, regulate and govern e-commerce and e-government" in South Africa.

3.3.3.5 The South African e-Government policy

The South African e-Government policy was drafted for the purpose of two-way transactions using Information and Communications Technologies between public administrators, citizens and the private sector, but was never formally implemented. Gruen (2009) discussed the concept of Government 2.0 and its relevance within any democratic nation. Gruen (2009) further stated that the idea of Government 2.0 involved "a public policy shift to create a culture of openness and transparency." This makes it possible for government to listen to, engage with and interact with its citizens and to make possible the relevant acquisitions of the multiple national resources of "non-sensitive public sector information." Government 2.0 was designed to empower the citizens of a

country and the public servants alike to directly collaborate and interact in their own governance by controlling and effectively using the opportunities afforded to them by technology.

The concept of “e-Government” is one that has been adopted and adapted by most democratic nations. With the evolution in communication technologies in the twenty-first century, governments’ role to communicate and interact with the public has become increasingly important on a global scale. This “responsibility” places the majority of governments under immense strain to change, innovate and develop new ways for their various departments and government structures communicate and interact with their citizens and stakeholders.

The concept of e-Government has been defined as “the use of Information and Communications Technologies (ICTs), and in particular the Internet, as a tool to achieve better government” (OECD, 2003). Further explained e-Government can be considered as a tool or mechanism that enables the transformation of public administrations through the effective use of Information and Communications Technologies. According to Dimitriu (2008) and Pratchett (1999) the main reason that e-Government projects are being adopted, is to ideally strengthen the principles of openness, transparency and accountability. This would ultimately promote the citizens ‘once passive role into a more active, participatory one (Dimitriu, 2008; Pratchett, 1999).

The e- Government concept or “Gov 2.0” evolved from the concept of using Web 2.0 technologies as its foundation. The reality is that the Internet has brought about vast changes in the information sphere – information has evolved and adopted many formats and technologies, allowing its easy dissemination, accuracy, assurance and analysis. With the evolution of these technologies, it has become imperative to monitor and analyse the evolution and potential of such technologies as an effective and efficient communications tool- assessing its impact and deployment.

With regard to Web 2.0 technologies, it can be defined according to O' Reilly (2005) as the “second generation web based on the use of what was once considered as novel technologies, such as RSS (Really Simple Syndication, of web contents), mashups (combination of pre-existing applications), folksonomies (popular labelling or categorizing), podcasting (syndication of audio content), widgets (web tools embedded in other sites to perform a particular function) and sharing facilities (options for redistributing the contents of websites to other users).”

In addition, social media has been created through Web 2.0 technologies. Web 2.0 technologies are applications that enhance the user experience by providing services to users in online communities. The services that are provided are collaboration based and include applications such as wikis, blogs, media sharing applications and social media. These applications, developed on the foundation of Web 2.0 technologies, promote the idea of collaborative learning, but at the same time ensures for the timeous exchange of information between its online users. According to Jiang, Raghupathi, and

Raghupathi (2009), the main advantage of the implementation of Web 2.0 technologies is that it has the capability to improve an organisation's website by providing a direct means of interaction between the client and the organisation. Herget and Mader (2009) together with the Queensland Government (2010) have developed a number of metrics to determine the impact that Web 2.0 tools and mechanisms have on both the public and private sectors. Hearn, Foth, and Gray (2009) state that organisations now have the tools needed for build relationships with their clients, citizens and stakeholders, as Web 2.0 technologies have provided this type of open communication and interactivity. Web 2.0 technologies have also formed the grounding or foundation for e- Government initiatives promoting an "interactive government."

With the advent and evolution of Web 2.0, especially in e-Government, policies and legislative frameworks needed to be implemented to govern and monitor its usage and efficiency as a tool for effective e- Government. Many governments have implemented e-Government legislative frameworks and policies including South Africa. The South African e-Government policy was developed mainly for the purpose of two-way communications and transactions using Information and Communications Technologies between citizens, stakeholders, public administrators and the private sector. As in any relationship, there are different models that may apply in government as well. They include:

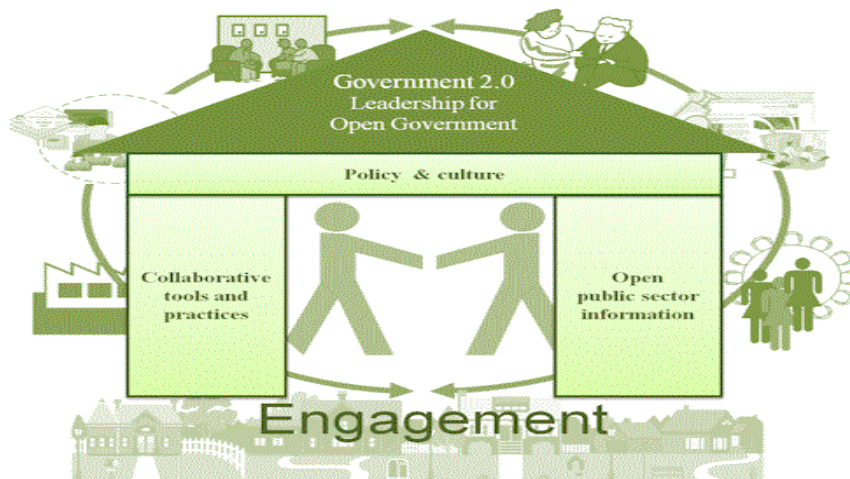
- Government to citizens (G2C): The G2C model for e – Government refers to government's relationship with its citizens. The objective of this model is meant to provide all citizens with effective service delivery.
- Government to Business (G2B), otherwise commonly known as "public sector marketing" refers to the relationships between organisations and public administrations as well as enterprises, and
- Government to Government (G2G), which makes reference to the electronic sharing of information between government agencies and departments.

Social Media is all about fast, interactive communications. It has the potential as an effective public sector tool allowing relevant use of this tool especially regarding government-stakeholder relationships especially in times of crisis. An example that may be considered is the Obama administration use of social media- the Obama administration continued to utilise social media platforms even after the political campaign had ended, to promote the concept of openness and transparency in government. However as more democratic governments are conforming to the use of social media in their administrations, other governments remain sceptical as to the perceived usefulness of this phenomenon (Jaeger, 2010: 372).

Gruen (2009:3) discussed the concept of Government 2.0 and its relevance within any democratic nation and stated that the concept of Government 2.0 involved a public policy shift which would lead to the creation of a “universal culture of openness and transparency.” Government 2.0 which evolved from web 2.0 technologies and incorporates the use of social media platforms makes it possible for government to form two-way interactive and participatory communications between itself and its citizens but also states that information shared should be of a non sensitive nature. The idea of Government 2.0 was developed to empower both citizens and public servants alike to directly collaborate in their own governance by implementing the necessary controls and mechanisms in effectively utilising the opportunities provided for them through technology.

Figure 3.4 illustrates the dimensions or the envisioned pillars of Gov 2.0 for SA e- Government policy.

Figure 3.4: Envisioned pillars of government 2.0 for SA e-Government Policy



Source: Gruen (2009:3)

The three pillars of Government 2.0 as stated by Gruen includes the implementation of web 2.0 collaborative tools, sustainable processes between governments and government agencies and open access to public sector information (PSI). This is inclusive of policy and governance aspects and efficient leadership which is the basic requirement in achieving a paradigm shift in public sector culture and practice.

According to Gruen (2009:3), e-government or rather the concept of government 2.0 would ensure the positive and progressive change in the relationship between governments as well as between citizens and governments.

The above guidelines relate closely to the principles of “good governance” and the King III report which underpins the ethical values of responsibility, accountability and transparency. All of which should be promoted ideally by the responsible use of social media so as to avert disasters and potential

risks. It follows then that the significant disaster management legislation has relevance to this discussion.

3.3.3.6 The Disaster Management Act No. 57 of 2002

The Disaster Management Act No.57 of 2002 was promulgated into law in 2003. The Disaster Management Act, in summary, provided for a homogeneous, strategically planned and well-structured disaster risk management policy in order to mitigate the severity of the majority of disasters and thereby promoting “the preparedness and rapid and effective response to disasters”. The Disaster Management Act also provided for the establishment of a “national, provincial and municipal disaster management” centres and the acquisition of disaster risk management staff and volunteers. The intention is to ensure disaster risk reduction strategies are in place so as to reduce the vulnerability of citizens and contribute to safety and security towards good governance in risk and crisis communication management.

3.3.3.7 The Protection of Personal Information Act 4 of 2013 (POPI)

In 2009, the South African government drafted what was to become known as the Protection of Personal Information Act (hereafter referred to as POPI). The POPI Act was published in the government gazette in November 2013, and its purpose was to ensure that the privacy of South Africans is to be protected under the POPI Act.

The POPI Act applies to all South Africans responsible for the processing of personal information including employees, companies and individuals. The POPI Act was created to address the following:

- “Establish how information is collected and processed”, which refers to the manner in which “clients” personal is gathered and processed;
- “Establish an Information Regulatory Body to regulate the collection of this information”, which refers to the establishment of a “compliance” body, to monitor as well as regulate the gathering of a person’s personal information;
- “Regulate the flow of information across South African borders,” referring to the protection of South African citizens as well as state information from being disseminated across South African borders; and
- “Provide rights to South Africans receiving unsolicited information or communication,” referring to what some may regard as unwanted advertisements and marketing for various products and services.

3.3.3.8 *Monitoring and Evaluation*

The Department of Monitoring and Evaluation's (DPME) Policy Framework (2011) provides some general principles that can be regarded as important for the practice of monitoring and evaluation. The key principles that apply to the study are: "Monitoring and Evaluation should be development-oriented and should address key development priorities of government and of citizens", meaning that the concept of monitoring and evaluation should evolve as new developments occur taking into consideration the best interests of government and its citizens.

- "Monitoring and Evaluation should be undertaken ethically and with integrity," meaning that monitoring should be conducted for ethical reasons.
- "Monitoring and Evaluation should be utilization-oriented," meaning that monitoring and evaluation should align to the purpose of the task in question.
- "Monitoring and Evaluation methods should be sound," meaning that there is a requirement for proper processes to be in place for effective monitoring and evaluation
- "Monitoring and Evaluation should advance governments transparency and accountability," referring to promotion of a key concept of "openness and transparency" within government departments.
- "Monitoring and Evaluation must be undertaken in a way that is participatory and inclusive," – an interesting ideology promoting two-way unprejudiced communication between government departments, and governments.
- "Monitoring and Evaluation must promote learning," refers to ideology of the importance of learning to grow.

With the use of social media as a strategic communications tool, there must be monitoring and evaluation in place to ensure the accuracy of information being disseminated in such times. It follows then that monitoring and evaluation are key aspects in contributing to crisis management and enhanced governance.

3.3.3.9 *The Promotion of Access to Information Act of 2000 (PAIA)*

The Promotion of Access to Information Act was based on the premise that as a result of the shortfall in the apartheid government of South Africa pre 1994, this Act would address and promote a sense of openness and transparency and thereby promote the access to information. The Act discusses the rights to access all form of information held by any institution, but provisions for under chapter 4 of the Act, the "grounds for refusal to access information." Chapter 2 of the Act (2000, 10) provisions for the storing of records of individuals. The Act also mandates for, under Chapter 4 (i) "subject to justifiable limitations, including, but not limited to, limitations aimed at the reasonable protection of privacy, commercial confidentiality and effective, efficient and good governance."(PAIA, 2000; 45). The key

word being “reasonable”. The Act does not provision for social media or crisis communications, but does promote the concept of good governance.

3.3.3.10 Regulation of Interception of Communications and Provision of Communication-related Information Act, 2002 (RICA)

The Regulation of Interception of Communications Act (hereafter referred to as RICA) and Provision of Communication-related Information Act was created to regulate the interception of communications which included the “monitoring of radio signals and radio frequency spectrums and provisioned for communication-related information – information relating to indirect communication in the records of telecommunication service providers,” as provisioned for by the Regulation of Interception of Communications Act (Government Gazette, 2003: 2).

The Regulation of Interception of Communications Act is also responsible for the regulation of applications pertaining to the interception of communications as well as for the provision of communication-related information with regards to particular issues and/or circumstances. RICA provisions for the regulation in matters where the interception of communications is involved. RICA also promotes the prohibition of the provision of “telecommunication services”, which do not contain the capacity to be expropriated, requiring the service providers to store communication-related information. RICA in turn specifies the associated costs that can be levied by the service providers concerned with the requirements- based on this criteria, compensation can be made to the service providers.

Furthermore it provides for the creation and establishment of interception centres together with an office for “Interception Centres” as well as an Internet Service Providers (ISP) assistance fund. Finally, RICA prohibits the “manufacturing, assembling, possessing, selling, purchasing or advertising of interception equipment without a certificate of exemption issued by the relevant Minister” (Government Gazette; 2003, 2).

3.4 Chapter Summary

In summation of the preceding emphasis in this chapter, the ethical values of responsibility, accountability, fairness and transparency are all elements of good governance, and this can be promoted by the responsible use of Social Media in order to contribute to crisis reduction and aversion as sustainable strategies rather than adding to imminent and potential risks.

According to Comfort (1993; 1) the decision processes in disaster environments pose a difficult challenge to a rational problem. It seems that the urgency, complexity and uncertainty that is inherent in crises and disasters challenge the boundaries of the human capacity for gathering, processing and disseminating information to support coordinated activities.

With no specialised law in place for the governance of social media usage, this platform is difficult to control. Social media can be regarded as an effective strategic communications tool in crisis and disasters but it is imperative that the use of social media becomes a relevant issue when communication legislation is being passed.

Denning (1999: 37) proposes his version of the attributes of information, which promotes its secure nature. Denning's attributes include that of "integrity, confidentiality, availability, and non-repudiation". Authors Laudon and Laudon (2013:26) propose seven attributes of information quality, including that of "integrity, consistency, completeness, validity, timeliness, relevancy, and accuracy". Denning's attributes of information quality can be combined with Laudon's' attributes, referring to the combination of consistency, completeness, validity relevancy and accuracy which influence ant the attributes of integrity, and timeliness which influences availability. The common theme that is pervasive through the aforementioned laws and legislative frameworks is that the majority of them expressly provision for integrity and availability, whilst none provision for uniqueness of information quality. Completeness of information is limited to just the King III code, which is implied but not expressly. Inevitably incomplete information is inaccurate information. Confidentiality corresponds to the right to privacy as outlined by the constitution. And although (S) 14 of the Bill of Rights in the "South African Constitution of 1996" expressly provides that "everyone has a right to privacy, which includes the right not to have (S) 14 (d) the privacy of their communications infringed", various related provisions in the "Bill of Rights" indirectly premises for the "right to safety and security". If citizens have a right to security, it creates a corresponding duty on the government for the protection of its citizens which would implicitly override the general right to privacy as a means of "safety first". Chapter 11 of the Constitution governs adheres to the premise of "safety first". Furthermore Chapter 11 provisioned for the authority of South African Security Agencies inclusive of the Defence Force in assisting the country in its "safety first security obligations". With the eminent conflict in rights, Parliament sought a resolution to these two conflicting rights by providing for "judicial oversight and limited interception" to very "serious crimes".

Since the information attributes of accuracy and timeliness correspond to the principles of good corporate governance, which to some extent is governed by the "Promotion of Access of Information Act (2000), the Protection of Personal Information Act (2013)" and the King III Code which promotes openness and transparency between organisations and their stakeholders.

The "Batho Pele Principles" 1, 2,3,4,5 and 8 may apply to the use of Social Media; however Principles 4, 5 and 6 are of specific interest as it promotes the access of information to the public sector, the right to be informed and requests that there is openness and transparency, which would incorporate the legislative frameworks mentioned herein. On paper social media incorporates all the good principles

of Batho Pele, however, the use of social media must contain accurate and timely information in such occurrences.

Although POPI was established to protect the privacy rights of all South Africans, it must be clearly acknowledged that it protects just that and any information that any individual shares publicly through social media platforms automatically falls outside the Act's protection. Social Media is about fast, interactive communications and the public sector would do well in making relevant use of the e-government policy in times of crisis. The Obama administration use of social media, for instance, had continued beyond his campaigning towards openness and transparency in government. While more democratic governments are conforming to the use of social media in their administrations, some Asian governments remain sceptical as to the perceived usefulness of this phenomenon (Jaeger, 2010: 372).

The "Disaster Management Act No.57 of 2002" can be considered as a guideline for the use of social media usage during a crisis. Contained within the Act are provisions for the process of emergency preparedness, effective rapid disaster response and recovery, as well as the inclusion and engagement of volunteers. A key characteristic of the Disaster Management Act is the recognition that disaster risk reduction cannot be done solely by government, requiring co-operation and collaboration from all spheres of government, society as well as private sector. Social Media may serve as the ideal collaboration tool between government, its citizens and the private sector. The Act further recognises the inclusion of a diversity of stakeholders creating the challenge of attaining consistency. A national disaster framework is also prescribed by the Act, which aims to provide for a transparent, coherent and inclusive policy for the whole of the Republic.

The "Monitoring and evaluation" and "Regulation of Interception of Communications and Provision of Communication-related Information Act, 2002 (RICA)" directly affect each other, as whilst Monitoring and Evaluation is important for the protection of information, RICA provides for the legal interception of information and does not expressly provision for the right to privacy.

Considered as an enabling law, the "Electronic Communications and Transactions Act" provides the functional elements for traditional filing concepts. Regarded as a broad piece of legislation, the "Electronic Communications and Transactions Act" deals with a number of challenges outside the ambit of electronic communications and transactions. Furthermore these include areas such as the liability of domain names and service providers. It is inclusive of "legal certainty" such as the formation of contracts.

The e-Government Policy was never formalised, but according to Gruen, it would form a basis for good strategic communication between the government and its relevant stakeholders especially in crises and disasters.

There are many positive and even negative consequences of Internet adoption. While progressive civil society has adopted the Internet to advance globally acceptable norms, it has also been appropriated by a wide-range of repressive regimes, resistance movements, militant groups, religious and other extremists, and criminal organisations which Deibert and Rohozinski (2008) term ‘dark nets.’ While much of the discourse about society assumes administrations that acts on behalf of citizens against oppressive states and unethical companies, ‘bad civil society’ create their own debates in counter-public spheres (Downey and Fenton, 2003).

It remains evident that many oppressive administrations to opposition would ultimately mean the limitations on the Internet and the freedom of expression- which should be deemed a natural and protected right to civil society. This in itself means an increase in the role of monitoring and blocking technologies and whilst it is important for the protection of citizens it also hinders the basic right to freedom of expression and privacy. Deibert and Rohozinski (2008) describes the ousting of Indonesia’s totalitarian government and forced resignation of President Suharto as the start of the creation of public spheres, particularly in Internet and cyber cafes, where the unfolding event were debated, and through which information was disseminated. In the war against Russia, Chechen rebels took to videotaping their attacks on the Russian military, which when posted on the Internet, created the impression that the Russian military was being defeated, the value of which became more important than the actual military attacks (Deibert and Rohozinski, 2008).

Hizbullah, the Islamic resistance movement opposed to Israel’s occupation of Palestine and Lebanon has established various websites, which they consider an important part of their strategic communications and information warfare strategy (Deibert and Rohozinski, 2008). In similar but slightly more refined fashion to the Chechen tactics, Hizbullah has produced videos that combine music with footage of skirmishes between Hizbullah and the Israeli army, and also of clashes between Palestinian citizens and Israeli soldiers. These videos were broadcast across its television station al Manar, and were also made available for download from the Web in what has been described as “powerful montages of incitement” (Deibert and Rohozinski, 2008). More recently Hizbullah has used its websites to stream audio and video content, provide documents, and has set up RSS services that has helped the group evolve and expand its political reach from what Ajemian (2008) states was a purely Lebanese-based resistance organisation to an Arab nationalist movement with a regional agenda.

But this has not been restricted to government and anti-government forces, with Twitter and other social media feeds like Facebook, MySpace, and YouTube being increasingly adopted by several al-Qaeda groups. For example, the al-Qaeda group based in Yemen successfully exploited social media services to disseminate information, rhetoric and Islamic teachings. Social media has also

aided in the efficient distribution of propaganda and has helped extremist groups to recruit and fund-raise (Collings & Rohozinski, 2008: 10).

This on-going argument is focused on the social media as a contemporary communication medium, notwithstanding the challenges that are evident with reference to governments and businesses. As a result, the research focus was narrowed down to consider the adoption of social media within the South African context in crisis and disasters.

The following chapter forms a discussion on the quantitative, content analysis and qualitative research approaches used in the study. As a result the conceptual model was developed, by combining the various elements for adoption by South African organisations and the government to utilise in crisis and disasters.

CHAPTER 4 METHODOLOGY

4.1 Introduction

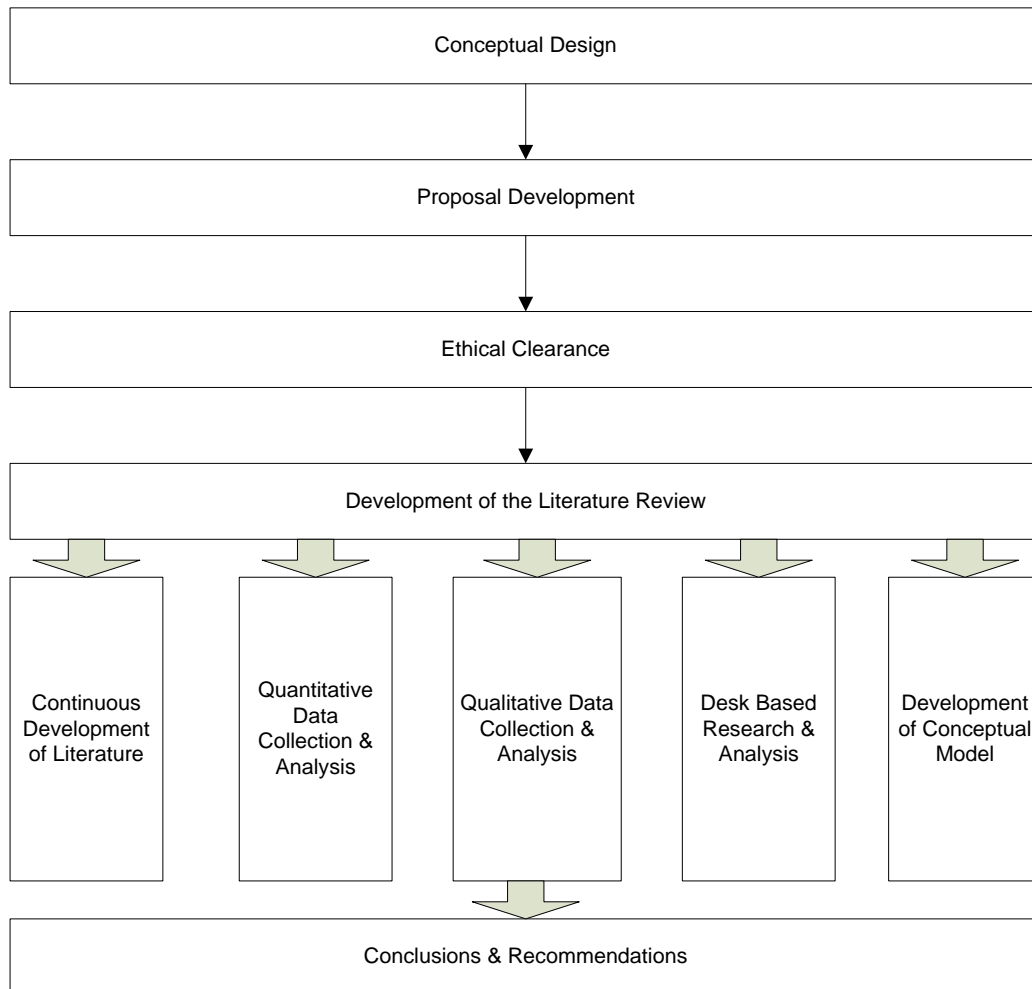
This Chapter presents the various research approaches and methodologies used in conducting this study. A mixed methods approach was used for the research methodology, in relation to the outcomes of the different research objectives. The study was primarily qualitative; however some quantitative data was collected to strengthen the qualitative analysis.

The mixed research methods included were quantitative research, qualitative research, as well as, desk based research (content analysis), which is discussed in more detail in this chapter. This chapter presents the research methodologies employed in conducting this study. The process flow diagram, Figure 4.1, illustrates the structure of the study. Since the mixed methods approach was used in the study each methodology remained separate and was done concurrently.

The overall study evolved from the topic and initial concept. The proposal was developed, and successfully defended. The literature was a continuous process due to the new and ever-changing information becoming available.

Using the mixed methods approach, included the administration of online surveys using Google Docs, e-interviews for an in-depth analysis and desk research for the comparative study. The collated information received from the literature review, existing theoretical frameworks and findings of the study assisted in the development of the conceptual model. From this approach, conclusions were reached and recommendations proposed, as illustrated by Figure 4.1.

Figure 4.1: Research Process Flow



4.2 Administrative Process

As a requirement of the Faculty of Management Studies at the University of KwaZulu-Natal the proposal was successfully defended and approved and ethical clearance was obtained. Furthermore as per requirement a journal article was accepted and published.

4.2.1 Ethical Clearance

The process for ethical clearance ensures that the integrity of the study is maintained and is clearly understood without infringing upon the rights to confidentiality of the organisations and the individuals participating in the study. A requirement for the ethical clearance process was to identify the participants of the study. The interviewees were easily identified as experts in their fields. The respondents to the questionnaires were unknown as the questionnaires were distributed online to the

various professional bodies- from whom the gatekeeper's letters were provided (attached as Appendix D, E and F). The desk research was conducted using openly available materials i.e. books, journal papers and previous studies. The ethical clearance form together with all supporting documentation was submitted to the University Ethics Committee and permission was granted to conduct the study. Ethical clearance was obtained from various organisations nationally and internationally. Informed consent was obtained for all responses, and these responses have remained anonymous. Any public online information remains anonymised.

4.3 The Research Approach

The research approach set out for the study was as follows:

4.3.1 The Research Problem

The study addressed the evolution of the social media in aiding crisis communication management in the public domain. The main goal of this research was to highlight the increased importance of social media as effective tool in communicating to the various parties involved in a crisis. It may be argued that the emergence of social media witnessed in recent years has brought new challenges as well as possibilities for crisis management (Hagar, 2012:3). Public and private institutions, embraced the use of social media and social media technologies such as Facebook and Twitter in aiding its stakeholders, and local communities in communicating messages. However, there is a concern as most organisations and governments seem to have used social media as more of a marketing and/or promotional tool. The study thus aimed to examine how organisations and the public can utilize and incorporate social media into its crisis management plan as a tool for communication with its most salient stakeholders.

4.3.2 The Research Questions

The funnel approach was adopted regarding the objectives. Since social media is a global phenomenon, the intention was to first analyse the use social media in the global context, and then localize the study to the South African public governance perspective. The research questions of the study were:

- To what extent is social media being used in crisis and disaster communication?
- Which global factors affect the use of social media in crisis and disasters?
- Which South African legislative and governance frameworks influence the use of social media as a crisis communications tool?
- What is the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management?
- Proposition of an integrative model for the enhanced use of Social Media to address crisis communication and recommend social media strategies for effective use in crisis management for Public/ Private South African organisations.

4.3.3 Quantitative Research

Quantitative research involves techniques in which responses are equivalent to numerical values and represent different levels of abstraction of theoretical constructs; the analysis of these values provide convincing scientific evidence of the workings of a phenomenon (Straub, Gefen, & Boudreau, 2005). Quantitative methods are useful in describing an overall picture and provide a broad outlook in their application (Leedy & Ormrod, 2010: 32).

The questionnaire was a research instrument designed by Sir Francis Galton, consisting of a group or various groups of questions intended to collect responses from respondents using a standardised method. In his design questions could be either structured or unstructured. The questionnaire format for this study was of a structured nature, due to the number of responses expected and the duration of completing an online survey. The structured questions asked respondents to select an answer from a given set of choices to gauge the perceptions, knowledge and experience in this field of study. The questions were easy to understand given their clarity and conciseness. The demographic questions were designed to determine the practicality of the using the selected sample population.

According to Bhattacharjee (2012:82) most questionnaires are generally self-administered surveys i.e. a process whereby the same questionnaire is mailed to the potential participants to the study. Thereafter those willing to participate in the study, may do so at their own convenience. However, this is a costly time-consuming task, and the researcher has to continuously monitor the responses as they are being returned.

Bhattacharjee (2012:82) discusses the advantages of the more recent (2-3 years old) type of questionnaire survey which is the online or web survey. This type of surveys are administered over the Internet using interactive forms. This approach was adopted for this study. Respondents received a link via an email, to which they were provided with the option to participate or decline to participate, once clicking on the link. The surveys were inexpensive and the results were immediately recorded in the online database.

The main objective of the survey was to assess the “extent to which social media is being used in the various sectors”; the survey became more in depth as it specified the use of social media in crisis communications and disaster management, and examined the legislative and governance “factors influencing the use of social media” (Ramluckan, 2016a). The responses to the survey contributed to the establishment of (1) use of social media, (2) the role of/ and reliance on social media as a communications instrument, both in a global and national scale. The survey was enriched by the e-interviews (for more in depth analysis) and the desk based research for comparative analysis.

4.3.3.1 The Pre-Test

The pre-test, which by definition refers to the small-scale test of a specific aspect of the research, was conducted for the survey component of this study. The questionnaire was presented to colleagues at the University with a view to justifying the selection of the questions, and to evaluate the possible responses. The respondents did provide some valuable feedback and their suggestions were incorporated into the survey. The general reaction of the respondents in the pre-test indicated that the questionnaire was easy to access and complete.

4.3.3.2 Sampling

The sample population for the study was chosen with regard to the area of specialisation. The precise number of the population remained unknown, as the questionnaire was distributed through the relevant professional bodies. The professional bodies that provided the gatekeepers letters and distributed the online survey link were the International Federation of Information Processing (IFIP) and ISACA.

The University of KwaZulu-Natal's sample population consisted of academics, management and students in the relevant fields' i.e. public governance, political science and policy, media studies and information systems and technology.

4.3.3.3 Questionnaire Design

Google Forms is one method which provides a quick method to create an online survey, with responses collected in an online spreadsheet. The survey was created using Google Forms and the Google generated URL link, to the online form, was emailed to the sample populations. A Microsoft Word version was created to ensure that the online version did not prejudice other participants in way or form. Respondents completed the survey by accessing the online version and by completing the soft copy of the survey. Sheehan & Hoy (1996) state that online surveys are an effective means of survey research - they cannot be easily mislaid and remain in place until purposefully deleted. Cook, Heath, & Thompson (2000) note that respondents cite ease of use as the main reason of preference in answering a Web survey.

4.3.3.4 Descriptive Statistics

According to Laerd Statistics (2015) descriptive statistics provides for the analysis of data. Descriptive statistics describes, illustrates and summarises data into an understandable form e.g. in establishing the patterns that might emerge from the data. This type of statistics restricts the Researcher from drawing conclusions beyond the data that has been analysed or reach conclusions regarding any hypotheses that have been developed. Descriptive statistics merely form a description of the study inferred from the statistics obtained.

Descriptive statistics allows for a visual illustration of data and promotes in depth interpretation of the statistics gathered. Typically, there are two general types of statistic that are used to describe data, which are:

- **The measures of central tendency:** This involves the description of the central most point of a frequency distribution for the sample population in question. This method of description includes the reference to the mode, median, and mean.
- **The measures of spread:** This refers to the methods of summarising a group of data by describing how spread apart the scores are. These measures of “spread” assist in the summation of the how spread apart these scores actually are. There are a variety of statistics that can be used to describe this “spread” i.e. the range, absolute deviation, and variance.

For the purpose of this study descriptive statistics was sufficient in analysing the data obtained.

4.3.3.5 Cronbach Alpha

A Cronbach’s Alpha was also performed for the items in the questionnaire. The purpose of a Cronbach Alpha is to determine the consistency and reliability when using multiple Likert type questions in one questionnaire (Laerd Statistics, 2013).

4.3.3.6 Factor Analysis

In addition to the descriptive statistics, the factor analysis was performed for the study. Varimax rotation is referred to as the most common of the rotations that can be used. The rotation involves “scaling the loadings”. The loadings are “scaled” by dividing them by the corresponding grouping as represented by the formula below:

$$\tilde{\gamma}_{ij}^* = \hat{l}_{ij}^* / \hat{h}_i$$

Source: Pennsylvania State University (2004:1)

As can be seen the loading of the i^{th} variable on the j^{th} factor after rotation, where \hat{h}_i is the grouping for variable i . The aim of the formula is to find the rotation that would maximise the quantity of the variance. The Varimax process, illustrated by the formula below, selects the rotation to find this maximum quantity:

$$V = \frac{1}{P} \sum_{j=1}^m \left\{ \sum_{i=1}^p (\tilde{\gamma}_{ij}^*)^4 - \frac{1}{P} \left(\sum_{i=1}^p (\tilde{\gamma}_{ij}^*)^2 \right)^2 \right\}$$

Source: Pennsylvania State University (2004:1)

This is a description of sample variances of the standardized loadings for each factor, added over the m factors. The main objective becomes the selection of a factor rotation that maximizes this variance (Pennsylvania State University, 2004).

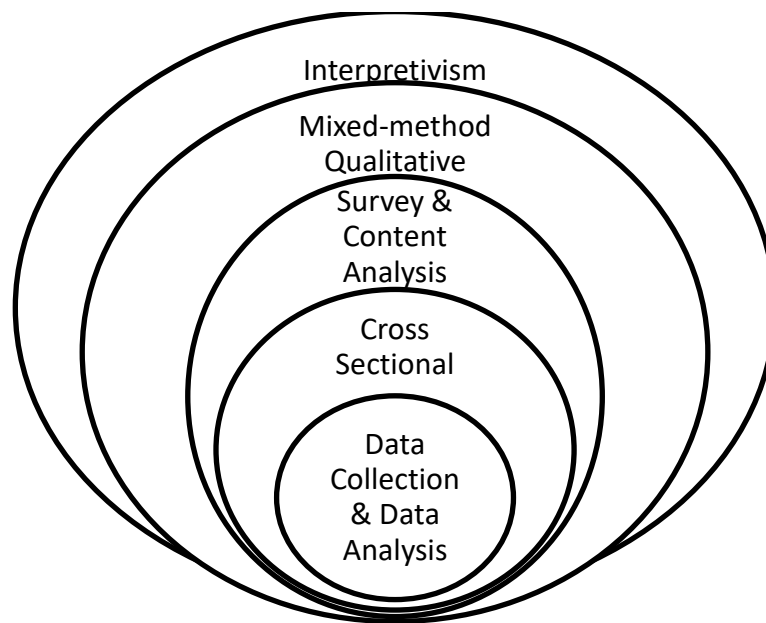
The purpose of performing a factor analysis was to limit the number of factors by grouping them according to their weightings. According to Kahn (2016:3) there are two general methods one can use to limit the number of factors. The first method means using the Eigenvalue, and the second one means using a Scree Plot.

For this study, the Scree Plot was used as the Eigenvalues by default limited the number of factors that were less than or equal to 1, which may in turn “cut-off” some important factors. It was therefore decided to use the Scree Plot. Scree plots are used to determine the number of relevant factors (based on where level off). A Varimax rotation of factor matrix was produced to determine weightings. With reference to the factors, the first factor (grouping of items) accounted for the highest variance and the last factor accounted for the lowest or least variance, based on the correlation of the items.

4.3.4 Qualitative Research

Qualitative Research is considered as being of an exploratory nature. The purpose of qualitative research is to ascertain an in-depth understanding into the participant’s perceptions, motivations and underlying reasons. Furthermore qualitative research provides intelligence and reasoning to a specific problem, helping to develop potential solutions. Apart from this qualitative research provides the researcher with the ability to disclose changes in thought and perceptions. Qualitative data collections can entail structured or unstructured techniques. For qualitative research, the sample population is generally small, allowing for the study to reveal more in-depth participation and observations (Wyse, 2011). The qualitative research approach began by introducing the “research onion” by Saunders and Tolsey (2012, 58). Figure 4.2 briefly illustrates the interpretivist nature of the study.

Figure 4.2: The “Research Onion” for the Qualitative Study



Source: Adapted from Saunders and Tolsey (2012:58)

Based on the description by Saunders and Tolsey (2012, 58) the study itself took on the interpretivist paradigm. The interpretivist paradigm was applicable to the study as it social media is considered a social phenomenon within a natural environment. The study focused on the conducting of research on people rather than on objects, opting to identify with the participant, allowing for an understanding of their social world deriving their perceptions through this understanding. The collection of data and the analysis involved using primarily qualitative data from in-depth interviews through e-interviews with a small number of participants to the study.

A mixed methods approach was used which involved both the dissemination of in-depth interview questions through email and the document analysis. The study involved a cross sectional analysis as it was an observational study involving analysis from information collected from a subset of a larger population who were knowledgeable in the area of the study. As previously stated, the qualitative part of the study involved the dissemination of the e-interview and the analysis of the responses through the use of selection of prevalent themes and key words (thematic analysis).

Denzin & Lincoln (1994) states that the qualitative design allows for the in-depth probing of related issues. Qualitative methods, for example in-depth interviews, provide a more nuanced and detailed account that would not otherwise emerge from a survey. The benefits of the interview, included the free expression of ideas and offered the interviewees perceptions which contributed to the study. It enables interaction with the participants and allowed for follow up questions. Authors Avison, Lau, Myers, & Nielsen (1999, 94) explain that one of the benefits of qualitative methods is that they provide value in explaining the occurrences within the organisation. Kaplan and Maxwell (2005:41) argue that

qualitative methods are particularly helpful to understand and explore what technology means to people. Interviews are considered as a method used to collect personal information from the respondent referring to their perceptions. Interviews are performed by trained interviewers using the same research protocol as questionnaire surveys (i.e., a standardized set of questions). Biases in the interview remains a challenge and along with what is being said, the interviewer maybe observing the interviewee and making personal comments on these observations. The benefit of interviews over questionnaires is that a point of understanding and clarity can be reached should there be any discrepancies and follow up questions can be asked depending on the response of the interviewee. However, interviews are rather time-consuming and intensive in terms of resources and require specific interviewing skills.

Whilst the most common type of interview is the personal or face-to-face interview where the interviewer works directly with the respondent to ask questions and record their responses, the e-interview is becoming more popular as it allows for more in depth responses as the interviewee can respond at their leisure and in their personal space. Due to the timeous nature and geographical divide, the e-interview was opted for, with the interview questions being emailed to the respondents.

4.3.4.1 Sampling

The sample population was carefully selected on the basis of experience, knowledge and expertise in the field. A total number of 11 interviews were conducted. According to the British Educational Research Association (2006) it is sufficient to have six to twelve for unstructured interviews, as well as if the interviews are supplemented by other forms of data. As in the case of this study the interviews were supplemented by the quantitative method as well as authoritative documentation analysis. Furthermore according to Guest, Bunce, and Johnson (2005) the majority (approximately 70%) of code creation in interviews occurs in the first six interviews, where a point of saturation is achieved, and then another 18% in the following six interviews.

4.3.4.2 Interview Design

The interviews were semi structured and allowed for follow up questions depending on the answers provided by the respondents. The participants to the study were selected through the process on convenience sampling.

A few of the interview questions were emailed to the respondents who were from different locations globally. The local participants were given the option of completing the interviews via email communications or through face-face interviews. Whilst some preferred the face-to-face interviews, the majority chose to respond via email. Meho (2006) states that many citation and bibliographic searches indicate that the use of in-depth, e-mail interviewing is rapidly increasing since 2003 and as such has become a valuable and acceptable tool for qualitative research.

4.3.4.3 *Thematic Analysis*

The qualitative data was analysed using thematic analysis. Traditional thematic analysis is considered to be the most common form of qualitative data analysis. The process involved recording common themes or patterns obtained from the responses of the participants to the study. With reference to Saldana (2009:13), coding of themes is an integral part of thematic analysis.

Together with the traditional thematic analysis, word clouds were also generated to validate the frequencies of important themes.

4.3.4.4 *The Use of Word Clouds for Qualitative Data Analysis*

As part of the qualitative document analysis, word clouds were generated using word cloud generating software called Wordaizer. Cidell (2010) defines word clouds as a type of visualisation which forms the summary of the contents of a document as well as from interviews. Word clouds aid visualisation by illustrating the words or themes that appear most frequent usually in a larger font. When utilised as a form of qualitative word clouds provide a powerful way to summarise and compare information from different places on a single issue. Matthews, Franzen-Castle, Lincoln and Kattelman (2015) state that word clouds can be used to analyse any qualitative data. Word clouds are described as a form of thematic analysis where images are composed of text where the size of a word or theme or phrase represents its frequency (Matthews *et al.*, 2015).

The process of representing or generating words clouds involved thematically coding documents into words or short phrases while excluding common English words like “the”. As soon as these documents were coded, words were entered into a word cloud generator (for this study Wordaizer) where custom made images were generated.

4.3.5 Desk Research

4.3.5.1 *Document Analysis*

Document Analysis is, also referred to as Documentary analysis, is considered a social research method and is an important research tool. Document analysis forms an important element of data triangulation. Bryman (2002) states that there are numerous procedures involved in the analyzing and interpretation of data, which may have been generated from a number of documents and relevant records. A document is defined as something that is readable and relates to an element of the social world. Official documents or legislation are developed with the intent to be objective to the subject matter, however, ambiguity does arise since these statements are socially created.

The types of documents used for the study included public records, open access media sites, journal papers, visual documents and the various legislative frameworks and governance guidelines.

4.3.6 Data Triangulation

The overall assessment is based on the proposed framework, and performs the data-triangulation from the results of all the research methodologies. This was the objective of the research. Bryman (2002) states that triangulation refers “to the use of more than one approach to the investigation of a research question in order to enhance confidence in the ensuing findings”. Triangulation provides for confidence in a study as much research is more often than not founded on just one research methodology.

Triangulation forms just one of a number of reasons for the mixed method research. Therefore it is imperative that the participant’s responses are monitored on a continuous basis as they are returned. This also entails responses being tracked and reminders being sent out to other participants who have not as yet responded. For the purpose of data triangulation, the mixed methods approach was selected.

4.3.7 Summary of Methodology

The following table summarizes the research questions and the methodologies used for each objective of the study:

Table 4.1: Overview of Research Methodology per Objective

Objective	Questionnaire	Interview	Document Analysis	Design
RQ 1:the extent of social media usage in crisis and disaster communication	X	X		
RQ 2:Determine global factors influencing the use of social media as a crisis communications tool and propose updated communication flow models for the specific case of social media in crisis management	X	X	X	X
RQ 3: Identify the possible South African legislative and governance factors that influence the use of social media as a crisis communications tool	X	X	X	
RQ 4: Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management	X	X		
RQ 5: Propose an integrative model for the enhanced use of Social Media to address crisis communication and recommend social media strategies for effective use in crisis management for Public/ Private South African organisations.				X

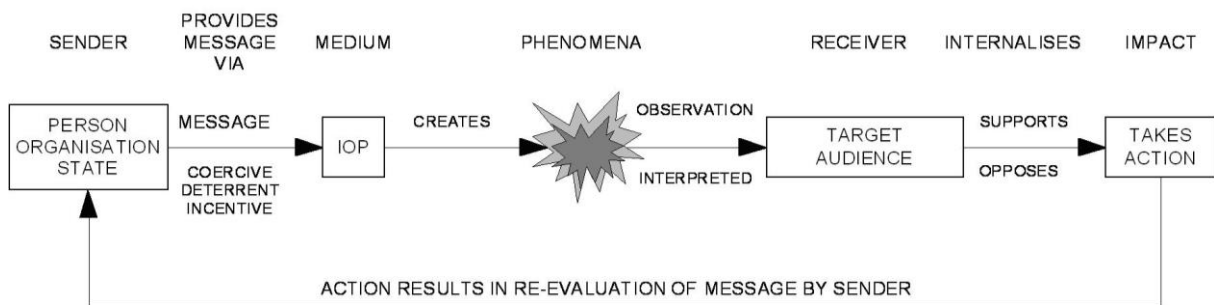
4.3.7.1 Research Objective 1

Questionnaires were distributed to social media experts, using Google docs. The questionnaire was designed to establish the extent to which social media is used in public and private organisations. A few interviews were also conducted and thematic analysis utilized to identify the key patterns to the responses.

4.3.7.2 Research Objective 2

Qualitative Document Analysis (QDA) was conducted on previous research, ‘best practice’ white papers, related books and journals. This was used to analyse existing models and theories and resulted in descriptive models for social media as a tool in crisis management being proposed. The basis for this model originated from existing command-and-control and intelligence models, namely the Observe-Orient-Decide-Act (OODA loop), Stimulus-Hypothesis Option-Response (SHOR), and Task-Process-Exploit-Disseminate (TPED) described by Waltz (2003). Communication flow models, such as the one described by Cox (1997) and shown in Figure 4.3.5 ,and communication models for the public sector and crisis communication, such as the e-Government Model, also be considered.

Figure 4.3.5: Message Flow Diagram



Source: Cox (1997:42)

Bearing in mind that this objective takes into account the global context, some international participation was required as a focus of the objective. In-depth interviews were conducted with both international and South African respondents, who are knowledgeable in the relevant area of study. Furthermore these respondents were identified by their publications and work experience in their field. This included academics and practitioners in the relevant fields.

Due to the geographical divide and availability of the participants e-interviews were conducted through electronic means. As Guest, Bunce, & Johnson (2006) proposed that six to twelve interviews are sufficient for a qualitative study, eleven e-interviews were conducted. Content analysis was used in addition to the interviews and qualitative document analysis.

Furthermore, an online questionnaire was distributed through the relevant public forums. It provided a broader understanding from multiple respondents using convenient snowball sampling. Due to the nature of this study, only descriptive statistics was required.

4.3.7.3 Research Objective 3

This part of the study was located within various organisations and departments and included social media experts. Objective 3 aimed at an in-depth understanding of both the barriers and attractors of using social media for crisis communications and the frameworks and legislation that inhibits or promotes the use thereof. In-depth interviews were conducted, and the responses were analysed using content analysis. A questionnaire was also distributed through electronic means. Further to this document analysis was performed.

4.3.7.4 Research Objective 4

This section focused on organisations that have used social media for strategic corporate communication and perception management in crisis and disaster management. The impact of the use of social media in such situations was ascertained through in-depth interviews and questionnaires (5 point Likert Scale). Data was analysed using SPSS, and interviews through content analysis.

4.3.7.5 Research Objective 5

The global perspective and information or data received from Research Objective 2 were used to contextualise and triangulate the results from Research Objectives 3 and 4. These objectives were primarily desk-based research, where the relevance and impact of social media in crisis communications in organisations was assessed. From this, policies for the introduction and use of social media as a crisis communication tools were recommended for the public/private/NGO sector as a whole.

4.4 Chapter Summary

This chapter presented the research approach and methodologies used to conduct the study. The chapter presented the research methods employed in this study. The mixed methods approach (qualitative, quantitative and document analysis) was employed in this study, which enhanced the relevance of the study and allowed for effective data triangulation. Cronbach's Alpha and Factor Analysis was used to determine the reliability and grouping of the items. From the literature review, a new crisis communication model and framework was proposed, incorporating social media. This model and the development is discussed in the next chapter which includes the various frameworks and existing models and proposes a "new" model based on these existing models.

CHAPTER 5 THE DEVELOPMENT OF THE CONCEPTUAL MODEL FOR ENHANCED CRISIS COMMUNICATION MANAGEMENT

5.1 Introduction

This Chapter presents the models for social media and its incorporation into crisis communications strategies within the various crisis communications sectors. Section 5.2 presents the management models- which describes the flow of incidents. Section 5.3 refers to the crisis communications models and illustrates the phases of a crisis. Section 5.4 depicts the various information models which is used in relation to relevance within the crisis. Section 5.5, analyses the governing frameworks that make for an effective crisis communication model. The conceptual model was developed from a combination of existing models placed in the context of crisis communications and with consideration to the factors and best practice principles influencing the decision to implement social media as a crisis communications tool.

5.2 Model Development

The various models were analysed for the development of the conceptual model. Elements of various models such as Task Technology Fit (TTF), and Technology Acceptance Model (TAM) were used to guide the study in assessing the application and relevance of social media to crisis communications. An example of a combined model is the linking of TAM and TTF as proposed by Dishaw, Strong, and Bandy (2002). Roger's (1995) Diffusion of Innovation Theory (DOI) is also applicable. These are predictive social models relating to acceptance and use of technology, rather than technical models, and can therefore be used in a public administration context when referring to the use of technology. They incorporate constructs which aim to predict the acceptance and future usage of technologies. The constructs that are particularly relevant to this study include the following key aspects:

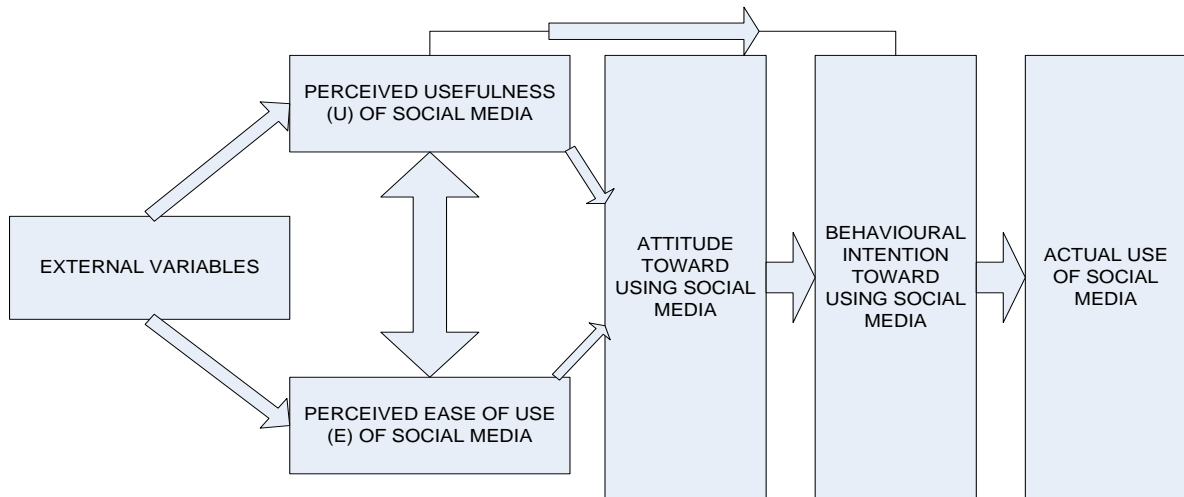
5.2.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is an information systems model which illustrates the ways in which users accept and use technology. The model considers a number of factors that may influence the user's decision about how and when they will use technology (Davis, 1989). The model included the following two aspects which is relevant to the study:

- Perceived usefulness; and
- Perceived ease of use

With reference to the Swedish Emergency Management Association (SEMA, 2008: 68) the aspect of functionality is a vital element in the user experience of an information channel in a crisis. The aspects of perceived usefulness and perceived ease of use from the TAM forms a direct relationship to the functionality element in terms of the user experience and acceptance of a specific technology.

Figure 5.2.1: Technology Acceptance Model (TAM)

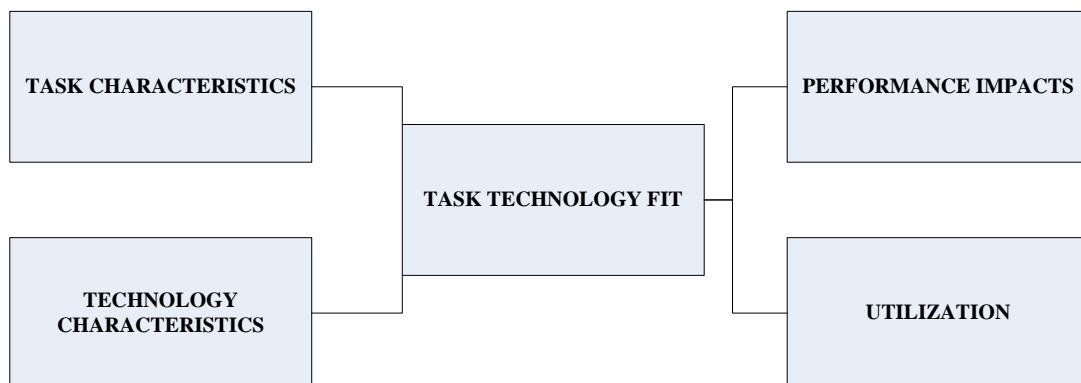


Source: Adapted from Davis (1989)

5.2.2 Technology Task Fit (TTF)

The Technology Task Fit is a model which tests the suitability of a technology to perform a specific task by examining the task requirements and the technical capabilities (Goodhue and Thompson, 1995). The following aspects of TTF are relevant to the use of Social Media.

Figure 5.2.2: Task Technology Fit Model (TTF)



Source: Goodhue and Thompson (1995)

5.2.3 The Diffusion of Innovation Theory (DOI)

The theory of Diffusion of Innovation Theory (Rogers, 1995) sought to determine the rate at which new concepts in collaboration with technology spread through a community or culture – by this

definition, social media can be considered or viewed as a new concept with the different populations being the selected community.

The Diffusion of Innovations (DOI) theory is the resultant of a combination of a number of different theories from various disciplines, with each of these disciplines concentrating on a different aspect of the diffusion process, thereby forming what is to be termed a “meta theory” (Surry, 1997). The Diffusion of Innovation theory formed the foundation for extensive research in political science and communication, with regards to public interest (Wejnert, 2002). The Diffusion of Innovation theory has only recently become an applicable tool necessary for the general understanding of technological innovation and emphasises the role of technology in bringing about social change.

The Diffusion of Innovation theory consists of many elements, however, for the purpose of the study two main elements are applicable. These include the nature of the social system and the type of innovation decision.

The Nature of social system refers to the members of a social system, and their decision to adopt an innovation. This type of decision is not only dependent on the individual decision making process but on the “decision” of the entire “society” or community within the system (Orr, 2003).

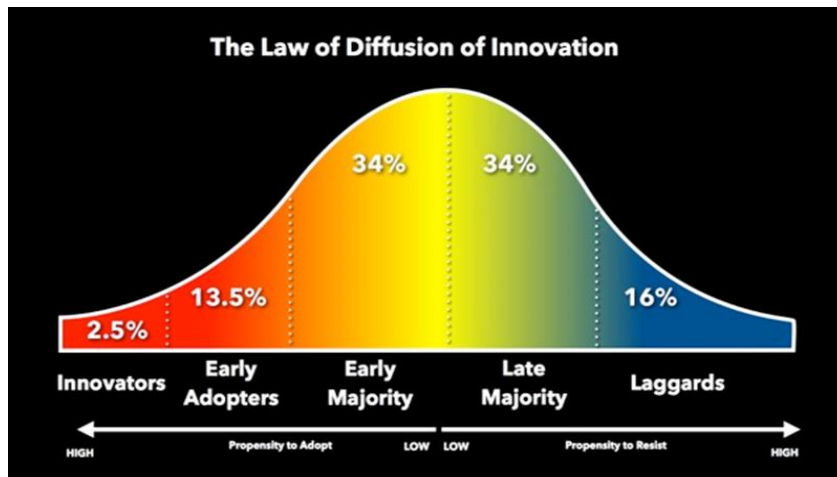
The Type of innovation decision is arrived at through conducting a cost-benefit analysis where the largest consideration or challenge remains “uncertainty”. Individuals will adopt an innovation if they are of the perception that this adoption would enhance their utility. In relation to social media as a crisis communication and disaster management tool, it meets the requirements of a positive diffusion of innovation decision in terms of cost and accessibility.

Rogers (1995:144) used communications science as the basis of developing a theory to explore the relationship between time and product diffusion. The original theory developed by Rogers in 1962 and used a social system or population as the basis. This theory aids in giving support to the notion that people form part of a larger social system. Some of the influencers include the adoption of new ideas, behaviours or products. When an individual does something different from a previous action or changes their behaviour, this is termed adoption. In order for adoption to be successful, the individual needs to perceive the idea, behaviour or product as being new or innovative. This is the idea behind diffusion of innovation.

The degree of innovation of the idea, behaviour or product directly influences the rate of adoption. The greater the degree of innovation, the greater the ease of adoption by the user or population. It is often the case that some people are more open to new and innovative ideas than others. Some are more willing to adopting a new idea, behaviour or product than others. The characteristics of early adopters of innovation are greatly different from those of late adopters. The characteristics of the population

are important considerations. There may be characteristics that influence the adoption of an innovation. These must be considered when an innovation is promoting an innovation. Rogers (1995) describes five categories of adopters. The majority of the population normally falls in the middle categories but it remains important to understand the general characteristics of the population under study. Figure 5.2.3 shows the various strategies that deal with the different adopter categories.

Figure 5.2.3: Rate of Innovation



Source: Gibson (2013)

With reference to Gibson (2013) the Diffusion of Innovation theory also defines the various stages as to which the individual may adopt a particular innovation. The different stages by which a person adopts an innovation, and whereby diffusion is achieved includes the “awareness of the need for an innovation, decision to adopt (or reject) the innovation, initial use of the innovation to test it, and continued use of the innovation.”

Table 5.1: The characteristics of the Stages within the DOI

Stages	Characteristics
Innovators	These are people who want to be the first to try the innovation. They are interested in new ideas. These people are defined as the risk takers.
Early Adopters	Early Adopters as the term may insinuate are innovative thinkers and usually opinion leaders. Early Adopters embrace if not encourage change and tend to acquire a leadership role. They easily adopt new ideas and strategies These strategies may appeal to this group of individuals without much convincing.
Early Majority	The Early Majority are groups of individuals who early on realise that they need to accept the change in innovation. They are not considered leaders but tend to adopt innovation after seeing proof of its ability to perform the task. The Early Majority find strategies appealing both as success stories and proof of effectiveness of the innovation.
Late Majority	The Late Majority are regarded as skeptics. They initially oppose the change until it has been tried, tested by the majority. Similar to Early Majority they find strategies appealing and use it as a benchmark of the innovation's success rate by determining its adoption rate and success.
Laggards	Conservative and traditional, Laggards are extremely skeptical of change. Strategies are appealing to them in terms of statistics and usually forced into adopting an innovation from pressure from other adopters.

Source: Gibson (2013)

With the promise of such a theory, there are also limitations to the theory. Section 5.2.3.1 discusses these limitations.

5.2.3.1 Limitations of Diffusion of Innovation Theory

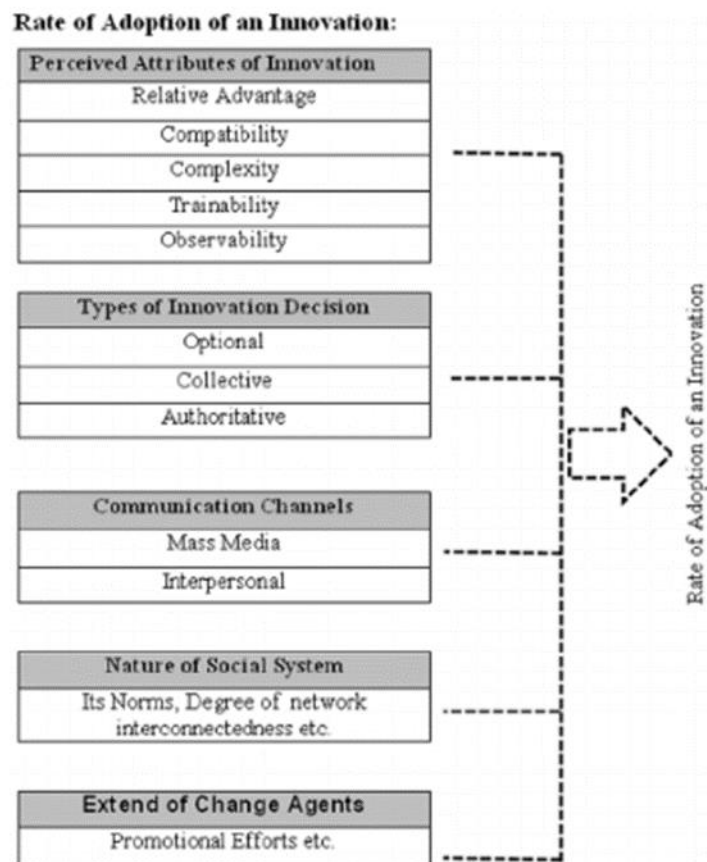
There are several limitations of Diffusion of Innovation Theory, which include the following:

- The origination of the DOI theory emerged in the field of the social sciences and does not consider the external factors influencing the development and use of new communications technologies and platforms.
- It can operate more productively with an adoption of behaviours rather than the cessation of behaviours

- It fails to acknowledge the availability of individual resources and/or the support provided to adopt the new innovation.

The DOI theory has been successfully utilized in various fields including communication, public health, criminal justice, and marketing. However, in the discipline of public governance, the Diffusion of Innovation Theory is regarded as a means to accelerate the adoption of important innovations in the areas of public safety, security and communications. These are often incorporated into public programmes that intend changing a particular behaviour within a social system.

Figure 5.2.4: Diffusion on Innovation descriptive model for the rate of adoption



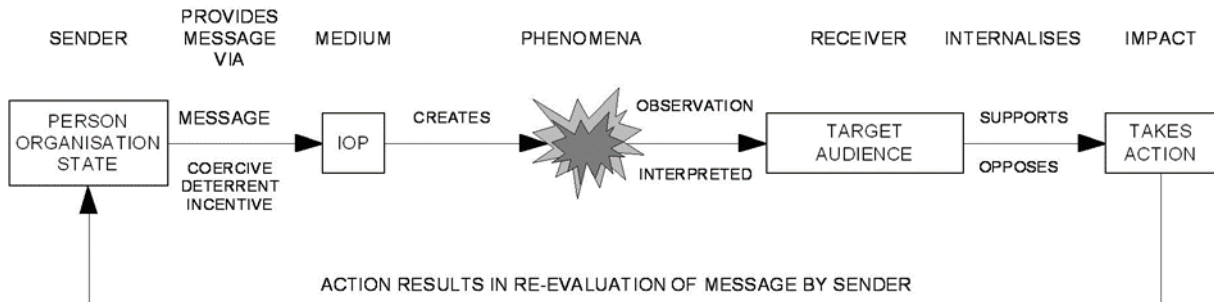
Source: Rogers (1995)

Figure 5.2.4 illustrates the attitudes regarding the innovation, the types of innovation decisions, the various communication channels, and the nature of the social system and the extent of change agents. For the purpose of the study the communications channels and the nature of the social system was of particular interest. Section 5.2.4 discusses the communications flow model.

5.2.4 Communication Flow Model

Communication flow models, such as the one described by Cox (1997) and shown in Figure 5.2.5, and communication models for the public sector and crisis communication, such as the e-Government Model, was also considered and later adapted and integrated into the final model for the thesis.

Figure 5.2.5: Message Flow Diagram



Source: Cox (1997:42)

The model incorporated important elements which contributed to the conceptual model. Cox’s model established the process of communication from the sending of the message through the medium or IOP (Instrument of Power) to the receiver. The Model also included the impact of the message and the action taken, which could be based on the decision taken in reaction to the message in light of the situation or crisis. Section 5.2.5 discusses the importance of the Situational Crisis Theory.

5.2.5 Situational Crisis Communication Theory

The Situational Crisis Communications Theory (hereafter referred to as the SCCT) was developed by Coombs (2009:62) and is considered as one of the most influential theories in the field of crisis communications. The Situational Crisis Communications Theory was created as an empirically tested method for selecting the most efficient crisis response strategies. The theory involved utilising a symbolic approach to crisis communication. The theory has since been improved and has become more coherent in its understanding in crisis communication. As proposed by Coombs (2009: 62) the main elements of the Situational Crisis Communications Theory consists of the crisis situation, crisis response strategies, as well as a system for matching the crisis situation and crisis response strategies. Although the Situational Crisis Communications Theory is premised on the assumption that it remains stakeholders’ perceptions of a crisis situation that is the deciding factor on appropriate strategies, the author has been criticised for regarding stakeholders as a modular element failing to acknowledge that different groups of stakeholders would view each crisis situation differently (Kyhn; 2008: 41). As the study is based within the South African context, the South African Government structure is discussed in Section 5.2.7.

5.2.7 Pillars of the South African Government

As discussed in Chapter 2 the South African Government consists of three spheres- the National, Provincial and Local spheres.

Figure 5.2.6: Representation of the three pillars of the South African Government



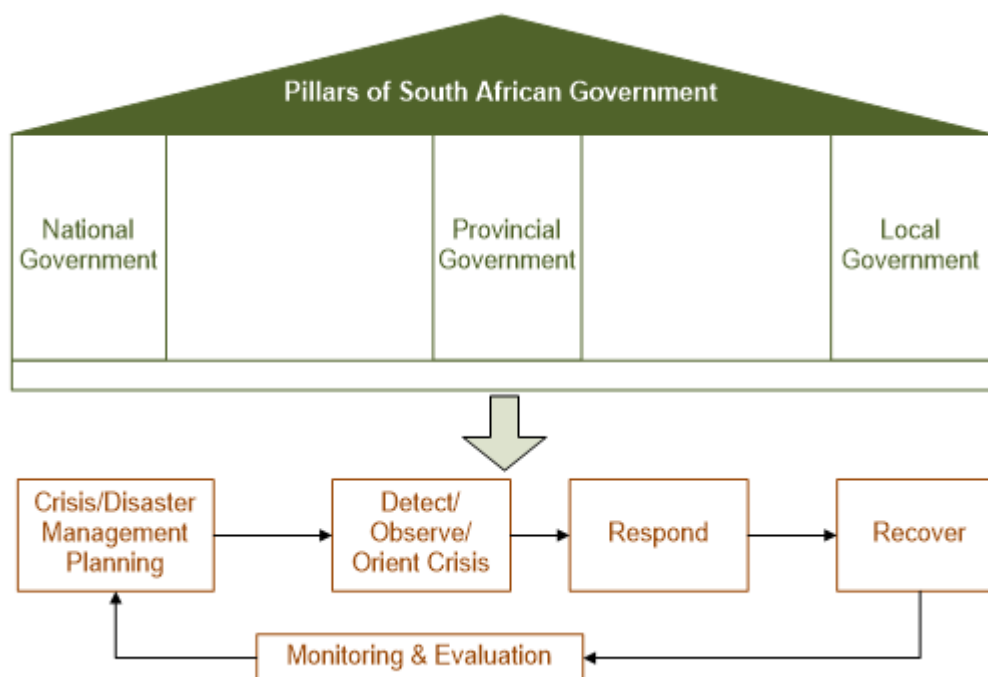
The national, provincial and local levels of government all have legislative and executive authority in their own spheres, and are defined in the South African Constitution as “distinctive, interdependent and interrelated”. Local government in South Africa consists of municipalities- Metropolitan and District municipalities. The largest metropolitan areas are governed by the metropolitan municipalities, while the rest of the country divided into district municipalities, each of which consists of several local municipalities. Within the local sphere of government exists the Department of Co-operative Governance and Traditional Affairs (CoGTA). This Department is responsible for performing oversight and control over sixty-one municipalities and two hundred and ninety-four Traditional Leaders and their institutions and includes the functional responsibility of public safety during crises and disasters. Figure 5.2.6 provides a graphical representation of the nature of the structure of the South African Government. The graphical representation forms the first aspect of the model development.

The next phase of the model combined crisis communications models together with generic disaster management models to create one model, incorporating all the requirements for effective communication during crisis and disasters. This is discussed further in Section 5.2.8.

5.2.8 Combination and adaption of Crisis & Disaster Management Model

Figure 5.2.7 illustrates the progression to the next aspect of the conceptual model. The local government sphere will house the adapted crisis /disaster management models.

Figure 5.2.7: Stage 2 of the Conceptual Model



The model is adapted from the crisis communications model by Everbridge (2009:4), the OODA model by Waltz (1998), the TPED model and the SHOR model by Wohl (1981)- discussed in detail in Section 2.8.5. The following elements of each of these models were selected: observe, orient and detect. An important element that was included into the model was the plan phase in Figure 5.2. The plan phase was adapted from the Plan- Do- Check- Act model contained within the ISO 27001 standards for improved business continuity which is deemed critical after a corporate crisis has occurred. The criteria for the incorporation of social media usage into the Plan- Do-Check-Act model are described in Table 5.2.

Table 5.2: The Criteria of the Plan- Do-Check-Act Model incorporating Social Media

Phase	Criteria
Plan	Establish Social Media policy, objectives, the processes and procedures which are relevant to the investigation of crisis situations through effective communications structures- all within government administrations and the public and/or private sectors
Do	Implement and operate the social media policies, control, processes and procedures
Check	Assess and where applicable measure process performance against social media policy, objectives and practical experience and report the results to management for review
Act	Refers to the corrective action that may be taken and recommend preventive actions depending on the findings of the internal social media audit and management review or other relevant information to achieve continual improvement of the social media policy.

Table 5.2 analyses and incorporates social media into the standard Plan-Do-Check-Act Model. The phases are presented together with the criteria for effective usage inclusive of social media. The key

theme that is evident in each stage of the Plan-Do-Check-Act Model is the incorporation of social media policies, clearly illustrating the need for social media usage and its governance as a control mechanism.

Table 5.3: Representation of the phases of a Crisis Communications Model

	Plan	Warning	Assess	Respond	Manage	Resolve
Communications purpose	Awareness: Communicate the plan	Observation of indicators and detection of potential crisis	Gathering of information	Communicate a response/ Dissemination	Collaborate	Collaborate
Government Requirements				Monitoring & Evaluation		
Factors	Cost, local reach, global reach, capability of infrastructure, speed of transmission	Security, Privacy, Accuracy of information received	Accuracy of information received, privacy, consistency	Local reach, Global Reach, Accuracy of information sent	Open access, consistency, lack of control, cost	Cost, local reach, global reach

Table 5.3 represents the elements and their characteristics and requirements that were needed for effective communication in a South African context. The phases of a crisis communication model are plan, warning, assess, respond, manage and resolve. The purpose of communication is included in each of the stages of crisis communication. The only government requirement appears to be monitoring and evaluation which is focused in just the last three stages of the crisis communications model. The influencing factors for each stage in the crisis communications model has also been included. Cost and reach (local and global) are recurring factors.

Figure 5.2 is representative of the flow from the three spheres of the South African government into the next model. The second aspect of the model depicts the process from the implementation of the crisis plan incorporating crisis and disaster management planning to the detect/observe and orient aspects - here an observation is made with regard to a crisis or disaster, the respond phase follows to disseminate information, followed by the recovery of the public or private organisation. This then lends itself to the feedback loop (adapted from the OODA model) and the monitoring and evaluation aspect before reporting back to the initial crisis and disaster planning.

In South Africa, the Institutional Performance Monitoring and Evaluation (IPME) body is responsible for the monitoring of the quality of management practices in government departments through the Management Performance Assessment Tool (MPAT), which should similarly be established in Figure 5.2. It becomes the responsibility of the Institutional Performance Monitoring and Evaluation for the design and implementation of engaging service delivery monitoring activities in cooperation of offices of the Premier for the creation and support of citizens-based monitoring systems.

5.2.9 The Conceptual Model

The first two parts to the conceptual model has been discussed in Sections 5.2.1 and 5.2.2. The final part of the model was developed from the original Cox Model for communications. The model depicts the process from the crisis and disaster planning phase incorporating social media as a communications tool, the phenomenon is considered to be the crisis or disaster that occurs, resulting in the sender receiving the message. The sender may include the government, public or private entities. The sender then disseminates the information or content through the social media, which in this case is the medium for communication to the audience, stakeholders and the public. The external influencers which have been included from the occurrence of the phenomenon to the audience, stakeholders and public is an aspect that needed to be considered and included family, friends, groups and other forms of media commentary. The audience would react depending on the message, providing feedback to the initial crisis and disaster management plan. This would be monitored once more through the social media. The two aspects that form the bottom of the conceptual model and which were important considerations in the development of the conceptual model were the factors influencing social media adoption, and the crisis communications best practices. Section 5.2.9.1 provides case studies that illustrate some important elements of the conceptual model.

5.2.9.1 Case Studies Contributing to the Development of the Conceptual Model

Case One: The M1 Bridge Collapse and Murray and Roberts

On October 14, 2015, a pedestrian bridge over the M1 highway in Johannesburg, South Africa collapsed killing at least two people and injuring dozens. Figure 5.3 illustrates some of the carnage of the collapse.

Figure 5.2.8: Images illustrating the impact of the crisis



Source: Zororo (2016)

Whilst the public reacted on Twitter, the Mayor of Johannesburg who held numerous Twitter accounts at the time failed to communicate with the public during this crisis from any of them. However, the City of Johannesburg did communicate and update citizens on the details of the bridge collapse through Twitter. The company that was responsible for the construction of the bridge Murray and Roberts had no official Twitter account nor any Facebook page, making communication in such a crisis extremely difficult (Claasen, 2015). Murray and Roberts stance on the use of social media was that the company had to ensure the content was verified prior to the dissemination of information to the public even though they maintained that social media was a useful tool in communications. Whilst Murray and Roberts followed a crisis management plan – it failed to include any social media platforms as a means of communication, which may have done some damage to the overall image of the company. This case study was of particular interest when developing the conceptual model. This particular case identified the gaps, and factors of using social media, thereby establishing the need for inclusion of social media in an organisation's or government's crisis management plan.

Case Two: Egypt Air Hijacking

On March 29, 2016, Flight MS 181 of Egypt Air was hijacked. The flight was from Alexandria bound for Cairo. The hijacker demanded that Egypt Air MS181 divert to Cyprus, Greece. Rather than waiting for the news crew to arrive at an already tense situation, Egypt Air opted to consult their social media team. Egypt Air then utilised social media platforms Facebook and Twitter to communicate to all involved in the crisis. Egypt Air's decision to use social media over traditional media included the fact that social media had a further reach, it was interactive and has a quick response time which were described as the key elements to controlling the crisis. By using social media platforms of Twitter and Facebook themselves, the effects of rumours about the crisis had been negated. This further, ensured, that Egypt Air's official social media sites were regarded the main trusted source of information (Anonymous 2, 2016). Figure 5.4 illustrates Egypt Air's original Tweet on the hijacking.

Figure 5.2.9: Tweet by Egypt Air



Figure 5.2.10 is an infographic of the timeline of the hijacking of Egypt Air. As illustrated both Egypt Air's social media accounts of Twitter and Facebook disclosed information about the crisis before the actual press release. The handling of the crisis was organised and well planned with quick responses to all involved.

Figure 5.2.10: Infographic Timeline illustrating the sequence of events



Source: Egypt Air (2016)

As may be illustrated by the Egypt Air case study, stage 3 in the conceptual model, Figure 5.2.11 can be applied to the case study. As stated in the case study, Egypt Air already incorporated a social media team into their planning. The hijacking of MS181 on March 29, 2016 occurred instituting the phenomenon (the crisis), the external influencers can be regarded as the rumours which if not handled as quickly might have resulted in damages, Egypt Air acted as the Sender, using social media platforms of Twitter and Facebook as illustrated in Figure 5.5 to communicate with its stakeholders and the public as evidenced in Figure 5.4, the audience reacted in support of Egypt Air and thanked them for relaying the progress of the crisis. Egypt Air continued to monitor the crisis and the comments posted through social media, to resolve any concerns of the public.

Figure 5.2.11: Stage 3 of the Conceptual Model

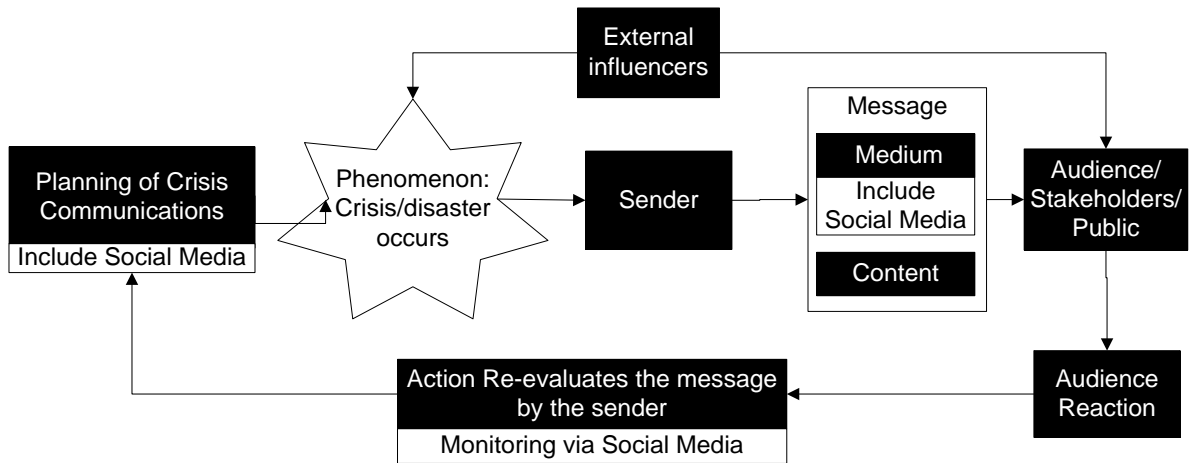
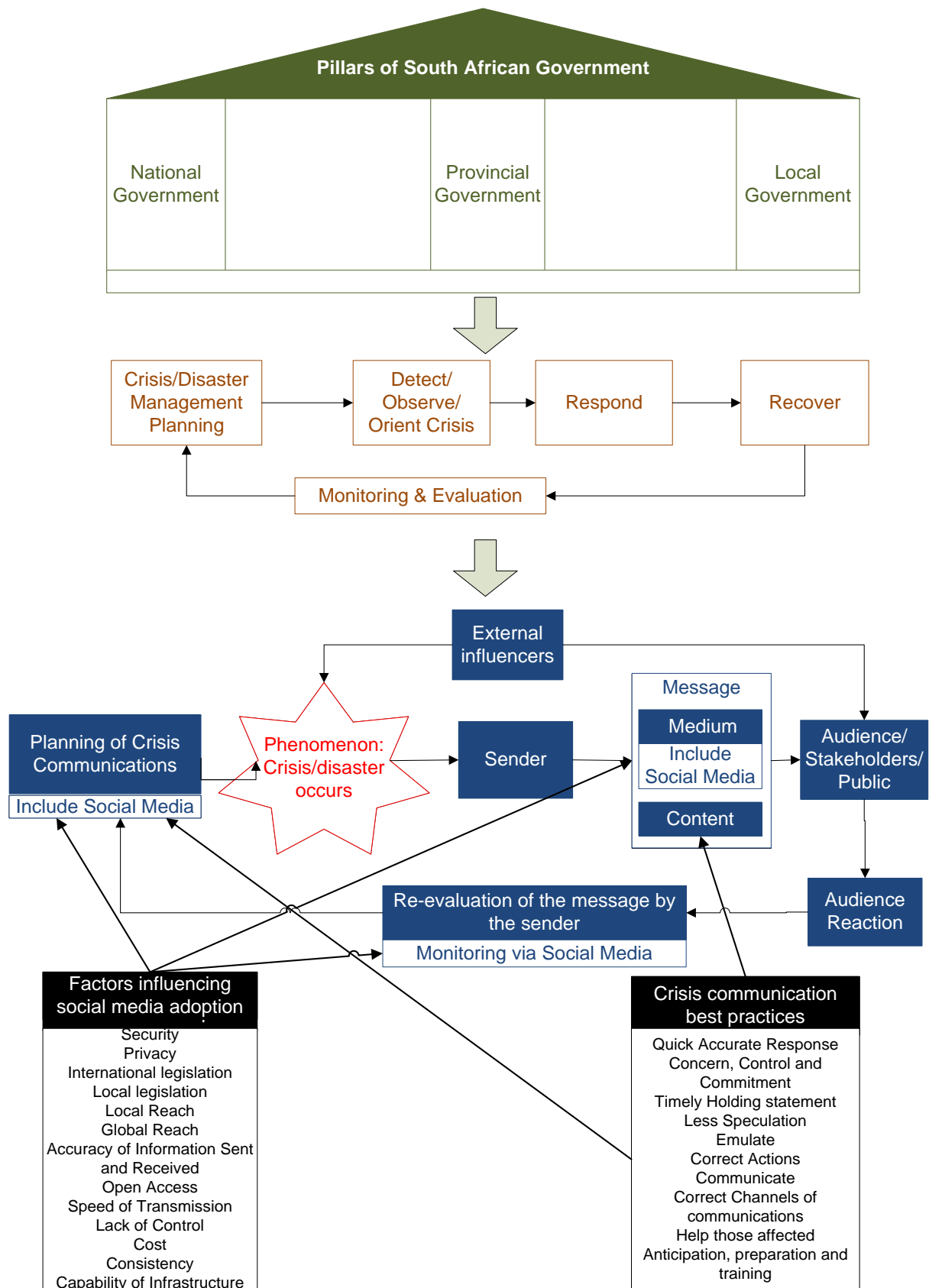


Figure 5.3 is the completed conceptual model, taking into consideration the various factors and governing frameworks that influence the use of social media in a crisis or disaster.

Figure 5.3: The Conceptual Model



Source: Author Developed

The elements that were perceived to be the most influential factors in the use of social media adoption and implementation during crisis and disaster by the respondents to the study included open access, lack of control, privacy, security, speed of transmission, accuracy of information (sent and received), consistency, cost, infrastructure capability, reach (local and global), legislation (local and international). With reference to the elements proposed by Denning (1999:37), security is the most prevalent as it encompasses the other elements of “integrity of information, confidentiality and availability of information as well as non-repudiation”. The elements of “consistency, accuracy, completeness, validity, integrity, timeliness, and relevancy” were proposed by Laudon and Laudon (2013:26). By combining Laudon and Laudon’s elements together with that of Denning resulted in: completeness, consistency, accuracy, relevancy and validity affect integrity, while availability is affected by timeliness which would align to the definition of good corporate governance as when communicating with relevant stakeholders. This in some aspects but not as a whole can be governed by the “Promotion of Access of Information Act (2000)”. Confidentiality falls under the ambit of the right to privacy as premised for by the “South African Constitution of 1996”.

It is pertinent to consider that as a requirement of effective crisis communication, the timeliness and accuracy of information is of vital importance. Poor integrity of information can ultimately result in poor decision-making, which would in causing more harm during a crisis. This however, does result in a complicated situation as an individuals and organisations” basic rights including the right to privacy must be protected, therefore it is imperative for confidentiality to be maintained while promoting the right to life. Furthermore consistency within crisis communication is a requirement to uphold credibility. While social media usage in a crisis can prove important with relation to the aspects or elements of timeliness and availability due caution is required as to ensure that the legitimacy (i.e. accuracy, openness and transparency) and confidentiality of the information is upheld to avoid any conflict with any other legislation in place. Any organisation either public or private would have an added advantage with the ability to access information from any geographical location. This technology enables instantaneous real-time communication for people going beyond geographical boundaries, at home or travelling from one location to the next. Timeliness of information remains a vital component in relation to the fast paced ever evolving nature of some crises (Ramluckan, 2016a). It was therefore necessary to consider the combination of all these factors for effective communications decision-making, therefore as part of the study, these had to be considered under the ambit of the conceptual model. These factors applied to three areas of the conceptual model which were the planning of crisis communications, the message being sent containing the pertinent content, and the monitoring of the re-evaluation of the message by the sender. Together with the factors, the principles of effective crisis communication as discussed in Section 5.2.9 were also applied.

5.2.9.2 *The Principles of Effective Crisis Communication*

The principles of effective communication were proposed by the Business Continuity Institute (2015). These best practice principles play an important role in both the “Plan” phase and in the Monitoring and Evaluation phase of the conceptual model. The principles were summarised as follows:

- Principle 1: Communicate accurately and speedily: should you fail to do so, others will
- Principle 2: Concern, Control and Commitment: In all communication, demonstrate the 3Cs: Concern for people and /or the environment impacted; Control of the situation; Commitment to finding out what happened and to do everything possible to ensure it wouldn't happen again
- Principle 3: Never deny a crisis. The Minister of Higher Education in South Africa, denied that the state of higher education was a crisis.
- Principle 4: Restrict Speculation. Facts are more important than opinions.
- Principle 5: Demonstrate a sense of empathy to those affected by the crisis.
- Principle 6: Be seen to take the right actions. It's about what you do, not just what you say.
- Principle 7: Remember to communicate with all stakeholders including the employees
- Principle 8: Use the right channels to communicate to the stakeholders. Ensure the most suitable and effective internal and external channels are used to communicate with different audience segment including social media
- Principle 9: Being seen to help people affected is not an admission of liability provided the right words are used.
- Principle 10: Anticipation, preparation and training are the keys to successful crisis management. It's imperative to think strategically and ahead of the crisis.

These principles form the key basis for effective crisis communication. Section 5.2.9.3 illustrates the repercussions of not following best practice principles for effective crisis communication.

5.2.9.3 *Case Study on the Principles of Effective Crisis Communication*

In October 2015, South African Universities came to a standstill, when students embarked on a nationwide protest. The protests were in reaction to the proposed yearly fee increases, with students demanding free higher education. The campaign went viral on social media, predominantly twitter and became known globally as the #Feesmustfall Campaign. Whilst students turned to twitter for varying reasons which included the mobilisation of students to the protests to just keeping the public informed, the South African government refrained from implementing a dedicated social media site.

Furthermore, the protests spiralled out of control when the Minister of Higher Education Blade Nzimande, denied that there is a crisis in South African higher education. This is in direct contradiction of Principle 3 of effective crisis communication. In a media interview the Minister, in a manner of just, stated that he ought to start a twitter campaign called #Studentsmustfall (Ramluckan *et al*, in

press). This statement again went against Principle 5, which states that it's always best to portray a sense of empathy towards aggrieved party or as in this case the disgruntled student population. By making these common mistakes, mishandling of the crisis just exasperated the already volatile situation.

5.3 Chapter Summary

The chapter presented the conceptual model and discussed the various models that applied to the study. The models include the description of the three spheres that constitute the South African government, of which local government housed the department of the Cooperative and Traditional affairs responsible for crisis and disaster management. The next phase of the model incorporated an adapted combination of the crisis communications and disaster management models. Finally the entire model was completed by incorporating aspects proposed in Tables 5.1 and 5.2. The models that were consulted for the development of the conceptual model were the Technology Acceptance Model (TAM), and the Task Technology Fit Model (TTF). These models were further developed by adapting the Cox Communications Model, taking into consideration the external influencers and the factors and best practices recommended for effective communication during a crisis and disaster. The next chapter discusses the authoritative documents that apply to social media usage.

CHAPTER 6 AUTHORITY DOCUMENT ANALYSIS

6.1 Introduction

This chapter analyses the various authoritative documents that apply in some context to social media usage. It is important to analyse the existing legislative frameworks and policies in place for the effective use of social media, especially in times of crises. A previous version of a journal article forms part of Section 6.2 which analyses the authoritative documents within a South African context. Section 6.3 forms a discussion on the South African National Standards for disaster management followed by Section 6.4, which analyses and discusses the international organisational social media policies. The chapter is summarised in Section 6.5.

6.2 Authoritative Document Analysis

This Section addresses, analyses and discusses the various authoritative documents in the context of their relevance and applicability to the governance of social media usage in South Africa, in crises and disasters. The documents that are discussed are as follows:

- The Constitution of the Republic of South Africa, 1996;
- The Electronic Communications and Transactions Act, No 25 of 2002;
- The Disaster Management Act No.57 of 2002;
- The Protection of Personal Information Act 4 of 2013;
- The Protection Against Harassment Act;
- The Regulation of Interception of Communications and Provision of Communication-Related Information Act of 2002 (RICA)
- The Batho Pele Principles;
- The South African Electronic Government (e-Government) Policy;
- The King III and IV;
- The Cyber Security Bill;
- The Film Publication Board Bill; and
- The National Evaluation Policy Framework of 2011 for Monitoring and evaluation

6.2.1 Constitution of South Africa Act 108 (1996)

Firstly, the Constitution of South Africa (1996) needed to be analysed in terms of Chapter 1, Sections 1, 14, and 16 in conjunction with the Batho Pele Principles, meaning people first—a concept developed with the intention of transformation in the public sector. Constitution of South Africa (1996) Section 1 of the Constitution was designed to ensure accountability, responsiveness, and openness by a democratic government. Section 1, together with the King III, report is relevant in regard to the aforementioned accountability, responsiveness, and openness to some corporate crises. Organisations must be accountable for their actions; due to the nature of their business, their main

clientele remains the general population and surrounding communities—and social media is the ideal tool with which to communicate to the relevant stakeholders. Section 14 of the Constitution is imperative as it establishes the right to privacy; however, social media does, to an extent, infringe on this right especially with regard to public figures.

Although social media does promote freedom of expression, in cases where a crisis revolves around a specific individual, it should ensure that his or her right to privacy is upheld. Section 16 protects the freedom of expression but limits hate speech; however, this has created some complications with the use of social media. For example, Woolworths had removed racist comments from their webpage, but members of the public felt that their right to freedom of expression was being censored, which aggravated the already tense situation (Paradigm Alpha 2012). This is rather difficult to manage as, legally, Woolworths did have the right to remove comments it felt were offensive.

6.2.2 The Batho Pele Principles

The Batho Pele Principles is a South African governance initiative meaning “people first” in Sotho. It promotes the better delivery of goods and services to the South African public. Batho Pele consists of eight principles nationally, which include consultation, the setting service standards, increase in access, to ensure courtesy, information sharing, openness and transparency, redress and value for money (Government Gazette, 1997).

The Batho Pele principles are not legislation, but they are considered a relevant and collaborative framework for good service delivery and governance.

6.2.3 King III and IV Report

Information and technology governance is believed to define the decisions and the involvement of stakeholders, as well as the structures, processes, and responsibilities required to make relevant decisions. Such governance also involves building the right capacity in order to achieve the perfect alignment; the management and mitigation of risks; the ability to enable change; and the ultimate delivery of accurate and relevant information and technology services, thereby managing the service cost. The end goal of Information and Technology (IT) governance involves the development of rules and the capabilities to run IT and create stakeholder value.

The King III report was created on the premise of “good corporate governance” and can be used in conjunction with the Constitution of South Africa in terms of accountability and transparency in relation to the dissemination of information through social media. According to the Institute of Directors in Southern Africa (IoDS 2013), the governance of corporations can be regarded as being either on a legal statutory basis or as a code of principles and practices—or a combination of the two. This was evident when the U.S. chose to marshal a large part of its corporate governance structure in an act of Congress which became known as the Sarbanes-Oxley Act (SOX). This statutory

regime quickly became known as ‘comply or else’ legislation. This piece of legislation meant that companies had a framework to comply with, which meant that the ethical principles within companies must be upheld. The Act promoted a sense of ‘trust’ between the stakeholders within any company by promoting openness and transparency. Similarly, in a South African context, the King report was created, originating from the Companies Act. The King III Report is intended to establish the accountability framework within various organisations.

King IV came into effect on November 1, 2016 and while the precepts of the King IV remain relatively similar to King III, it has received much criticism for being oversimplified. Since King IV was very recently brought into practice, an analysis was not conducted or considered.

Governance occurs at the strategic, tactical, and operational levels through the allocation of a decision-making body, with accountability as the end goal in order to encourage desirable behaviour with respect to the use of IT. An accountability framework is the first step toward clarifying the allocation of responsibilities across a number of roles. Current role descriptions are formulated which list the key tasks that underpin the IT services provided, using the COBIT and ITIL process models as a reference. This allows for any duplication to be removed and for gaps to be closed.

6.2.4 The Electronic Communications and Transactions Act 25 of 2002

The ECTA is designed to act as a guideline or framework toward the responsible use of social media, but does not explicitly refer to social media. The ECT Act became law in August of 2002 and was created to maximize the benefits that the Internet provides by promoting universal access in under-serviced areas and ensuring that special needs of particular communities are taken into account. Furthermore, the Act provides a framework to establish a formal structure to define, develop, regulate, and govern e-commerce and e-government in South Africa.

6.2.5 The South African e-Government Policy

The South African e-Government Policy was drafted for the purpose of two-way transactions using Information and Communications Technologies between public administrators, citizens, and the private sector, but was never formally implemented. Gruen (2009) discussed the concept of Government 2.0 and its relevance within any democratic nation. According to him, the concept of Government 2.0 involves a shift to the creation of openness and transparency in the public arena. This enables government- citizen engagement and allows for the sharing of “non-sensitive, public-sector information”. Government 2.0 was designed to empower citizens and public servants alike to directly collaborate in their own governance by controlling and effectively using the opportunities afforded to them by technology.

6.2.6 The South African Local Government Association (SALGA)

With reference to the South African Local Government Association Information Communication According to SALGAs Information and Communications Technologies Implementation Guide (Peet, 2012) the link between what is termed good governance and Information and Communications Technology is explained under Section 3.1. “Good Corporate Governance”

Section 3.1 of SALGA provides an in-depth purpose and definition of governance. Section 3.1 proposes the inclusion of both internal and external control mechanisms and provides guidance for the strategic direction of the organisation. This Section states that the executive leadership and management of any organisation are responsible for the implementation of an efficient governance system. This then also implies that the leadership and management are accountable for the shortcoming of the system. With reference to the King III Report on Governance, the concept “good governance is essentially about effective leadership”. It becomes the responsibility of the leaders in government and the public administrators to ensure the achievement of sustainable social and economic stability.

Section 3.2 of SALGA pertains to corporate governance in relation to Information and Communications Technology Governance and premises for “a critical” dependency on the proper governance of Information and Communications Technologies.

Section 6.3 discusses the importance of Information and Communications Technologies governance in the local government sector states that the effective management of “information, information systems and communications is of critical importance to the success of the Public Sector”, more especially the local government sphere as, “the potential for technologies to enable the transformation of enterprises and business practices” is immense.

Peet (2012:46) further states that with the advancements in technology as well as the increased adoption rates of Information and Communications Technologies, it would cost municipalities more to do nothing than to adopt and implement these technologies. However, along with these technologies it is imperative that proper governance of them are implemented. The failure to “adopt these innovations” can result in security issues, operational outages and failed projects. With the adoption of ICTs comes an increase in the tangible benefits that ICTs brings with it.

Section 4 addresses the corporate governance of Information and Communications Technologies within the Municipal Structures and Layers and their roles in exercising both legislative and executive functions. The purpose of the framework is to facilitate what can be termed “interactive governance” between elected representatives, the executive and the administration. This framework would help foster good relations and promote vibrancy within the municipalities ultimately leading to better

service delivery making Information and Communications Technologies governance the responsibility of both the political and executive management.

6.2.7 National Evaluation Policy Framework of 2011

The Department of Monitoring and Evaluation's (DPME) Policy Framework (2011) provides a guideline as to the principles that are regarded as important for the practice of monitoring and evaluation. These practices should be development-oriented and should address the key development priorities of government and of citizens which should include the ideals of ethics and integrity, promotes government's *transparency and accountability, participatory and is all inclusive*.

Given that monitoring and evaluation has been accelerated as a renewed focus in the Office of the Presidency and in government departments, the use of social media as a strategic communications tool calls for monitoring and evaluation to be in place in ensuring the accuracy of information being disseminated in times of crisis.

6.2.8 The Disaster Management Act No. 57 of 2002

The Disaster Management Act No. 57 of 2002 was passed in 2003. The Disaster Management Act provided for an integrated and coordinated disaster risk-management policy to mitigate the severity of disasters and to promote the preparedness for, and rapid and effective response to disasters. The Act also promoted for the establishment of national, provincial, and municipal disaster-management centres and disaster risk-management volunteers. The Act does not specify the use of social media technologies.

6.2.9 The Protection of Personal Information Act 4 of 2013 (POPI)

In 2009, the South African government drafted what was to become known as the POPI Act. The Act was published in the Government Gazette in November 2013 and ensures that the privacy of South Africans is to be protected. POPI applies to all South Africans processing personal information including employees, companies, and individuals and was created to establish the methods used in the collection and dissemination of information, regulates the flow of information across South African borders; and mandates the rights for all South Africans receiving unsolicited information or communications.

6.2.10 Regulation of Interception of Communications and Provision of Communication-Related Information Act, 2002 (RICA)

RICA was developed to control the interception of communications, including the monitoring of radio signals and radio frequencies, and the provision of communication-related information concerning indirect communication in the records of telecommunication service providers.

According to the Government Gazette (2003), the Regulation on Interception Act 2002 (RICA) is responsible for the regulation of all applications for the interception of communications as well as for all related information pertaining to communication depending on the circumstance. RICA has the function to limit or control law enforcement in communication interception, allows for the prohibition of telecommunication services (which don't contain the ability to be intercepted) and premise for telecommunications service providers to store all communications related information (CRI). RICA also provides an input as to costs relating to the interception of communications for which the telecommunications service providers will obtain compensation.

RICA further permits for the creation of interception centres as well as funding. Lastly, it prohibits the “manufacturing, assembling, possessing, selling, purchasing, or advertising of interception equipment without a certificate of exemption issued by the relevant Minister.”

6.2.11 The Protection against Harassment Act of 2013 (Amendment)

On April 12, 2013, the Protection from Harassment Act (Act no. 17 of 2011) incorporated a proclamation which provided for the issuing of protection orders against harassment which offered victims of harassment with a remedy against harassment of any kind. The proclamation was made official by the President of South Africa as published in the Government Gazette, whereby 27 April 2013 became the date on which the Act took effect.

The inclusion of the addendum to the original act means that it is now a requirement for all network service providers to engage with law enforcement by providing the personal details of offenders. This includes providing access to all personal information provided by a user when registering a SIM card. This is a requirement of the “Regulation of Interception of Communications and Provision of Communication-Related Information Act” (RICA). By this, it means that victims of malicious or messages sent via SMS or posted on social media sites have some recourse in terms of the South African legal system.

6.2.12 The Cyber Crimes and Cyber Security Bill

The “South African Cybercrimes and Cybersecurity Bill “elaborates on specific sections in the “Electronic Communications and Transactions Act, 2002” (ECT Act). In addition the Bill is inclusive of twenty new cybercrime offences. This illustrates the extent to which technology is being used for unlawful purposes and the need to protect personal identities online.

The Cyber Crimes and Cyber Security Bill in summary stipulates the various penalties concerning usage of software, hardware as well as all computer systems that may be used the commit offences in the Republic of South Africa. Criminal activities that the Bill refers to include the accessing of darknet sites, phishing and pharming scams and gaining access to a system through unlawful means. The Bill also focuses on penalties for extortion and espionage done through online means. A case in point from

the South African perspective is the recent spate of ransomware that has been plaguing many companies. Another example relates to the case of Ashley Madison in the US where the organisations website was unlawfully hacked and all the personal details of its clients were released after Ashley Madison refused to have the website shut down. This led to millions of dollars in lawsuits pertaining to the perceived invasion of privacy. The Cyber Crimes and Cyber Security Bill prohibits the online posting of hate speech, discrimination and violence. The harbouring of a criminal is also considered an offence under the Bill.

6.2.13 The Film Publication Board Bill

Section 4A of the Film Publication Board Bill provides the council with the authority to issue certain directives on the application in collaboration of the stipulated guidelines and with the cooperation of the Minister. Thus as of October 16, 2013 the Council reached a decision to enact an Online Regulation policy. The Bill would take on the responsibilities in the issuing of directives or instructions on the Board's regulations and classifications on the distribution of all online content within and affecting South Africa. The Bill further was further developed to ensure the safety of children from disturbing and harmful content online, including harmful and disturbing content on social media and mobile platforms.

The main purpose of the Bill is designed to focus on the aspects of monitoring and compliance of the media and not so focused on other technology platforms. This to some extent leads to the mitigation of crisis caused by the influence of content posted on social media.

6.2.14 Discussion

As part of the study a matrix was developed to analyse the 13 legislative frameworks. The findings are discussed in detail after the presentation of the matrix.

Table 6.1, illustrates a brief analysis as to each law and governing framework in comparison to the characteristics of information quality described by Denning (1999:37) and later on by Laudon and Laudon (2013:26). The table was coded for the purpose of easy readability and understanding.

The applicability of the factor by each legislative framework is coded as follows:

- 2= EP= Expressively Provisioned, meaning clearly mandated by the legislative framework
- 1= IP = Indirectly Provisioned, meaning given consideration but not clearly mandated by the legislative framework
- 0= NP= Not Provisioned, meaning not mandated by the legislative framework

Table 6.1: Analysis Matrix for South African Legislative Frameworks

Legislation and Governing Frameworks	Factors										
	Confidentiality	Integrity	Availability	Non-Repudiation	Consistency	Timeliness	Completeness	Accuracy	Crisis Communications	Social Media	Total
Constitution of South Africa Act 108 (1996)	2	1	2	1	0	0	0	2	0	0	8
The Batho Pele Principles	0	0	2	0	0	1	0	0	0	0	3
The Electronic Communications and Transactions Act No 25 of 2002	2	2	1	2	1	0	0	0	0	0	8
The South African e-Government Policy	0	0	0	0	0	0	0	0	0	0	0
The Disaster Management Act No.57 of 2002	0	2	2	0	0	2	0	2	0	0	8
King III Code	2	2	1	0	0	0	1	2	0	0	8
Protection of Personal Information Act 4 of 2013	0	2	2	1	0	0	0	1	0	0	6
Monitoring and Evaluation: National Evaluation Policy Framework of 2011	0	2	2	0	0	2	0	2	0	0	8
Regulation of Interception of Communications and Provision of Communication-Related Information Act, 2002 (RICA)	1	2	2	2	0	0	0	2	0	0	9
The Cybersecurity Bill	2	2	2	0	0	0	0	0	0	0	6
The Film Publication Board Bill	0	2	2	0	2	0	0	2	0	1	9
The Protection against Harassment Act of 2013	0	0	0	0	0	0	0	0	0	0	0
The Promotion of Access to information Act of 2000 (PAIA)	2	0	0	0	0	0	0	0	0	0	2
Total	11	17	18	6	3	5	1	13	0	1	

The analysis revealed that for the characteristics proposed by Denning (1999:37) and later on by Laudon and Laudon (2013:26), one framework mandated the use of social media to a minimal extent – focusing on the content being posted on social media sites. Although it doesn't provide guidance in terms of social media usage, it does contain a mitigating element in what may be deemed a crisis situation or rather preventing a crisis from occurring due to harmful influencing content. None of the frameworks mandate the use of social media, and as stated by Bowman Gilfillan (2015), "Social Media is an underdeveloped area of law". From Table 6.1 it was revealed that the most important factor addressed by the various legislation and governing frameworks was availability with a tally of 18 followed by privacy /integrity with a tally of 17 while the most governing legislation were Regulation

of Interception of Communications and Provision of Communication-Related Information Act, 2002 (RICA) and The Film Publication Board Bill each with a tally of 9.

Completeness of information is limited to just the King III code, which is implied but not expressly stated. Inevitably, incomplete information is inaccurate information. Confidentiality corresponds to the right to privacy as outlined by the constitution. And although (S) 14 of the Bill of Rights in the South African Constitution of 1996 expressly provides that “everyone has a right to privacy, which includes the right not to have (S) 14 (d) the privacy of their communications infringed”, various other provisions in the Bill of Rights indirectly imply a right to safety and security. If citizens have a right to security, it creates a corresponding duty for the State to protect its citizens, which would implicitly override the general right to privacy as a means of ‘safety first’. Chapter 11 of the Constitution of 1996 governs this duty and authorizes the Police, Defence Force, and Intelligence Agencies to assist the state in its security obligations.

Parliament, therefore, attempted to balance these two conflicting rights by providing for judicial oversight and by limiting interception only to those cases where a serious crime is involved. Accuracy and timeliness correspond to good corporate governance when communicating to stakeholders, and this is in part governed by the PAIA; POPI (2013); and the King III Code, which promotes openness and transparency between organisations and their stakeholders.

The “Batho Pele Principles” 1, 2, 3, 4, 5, and 8 may apply to the use of social media; however, Principles 4, 5, and 6 are of specific interest as they promote the access of information to the public sector, as well as the right to be informed, and requests that there be openness and transparency, which would incorporate the legislative frameworks mentioned herein. On paper, social media incorporates all the good principles of Batho Pele; however, the use of social media must contain accurate and timely information in such occurrences.

Although POPI (Cerebra, 2015) was established to protect the privacy rights of all South Africans, it cannot protect any individual should he or she choose to divulge information about him or herself through social media platforms. Social media is about fast, interactive communications, and the public sector would do well in making relevant use of the eGovernment policy in times of crisis. The Obama administration’s use of social media, for instance, continued beyond his campaigning towards openness and transparency in government. While more democratic governments are conforming to the use of social media in their administrations, some Asian governments remain sceptical as to the perceived usefulness of this phenomenon (Jaeger & Bertot 2010).

The Disaster Management Act No. 57 of 2002, makes provision for the emergency response preparedness and may apply as a guideline for the use of social media during a crisis. The enabling

feature of the Act is the recognition that disaster-risk reduction cannot be done solely by government and requires cooperation and collaboration on the part of all spheres of government. Social media may serve as the ideal collaboration tool between the government, its citizens, and the private sector.

The Disaster Management Act further acknowledges the involvement different role players, which creates the challenge in maintaining consistency. The Act provisions for the creation of a “national disaster-management framework” providing for a coherent, transparent, and inclusive policy on disaster-risk-management for South Africa.

The National Evaluation Policy Framework of 2011 and the Regulation of Interception of Communications and Provision of Communication-Related Information Act of 2002 (RICA) directly affect each other: whilst monitoring and evaluation are important for the protection of information, RICA provides for the legal interception of information and does not expressly provide the right to privacy.

The Electronic Communications and Technology Act can be described as an enabling piece of legislation because it provides functional equivalents for paper-based concepts. The Electronic Communications and Technology Act is considered to be a wide piece of legislation which attempts to neutralise issues or challenges outside the ambit of the ECT Act (inclusive of domain names and the liability of public service providers). To a large extent the ECT Act attempts to provision for “legal certainty” e.g. the formation of contracts.

The e-Government Policy was never formalised, but, according to Gruen (2009), it could form a basis for good strategic communication between the government and its relevant stakeholders, especially during crises and disasters.

The South African Cybercrimes and Cybersecurity Bill follows on the foundations of the South African Constitution with reference to the prohibition of hate speech and violence. A mentioned earlier Section 16 of the Constitution of 1996 provides for the freedom of expression but without hate speech or incitement of violence. This is an important element of the Bill, as the constitution provides for the rights of the citizens of South Africa, while the South African Cybercrimes and Cybersecurity delegates the penalties for supposed posting of hate speech and incitement of violence online. With the recent spate of racial controversies that has inundated social media in South Africa, the constitution was the delegating legislation used for prosecution of the guilty parties, leading to the fining of guilty parties up to R150 000 as it was said to constitute hate speech. The South African Cybercrimes and Cybersecurity Bill could not be used as a point of reference as it is a “draft law” (Anonymous1, 2016).

From an analysis of the various pertinent legislation, the one that accommodated to some extent or referred to social media usage was that of the Film Publication Board Bill. According to Bowman

Gilfillan (2013) social media is an underdeveloped area of law and it remains uncertain as to how our courts will deal with issues arising out of Social Media usage. As per the statement by Bowman Gilfillan (2013), a need has been identified for the development of a social media legislation. Table 6.2 was created as a guideline of the Chapters, Sections and Parts that may be relevant for the development of a possible social media legislation for South Africa.

Table 6.2: Sections of Legislative Frameworks Applicable for Development

Legislative Framework	Relevant Section to Crisis Communication	Relevant Section to Social Media
Constitution of South Africa Act 108 (1996)	S 14, S 11 (d)	S 16
The Batho Pele Principles	Principles 4, 5 & 6	Principle 3 & 6
The Electronic Communications and Transactions Act No 25 of 2002	Chapter 13	Chapters 2, 4 & 13
The South African e-Government Policy	-	-
The Disaster Management Act No.57 of 2002	S 1	S 1
King III Code	S 1	S 1
Protection of Personal Information Act 4 of 2013	Chapter 1 S2	-
Monitoring and Evaluation: National Evaluation Policy Framework of 2011	-	Part C S 8, S 6
Regulation of Interception of Communications and Provision of Communication-Related Information Act, 2002 (RICA)	S 2, 10, 11, 62	Chapter 7 S 40
The Cyber Crimes & Cybersecurity Bill	Chapter 2 S 17	Chapter 2 S 8, Chapter 3
The Film Publication Board Bill	-	S 4 A
The Protection against Harassment Act of 2013	-	S 4

6.3 Best Practice Standards for the use of Social Media in Crisis Communications

This section analyses and discusses the ISO/ IEC SANS (South African National Standards) for Business Continuity Management in Disaster Management and CobiT. In addition to the ISO/ IEC SANS (South African National Standards) for Business Continuity Management in Disaster Management and CobiT, the ISACA Crisis Management Audit and Assurance Program and the Social Media Audit/Assurance Program is discussed and analysed through the generation of word clouds.

6.3.1 The South African National Standards

As part of the document analysis, a total of 9 ISO/IEC standards were analysed by the title of the documents. These were selected by using key words and themes which were social media, disaster management, and crisis communication. It became evident from using the key words and themes, that none of these standards were specifically dedicated to the use of social media in business continuity management. The documents that were analysed included:

- South African National Standard (SANS 10264-1:2009): Disaster management Part 1

- South African National Standard (SANS 10264-2:2009): Disaster management Part 2: All-risk emergency operation planning
- South African National Standard (SANS 10264-3:2009): Disaster management Part 3: Hazard-specific response planning
- South African National Standard (SANS 22301:2012): Societal security — Business continuity management systems — Requirements
- South African National Standard (SANS 22313:2014): Societal security — Business continuity management systems — Guidance
- South African National Standard (SANS 22320:2011) : Societal security — Emergency management — Requirements for incident response
- South African National Standard (SANS 22398:2014): Societal security — Guidelines for exercises
- South African National Standard (SANS 24762: 2008): Information Technology – Security techniques- Guidelines for information and communications technology disaster recovery services
- South African National Standard (SANS 27031:2012) : Information technology — Security techniques — Guidelines for information and communication technology readiness for business continuity

From a total of 9 Standards, just one Standard SANS 22313:2014, mandates the use of social media. Under (S) (8.4.4.3.2) Communications procedures it clearly states:

“Use all communications channels open to the organisation including social media.”

To a small extent the use of social media has been given some recognition as a possible communications toll in crisis communications and disaster management.

The SANS 10264-2:2009, (S) (5.2.3) Identification of communication needs, defines the necessary requirements of large-scale emergency operations, which usually requires a communications capability beyond the normal capacities of the equipment of a local government. The types and sources, of additional equipment needed from both the public and private sector, to support response operations is identified as a fundamental activity associated with the development of this function. This Standard also states that Business Continuity Management (BCM) refers to the overall management of the processes which are used to identify the potential impacts that may threaten an organisation's continuous operational activities. The SANS 10264-2:2009 provides a guideline for the building of capability and resiliency safeguarding the organisation against unnecessary disruptions.

6.3.2 The CobiT 5 Framework

The CobiT 5 was a framework which was developed for governance and management within businesses and various organisations. The purpose of CobiT 5 is to provide businesses with a guideline which contains effective practices for the governance of Information Technology and

Communications between the different departments. Furthermore the framework encouraged and promoted information technology innovation and its use with organisations.

CobiT 5 emphasises the need to effectively manage all communications in the various stages of implementation and encourages stakeholder involvement. The framework also emphasises the need for effective communications platforms.

Phase 3 of the framework refers to the communication of the organisations vision. The communication strategy forms a key principle of the enablement plan. The plan aims to address the key stakeholders, by familiarising themselves with their audiences' behavioural tendencies, preferred method of communication and information needs which leads to the development of an effective communications strategy including all "optimal" communications channels.

According the Business Continuity Management Best Practices, the key elements of effective communications is inclusive of "quick, accurate responses", "Concern, Control and Commitment" and communication using the appropriate channels. For crisis management these elements are vital in terms of crisis mitigation and recovery.

6.3.3 ISACA Crisis Management Audit and Assurance Program

The Crisis Management Audit and Assurance Program designed by ISACA is referenced as a guideline as to the requirement for effective crisis management within organisations. As stated within the Crisis Management Audit and Assurance Program, "organisations experience a variation of crises on a regular basis. The bigger the crisis, the bigger the effect- although crises can be pre-empted, they are unpredictable, which is normally the case. There are a number of types of crises be it of a natural origin, political origin, fraud, intentional or unintentional. But no matter where these crises emanate from, they need to be effectively managed demonstrating the need for a fully implemented crisis management plan- without which, the crisis could evolve into a disaster."

Hence the purpose of a crisis management audit should be deemed as "an operational audit and should address the effectiveness and efficiencies of management's crisis response scope and preparedness." Although crisis management can be considered as an element of the business continuity plan (BCP), it specifically addresses the broader aspects of governance, communication and the management processes. The Crisis Management Audit and Assurance Program provides a guideline for effective crisis management.

Figure 6.1 is the generated word cloud presenting the key words and themes that were predominant for the Crisis Management Audit and Assurance Program. Figure 6.1 was generated excluding the theme "crisis management" as well as common English words. The recurring themes were risk,

assessment, scope, scenarios, control, planning, review and training to name a few. These key words are relevant for effective management of a crisis.

Figure 6.1: Word Cloud for ISACA Crisis Management Audit and Assurance Program



Source: Author’s Perspective

Figure 6.2 presents the key themes in terms of Section 2.4 of the ISACA Crisis Management Audit and Assurance Program, which mandates for the incorporation of effective communications channels within the crisis management plan and plays an important role in crisis communications. Section 2.4 of the ISACA Crisis Management Audit and Assurance Program, summated provisions for – in terms of guidance- “to firstly determine whether internal and external communications tools or facilities are in place, tested and implemented in a crisis, then to determine if any alternative mobile telephone and/or instant messaging system is in place for crisis communications and finally to establish whether an intranet for the dissemination of information has been implemented for internal communication and has been tested and ready for use in a crisis.”

Although the programme does not explicitly provision for the use of social media, it can be interpreted to imply its use during a crisis in Section 2.4.4 of the Crisis Management Audit and Assurance Program. The key themes emerging from the generation of the word cloud were established, internal, external, tested, communications system and web. From the key themes, it may be stated that the programme establishes the need for an alternative communications channel, which has been tested and ready to use in a crisis to communicate internally and externally. While this may be so, it is also

important to recognise the purpose of the programme- to provide guidance for the implementation of an effectively governed crisis management plan.

Figure 6.2: Word Cloud for Crisis Communications from the ISACA Crisis Management Audit and Assurance Program



Source: Author's Perspective

6.3.4 ISACA Social Media Audit/Assurance Program

A summary of the ISACA Social Media Audit/Assurance Program provides a guideline with the intent to provide guidelines to the management of organisations together with an independent assessment concerning the monitoring of the effectiveness of controls over the organisations social media policies and processes. The reason for the program, lies with the fact that social media is to some extent being used within organisations and a need has arisen for its “governance” to protect organisational information.

The Social Media Audit/Assurance Program provides the limitations of social media usage within organisations- the limitations may include the development of a “strong” social media policy. The reason being the lack of control is of a huge concern to many organisations. Most organisations, usually block or filter social media usage using filtering technologies. The process of implementing a social media policy becomes a tedious task as the management of content is difficult, which requires the development of policies, awareness training for employees and monitoring and evaluation mechanisms. The issue becomes real when information is disclosed and causes irreparable damage to either stakeholders or the organisation.

Figure 6.3 illustrates the predominant key words and themes that were generated by the word cloud—the term “social media” as well as common English words to the programme were excluded to ensure that the focus remained on the themes that required auditing. The themes that were prevalent were policies, resources, training, control, risk, technologies and monitoring to name a few. The programme from the analysis of key words establishes the need for an effective crisis communications plan but also recognises the need for the implementation of policies to guide the process as well as monitoring to ensure that the proper processes are being followed.

Figure 6.3: Word Cloud for Crisis Communications from the ISACA Social Media Audit and Assurance Program



Source: Author’s Perspective

Figure 6.4 presents the combined Social Media in Crisis Communications Word Cloud. Since the Social Media Audit/Assurance Program does not specifically cater for or provide guidelines for the use a social media platform in crisis communications, a word cloud was generated from combining both the Crisis Management Audit and Assurance Program and the Social Media Audit and Assurance Program. The purpose of this “combination” was to assess the criteria for an audit program that public administrators could use should social media be implemented as a communications channel in crisis communications.

communications in crisis and disaster. COBIT 5 provides a guideline which acknowledges the need for an effective communications strategy, using all applicable communications channels.

6.4 Organisational Social Media Policies

Section 6.4 provides an analysis and discussion on the various organisational (with the inclusion of governments) social media policies.

The general purpose of social media policies are to create an awareness of social media usage within the organisation. With its increasing usage in the “social sphere”, this platform offers numerous opportunities as a communications tool for organisations including encouraging transparency and interaction with the stakeholders and the public especially in a crisis.

6.4.1 Social Media Policy Guidelines: Government Communications and Information System (GCIS) Chapters 20 & 22

Section three of the “Social Media Policy Guidelines” provides the best practice guidelines for government’s use of social media. The best practices include, in summary, that all online postings must be “legal, ethical and respectful”, which is considered to be in line with the South African Constitution, the postings on social media must adhere to the relevant copyright laws and to ensure that all information posted online must be accurate.

6.4.2 Policy Guidelines for South African Government Websites

The Policy Guidelines for South African Government Websites focuses on the area of Information Technology and deems it necessary to evaluate the website before implementation of information technology and thereafter continue evaluating it at regular intervals. In summation the evaluation methodologies concerned provision for the analysis and effective management of user feedback, the continuous monitoring and analysis of the website user statistics, easy access to webpages to determine the frequency of certain content being used, to allow for usability testing, the compilation of a “heuristic “review, meaning the conducting of evaluations of the website in comparison to quality criteria and principles, allows for interviews with users and focus group testing and analysis and the conducting of online surveys.

6.4.3 Mnquma Local Municipality Draft Social Media Policy

Many local governments tend to post content including policies using online mediums. Social media is very complex which sometimes makes life difficult for policy writers. Social media policies cannot be instituted in isolation. More often than not a social media policy will incorporate aspects from related policies usually making reference to other governing frameworks (Risk Information Sharing Consortium, 2016). From this perspective, social media policies can be regarded as a combination of interrelated legislation, frameworks and laws. Therefore it becomes imperative for each government to approach the development of social media policies from an individual perspective to ensure all areas

of social media and its usage is provisioned for. The “Mnquma Local Municipality Draft Social Media” policy applies to social media use for official and authorised Mnquma Local Municipality purposes. The policy provisions for the use of social media by all city employees who are authorised to post information on the Municipalities social media sites in an official capacity on behalf of the Municipality and mandates for all communication posted on social media to comply with all other relevant municipal policies, procedures and guidelines. (Communications Strategy, Code of Conduct and Information and Communications Technology Policy)

6.4.4 Adidas Group Social Media Guidelines

The “Adidas Group Social Media Guidelines” focuses on the employees’ use of social media and other web 2.0 technologies separating itself from its employee’s perceptions and/or opinions posted by the employees in social media. The group does not specify the actual use of social media by themselves for any purpose.

6.4.5 Orange County Social Media Use Policy and Procedure

The County of Orange’s social media policy governs social media usage, which was declared necessary due to public demand. The evolution of web 2.0 technologies, including that of social media and its use by the federal, state and local government in the US as an interactive communications tool has transformed the laggards into the early majority with other constituents following suit. Orange County in turn has developed this social media policy to mitigate the risks associated with its usage within government departments but acknowledges this technology as an opportunity to enhance collaboration, information sharing and communication for all stakeholders.

6.4.6 Social Media Guidelines for North West University (NWU) staff

From a South African example, North West University has instituted a social media guideline. The guideline purports to the posting of online content and social media participation. The guideline applies to any employee who may use any social media platforms including Facebook, Twitter, Instagram, YouTube, Blogs and the like. Within the context of the guidelines, staff of the university are required to follow a particular code of conduct when using social media platforms, even outside of their normal working environment and job profile. It was deemed necessary for the upholding of the reputation of the university which may come under scrutiny should an unsavoury online post appear on or by a particular employee. This illustrates the power of social media as a “reputational” tool. The social media guideline does not mention the use of social media in crisis communications.

6.4.7 University of Pretoria Office of the Registrar Policy on Social Media

The purpose of this policy is to regulate the official use of the University’s Social Media channels. Users of the University’s social media channels are required to demonstrate high standards of ethics and conduct and to act responsibly when they exchange ideas and information on the University’s social media networks. Furthermore, the end users must understand that they have

responsibilities as representatives of the University and that their actions can have either a positive or a negative impact on the public image and reputation of the University. This document aims to protect the University from any unexpected outcome resulting from the use of social media on behalf of the University. This policy supplements the University's Internet and email policies.

6.4.8 Association of Dietetics South Africa (ADSA) Social Media and Communication Guideline

The "Association of Dietetics South Africa ADSA social media guideline" provides an outline to the use and best practices associated with social media. This included advertising, personal and professional responsibility, confidentiality and privacy.

6.4.9 South African Social Media Policy Guidelines

The "South African Social Media Policy Guidelines" were developed with the purpose of creating awareness of some of the opportunities offered by social media for government departments. These policy guidelines were implemented for the mitigation of risks associated with social media usage within governmental departments. The purpose of the policy guidelines is to act as instructions to the use of social media within the South African government communications sphere, in the hope of improving government "*transparency, participation and interaction*" with the public.

The basic principles for government employees' usage of social media for official government communication purposes is established and documented by the policy.

6.4.10 Social Media Handbook for Local Red Cross Units

The Red Cross is a huge non-governmental organisation and requires the availability of a resilient fast communications technology. Hence, the development of the Social Media Handbook for Local Red Cross Units. The Red Cross has integrated social media reporting into their daily operations to enhance their relevance as an aid organisation. The purpose of the handbook is to act as a guideline for the use of social media for Red Cross members and stakeholders to collect, analyse and disseminate important information to the public when need be.

6.4.11 Social Networking, Microblogs and other Third Party Websites: Personal Use: BBC

The "Social Networking, Microblogs and other Third Party Websites: Personal Use: BBC guideline" was developed with the intention of assisting the British Broadcasting Corporation in the implementation of the "British Broadcasting Corporation Social Media Strategy". The policy focuses on social networking and microblogging sites, mainly for interaction with the public to gain some marketing insights. However the policy may change with the advancements in new social media platforms that may be used for reporting.

6.4.12 Social Media Use Policy: City of Seattle

The City of Seattle instituted a Social Media Use Policy which goes beyond the conventions of standard correspondence. The policy proposes the “responsible” use of social media by members of the city council. Furthermore allowances are made for the use of social media as means to communicate “informally” with members of the public but prohibits its usage for formal business dealings. Some examples of where business may not be conducted through a social media platform include official public notices, non- disclosed legal proceedings and matters of a fiscal nature. Sites belonging to the city council members should contain links back to the council’s official website as a point of reference. Failure to comply with the policy may lead to the banning or limiting of the offending” employee, which is left to the discretion of the Council President or Director of Administrative Services.

6.4.13 Social Media Ethics Guidelines of the Commercial and Federal Litigation Section of the New York State Bar Association

The “Social Media Ethics Guidelines of the Commercial and Federal Litigation Section of the New York State Bar Association” are not considered “best practices.” The guidelines were developed as it was deemed necessary with the development and evolution of social media. The guidelines are ethical oriented. In the United States the applicability of the guidelines on the use of social media may differ with the jurisdiction being brought into question as social media can be regarded as being able to cross borders. The guidelines may be used by the Bar Association to oversee a lawyer’s use of social media based on social mores and ethics.

6.4.14 New Zealand Government Principles for Interaction with Social Media

The New Zealand Government Principles for Interaction with Social Media is a policy that was developed in order to assist organisations in the decision on whether or not to implement social media usage in their communications strategies. These guidelines provide insight to the basic principles, ethics and conduct when using social media.

Section 6.4 provided a brief overview of the selected social media policies and guidelines, for the purpose of analysing the policies’ alignment to a general set of “best practice” characteristics. The analysis is discussed in Section 6.4.15.

6.4.15 Summary

A matrix was developed with the characteristics of best practice principles (Business Continuity Institute, 2015) on the use of social media policies. A total of 5 South African and 10 international organisations were selected due to the nature of the organisation. The selection criteria was based on the key themes that were contained in the policies. The Government Communications & Information Systems chapters 20 & 22 are not considered as a ‘best practice”, however, in terms of the characteristics of best practice, accounted for 7 of the 9 characteristics.

The matrix analysis revealed the following, 7 of the 15 policies incorporated some reference to legislation, 9 of the 15 policies accounted for accuracy and integrity, 11 of the 15 policies accounted for confidentiality/ privacy, 2 of the policies accounted for impartiality, 8 of the 15 policies accounted for reputational maintenance, 6 of the 15 policies incorporated records management, 9 of the 15 considered monitoring in their social media policies.

Table 6.5: Analysis Matrix for Social Media Policies

POLICY	Reference to applicable laws/ legislation	Integrity/Accuracy	Confidentiality/Privacy	Crisis Communication	Impartiality	Professionalism	Monitoring	Reputational Focus	Records Management
Mnquma Local Municipality Draft Social Media Policy			✓				✓	✓	
County Social Media Use Policy and Procedure	✓		✓				✓		✓
Adidas Group Social Media Guidelines			✓						
Policy guidelines for South African Government Websites	✓	✓	✓			✓	✓		
Social Media Guidelines for NWU staff	✓	✓	✓			✓	✓		
University of Pretoria office of the registrar policy on social media		✓	✓			✓		✓	
ADSA social media and communication guideline			✓			✓		✓	✓
South African Social Media Policy Guidelines	✓	✓	✓			✓	✓	✓	
Social Media Handbook for Local Red Cross Units							✓	✓	
Social Networking, Microblogs and other Third Party Websites: Personal Use: BBC					✓				
Social Media Use Policy: City of Seattle	✓	✓				✓	✓		✓
Social Media Ethics Guidelines of the Commercial and Federal Litigation Section of the New York State Bar Association	✓	✓	✓		✓	✓	✓		✓
New Zealand Government Principles for Interaction with Social Media	✓	✓	✓			✓		✓	✓
Government Communications & Information System Chapter 20		✓				✓		✓	
Government Communications & Information System Chapter 22		✓	✓	✓		✓	✓	✓	✓

It was revealed that the majority of organisations viewed confidentiality and privacy as the most pertinent aspects of their social media policies, whilst only 1 of the 15 policies incorporated crisis communications. Table 6.5 illustrates the matrix with applicable ticks for the relevant characteristics.

A social media policy is necessary, not only for the purpose of upholding the organisations reputation but also as an effective communications tool in crises and disasters- for the provision of timely, accurate information two-way communication to the public and its stakeholders. A social media strategy needs to be incorporated an organisation's crisis communication plan which would apply to all spheres of the organisation. This would need national or interdepartmental joint planning for better implementation. A crisis is any situation that threatens the integrity or reputation and the ability to deliver better services in a safe way to communities. These types of situations usually bring on to the department negative media attention which would lead to negative perception from the both internal and international publics.

These situations could include legal disputes, theft, accident, fire, flood or man-made disasters that could be attributed to an organisation. It can also be a situation where the media or general public acknowledge that the organisation in question failed to act on time to situations in an appropriate manner that also addresses challenges in a way that instil confidence in the stakeholders or victims in a crises. The matrix (Table 6.5) and the analysis thereof reveals the need for organisations to implement social media policies aligned accurately to the best practice principles. Organisations should consider incorporating social media as a communications platform in crises. This would ultimately hold value to the other characteristics of the best practices.

A number of documents mentioned the concept of records management. RICA also mandates that communications records are stored. This then becomes an additional factor that needs to be considered. This was added to the proposed model.

6.5 Chapter Summary

From the analysis of the various authoritative documentation, it is evident that there are a few social media usage policies in place. It is evident that there are laws, frameworks and policies in place pertaining to communication, however, none are specifically designated to the governance of social media usage. Social media can be regarded as an effective strategic communications tool during crises and disasters, but it is imperative that the use of social media becomes a relevant issue when communication legislation is being passed.

A specialised social media policy is required within the SANS ISO/IEC, to promote good governance in times of organisational crisis and disasters. It seems a necessity at this point in time as South

Africans use of social media in business is growing. The organisational policies that have been analysed, have common themes: integrity, privacy, confidentiality, and accuracy of information in line with the elements of good communications. However, these policies have not included the actual use of social media as a crisis communications or disaster management tool. From the analysis new factor for the proposed model was identified i.e. records management was a recurring factor and was therefore incorporated into the final model.

The next chapter addresses the results from the primary data.

CHAPTER 7 THE PRESENTATION OF PRIMARY DATA

7.1 Introduction

The study was primarily a qualitative study, therefore the interviews were analysed first in this chapter. This chapter includes both the qualitative and quantitative findings, and analysis. A previous version of this chapter was presented at the IST Africa Conference 2016 titled, “Factors Affecting the Use of Social Media as a Crisis Communication Tool in South Africa.”

The interviews contributed to the qualitative aspects of the study, whilst the questionnaires contributed to the quantitative focus. The key questions that informed the basis of the study were as follows:

- RQ 1: To what extent is social media being used in crisis and disaster communication?
- RQ 2: What are the global factors influencing the use of social media as a crisis communications tool?
- RQ 3: What are the possible South African legislative and governance requirements that influence the use of social media as a crisis communications tool?
- RQ 4: What is the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management?

7.2 Interviews

For the initial sample population to the interviews, 23 potential Respondents (R) were approached. From the 23 potential respondents 11 responded. Furthermore five potential respondents indicated that they would respond but failed to do so after several reminders. Others did not respond. Of the 11 responses, two respondents did not feel comfortable with directly answering questions, but contributed in the form of providing supporting documentation instead, which was discussed after the questions.

7.2.1 Demographics of the Respondents

Table 7.1 is representative of the nature of the respondents in terms of their respective sectors. Three sectors were identified which were the Public, Private and Academia sectors.

Table 7.1 Demographics of the Respondents as per Sectors

Respondent	Public Sector	Private Sector	Academia
Respondent 1			✓
Respondent 2	✓		
Respondent 3	✓		
Respondent 4			✓
Respondent 5			✓
Respondent 6	✓		
Respondent 7	✓		
Respondent 8	✓		
Respondent 9		✓	
Respondent 10			✓
Respondent 11			✓
Total	5	1	5

Table 7.2 illustrated the job specifications of the respondents. The job specifications of the respondents were important to ascertain the level of knowledge and experience with the subject matter.

Table 7.2 Job Specification Profiles of Respondents

Respondent	Crisis Communications	Social Media general	Security Services	Societal Implications of Social Media	Risk, Compliance & Audit
Number of Respondents per Job Specification	2	2	1	3	3

7.2.2 Question 1: The extent to which organisations have used social media in general and specifically in crisis situations

The question was to gauge information as to the extent, that organisations, within the various sectors were using social media, both in the general sense in terms of usage (which may include marketing of content to the sharing of information to their stakeholders) and more specifically as a crisis communications tool. This question related back to RQ 1, the extent of social media usage in crisis and disaster communication.

From the total of eight respondents to the interviews, three (R1, R6, R8) respondents answered this question. Two (R1, R6) of the three respondents answered that they are aware of organisations using social media in a crisis.

R1 stated, “Use from the various organisations has differed; some used official twitter accounts to keep the public/stakeholders informed of developments. Others have used instant messaging apps to communicate internally when other forms of communication were not available; however this was not an official communication channel.” R1’s response provides insights into the usage of social media in crisis using various platforms but also mentioned social media platform usage as a last resort.

R6 stated, “My organisation eThekweni Municipality has used social media to interact with the communities surrounding the Durban region, particular around the providing the public to share their views on service delivery matters, furthermore, eThekweni uses social media to announcements and information sharing to empower communities that have access to social media.” R6 statement does not necessarily pertain to a “crisis”, the main purpose was for information sharing and receiving perceptions on the municipality’s service delivery.

R8 stated, “Minimal. Organisations are using social media pages, to promote their organisations. Have never seen any use it in a crisis.” R8 acknowledges the use of social media by organisations, but not in crisis communications.

From the responses received, it was revealed that social has and is being used to some extent by organisations. Just one of the three respondents stated that organisations have used social media as a communications tool during crises, but also inferred that it was used as a last resort when there were no other communications channels are available. This can be attributed to the “nature” of social media and related technologies. Social media has defining characteristics which enable two-way, timeous communication, making it easy to use and easily accessible. The two respondents stated that it has been used for marketing purposes to maintain an organisations reputation as a form of “brand management. The other five respondents did not answer this question, demonstrating a possible lack of awareness.

7.2.2.1 Sub-question: Describe the ways this method has been effective

The sub-question was a follow up question attempting to gauge if social media was an effective communications tool, depending on the task at hand. The sub-question formed part of RQ1, the extent of social media usage in crisis and disaster communication.

From the total of eight respondents to the interviews, three (R1, R6, R8) respondents answered this question.

R1 stated, “Twitter was effective in that one post can be disseminated (and retweeted easily). However that channel is open to a lot of responses, criticisms, and queries. Using WhatsApp proved to be more challenging, as this was meant to be peer-to-peer, and not all the stakeholder's cell phone numbers were readily available due to a communication outage. A list was found which aided in this process. This depicted the need for proper planning when using an ad-hoc communication channels including social media.”

R6 stated, “There is currently no measurement used to check its effectiveness. However, the public do use the tool to communicate poor service delivery related issues.”

R6's statement effectively substantiates to an extent R1's statement, that social media is being used but its use is (1) limited and (2) does not have the control and measurement mechanisms in place.

R8 stated, "From a marketing perspective, effective." R8 acknowledges the use of social media by organisations, for general use.

The majority of the respondents agreed that this form of communication is effective, but as stated by R1, there must be a control mechanism in place for monitoring and evaluation to prevent abuse of the system. The key factors that were identified from this question was (1) Planning i.e. to include the possible use of a social media platform within the organisations communications strategy and (2) the need for monitoring and evaluation of such a medium. The other five respondents did not answer this question, demonstrating a possible lack of awareness

7.2.2.2 Sub-question: The extent of social media usage by yourself to disseminate information to the public

This sub-question related back to the main question and RQ1, the extent of social media usage in crisis and disaster communication, but was attempting to gauge the respondents experience in using social media to communicate with the public.

From the total of eight respondents to the interviews, two (R6, R8) respondents answered this question.

R6 stated, "All the times, when there is need to provide any information to the public, e.g. telling the community to use water wisely."

R8 stated, "I've used bulk sms, and WhatsApp to send out information." R8 acknowledges the use of social media by organisations, for general use.

Two of the respondents stated that they had used social media to disseminate information to multiple stakeholders. This can be attributed to social medias' ease of use characteristic, as well as its quick two-way interactive nature. The other six respondents did not answer this question, demonstrating a possible lack of awareness

7.2.2.3 Sub-question: The impact of social media have on the communication process

This sub-question attempted to gauge the respondents knowledge or insight on the impact that social media has on the overall communications process. This sub-question related back to RQ1, the extent of social media usage in crisis and disaster communication.

From the total of eight respondents to the interviews, six (R1, R4, R5, R6, R7, R8) respondents answered this question.

R1 stated, “Social media improved the communication process, however when it is open public communication, it becomes "noisy" in that anyone can respond, comment, criticize etc.”

R4 stated, “Vital during the time of a crisis; ability to reach large numbers of people; ability to collate large amounts of information from the field.”

R5 stated, “Social Media has the potential to inform citizens about crisis situations, it has the potential to raise awareness and prepare citizens.”

R6 stated, “It is effective however, it’s hard to determine the impact as we have not tool to measure the impact.”

R7 stated, “Large informal impact.”

R8 stated, “Huge. Positive and negative.”

The overall perceptions of the respondents was that social media does have a rather large impact on the communications process. An interesting aspect that was identified in the communications process, was that of the concept of “noise”- this concept can be regarded as an inhibitor to effective communication. A key factor that was identified was that of reach – Social media has the ability to reach across almost any region with the proper infrastructure.

The other two respondents did not answer this question, demonstrating a possible lack of awareness.

7.2.2.4 Sub-question: The impact the use of social media had on the information being disseminated

This sub-question attempted to gauge the feedback received from the various stakeholders after the information had been disseminated to them through social media channels. This sub-question related back to RQ1, the extent of social media usage in crisis and disaster communication.

From the total of eight respondents to the interviews, two (R1, R8) respondents answered this question.

R1 stated, “It made disseminating information easier compared to other alternatives; however other communication channels need to be used where available.”

R8 stated, “Quick response rates.”

The other six respondents did not answer this question, demonstrating a possible lack of awareness, or lack in use.

The two respondents provided relevant information in terms of social medias ‘ease of use and timeous nature, but also stated that other forms of communications needed to be used in addition. This could be attributed to the content capacity of social media platforms. In a crisis, short, accurate information

needs to disseminated timeously, and not necessarily large amounts of information. In a business networking context, this may differ.

7.2.3 Question 2: The impact the use of social media has in crisis communications

This question attempted to gauge the insights, knowledge and/or experience of the respondents on the impact social media has in crisis communications. This question aligns to RQ2, Determine global factors influencing the use of social media as a crisis communications.

From the total of nine respondents to the interviews, six (R1, R2, R3, R4, R5, R11) respondents answered this question.

R1 stated, “Social media can make for rapid, real-time, mass communications. However, as it is open, other inaccurate or malicious content can come through. Social media can therefore have a huge positive impact on crisis communication (e.g. Haiti) in terms of crowdsourcing, availability, and gauging public opinion. However, the negative side, which makes it risky, is the malicious content, or intentional criticisms to worsen the crisis.”

R2 stated, “Make people aware of the crisis, wide audience can be reach. People can comment or reply or even share more information about the crisis (two-way communication), where news report is a one way communication.”

R3 stated, “The impact is huge, having current information for example of a flood alert will better position the individual to be prepared. So the road routes could be avoided or the individual could find a place of safety to wait out the storm. The municipality could use social media (for e.g. twitter or Facebook) to alert its citizens of this storm. By having the information disseminated timely the municipality would be able to manage the crisis more effectively.”

R4 stated, “Vital during the time of a crisis; ability to reach large numbers of people; ability to collate large amounts of information from the field.”

R5 stated, “You will find studies in Australia on how social media has been used in Victorian bushfires, Queensland's floods. It is an important aspect of Australian Emergency management.”

R11 stated, “Social media such as twitter, IM's and Facebook are usually the first to host content created by people involved in or witnessing an event. As such, many other adopters of social media are informed by this user generated content. Essentially, adopters of social media appear to be informed the earliest in my opinion. However there is a risk in identifying which reports or content that appear on social media are true, relevant or even related. Unless

the sources are trusted or there are corroborating sources, it is difficult to ensure that information is accurate or true.

It can be said then that social media in crisis communication has varying implications depending on the content being generated and shared. However social media is a very effective tool in disseminating information.”

The majority of respondents were positive in their outlook of the use of social media in crisis communications. R1 maintained that it did have positive effects but also maintained that there are negative implications to its use. The key factors that was identified were global and local reach, timeliness of warning signals to the stakeholders, and interactivity or two-way communication. The other three respondents did not answer this question, demonstrating a possible lack of awareness, or lack in use, due to the fact that social media in crisis communications is a relatively new field.

7.2.4 Question 3 Example of the impacts where social media has influenced crisis communication

This question attempted to gauge the knowledge or awareness of the respondents of social media in crisis communications, by relating its impact providing relevant examples.

From the total of eight respondents to the interviews, seven (R1, R2, R4, R5, R6, R7, R8) respondents answered this question.

R1 stated, “Haiti earthquake, Japan earthquake, Arab spring, FeesMustFall & ZumaMustFall, numerous other examples from natural disasters. The terror attacks in France. Woolworths SA hiring (this went bad); MacDonald’s marketing (also went wrong). Haiti earthquake, Japan earthquake, Arab spring, FeesMustFall & ZumaMustFall, numerous other examples from natural disasters. The terror attacks in France. Woolworths SA hiring (this went bad); MacDonald’s marketing (also went wrong).”

R2 stated, “Recent xenophobia attacks in South Africa. Social media created awareness of what is happening, which areas are effected, which areas to avoid etc.”

R4 stated, “Haiti – Use off GIS, Kenya – Ushahidi, Fukushima – check <http://hakatte.jp/>”

R5 stated, “Victorian bushfires and the Queensland's floods in Australia”

R6 stated, “The sound example is around the Xenophobic attacks where people were suing Social media, to convey messages, some of anger some of peace. However in general Social media played a big role in alerting people of what was happening, however lack of control in terms of what kind of information should be posted, in some cases not particular in our

eThekwini Page, photos that were not relating to those attacks were posted which made the tensions even worse”

R7 stated, “Informally – used in times of natural disaster such as tsunamis, hurricanes, and earthquakes etc. – SE Pacific Rim and Haiti when formal communications fail. Also in times of political unrest where service delivery & safety have collapsed e.g. Arab Spring”

R8 stated, “Arab Spring.”

R11 stated, “One of the more popular examples of social media influence in crisis communication is the Arab Spring events that took place in Egypt. In this case microblogging or Twitter and even Facebook, was instrumental in coordinating the efforts of protestors and activists. By harnessing the ability to reach millions of other social network users, activists were able to coordinate protests and gatherings in very short time which is incredible. The speed of disseminating information amongst protestors had a significant effect on coordinating efforts which seemingly created a more unified front from the protestors.

More recently in South Africa, the #feesmustfall protestors used a twitter hashtag to garner support for their cause. In this case the impact of social media was great because protests sprung up in different locations and universities, however the social media activity on twitter was centred around the feesmustfall and endoutsourcing hashtags. This effectively allowed for people who were not physically taking part in the protests, to still have their voices aired on social media. This campaign was therefore also covered by international media as a major uprising by students, and then gained further support by international students as well.

In both the above cases, the use of social media undoubtedly had a significant impact in crisis communication in more ways than one. Apart from acting as an effective and timeous mode of communication, it also assisted in gaining publicity and media coverage. The use of social media also provided a viewpoint into the sentiment shared by protestors and activists. The value of social media as a source of information and communication is therefore instrumental in such events.”

The majority of respondents answered this question, but merely provided examples without discussing the “impact” aspect of social media. R1 to some extent mentioned negative marketing- so social media gone bad. And R2 mentioned awareness of the situation through social media. R7 did state that social media was used in Haiti, but once again as a last option. It does illustrate the resiliency of social media and related platforms.

7.2.5 Awareness of South African/ International legislative/regulatory governance requirements, that affects the use of social media in crisis communication

This question attempted to gauge the awareness level of the respondents regarding their knowledge on the South African and/or International governing factors that affect the use of social media in crisis communications. This question related to RQ3, Identify the possible South African legislative and governance factors that influence the use of social media as a crisis communications tool.

From the total of nine respondents to the interviews, all (R1, R2, R3, R4, R5, R6, R7, R8, R11) respondents answered this question. All respondents replied in the affirmative to this question except R11, that is they are aware of the International and South African governance requirements affecting social media in crisis communications. The respondents did provide examples later in the interview.

R11 stated, "I am not aware of any specific legislation that affects social media specifically. However in the recent feesmustfall protests, there was an interdict taken out against the use of the feesmustfall hashtag. This however did not stop people from using the hashtag, in fact the feesmustfall hashtag was the most popular hashtag if not the largest for the long spanning duration of these protests."

This brings into question on the grounds to which courts are using legislation in social media cases.

7.2.5.1 Sub-question: The ways in which these requirements affect the use of social media in crisis communication and disaster management

This sub-question attempted to gauge the extent to which South African and/or International governing factors have on the use of social media in crisis communications. This question related to RQ3, Identify the possible South African legislative and governance factors that influence the use of social media as a crisis communications tool.

From the total of eight respondents to the interviews, all (R1, R2, R3, R4, R5, R6, R7, R8) respondents answered this question.

R1 stated, "POPI – privacy must be maintained where relevant; social media is a very public forum, so good judgement needs to be exercised continuously. RICA – sometimes records of communications are required to be kept for 'legal intercept purposes' – the quantity of social media data may make this challenging. This law also makes it tricky to use social media for information gathering if the message are not meant for the organisation or are not in the public domain. ECT – communications should not be blocked. So in a PR crisis, you cannot block the posts. Freedom of expression – again, in PR crisis, affected parties may vent on social media. This can be tricky to deal with. King III – good governance is required,

however as social media is ad-hoc, with a lot of data, it can be difficult to govern and audit. Precedence of laws is important – e.g. saving a life will probably outweigh privacy.”

R2 stated, “ POPI – protection of personal information, Protection of harassment act, RICA, Electronic communications act. Personal information cannot be communicated. Example address of someone who were involved in an incident (e.g. shooting, racist remarks) as the person might be victimized. Other examples include the details of victim can’t be published (e.g. name of victim) if family has not been notified.”

R3 stated, “Protection of Personal Information bill, Social media policy guidelines, Promotion of access to information, Electronic communication act

R4 stated, “None that I know of. There are some guidelines regarding social media use from the GCIS published in 2011 (attached) To evaluate general regulations regarding social media in SA you have to look at the constitution; Employment laws; Consumer protection; POPI; EC Act ”

R5 stated, “Due to the Australian - Federal / State model of government there are no defined controls. They are not described in the state emergency laws. The assumption is that it is the role of the emergency management organisations to manage their own social media operations”

R6 stated, “None, around the use of social media. But our freedom charter allow for freedom of speech, in a manner that does not undermine another person’s rights. ECT act”

R7 stated, “No idea. Assume it is normal ICT legislation and municipal IDPs or DRPs”

R8 stated, “Constitution.”

All eight respondents stated that there were no clear governance frameworks in place that applied to social media usage but did provide some examples they perceived would apply to its governance. These included the Protection of Personal Information Act, ECT and RICA. Privacy featured as a key factor of concern in the decision to use social media.

7.2.6 In your opinion, what do you think are the benefits and/or challenges of using social media in crisis and disaster management?

This question attempted to gauge what the respondents perceived to be the benefits and challenges of using social media implementation as a crisis and disaster management tool.

From the total of eight respondents to the interviews, seven (R1, R2, R3, R4, R6, R7, R8) respondents answered this question.

R1 stated, “As in Q2, benefits include real-time, cheap, easy, available communications which is great for crowdsourcing and mass collaboration. The downside is the integrity of information, difficulty in managing what the responses will be like, and managing/governing the potentially large quantity of communications. Social media has already had uptake amongst large portions of the population; therefore there is less risk than implementing a proprietary system for disaster/crisis management which will require end-user buy-in. Social media therefore provides a "value-added service" to eGovernment from an information dissemination and communications perspective. Due to the existing uptake, and its proven resilience in natural disasters, social media is probably a more sustainable option as at worst it will have the same technical limitations as a specialist proprietary system. A disadvantage is there is no control over the technology itself when using Twitter etc.”

R2 stated, “Benefits included wider audience, cost – no or limited cost involved to send message via social media as compared to news report, Fast communication - Instant message instead of going through channels to get communications out via radio/newspaper/TV, People are easily reachable, Two-way communication – people can share more details or updates regarding the crisis.

Challenges included access everyone might be using social media, it could create a panic if more is shown (especially by users) than the government/organisations might want to show/declare (not keeping a crisis under wraps) which could lead to a disaster.”

R3 stated, “The benefits are: (1) accurate information is communicated, (2) the response time of communicating crisis information and receiving that information from employees or the general public is rapid, (3) the organisation displays a good tone of being prepared to deal with a crisis; and (4) having the crisis information or data enables the organisation to better respond to the crisis. The organisation must be able to be transparent and communicate accurate information so that the employees or the general public can trust. The organisation also need to have the technology e.g. a response centre that can co-ordinate and monitor the crisis. So transparency, trust and technology advances are the challenges to using social media.”

R4 stated, “Bypass traditional telecoms networks which may be unavailable, Use of citizens reporting from the ground, large number of data sources, Real-time data, Video and images, Crowd-sourcing”

R6 stated, “You don’t have a sense of knowing that recipients intended to get the message really gets the message. If the crises involved power outages of electricity, you are not

guaranteed that everyone will have batteries charged on their devices. Not everyone have and can afford a smart phone and the data bundles”

R7 stated, “All of web2.0 benefits such as prosumers, ubiquity etc. are advantages. Challenges: Dependence on bandwidth/ formal communication infrastructure such as ISP, wireless, mobile networks being operational, and devices are largely reliant on electricity (usually disrupted)”

R8 stated, “Infrastructure is a challenge in rural South Africa.”

R11 stated, “In my opinion the accessibility and publicity of social media are strong points that all parties involved can benefit from. Social media is an effective method of reaching the masses in a short space of time. However as mentioned previously, the information arising on social media needs to be from a trusted source. One of the issues of social media is misinformation that is created. With various people generating content, it is difficult to separate which is true. Another technical pitfall is understanding languages, as we have 11 official languages some of the content been generated is not understood by all. If you want to analyse the sentiment of the text in social media this is very important.”

From the nine South African participants to the study the majority of respondents stated that the benefits outweighed the challenges. Some common benefits were reach, ubiquity, timeliness and real-time data. The challenges as perceived by the respondents were power outages, and the capacity of the infrastructure. The cost factor was contradicted as one respondent stated it as a benefit – being cheap to use, but another stated that not everyone can afford a smart phone or the data bundles. Areas of caution were accuracy of information, trust and privacy. The language barriers was an interesting concern raised by R11.

7.2.6.1 Sub-questions: How do you think that these challenges can be overcome or managed?

This question attempted to gauge what the respondents perceived to be the solutions to the challenges of using social media as a crisis and disaster management tool.

From the total of eight respondents to the interviews, seven (R1, R2, R3, R5, R6, R7, R8) respondents answered this question.

R1 stated, “Crowdsourced information needs to be vetted; usually mechanisms are in place (e.g. Ushahidi in Haiti etc.) to corroborate information. Close monitoring for string negative feedback should be conducted to hopefully prevent additional fallout. Social media

management platforms can be used to manage the data, monitoring etc. which will aid in governance”

R2 stated, “Get more people to use social media. Make social media free. E.g. Cell C has an offer which WhatsApp is free as well as Facebook (via. www.) Social media watch dog for life threatening crisis’s which could become a disaster. Care however must be taken that this is not used to hide fraud etc.”

R3 stated, “The organisation needs the financial budget to establish a response centre, the organisation can develop a response policy for their employees so that this can create transparency and trust. So that employees will know how to respond to a crisis”

R5 stated, “Social Media has the potential to inform citizens about crisis situations, it has the potential to raise awareness and prepare citizens.”

R6 stated, “Well, the company must enforce users to enrol on social media and also enforce policies that will allow them to use social media in line with the organisational processes. Furthermore, alternative means of communication needs to be a backup should there be a crisis that disrupts the social media. The companies must also subsidise their staff to at least have a smart phone.”

R7 stated, “Haven't thought about it. I don't think a formal strategy can depend on this as its main form of organising in times of disaster- too unreliable; simpler tech has to form the backbone with this being ancillary/ support e.g. Notification groups to spread information/ along with radio etc.”

R8 stated, “Government funding for better ICT infrastructure.”

R11 stated, “It is possible to identify trusted sources by looking at social media profiles holistically and using other sources to corroborate reports.”

The prevalent reoccurring theme, stated by the majority of respondents was the need for monitoring and control over the use of social media in order to mitigate the challenges experienced. The one respondent did not answer this question, demonstrating a possible lack of awareness. R8 did state that more government funding is required for better ICT infrastructure in order to support these platforms.

7.2.6.2 Sub-question: Are there challenges that outweigh benefits of social media?

This question attempted to gauge whether the respondents perceived the challenges to outweigh the benefits of using social media as a crisis and disaster management tool. This related back to RQ4, Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management

From the total of nine respondents to the interviews, seven (R1, R2, R3, R4, R7, R8, R11) respondents answered this question.

R1 stated, “Depends on the purpose. Using social media just for the sake of it without a major plan or strategy, then the challenges could very quickly overwhelm the benefits (especially in PR cases). In emergency situations (e.g. natural disasters), the benefits can far outweigh the challenges.”

R2 stated, “Care must be taken as social media can be used to hide fraud etc.”

R3 stated, “Yes only one, that I can think of is the financial budget to establish this fully automated response centre.”

R4 stated, “No, benefits outweigh the challenges.”

R7 stated, “Lack of validity of reporting is probably major issue in terms of receiving reports from social media.”

R8 stated, “Yes, privacy is a challenge.”

R11 stated, “The amount of work that social media analysis sometimes requires is enormous. If you do not have the resources to sift through huge datasets, you may not be able to derive benefit. “

The prevalent themes, as stated by the respondents were lack of integrity in reporting, privacy, and cost. R1 states that social media has potential but there once again needs to be a control mechanism in place for monitoring and control. R1 stated “dependent upon the purpose”, which relates to the Task Technology Fit (TTF) Model, which is used as a guideline for the purpose of social media.

7.2.7 How do you think governments/NGOS/public organisations/ private organisations/emergency response teams’ use or can use social media effectively to communicate to the public in crisis communications and disaster management?

This question attempted to gauge whether the respondents perception towards how governments/NGOS/public organisations/ private organisations/emergency response teams’ use or can use social media effectively to communicate to the public in crisis communications and disaster management. This related back to RQ4, Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management. This question relates to RQ 3, Identify the possible South African legislative and governance factors that influence the use of social media as a crisis communications tool and RQ 4, Examine the relevance

and impact of social media as a tool for strategic communication and perception management in crisis and disaster management

From the total of eight respondents to the interviews, five (R1, R3, R4, R6, R7) respondents answered this question.

R1 stated, “With proper planning and strategies, yes. The audience reception / subscription to those channels will also be a major factor. ”

R3 stated, “Except the social media policy guidelines, the other regulations do not explicitly deal with social media in crisis communication, and there is no mandatory responsibility for the organisation to establish or to have a crisis communication medium.”

R4 stated, “There are attempts, but effectiveness is difficult to measure. Most recent example was the SMS from the Meteorological Unit warning of high temperatures during the recent heat wave. Private companies like Discovery Insurance warn people of impending storms.”

R6 stated, “I don’t think we have used it for crisis management but to boost service delivery confidence to the general public.”

R7 stated, “I know sms/ IM has been part of strategies- not sure of social media”

The prevalent resolution, as stated by the respondents was a need for a social media policy as a control mechanism for monitoring and control. R6 did state that it would build service delivery confidence with their stakeholders. R3 emphasised the need for social media incorporation into crisis management, but also mentioned the key theme of compliance to social media policy.

7.2.7.1 Sub-questions: To your knowledge, have governments/NGOS/public organisations/ private organisations/emergency response teams effectively used social media to communicate with its citizens/stakeholders/general public in crisis communications?

This question attempted to gauge whether the respondents’ perception about governments/NGOS/public organisations/ private organisations/emergency response teams’ use of social media effectively to communicate to the public in crisis communications and disaster management was effective or not. This related back to RQ4, Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management. This question relates to RQ 3, Identify the possible South African legislative and governance factors that influence the use of social media as a crisis communications tool and RQ 4, Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management

From the total of eight respondents to the interviews, four (R1, R2, R3, R5) respondents answered this question.

R1 stated, “There are cases where the communications have been effective to some degree.”

R2 and R5 expressly stated, “Yes.”

R3 stated, “Using social media to communicate in SA is still growing. Government lack the political will to use social media to communicate purely because of the transparency and accountability aspects that they are worried about. One example comes to mind, is my insurance company uses social media (e.g., emails and texts) to warn of severe thunderstorms.”

R11, stated “One such incident comes to mind is the FNB website going down. Please see link [FNB-fixes-website-mobile-app-outage](#). Other uses that come to mind are the alerts for Eskom outages via twitter, which seemed to be very accurate.”

The respondents to this question practiced caution when answering this question, not really providing details of social media usage. R3’s perception was that governments are weary when implementing social media usage as it lacked openness, accountability and transparency. This issue is however, governed through the implementation of a social media policy adhering to good governance principles mentioned in the King III report. It does to an extent demonstrate a lack of awareness in the frameworks that can be used to govern social media usage.

7.2.7.2 Sub-questions: Can you provide an example from your knowledge of governments using social media in crisis communications and disaster management?

This question attempted to gauge whether the respondents could provide examples from their knowledge of governments using social media in crisis communications and disaster management. This related back to RQ4, Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management. This question relates to RQ 3, Identify the possible South African legislative and governance factors that influence the use of social media as a crisis communications tool and RQ 4, Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management

From the total of the nine respondents to the interviews, seven (R1, R2, R3, R5, R6, R8, R11) respondents answered this question.

R1 stated, “Dept. of Labour used Twitter to keep the public updated regarding the investigation process after the M1 bridge collapse. NGOs etc. have used social media

effectively in Haiti and other natural disasters. Other groups have effectively used it when targeting government (e.g. Arab spring, FeesMustFall).”

R2 stated, “Examples includes communication (tweets/Facebook) about road accidents (where a road had to be closed due to an accident which lead to a crisis), which made people aware of which areas to avoid. Similar with Xenophobic attacks, areas to avoid etc.”

R3 stated, “Nothing comes to my mind because government is still using the old medium or written memos and emails to employee.”

R5 stated, “Yes - used by all Australian emergency organisations.”

R6 stated, “None that I have seen to formally communicate the Crisis management.”

R8 stated, “For spying.”

R11 stated, “Yes, in first world countries there are reports that authorities gain intelligence from social media.”

The respondents to this question practiced caution when answering this question, not really providing details of social media usage. An interesting statement was made by R8, on the issue of “spying”. This is however a credible and realistic view as it has occurred both locally and internationally for example the Edwin Snowden Spy issue, and the cautious relationship between social media companies and the British government (Taylor, 2015).

7.2.8 Additional Documentation

Respondents 9 and 10, did not feel comfortable responding to the interview questions but did provide additional documentation, namely an overview of social media usage in disaster management and articles they have published in the area.

R9 emphasised the role played by social media as a disaster management communications channel, when, all other channels of communications have failed. R9 implied that the “Internet has become a primary source of emerging information about disasters (citing Noack, 1997).” Furthermore R9 provided useful examples that have shown that it is an effective tool for those affected in times of crisis e.g. the California wildfires and the Los Angeles earthquake. R9 stated that the most significant use of Web 2.0 platforms such as social media was evident in the Haiti earthquake which was the first major disaster to illustrate the value and potential of this medium.”

As for the use of social media as a tool in disasters within Africa, R9 stated that, “recent research (e.g. Mabaso and Manyena, 2013; Kirton, 2013, Enia, 2013) both within Africa and globally indicates both that the full potential of the use of social media in disaster situations is far from fully realised as yet –

and also that there are structural barriers, both economic and political, to its implementation. Recent research in sub-Saharan Africa, for instance, (Mabaso and Manyena, 2013) finds that there is a wide gap between theory and practice in contingency planning, these strategies remaining purely theoretical at present; while the Hyogo Framework formulated as long ago as 2005 has so far been found to be patchy in its implementation (Enia, 2013). Disaster management as a public good is necessarily prone to the problems of resourcing associated with ‘the tragedy of the commons’ and most especially in developing countries (Enia, 2013). The situation in South Africa will necessarily be affected by some of these structural barriers but as a middle income country the potential for success here is greater.”

R9 further stated, “In various studies of the industrial sites encompassing the South Durban Basin and its adjacent industrial complex, it is clear that some of the lessons from these emerging practices are being learnt by municipal authorities, industry players and the community. There is recognition of the need to link disaster management to development goals as required by the South African Disaster Management Act of 2002, to engage the community and to move from an approach of response to risk reduction. It appears however, that the need to recognize the full complexity of current information ‘ecosystems’ and their potential role in preparing for, and in mitigating, disasters is better appreciated by the community than by the industrial companies themselves. (Skinner & Rampersad 2004).”

R10 provided articles written by the respondent, but from an international perspective. In the article *New Media, Public Relations, and Terrorism Resilience* (2012), R10 emphasises the resiliency characteristics of what may be termed as social media/new media and compares this to resilient communities in terrorism. R10 further stated, “Traditionally, governments have relied on one-way media to communicate to publics about terrorism, but new media can offer a venue for more two-way, dialogic communication, strengthening relationships with publics”- emphasising the need for governments interaction with the public through social media platforms.

7.2.9 Chapter Summary

The objectives of the study were achieved. From the respondents’ perceptions it became evident as to the factors they considered as being most influential toward the use of social media as a crisis communications tool in South Africa. In addition to the influencing factors to usage of social media in crisis, some of the important legislation and governing frameworks were also determined by the respondents, with the provision of relevant examples, within a South African context. The answers to the questions provided by the respondents revealed that social media has the potential to be a vital communications channel in crisis and disasters but felt that most organisations were cautious in the usage of social media platforms. Respondents also identified the key factors such as privacy, and lack of control as inhibiting organisations’ decision to implement this technology into practice. The analysis revealed the need for a control and monitoring mechanism, to ensuring effective management

of such a technology. Whilst it is evident, that social media platforms can and have influenced governments and the public, it has also become evident that there are no governing laws as to social media usage that can be easily identified. The public has more influence by means of a collective power which can ultimately result in the reduction of damage in crisis but all the influencing factors or external influencers must be considered for social media usage. This has been discussed within the context of final conceptual model. Furthermore, the findings establishes the need for relevant legislation to be created for the effective governance of social media as a crisis communication tool in South Africa (Ramluckan, 2016). Section 7.3 discussed the quantitative analysis.

7.3 Questionnaire Results

This section presents the findings of the quantitative study. As this study was primarily a qualitative study, descriptive statistics were used for the purpose of analysis. In addition to the descriptive statistics, Cronbach’s Alpha was performed to demonstrate the reliability of the test items in the questionnaire and Factor Analysis was conducted. Furthermore previous version of this Section was presented at the IST Africa 2016 Conference with the paper titled, ”Factors Affecting the Use of Social Media as a Crisis Communications Tool.”

Reliability is an important aspect of the questionnaire design, as such the Cronbach Alpha was conducted. The results are represented in Table 7.3.

Table 7.3: Reliability

Section	Cronbach Alpha
A: Policy Implementation (under demographics)	0.793
B: Global Factors	0.812
C: Usage	0.844
D: Laws	0.888
E: Monitoring and Evaluation	0.918
F: Perceived Relevance	0.834

Table 7.3 illustrates the results of the Cronbach Alpha. The general analysis of Cronbach Alpha means that any value of 0.7 and above is regarded as good reliability. From the Cronbach Alpha values obtained for this study, all values were greater than 0.7 indicating good reliability, even though there was a low response rate to the questionnaires.

7.3.1 Demographics

The quantitative section of the study entailed the use of a questionnaire. The respondents that participated in the study were from public organisations, private organisations and non-governmental

organisations. The purpose of including the type of organisation as part of the demographics was that the scope of the social media field is extensive and it affects all types of organisations. The questions related to four objectives of this study.

Table 7.3.1 provides the breakdown for the responses received from each of these organisations.

Table 7.3.1: Type of Organisation

Public Organisation	20
NGO /NPO	4
Private Organisation	20

Figure 7.1 is a graphical representation of the types of organisations participating in the study. A total of 46 % or 20 participants were from Public Organisations, 45% or 20 participants from Private Organisations, whilst 9% or 4 participants were from the Non-Governmental/ Non-Profit Organisations.

Figure 7.1. Type of Organisation

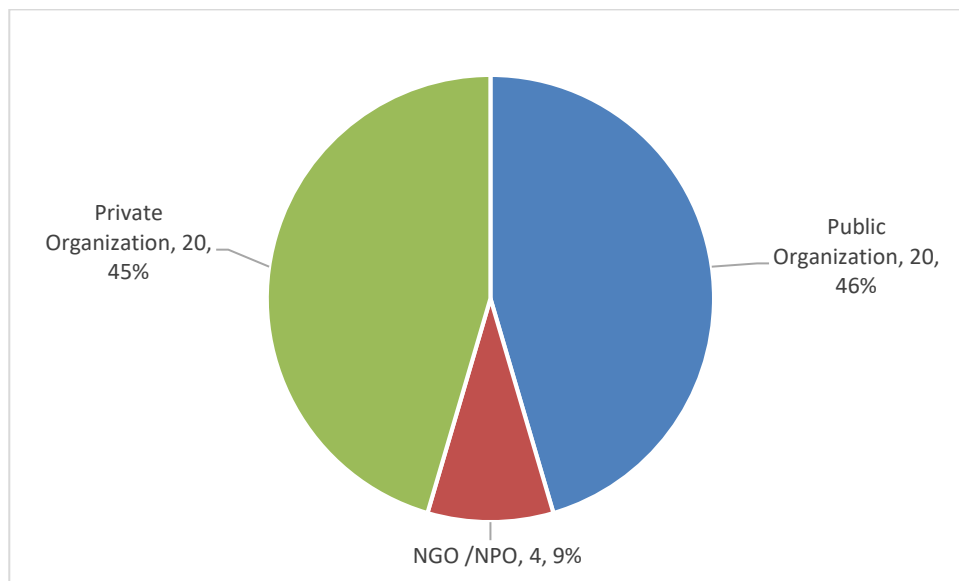


Table 7.3.2 is representative of the various sectors involved in the study. Figure 7.3.2 is representative of the participants from the various sectors, 16 % or 7 participants were from the Transport and logistics sector, 11% or 5 participants were from the Education sector, 5% or 2 participants were from the Information Technology sector, 2% or 1 participant was from the Research Sector, 5% or 2 participants did not specify, 2% or 1 participant was from the Defence Sector, 27 % or 12 were from the Finance Sector, 2% or 1 participant was from the Retail Sector, 2% or 1 participant was from the manufacturing sector, 2% or 1 participant was from the water sector, 5% or 2 participants were from the Telecommunications sector, 2% or 1 participant was from the Auditing sector, 2% or 1 participant was from the Healthcare sector, 11% or 5 participants were from the Government sector, 2% or 1

participants were from the Information Technology and Communications sector, 2% or 1 participant was from the Mining sector.

Table 7.3.2: Sector

Defence	1	
Education	5	
Finance	12	
Government	5	
Transport/Logistics	7	
Other	Information Technology	2
	Research	1
	Retail	1
	Manufacturing	1
	Water	1
	Telecommunications	2
	Audit	1
	Healthcare	1
	ITC	1
	Mining	1
	Not Specified	2

Figure 7.2 illustrates the respondents from the various sectors. The largest number of respondents were from the Finance Sector, with 27% of the total respondents, the Transport and Logistics Sector, with 16% of the total respondents and Education, with 11% of the total number of respondents.

Figure 7.2: Sector

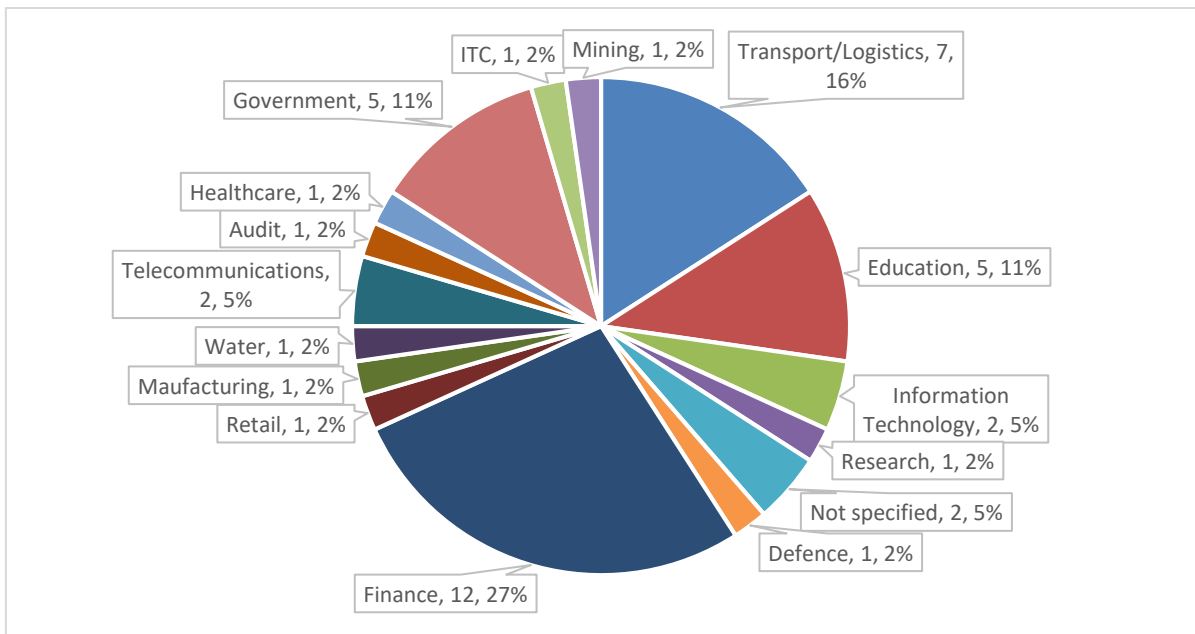


Table 7.3.3 represents the job function of the respondents to the questionnaire.

Table 7.3.3: Job Function

Senior Management	4
Corporate Communications/Public Relations	1
Consulting	1
Governance, Risk & Compliance	14
IT & telecoms	14
Other	
Associate	1
Researcher	1
Lecturer	1
Audit	5
Founder	1
Not specified	1

Figure 7.3 is representative of the participants from the various sectors, 34 % or 14 participants were from the IT and Telecoms job function, 3% or 1 participant was from the lecturing function, 32% or 14 were from the Risk , Compliance and Governance function, 2% or 1 participant was from the Research function, 9% or 4 participants were in Senior Management , 2% or 1 participant was from the Corporate Communications function, 2 % or 1 was an Associate, 2% or 1 participant was from the Consulting function, 2% or 1 participant was a Founder, 2% or 1 participant did not specify.

Figure 7.3: Job Function

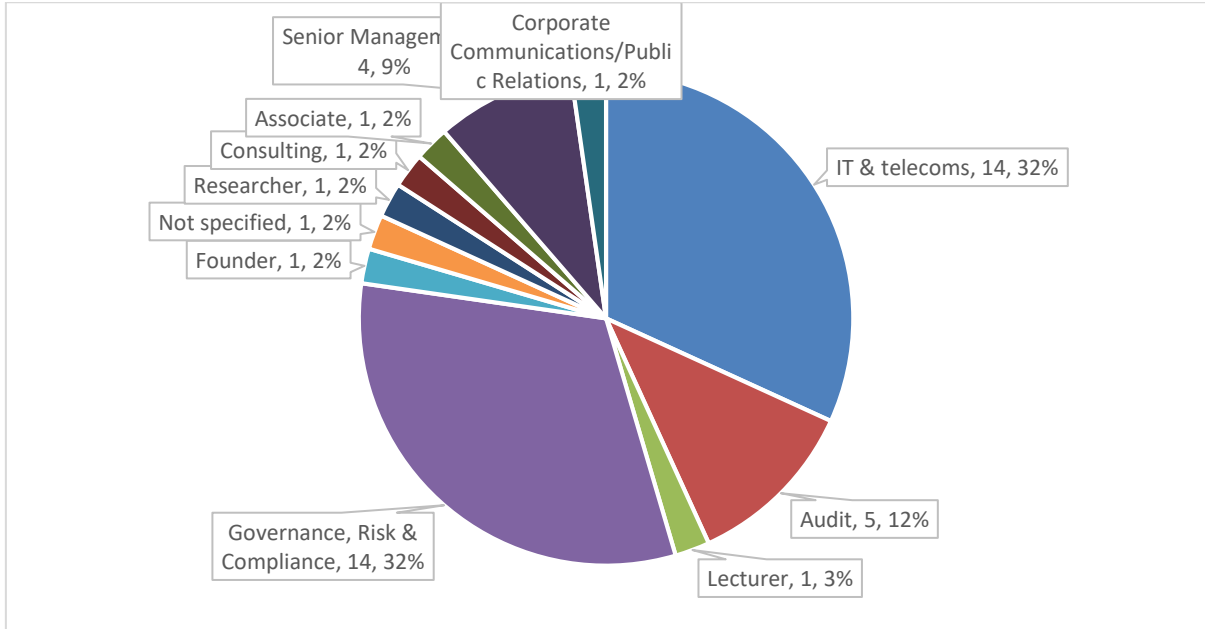


Figure 7.4 illustrates the total number of employees per organisation participating in the study. The majority of organisations employed 5001 and more, making up 43 % of the total respondents to the study.

Table 7.3.4: Number of Employees

Less than 100	8
100-1000	5
1001-5000	12
5001 or more	19

Figure 7.4: Number of Employees

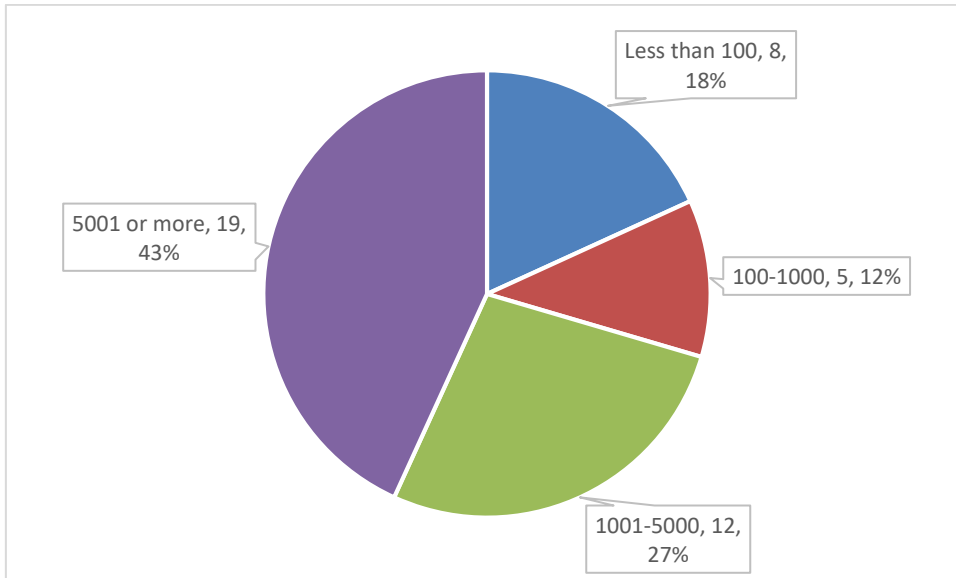


Table 7.3.5: Status of Strategy Implementation

	A5.1 Social Media Strategy	A5.2 Crisis Communication Strategy	A5.3 Social Media in Crisis Communications Strategy
Not Considered	11	15	19
Decided Against	0	0	1
Plan to implement	14	6	12
Partial implementation	14	15	11
Full Implementation	5	8	1

Table 7.3.5 illustrates the number of respondents who have not considered the implementation of the implementation of a social media strategy, a crisis communication strategy and social media in crisis communications strategy to full implementation of these strategies. While a large number did not consider these strategies, the majority had partially implemented these strategies. Figure 7.5 illustrates the visual representation of the status of implementation of these strategies.

Figure 7.5: Status of Strategy Implementation

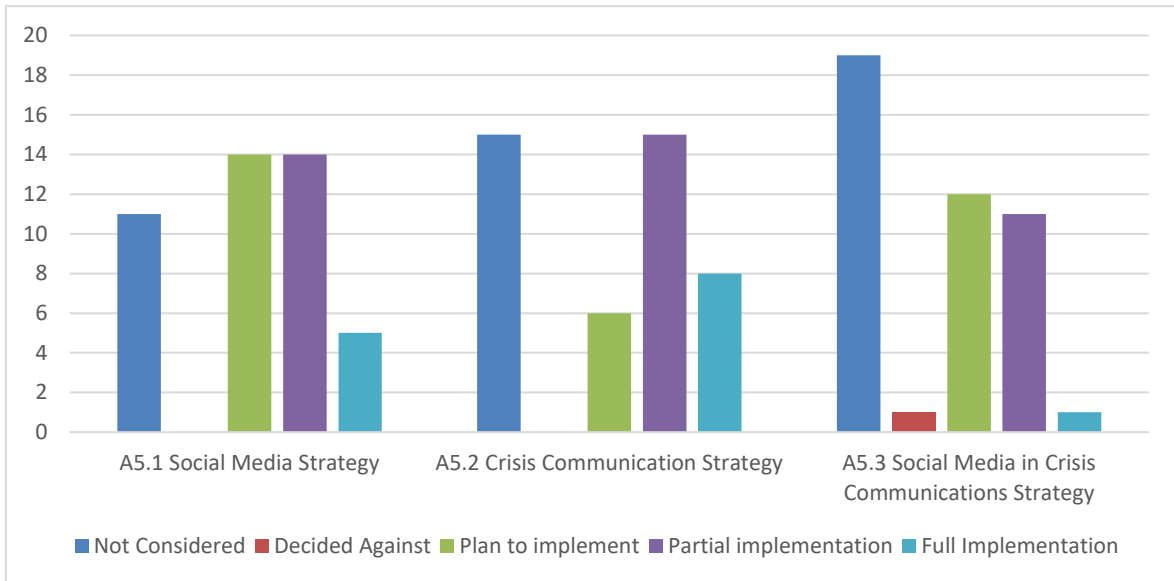


Table 7.3.6: Comparison of Social Media in Crisis Communication Strategy Implementation vs Social Media Strategy Implementation

		Social Media in Crisis Communication Strategy					
		Not Considered	Decided Against	Plan to implement	Partial implementation	Full Implementation	Total
Social Media Strategy	Not Considered	10	0	0	1	0	11
	Decided Against	0	0	0	0	0	0
	Plan to implement	5	0	9	0	0	14
	Partial implementation	3	1	3	6	1	14
	Full Implementation	1	0	0	4	0	5
	Total	19	1	12	11	1	44

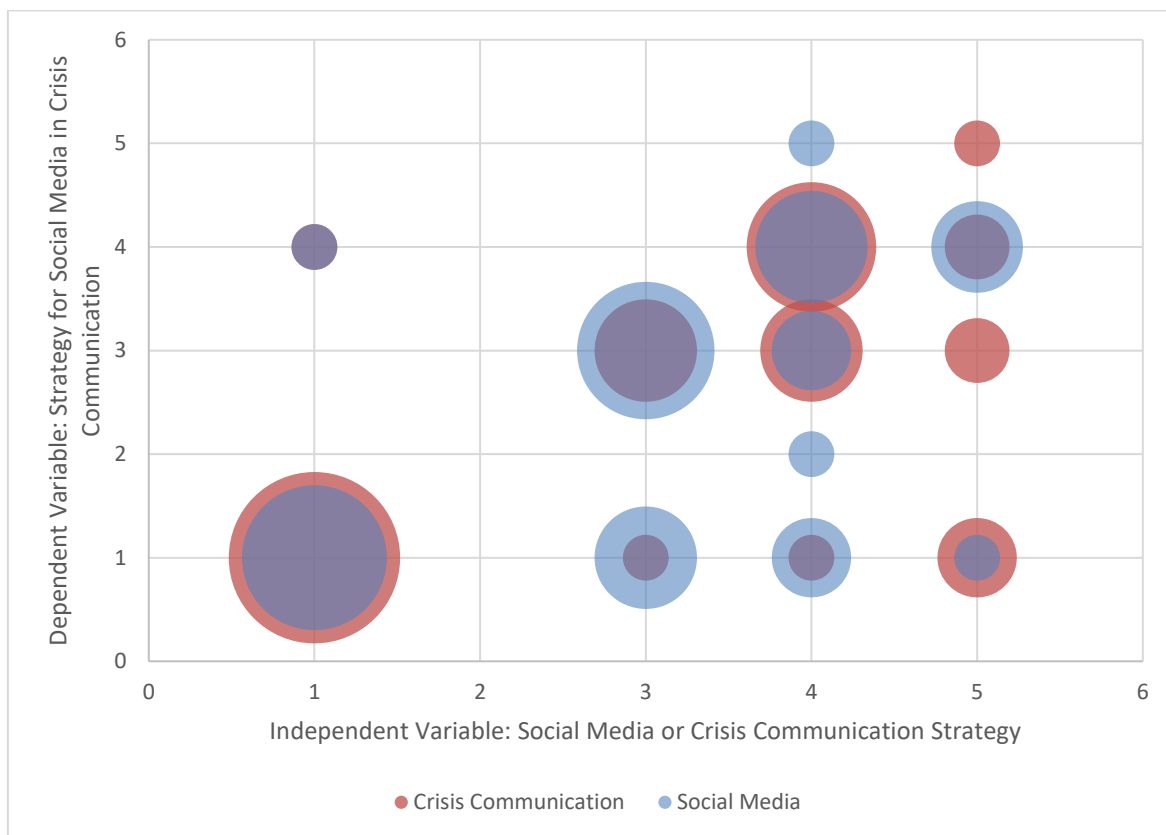
Table 7.3.7: Comparison of Social Media in Crisis Communication Strategy Implementation vs Crisis Communication Strategy Implementation

		Social Media in Crisis Communication Strategy					
		Not Considered	Decided Against	Plan to implement	Partial implementation	Full Implementation	Total
Crisis Communication Strategy	Not Considered	14	0	0	1	0	15
	Decided Against	0	0	0	0	0	0
	Plan to implement	1	0	5	0	0	6
	Partial implementation	1	1	5	8	0	15
	Full Implementation	3	0	2	2	1	8
	Total	19	1	12	11	1	44

Table 7.3.5 was divided into two separate tables for the purpose of cross tabulation and comparison. For Tables 7.3.6 and 7.3.7, the responses were coded as follows:

- Not Considered = 1
- Decided Against = 2
- Plan to implement = 3
- Partial implementation = 4
- Full Implementation = 5

Figure 7.6: Social Media in Crisis Communication vs Social Media Strategy and Crisis Communication Strategy



The results of the cross tabulation were thought-provoking, as other than two outliers, a strategy for social media in crisis communication is not at a higher level of implementation than either the social media or crisis communication strategies. This then, significantly implies that the strategy for social media in crisis communication should be developed simultaneously, or immediately following, one or both of the traditional social media or crisis communication strategies.

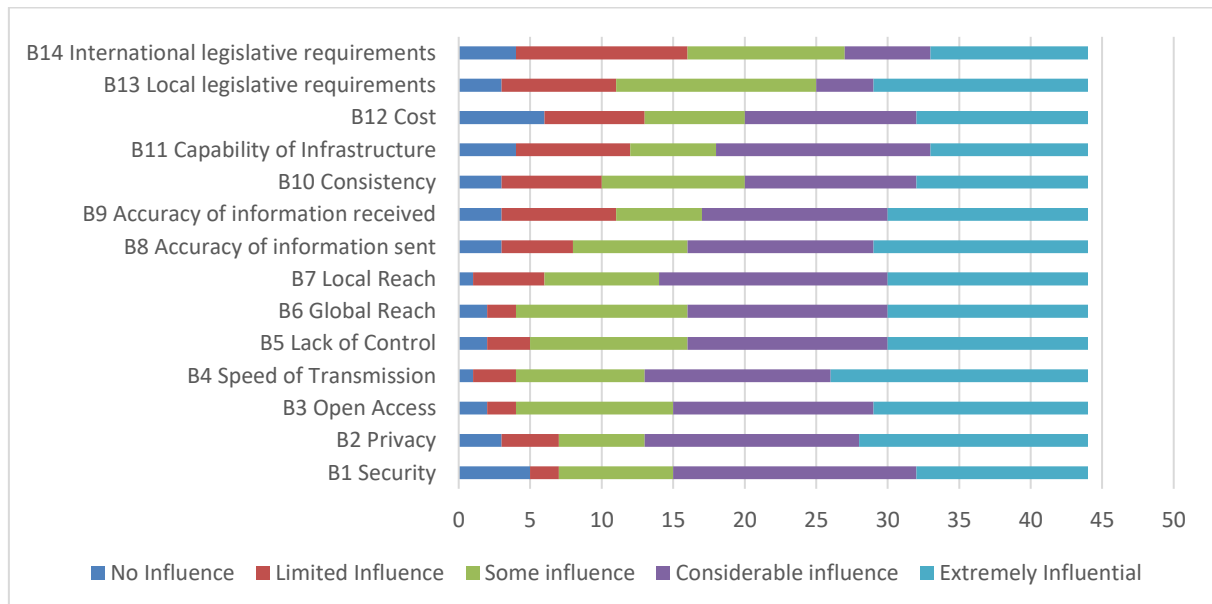
7.3.2 Global Factors Influencing the Use of Social Media as a Crisis Communications Tool

This results for this objective was presented at the IST- Africa Conference out of the study. Table 7.3.8 illustrates the factors that were selected for the study. The selected factors were “infrastructure and cost, security, privacy, open access, lack of control, global and local reach, accuracy of sent and received information, speed of transmission consistency, local and the international legislative requirements.” Figure 7.7 is visually representative of the Global Factors.

Table 7.3.8: Frequency of Responses: Global Factors

	No Influence	Limited Influence	Some influence	Considerable influence	Extremely Influential
B1 Security	5	2	8	17	12
B2 Privacy	3	4	6	15	16
B3 Open Access	2	2	11	14	15
B4 Speed of Transmission	1	3	9	13	18
B5 Lack of Control	2	3	11	14	14
B6 Global Reach	2	2	12	14	14
B7 Local Reach	1	5	8	16	14
B8 Accuracy of information sent	3	5	8	13	15
B9 Accuracy of information received	3	8	6	13	14
B10 Consistency	3	7	10	12	12
B11 Capability of Infrastructure	4	8	6	15	11
B12 Cost	6	7	7	12	12
B13 Local legislative requirements	3	8	14	4	15
B14 International legislative requirements	4	12	11	6	11

Figure 7.7: Frequency of Responses: Global Factors



The results of the descriptive statistics that were conducted is represented in Table 7.3.8. The results in Table 7.3.8 pertained to research objective, which was to determine the global factors affecting the decision to implement a social media strategy in crisis and disaster communication. From the analysis

of the descriptive statistics it was determined that the factors that were perceived to be the most “influential” were that of the “speed of transmission, followed by open access, privacy and local reach”. For the purpose of analysis, the mean of greater than 3.8 and the skewness of an estimated -1 indicated that the aforementioned factors have the highest skewness towards "Extremely Influential" (Ramluckan, 2016a).

With a mean of 3 and skewness of 0 indicating neutrality, the international legislative frameworks, local legislative frameworks, and the cost factors were determined to be of lesser importance i.e. these resulted in the lowest skewness towards being “Influential”.

It can be stated (Ramluckan, 2016a) that the more “influential factors which were speed of transmission open access, privacy and local reach can be considered as strong indicators influencing the decision to implement a social media strategy in crisis communications”.

Table 7.3.9: Descriptive statistics: Global Factors

	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness
B1 Security	3.66	0.19	4	4	1.26	1.58	0.0581	-0.9313
B2 Privacy	3.84	0.18	4	5	1.22	1.49	0.0888	-0.9731
B3 Open Access	3.86	0.16	4	5	1.09	1.19	0.3602	-0.8433
B4 Speed of Transmission	4.00	0.16	4	5	1.06	1.12	0.1264	-0.8676
B5 Lack of Control	3.80	0.17	4	4	1.11	1.24	0.0543	-0.7445
B6 Global Reach	3.82	0.16	4	4	1.08	1.18	0.2760	-0.7678
B7 Local Reach	3.84	0.16	4	4	1.08	1.16	-0.2046	-0.7216
B8 Accuracy of information sent	3.73	0.19	4	5	1.25	1.55	-0.4213	-0.7374
B9 Accuracy of information received	3.61	0.20	4	5	1.30	1.68	-0.8927	-0.5629
B10 Consistency	3.52	0.19	4	5	1.25	1.56	-0.8223	-0.4301
B11 Capability of Infrastructure	3.48	0.20	4	4	1.30	1.70	-0.9066	-0.5099
B12 Cost	3.39	0.21	4	5	1.40	1.96	-1.1152	-0.4197
B13 Local legislative requirements	3.45	0.20	3	5	1.32	1.74	-1.1839	-0.1513
B14 International legislative requirements	3.18	0.20	3	2	1.33	1.78	-1.2217	0.0819

6.3.2.1 Factor Analysis

In addition to the descriptive statistics factor analysis was performed as presented in Table 7.3.10. The Scree Plot for the factor analysis is presented as Figure A1 in Appendix A. The results of the Scree

Plot was that there were five main factors. Within these five factors, the associated items have been grouped according to their weightings. The Full Varimax Rotation Matrix is presented as Table A1 in Appendix A, presenting the weightings of all the items.

Table 7.3.10 illustrates the results of the factor analysis for the global factors influencing the use of Social Media as a Crisis Communications tool. The items were grouped together according to their weightings forming the Factors:

- **Factor 1:** General Legislative Requirements and Lack of Control
The items lack of control, local legislative requirements and international legislative requirements formed Factor 1.
- **Factor 2:** Reach and Speed of Transmission
The items Local reach, global reach and speed of transmission formed the Factor 2
- **Factor 3:** Security of Privacy and Open Access
The items security, privacy and open access formed Factor 3.
- **Factor 4:** Cost and Capability of Infrastructure
The items capability of infrastructure and cost formed Factor 4
- **Factor 5:** Accuracy and Consistency of Information Sent and Received
The items consistency together with information being sent or received formed Factor 5

The groupings of these items were consistent and reliable in accordance with the weightings. With reference to Factor 1, the item of Lack of Control can be effectively governed by the Local and International legislative requirements. From the interpretation of using the Varimax Full Rotation as discussed in Chapter 3, Factor 1 is the strongest factor with the largest variance between the items. With reference to Factor 2, the items of reach both local and global is dependent upon the speed of transmission i.e. in terms of implementing an effective communications channel during a crisis the speed of transmission is pertinent for the dissemination of timely information to both a local and international audience. With reference to Factor 3, the items of open access and privacy are perceived as an area of concern by the respondents, but with the correct security measures in place, privacy can be protected, and open access maintained for the effective use of social media channels during a crisis or disaster. With reference to Factor 4, the capability of infrastructure is dependent on the cost or funding available to develop good infrastructure. With reference to Factor 5, consistency is important in for any information channel but more especially in times of crisis and disasters, information must be consistent in terms of accurate information being sent and received.

Table 7.3.10: Factor Analysis of the Global Factors Influencing the Use of Social Media as a Crisis Communications Tool

Factor	Variable	Weighting
1	B5 Lack of Control	0.66
	B13 Local legislative requirements	0.89
	B14 International legislative requirements	0.86
2	B4 Speed of Transmission	0.78
	B6 Global Reach	0.91
	B7 Local Reach	0.88
3	B1 Security	0.62
	B2 Privacy	0.85
	B3 Open Access	0.79
4	B11 Capability of Infrastructure	0.81
	B12 Cost	0.91
5	B8 Accuracy of information sent	-0.84
	B9 Accuracy of information received	-0.78
	B10 Consistency	-0.83

7.3.3 The Extent of Social Media Usage in Crisis and Disaster Communication

Table 7.3.11 is reflective of the question based on the extent of social media usage in crisis and disaster management. The questions were coded in line with the 5 point Likert scale with the inclusion of a “0” coding for not applicable as a sixth element to the scale.

From the frequency distribution represented in Table 7.3.11 and Figure 7.8, there is a noticeable pattern that reveals that many participants remain unsure as to the extent that social media is being used within organisations. It was also revealed, that the strongest area that social media was noticeably used were (1) to shape public opinion of the organisation, with 24 of 44 participants in agreement (2) to gauge public opinion of the public as to their perceptions of the public during a crisis, with 16 of 44 in agreement.

Table 7.3.11: Frequency of Responses: Social Media Usage in Crisis and Disaster Communication

	Not Applicable	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
C1 My organisation has used social media to communicate with stakeholders during a crisis	6	6	6	8	12	6
C2 My organisation has used social media to communicate with the public during a crisis	7	6	7	8	13	3
C3 My organisation has used social media to shape the public opinion	1	5	8	6	12	12
C4 My organisation’s brand image has been attacked through the use of social media	5	4	9	9	9	8
C5 Social media has been used to uncover stakeholder perceptions during a crisis	5	7	11	12	5	4
C6 Social media has been used to uncover public perceptions during a crisis	5	7	7	9	10	6
C7 My organisation has used social media platforms to communicate with stakeholders during a natural disaster	5	7	10	16	4	2
C8 My organisation has used social media platforms to communicate with the public during a natural disaster	6	9	11	11	6	1
C9 My organisation has used social media platforms to disseminate information during political protest or strike to stakeholders	9	9	11	6	5	4

Figure 7.8: Frequency of Responses: Social Media Usage in Crisis and Disaster Communication

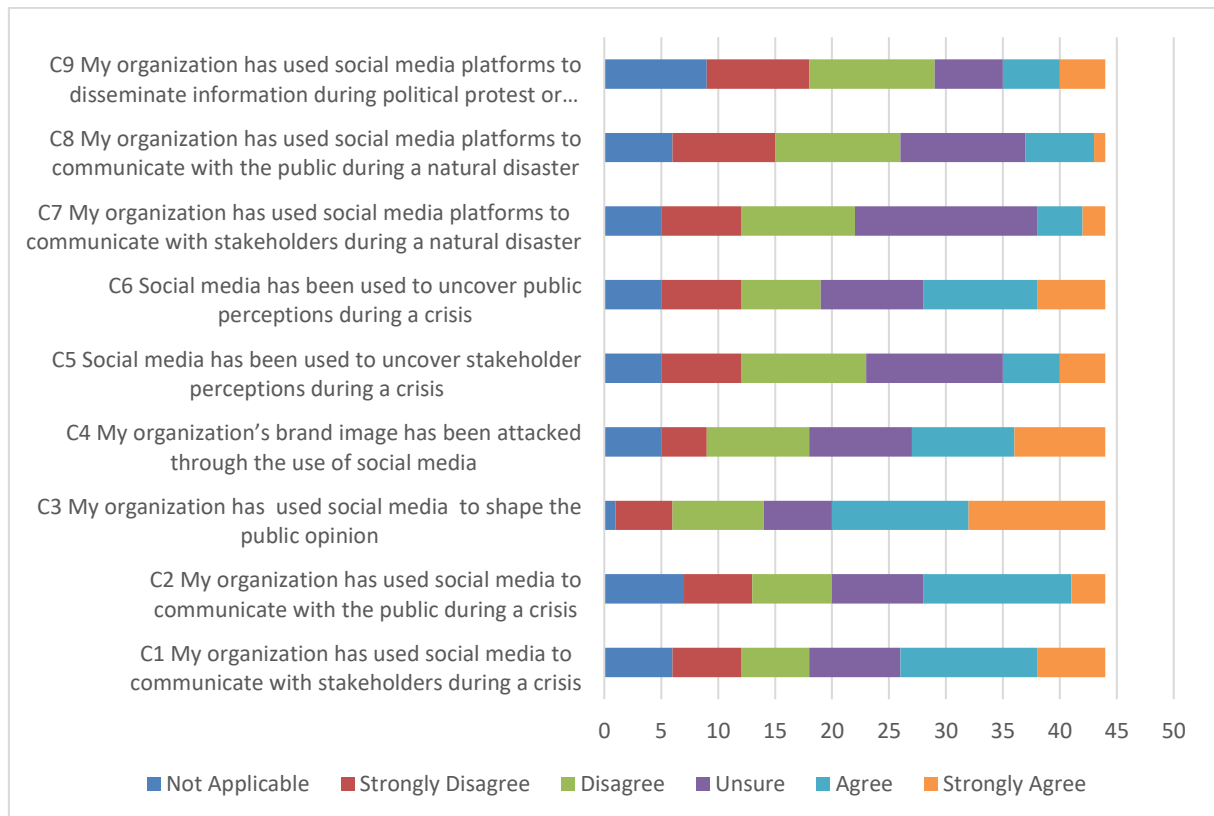


Table 7.3.12: Descriptive Statistics: Social Media Usage in Crisis and Disaster Communication

	Count	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness
C1 My organisation has used social media to communicate with stakeholders during a crisis	44	2.73	0.25	3	4	1.65	2.71	-1.1215	-0.3247
C2 My organisation has used social media to communicate with the public during a crisis	44	2.52	0.24	3	4	1.59	2.53	-1.1746	-0.2789
C3 My organisation has used social media to shape the public opinion	44	3.25	0.23	4	5	1.54	2.38	-0.9189	-0.4809
C4 My organisation's brand image has been attacked through the use of social media	44	2.84	0.24	3	4	1.60	2.56	-0.9028	-0.3004
C5 Social media has been used to uncover stakeholder perceptions during a crisis	44	2.39	0.22	2	3	1.43	2.06	-0.6258	0.0658
C6 Social media has been used to uncover public perceptions during a crisis	44	2.68	0.24	3	4	1.60	2.55	-1.0800	-0.2038
C7 My organisation has used social media platforms to communicate with stakeholders during a natural disaster	44	2.30	0.20	2.5	3	1.30	1.70	-0.4192	-0.1205
C8 My organisation has used social media platforms to communicate with the public during a natural disaster	44	2.11	0.20	2	2	1.33	1.78	-0.8027	0.0296
C9 My organisation has used social media platforms to disseminate information during political protest or strike to stakeholders	44	2.02	0.24	2	2	1.58	2.49	-0.8161	0.4079

Table 7.3.12 with the inclusion of the “not applicable” or 0 aspect, illustrates the descriptive statistics which were performed. The results of the descriptive statistics relates back to research objective 1- the extent of social media usage in crisis and disaster communication. The statistics revealed that from a total count of 44 respondents, the key area that they believed to have included as the main purpose of social media within their organisations was as substantiated by the frequency distributions, to shape public opinion of the organisation with a mean of 3.25, skewness of -0.4809, and kurtosis of -0.981. This was followed by the use of social in a crisis in disseminating information to its stakeholders with a mean of 2.73, skewness of -0.3247 and kurtosis of -1,1215.

Table 7.3.13: Descriptive Statistics: Social Media Usage in Crisis and Disaster Communication Excluding the “0” Value

	Count	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness
C1 My organisation has used social media to communicate with stakeholders during a crisis	38	3.16	0.22	3	4	1.33	1.76	-1.0381	-0.3055
C2 My organisation has used social media to communicate with the public during a crisis	37	3.00	0.21	3	4	1.25	1.56	-1.0428	-0.2724
C3 My organisation has used social media to shape the public opinion	43	3.42	0.21	4	4	1.38	1.92	-1.1307	-0.4162
C4 My organisation’s brand image has been attacked through the use of social media	39	3.21	0.21	3	4	1.30	1.69	-1.1012	-0.0999
C5 Social media has been used to uncover stakeholder perceptions during a crisis	39	2.69	0.19	3	3	1.22	1.48	-0.6118	0.3554
C6 Social media has been used to uncover public perceptions during a crisis	39	3.03	0.22	3	4	1.35	1.82	-1.1401	-0.1169
C7 My organisation has used social media platforms to communicate with stakeholders during a natural disaster	39	2.59	0.17	3	3	1.07	1.14	-0.1930	0.2304
C8 My organisation has used social media platforms to communicate with the public during a natural disaster	38	2.45	0.18	2	2	1.11	1.23	-0.7614	0.2660
C9 My organisation has used social media platforms to disseminate information during political protest or strike to stakeholders	35	2.54	0.23	2	2	1.34	1.78	-0.8544	0.5307

Table 7.3.13 illustrates the descriptive statistics which were performed removing the “0” coding. The count fluctuated dependent on the question. The statistics revealed that the key usage that they believed to have included as the main purpose of social media within their organisations was as substantiated by the frequency distributions, to shape public opinion of the organisation with a mean of 3.42, skewness of -0.4809, and kurtosis of -0.981, which had not changed. This was however followed by the organisations brand image being attacked through social media with a mean of 3.21, skewness of -0.0999 and kurtosis of -1,1012.

7.3.3.1 Factor Analysis

In addition to the descriptive statistics factor analysis was performed as presented in Table 7.3.14. The Scree Plot for the factor analysis is presented as Figure A2 in Appendix A. The results of the Scree Plot was that there were four main factors. Within these four factors, the associated items have been

grouped according to their weightings. The Full Varimax Rotation Matrix is presented as Table A2 in Appendix A, presenting the weightings of all the items.

Table 7.3.14 illustrates the results of the factor analysis for Social Media Usage in Crisis and Disaster Communication. The items were grouped together according to their weightings forming the Factors:

- **Factor 1: Organisational Reputation**

The items that were grouped together according to their weightings, were C1 My organisation has used social media to communicate with stakeholders during a crisis, C2 My organisation has used social media to communicate with the public during a crisis and C9 My organisation has used social media platforms to disseminate information during political protest or strike to stakeholders which formed Factor 1.

- **Factor 2: External Communication for Brand Image**

The items that were grouped together according to their weightings, were C4 My organisation's brand image has been attacked through the use of social media, C5 Social media has been used to uncover stakeholder perceptions during a crisis and C6 Social media has been used to uncover public perceptions during a crisis formed Factor 2

- **Factor 3: Communication during natural disasters**

The items C7 My organisation has used social media platforms to communicate with stakeholders during a natural disaster and C8 My organisation has used social media platforms to communicate with the public during a natural disaster formed Factor 3

- **Factor 4: Public Perception of the "Brand"**

The items C3 My organisation has used social media to shape the public opinion formed Factor 4.

The groupings of these items were in a logical order as the items forming each Factor were related. Table 7.3.14 illustrates the results of the factor analysis for extent of social media usage in crisis and disaster communication. With reference to Factor 1, the common theme that was identified, was that social media was used to disseminate information to the public and stakeholders during crises including political protests, thereby attempting to maintain a good "reputation". With reference to Factor 2, the items identified the "feedback" or perceptions of respondents on the public opinion of the organisation promoting a brand image while Factor 3 related to the dissemination to the public and stakeholders during disasters. Factor 4 was the use of social media to shape public opinion in terms of the organisation's image, as organisations may seek to shape the public's perception of their organisational brand image.

Table 7.3.14: Factor Analysis for the Extent of Social Media Usage in Crisis and Disaster Communication

Factor	Variable	Weighting
1	C1 My organisation has used social media to communicate with stakeholders during a crisis	0.75
	C2 My organisation has used social media to communicate with the public during a crisis	0.77
	C9 My organisation has used social media platforms to disseminate information during political protest or strike to stakeholders	0.89
2	C4 My organisation’s brand image has been attacked through the use of social media	-0.68
	C5 Social media has been used to uncover stakeholder perceptions during a crisis	-0.85
	C6 Social media has been used to uncover public perceptions during a crisis	-0.93
3	C7 My organisation has used social media platforms to communicate with stakeholders during a natural disaster	0.88
	C8 My organisation has used social media platforms to communicate with the public during a natural disaster	0.86
4	C3 My organisation has used social media to shape the public opinion	-0.90

7.3.4 Legislative and Governance Requirements that Influence the Use of Social Media as a Crisis Communications Tool

Table 7.3.15 is reflective of the question based on legislative and governance factors that influences the use of social media in crises and disasters. The questions were coded in line with the 5 point Likert scale from “No Influence” = 1, to “Extremely Influence”=5. The legislation and frameworks that were selected were, Privacy Legislation, Communications Laws, and Access to Information Laws, Interception Laws, Corporate Governance Frameworks and International Best Practices Frameworks.

Table 7.3.15: Frequency of Responses: Influential Legislation

	No Influence	Limited Influence	Some influence	Considerable influence	Extremely influential
D1 The privacy legislation	4	8	8	11	13
D2 The general communication laws	2	7	14	9	12
D3 The Access to Information laws	5	6	11	12	10
D4 The interception laws	7	9	9	11	8
D5 The corporate governance frameworks	8	3	14	12	7
D6 The international best practices frameworks	8	5	8	18	5

Figure 7.9: Frequency of Responses: Influential Legislation

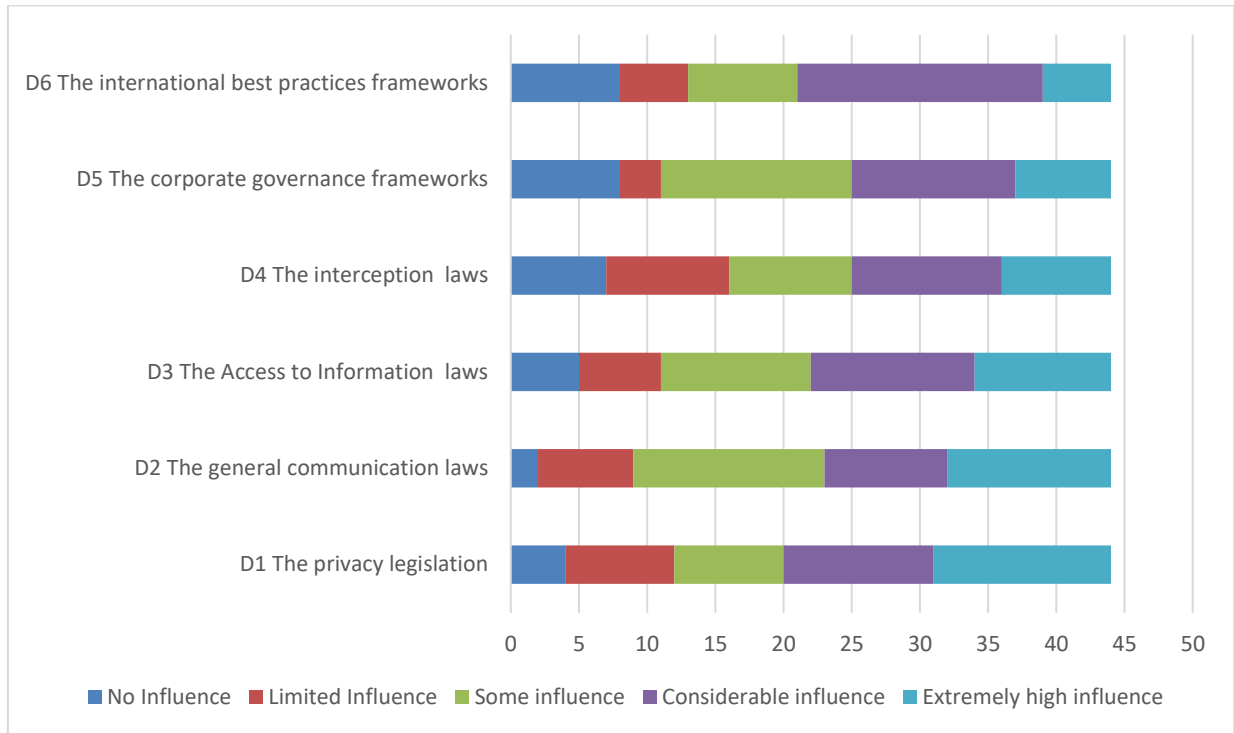


Table 7.3.15, illustrates the descriptive statistics which were performed. The results of the descriptive statistics relates back to research objective 3 - Identify the possible legislative and governance factors that influence the use of social media as a crisis communications tool. The descriptive statistics were analysed using the elements of the mean, standard deviation, kurtosis, skewness and confidence level. The statistics revealed that the strongest governing legislative frameworks were the international best practices frameworks with a mode of 4, median of 4, skewness of -0.5023 and kurtosis of -0.9634, Privacy legislation, with a mode of 5, mean of 4, skewness of -0.4069 and kurtosis of -1.0529. Privacy is a reoccurring inhibiting theme, which persists through the perceptions of the participants in this study.

Table 7.3.16: Descriptive Statistics: Influential Legislation

	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness
D1 The privacy legislation	3.48	0.20	4	5	1.34	1.79	-1.0529	-0.4069
D2 The general communication laws	3.50	0.18	3	3	1.19	1.42	-0.8860	-0.2163
D3 The Access to Information laws	3.36	0.20	3.5	4	1.30	1.68	-0.8425	-0.3905
D4 The interception laws	3.09	0.21	3	4	1.36	1.85	-1.1918	-0.1136
D5 The corporate governance frameworks	3.16	0.20	3	3	1.31	1.72	-0.8152	-0.3725
D6 The international best practices frameworks	3.16	0.20	4	4	1.31	1.72	-0.9634	-0.5023

7.3.4.1 Factor Analysis

In addition to the descriptive statistics factor analysis was performed as presented in Table 7.3.16. The Scree Plot for the factor analysis is presented as Figure A3 in Appendix A. The results of the Scree Plot was that there were four main factors. Within these four factors, the associated items have been grouped according to their weightings. The Full Varimax Rotation Matrix is presented as Table A3 in Appendix A, presenting the weightings of all the items.

Table 7.3.16 illustrates the results of the factor analysis for the Legislative and Governance Requirements that Influence the Use of Social Media as a Crisis Communications Tool. The items were grouped together according to their weightings forming the Factors:

- **Factor 1:** The General Communication and Access to Information Laws
The items were grouped together according to their weightings, that is the legislative requirements D2 the general communication and D3 the Access to Information formed Factor 1.
- **Factor 2:** Corporate Governance Frameworks and Best Practices
The items that were grouped together according to their weightings, were D5 the corporate governance frameworks and D6 the international best practices formed Factor 2.
- **Factor 3:** The Interception Laws
The item D4 the interception laws formed Factor 3
- **Factor 4:** Privacy Legislation
The item D1 the privacy legislation formed Factor 4.

The groupings of these items were in a logical order as the items forming each Factor were related, reliable and consistent. Table 7.3.16 illustrates the results of the factor analysis for the Legislative and Governance Factors that Influence the Use of Social Media as a Crisis Communications Tool. With reference to Factor 1, the general laws pertaining to communication and access to information were identified as one factor- the general perception of the public is relate communications principles with mandated legislation. Factor 2, refers to the Corporate Governance Frameworks and Best Practices for which the majority of organisations may utilize Best Practices and Governing Frameworks as guidelines for the implementation of effective communications channels during crisis and disaster. Factor 3 consists of the Interception Laws, which to an extent hinders the effectiveness of Factor 4. Interception Laws are mandated to intercept “unlawful” or “harmful” information, whilst privacy laws are meant to protect the privacy of a persons or organisations information. This is a point of contention, however, the interception laws do hold a slightly higher weighting and organisations do have the right to intercept information they perceive as harmful or unlawful, providing proper procedures are followed. With regard to Factor 4, even though privacy is a right, the safety of the individual or public does take precedence in crisis and disasters.

Table 7.3.17: Factor Analysis for the Legislative and Governance Factors that Influence the Use of Social Media as a Crisis Communications Tool

Factor	Variable	Weighting
1	D2 The general communication	0.82
	D3 The Access to Information	0.73
2	D5 The corporate governance frameworks	-0.87
	D6 The international best practices	-0.94
3	D4 The interception laws	0.88
4	D1 The privacy legislation	0.84

7.3.5 Social Media in Monitoring & Evaluation

Table 7.3.17 represents the frequency distribution in a graphic format, the descriptive statistics and finally the interpretation and analysis of the data. Table 7.3.5.1 is reflective of the question based on Social Media in Monitoring & Evaluation. The questions were coded in line with the 5 point Likert scale from “Strongly Disagree” = 1, to “Strongly Agree”=5. The frequency distributions revealed that the majority of respondents perceived the monitoring and evaluation of social media in crisis communication was extremely important, but in questions pertaining to the use of software monitoring tools in social media by their organisations, the majority of respondents were unsure followed by disagree, which means that either it was not considered or not used.

Table 7.3.18: Frequency of Responses: Social Media Monitoring & Evaluation

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
E1 Social Media is useful in monitoring and evaluating crises and crisis communication	1	2	3	26	12
E2 It is important to monitor and evaluate the use of social media as a crisis communication tool	0	0	1	26	17
E3 It is important to monitor and evaluate the use of social media to mitigate the risk of a public relations crisis	0	0	0	24	20
E4 Reviewing social media is useful in constructing “lessons learnt” after a crisis	0	1	1	27	15
E5 My organisation uses specialist tools/software to manage and monitor social media during crisis	15	6	15	6	2
E6 My organisation uses a manual process to manage and monitor social media during crises	8	5	20	9	2
E7 My organisation monitors social media to evaluate the effectiveness/success of crisis communications	8	4	20	11	1
E8 My organisation monitors its social media accounts during a crisis to ensure the information provided is accurate	9	2	16	13	4
E9 My organisation monitors its social media accounts during a crisis to ensure that there are no inappropriate posts	7	4	13	12	8
E10 My organisation monitors its social media accounts during a crisis to ensure that there are no unofficial posts by employees	7	3	12	14	8
E11 My organisation monitors its social media accounts during a crisis to ensure that there are no damaging posts aimed at my organisation	6	7	12	11	8
E12 My organisation regularly audits controls on social media to ensure they are effective in addressing risk posed by social media	10	5	18	7	4
E13 My organisation regularly audits controls on social media to ensure they are still relevant to risks posed by social media	10	6	18	7	3
E14 My organisation monitors social media to evaluate public opinion during a crisis	6	4	16	12	6
E15 My organisation has established metrics against which social media communications during a crisis is evaluated	13	4	21	3	3

Figure 7.10, is the graphical representation of the frequency distribution.

Figure 7.10: Frequency of Responses: Social Media Monitoring & Evaluation



Table 7.3.19: Descriptive Statistics: Social Media Monitoring & Evaluation

	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness
E1 Social Media is useful in monitoring and evaluating crises and crisis communication	4.05	0.13	4	4	0.86	0.74	3.3137	-1.4618
E2 It is important to monitor and evaluate the use of social media as a crisis communication tool	4.36	0.08	4	4	0.53	0.28	-0.9889	0.0961
E3 It is important to monitor and evaluate the use of social media to mitigate the risk of a public relations crisis	4.45	0.08	4	4	0.50	0.25	-2.0601	0.1891
E4 Reviewing social media is useful in constructing “lessons learnt” after a crisis	4.27	0.09	4	4	0.62	0.39	2.7249	-0.8614
E5 My organisation uses specialist tools/software to manage and monitor social media during crisis	2.41	0.18	3	3	1.23	1.50	-0.9764	0.2599
E6 My organisation uses a manual process to manage and monitor social media during crises	2.82	0.17	3	3	1.11	1.22	-0.4892	-0.2719
E7 My organisation monitors social media to evaluate the effectiveness/success of crisis communications	2.84	0.16	3	3	1.08	1.16	-0.5297	-0.4877
E8 My organisation monitors its social media accounts during a crisis to ensure the information provided is accurate	3.02	0.19	3	3	1.25	1.56	-0.7321	-0.4207
E9 My organisation monitors its social media accounts during a crisis to ensure that there are no inappropriate posts	3.23	0.20	3	3	1.31	1.71	-0.8140	-0.3775
E10 My organisation monitors its social media accounts during a crisis to ensure that there are no unofficial posts by employees	3.30	0.20	3.5	4	1.30	1.70	-0.6913	-0.5158
E11 My organisation monitors its social media accounts during a crisis to ensure that there are no damaging posts aimed at my organisation	3.18	0.20	3	3	1.30	1.69	-0.9479	-0.2205
E12 My organisation regularly audits controls on social media to ensure they are effective in addressing risk posed by social media	2.77	0.19	3	3	1.24	1.53	-0.7617	-0.0086
E13 My organisation regularly audits controls on social media to ensure they are still relevant to risks posed by social media	2.70	0.18	3	3	1.19	1.42	-0.7225	0.0049
E14 My organisation monitors social media to evaluate public opinion during a crisis	3.18	0.18	3	3	1.21	1.45	-0.5073	-0.3664
E15 My organisation has established metrics against which social media communications during a crisis is evaluated	2.52	0.18	3	3	1.19	1.42	-0.5810	0.1600

Table 7.3.19 illustrates the descriptive statistics which were performed. The results of the descriptive statistics relates back to research objectives 3- Identify the possible legislative and governance factors that influence the use of social media as a crisis communications tool. The descriptive statistics

were analysed using the elements of the mean, standard deviation, kurtosis, skewness and confidence level. The statistics revealed that the strongest perceptions on the role of monitoring and evaluation of social media in crisis and disaster management. The strongest perception from the majority of respondents i.e. monitoring and evaluation is important with a mode and median of 3, skewness of 0.2599 and kurtosis of -0.9764. Although the actual knowledge of the implementation of monitoring and evaluation within organisations is very low to unsure. This could be attributed to the lack of actual implementation of social media as a crisis communications tool within the majority of organisations.

7.3.5.1 Factor Analysis

In addition to the descriptive statistics factor analysis was performed as presented in Table 7.3.20. The Scree Plot for the factor analysis is presented as Figure A4 in Appendix A. The results of the Scree Plot was that there were five main factors. Within these five factors, the associated items have been grouped according to their weightings. The Full Varimax Rotation Matrix is presented as Table A4 in Appendix A, presenting the weightings of all the items.

Table 7.3.20 provides a summary of the results of the factor analysis for Social Media in Monitoring & Evaluation. The items were grouped together according to their weightings forming the Factors:

- **Factor 1:** The general monitoring and evaluation of social media by organisations
The items E7 My organisation monitors social media to evaluate the effectiveness/success of crisis communications, E8 My organisation monitors its social media accounts during a crisis to ensure the information provided is accurate, E9 My organisation monitors its social media accounts during a crisis to ensure that there are no inappropriate posts, E10 My organisation monitors its social media accounts during a crisis to ensure that there are no unofficial posts by employees, E11 My organisation monitors its social media accounts during a crisis to ensure that there are no damaging posts aimed at my organisation and E14 My organisation monitors social media to evaluate public opinion during a crisis formed Factor 1.
- **Factor 2:** The importance of social monitoring and evaluation by organisations
The items E2 It is important to monitor and evaluate the use of social media as a crisis communication tool and E3 It is important to monitor and evaluate the use of social media to mitigate the risk of a public relations crisis formed Factor 2.
- **Factor 3:** The extent of social media monitoring by organisations
The items E5 My organisation uses specialist tools/software to manage and monitor social media during crisis, E12 My organisation regularly audits controls on social media to ensure they are effective in addressing risk posed by social media, E13 My organisation regularly audits controls on social media to ensure they are still relevant to risks posed by social media and E15 My organisation has established metrics against which social media communications during a crisis is evaluated formed Factor 3.

- **Factor 4:** The relevance of social media monitoring by organisations
The items E1 Social Media is useful in monitoring and evaluating crises and crisis communication and E4 Reviewing social media is useful in constructing “lessons learnt” after a crisis formed Factor 4.
- **Factor 5: The use of manual processes to monitor social media by organisations**
The item E6 My organisation uses a manual process to manage and monitor social media during crises formed Factor 5.

Table 7.3.20: Factor Analysis for Social Media in Monitoring & Evaluation

Factor	Variable	Weighting
1	E7 My organisation monitors social media to evaluate the effectiveness/success of crisis communications	0.64
	E8 My organisation monitors its social media accounts during a crisis to ensure the information provided is accurate	0.81
	E9 My organisation monitors its social media accounts during a crisis to ensure that there are no inappropriate posts	0.94
	E10 My organisation monitors its social media accounts during a crisis to ensure that there are no unofficial posts by employees	0.88
	E11 My organisation monitors its social media accounts during a crisis to ensure that there are no damaging posts aimed at my organisation	0.84
	E14 My organisation monitors social media to evaluate public opinion during a crisis	0.91
2	E2 It is important to monitor and evaluate the use of social media as a crisis communication tool	0.88
	E3 It is important to monitor and evaluate the use of social media to mitigate the risk of a public relations crisis	0.91
3	E5 My organisation uses specialist tools/software to manage and monitor social media during crisis	-0.57
	E12 My organisation regularly audits controls on social media to ensure they are effective in addressing risk posed by social media	-0.92
	E13 My organisation regularly audits controls on social media to ensure they are still relevant to risks posed by social media	-0.90
	E15 My organisation has established metrics against which social media communications during a crisis is evaluated	-0.83
4	E1 Social Media is useful in monitoring and evaluating crises and crisis communication	-0.86
	E4 Reviewing social media is useful in constructing “lessons learnt” after a crisis	-0.78
5	E6 My organisation uses a manual process to manage and monitor social media during crises	-0.91

The groupings of these items were in a logical order as the items forming each Factor were related, reliable and consistent. Table 7.3.20 illustrates the results of the factor analysis for Social Media in Monitoring & Evaluation. Factor 1 considers the extent to which and purpose of social media is monitored during a crisis, for reasons of evaluating the success of using social media as a communications channel, but also to ensure that internal information is not being disseminated. Factor 2 follows on from Factor 1, focusing on the importance of social media monitoring for risk mitigation in a public relations context. Factor 3 examined the extent to which social media monitoring software

tools were being used by organisations and determined the metrics used for such monitoring and evaluation. Factor 4 established the “usefulness” of social media in the monitoring of crisis and the creation of lessons learnt to provide insight into the effectiveness of this communication channel. Factor 5 determined the manual processes used to monitor the use of social media in crisis – This includes methods of reading through articles an online material and viewing press releases or clippings, and news feeds, seeking specific mentions of the organisation concerned (CyberAlert, 2010, 2).

7.3.6 The Relevance and Impact of Social Media as a Tool for Strategic Communication and Perception Management in Crisis and Disaster Management

Table 7.3.21 presents the frequency distribution in a table format, the descriptive statistics and finally the interpretation and analysis of the data. Table 7.3.6.1 is reflective of the perceptions of the respondents of the relevance and impact of social media as a tool for strategic communication in crisis and disaster management.

Table 7.3.21: Frequency of Responses: Relevance and Impact of Social Media as a Tool for Strategic Communication and Perception Management in Crisis and Disaster Management

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
F1 Social media is a convenient way of communicating with relevant stakeholders in a crisis	1	4	2	22	15
F2 Social media has had a positive impact on crisis communication overall	0	5	9	21	9
F3 Social media is easy to use when communicating with stakeholders	0	4	6	24	10
F4 Social media has made communicating to stakeholders during a crisis easier	0	3	10	25	6
F5 Social media has provided relevant information on stakeholders perceptions of my organisation during a crisis	6	3	15	15	5
F6 Social media has provided a good platform to receive information from public/stakeholders during a crisis (crowdsourcing)	3	4	7	20	10
F7 Social media has provided a good platform to aid in collaboration for my organisation during a crisis/disaster	7	3	13	14	7
F8 Social media has provided a good platform to aid in decision making during a crisis/disaster	4	6	9	18	7
F9 Social media is a relevant tool in crisis communications	0	1	2	24	17
F10 Social media is an effective tool in crisis communications	0	2	7	20	15

The frequency distribution revealed that the majority of respondent’s perceived social media to be a suitable strategic communications tool as depicted in Figure 7.11, with 37 of the 44 agreeing to its importance.

Figure 7.11: Frequency of Responses: Relevance and Impact of Social Media as a Tool for Strategic Communication and Perception Management in Crisis and Disaster Management

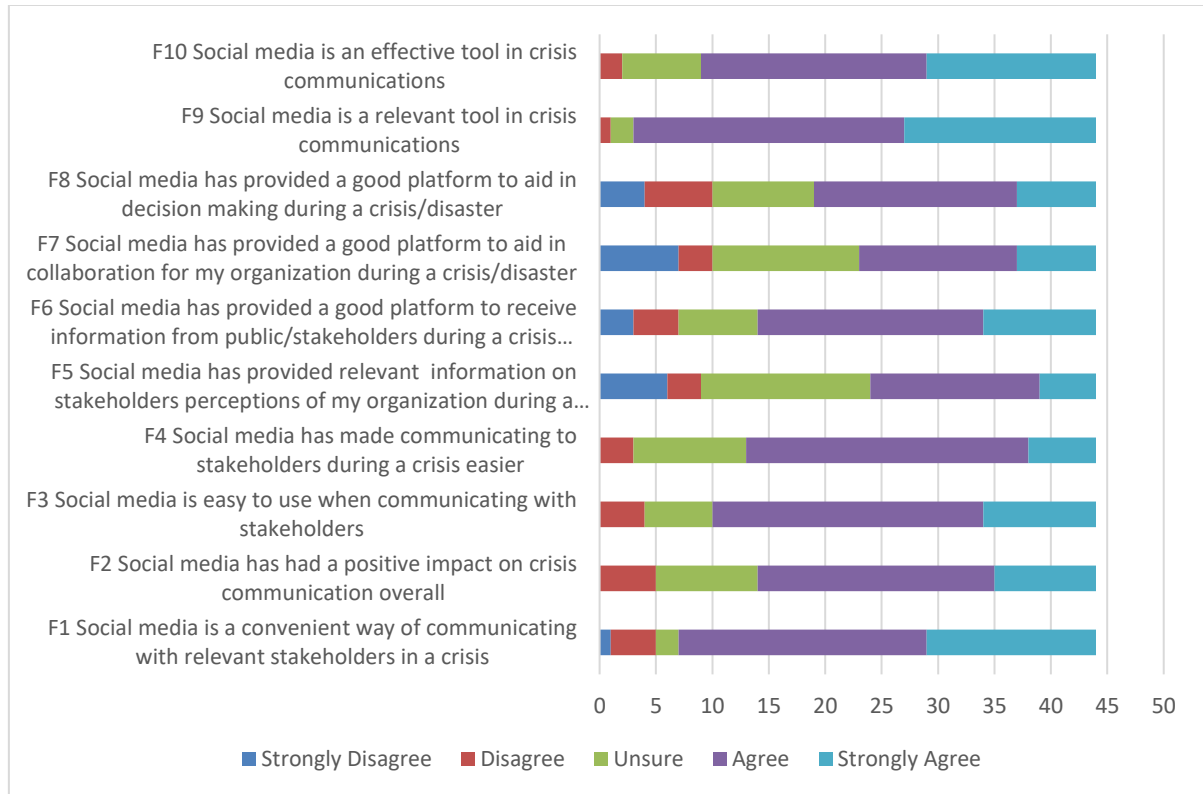


Table 7.3.22: Descriptive Statistics: Relevance and Impact of Social Media as a Tool for Strategic Communication and Perception Management in Crisis and Disaster Management

Table 7.3.22, illustrates the descriptive statistics which were performed. The results of the descriptive statistics relates back to research objectives 4- Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management. The descriptive statistics were analysed using the elements of the mean, standard deviation, kurtosis, skewness and confidence level. The statistics revealed that the general perception was that social media was an applicable strategic communications tool with the means averaging 3.8, and skewness between -0.4485 and -1.3096. But the actual usage compared to the perceptions, may reveal differences.

	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness
F1 Social media is a convenient way of communicating with relevant stakeholders in a crisis	4.05	0.15	4	4	0.99	0.97	1.5892	-1.3096
F2 Social media has had a positive impact on crisis communication overall	3.77	0.14	4	4	0.91	0.83	-0.3913	-0.4865
F3 Social media is easy to use when communicating with stakeholders	3.91	0.13	4	4	0.86	0.74	0.3057	-0.7466
F4 Social media has made communicating to stakeholders during a crisis easier	3.77	0.12	4	4	0.77	0.60	0.2799	-0.5234
F5 Social media has provided relevant information on stakeholders perceptions of my organisation during a crisis	3.23	0.18	3	4	1.18	1.39	-0.3214	-0.5542
F6 Social media has provided a good platform to receive information from public/stakeholders during a crisis (crowdsourcing)	3.68	0.17	4	4	1.14	1.29	0.2898	-0.9220
F7 Social media has provided a good platform to aid in collaboration for my organisation during a crisis/disaster	3.25	0.19	3	4	1.28	1.63	-0.6479	-0.4944
F8 Social media has provided a good platform to aid in decision making during a crisis/disaster	3.41	0.18	4	4	1.19	1.41	-0.4555	-0.6028
F9 Social media is a relevant tool in crisis communications	4.30	0.10	4	4	0.67	0.45	1.8659	-0.9107
F10 Social media is an effective tool in crisis communications	4.09	0.13	4	4	0.83	0.69	0.0655	-0.6862

7.3.6.1 Factor Analysis

In addition to the descriptive statistics factor analysis was performed as presented in Table 7.3.23. The Scree Plot for the factor analysis is presented as Figure A5 in Appendix A. The results of the Scree Plot was that there were three main factors. Within these three factors, the associated items have been grouped according to their weightings. The Full Varimax Rotation Matrix is presented as Table A5 in Appendix A, presenting the weightings of all the items.

Table 7.3.23 provides a summary of the results of the factor analysis for the Relevance and Impact of Social Media as a Tool for Strategic Communication and Perception Management in Crisis and Disaster Management. The items were grouped together according to their weightings forming the Factors:

- **Factor 1:** The perceived ease of use, relevance and efficiency of social media
The items F1 Social media is a convenient way of communicating with relevant stakeholders in a crisis, F3 Social media is easy to use when communicating with stakeholders, F4 Social media has made communicating to stakeholders during a crisis easier, F9 Social media is a

relevant tool in crisis communications and F10 Social media is an effective tool in crisis communications formed Factor 1.

- **Factor 2:** The perceived usefulness of social media

The items F6 Social media has provided a good platform to receive information from public/stakeholders during a crisis (crowdsourcing), F7 Social media has provided a good platform to aid in collaboration for my organisation during a crisis/disaster and F8 Social media has provided a good platform to aid in decision making during a crisis/disaster formed Factor 2.

- **Factor 3:** The perceived impact of social media in crisis communication

The items F2 Social media has had a positive impact on crisis communication overall and F5 Social media has provided relevant information on stakeholders perceptions of my organisation during a crisis formed Factor 3.

The groupings of these items were in a logical order as the items forming each Factor were related, reliable and consistent. Table 7.3.23 presents the results of the factor analysis for the relevance and impact of Social Media as a Tool for Strategic Communication and perception management in Crisis and Disaster Management.

With reference to Factor 1, the perceived ease of use, relevance and efficiency of social media, this Factor aligns to the “Technology Acceptance Model” (TAM) and the “Task Technology Fit” (TTF). The TAM and TTF Models are considered to be behavioural models explaining the intention to certain technologies, or in this case specifically the intention to use social media in crisis. The concept of functionality is also evident as a recurring theme in TAM with the elements of perceived ease of use and perceived usefulness as well as Rogers Diffusion Innovation Theory, which states the intention to adopt an innovation is dependent upon the nature of social system. In simple terms a new technology or as in this case social media, would be accepted as a tool in crisis communications and disaster management depending on its "functionality", perceived ease of use and perceived usefulness should the nature of the social system permit it.

Factor 2, the perceived usefulness of social of social media, relates to the “Technology Acceptance Model” (TAM) and the “Task Technology Fit” (TTF), as discussed in Section 4.4.1 and Section 4.4.2 of the thesis.

Factor 3, the perceived impact of social media in crisis communication, aligns to the “Task Technology Fit” (TTF) – the model used to analyse whether the technology, as in this case social media, meets the requirements of the task, being a communications channel within crisis communications.

Table 7.3.23: Factor Analysis for the Relevance and Impact of Social Media as a Tool for Strategic Communication and Perception Management in Crisis and Disaster Management

Factor	Variable	Weighting
1	F1 Social media is a convenient way of communicating with relevant stakeholders in a crisis	0.83
	F3 Social media is easy to use when communicating with stakeholders	0.75
	F4 Social media has made communicating to stakeholders during a crisis easier	0.79
	F9 Social media is a relevant tool in crisis communications	0.72
	F10 Social media is an effective tool in crisis communications	0.80
2	F6 Social media has provided a good platform to receive information from public/stakeholders during a crisis (crowdsourcing)	0.61
	F7 Social media has provided a good platform to aid in collaboration for my organisation during a crisis/disaster	0.75
	F8 Social media has provided a good platform to aid in decision making during a crisis/disaster	0.88
3	F2 Social media has had a positive impact on crisis communication overall	-0.69
	F5 Social media has provided relevant information on stakeholders perceptions of my organisation during a crisis	-0.86

The overall statistics revealed the perceptions of the respondents was that social media was a relevant tool in crisis communications, but that there does exist a lack in the number of organisations using it to its full potential. Organisations viewed the use of social media as a marketing and reputation tool but not necessarily as a two-way channel in crisis and disasters. The respondents further revealed that they are aware of the governing frameworks, as well as the strongest influencing factors that inhibit the use of social media usage in crisis and disasters. The factors of lack of control and privacy featured strongly. No single legislative framework could be used specifically for social media governance. This in itself, means that there is a need for a specialised social media legislation in South Africa. Cronbach's Alpha was performed which indicated a good reliability, even with a low response rate. The Factor Analysis was performed in addition to the basic descriptive statistics, which demonstrated the consistency of groupings of items and limited the number of factors in accordance to their weightings or values.

7.4 Chapter Summary

This chapter incorporated the results from the qualitative interviews and the quantitative questionnaires from the respondents. The interviews revealed the perceptions of the respondents to the study in which they acknowledged the importance of social media usage in crisis communications, even though the actual usage was low to unsure within organisations. The factors that the respondents perceived to be most influential for social media implementation was also identified as privacy, confidentiality, security and the speed of transmission. This entailed collecting and analysing data from three methodological approaches which were Content Analysis, Qualitative Interviews and Quantitative Questionnaires. The next chapter forms a discussion of the findings for the three methodologies conducted in the study.

CHAPTER 8 DISCUSSION

8.1 Introduction

The purpose of the study was to evaluate social media as a tool in crisis and disasters in South Africa. The study incorporated a threefold methodology involving content analysis, interviews with specialists and questionnaires from specialists and academics. A total of 12 pieces of legislation and governing frameworks, 10 best practice standards or guidelines and 14 policies were analysed for the content analysis, 11 respondents participated for the interviews- either directly or by contributing through relevant documentation and 44 respondents participated by completing the questionnaire. The study was divided into five objectives which were met through the findings from the various research methodologies used. The objectives of the study were discussed, in the sections below, together with the findings.

8.2 RO1: To investigate the extent of social media usage in crisis and disaster communication E14, from section 3.5

Section 7.2.2 from the interview schedule addressed this objective. The question posed to the respondents was to gauge information as to the extent, that organisations, within the various sectors were using social media, both in the general sense in terms of usage (which may include marketing of content to the sharing of information to their stakeholders) and more specifically as a crisis communications tool. The majority of respondents' perceptions were that the purpose of social media usage within organisations was limited to a marketing and public image. The majority of the respondents agreed that this form of communication is effective, but as stated by R1, there must be a control mechanism in place for monitoring and evaluation to prevent abuse of the system. The key factors that were identified from this question was (1) Planning i.e. to include the possible use of a social media platform within the organisations communications strategy and (2) the need for monitoring and evaluation of such a medium. The other five respondents did not answer this question, demonstrating a possible lack of awareness. In both the above cases, the use of social media undoubtedly had a significant impact in crisis communication in more ways than one. Apart from acting as an effective and timeous mode of communication, it also assisted in gaining publicity and media coverage. The use of social media also provided a viewpoint into the sentiment shared by protestors and activists. The value of social media as a source of information and communication is therefore instrumental in such events."

The majority of respondents answered this question, but merely provided examples without discussing the "impact" aspect of social media. R1 to some extent mentioned negative marketing- so social media gone bad. And R2 mentioned awareness of the situation through social media. R7 did state that social

media was used in Haiti, but once again as a last option. It does illustrate the resiliency of social media and related platforms.

The main concept that did arise from social media usage in crisis communication from one respondent was that organisations have used social media as a communications tool during crises, but also inferred that it was used as a last resort when there were no other communications channels available. This can be attributed to the “nature” of social media and related technologies. Social media has defining characteristics which enable two-way, timeous communication, making it easy to use and easily accessible, and has proven to be a resilient technology in crisis and disasters e.g. in the Nepal Earthquake of 2015.

Quakemap.org, was a website created to gauge information from the public through social media platforms in the Nepal Earthquake aftermath. With all the destruction caused, traditional telecommunication networks were said to be “non-existent”, however the Internet connections proved to be resilient and people used their mobile phones, thereby becoming the primary form of communication for those affected by the disaster. From the information gathered from the public, aid was successfully dispersed to the affected areas.

From the data obtained from the questionnaire descriptive statistics which were performed. The descriptive statistics were analysed using the elements of the mean, standard deviation, kurtosis, skewness and confidence level. The statistics revealed that the strongest usage of social media was to shape public opinion which corroborates the findings from the interviews that organisations are using social media but as a brand image marketing tool and not as much in crisis communications. However, social media can also be used to maintain an organisations reputation as a strategic communications channel during the actual crisis, promoting two-way interactive communication between the organisation and the stakeholders. Even though a relatively reasonable number of the respondents stated that they their companies had used social media in crisis to disseminate information, it was offset by the uncertainty as the majority of respondents to this question were unsure.

From a total of 9 Standards, just one Standard SANS 22313:2014, mandates the use of social media. Under (S) (8.4.4.3.2) Communications procedures it clearly states:

“Use all communications channels open to the organisation including social media.”

Collectively from all three data gathering and analysis methodologies it was evident that to a limited extent the use of social media has been given some recognition as a possible communications tool in crisis communications and disaster management.

8.3 RO2: Determine global factors influencing the use of social media as a crisis communications tool and propose updated communication flow models for the specific case of social media in crisis management

A previous version of this data was presented at the IST Africa 2016 conference. For the interviews, this was not posed as a direct question however the respondents were asked indirectly as to what they felt were the benefits and challenges of using social media in crisis. This question formed the basis of Section 7.2.5 - In your opinion, what do you think are the benefits and/or challenges of using social media in crisis and disaster management? This question formed part of research objective 2. From their responses the following common themes emerged (1) the benefits of social media outweighed the challenges but caution is required in its usage. The key concern that arose was that of Privacy. The majority of respondents were positive in their outlook of the use of social media in crisis communications. The other key factors that emerged were global and local reach, timeliness of warning signals to the stakeholders, and interactivity or two-way communication between organisations and their stakeholders.

With reference to Section 7.3.2 of the quantitative research which addressed this research objective, the descriptive statistics were analysed. The mean, kurtosis, skewness, standard deviation and confidence levels were the elements that were analysed. From the analysis of the descriptive statistics, it became evident the factors “speed of transmission, open access, privacy and local reach” were considered by the respondents as being most influential in the decision to use social media platforms. The less influential factors, as perceived by the respondents, were “*international legislative frameworks, the local legislative frameworks, and the cost*”. In addition, the results from the questionnaire indicated that “*open access, speed of transmission privacy and local reach*” can be argued as strong indicators influencing the decision to implement a social media strategy in crisis communications.

The content analysis for this research objective was developed to address the same question in the quantitative analysis, as the various legislative frameworks were discussed that would incorporate the factors outlined by the respondents in both the qualitative and quantitative part of this question. From the authoritative documents analysed in Section 6.2, the strong factors that were identified in the legislation and governing frameworks are Availability, Integrity, Accuracy, Confidentiality, Non Repudiation and Timeliness.

Social media governance was not considered or provisioned for in any law or governing framework. This does to an extent link back to the fact that there is a lack of awareness in the legislation as to the growth of social media and related technologies and the key factors need to be addressed within a governance framework or legislation.

From Section 6.3 regarding the analysis of the best practices, the common requirements for effective communication were respect and integrity.

Section 6.4 was the policy analysis which was performed on the 14 policies, revealed the key factors of confidentiality and privacy, monitoring and accuracy.

The data obtained from the three methodologies (Content Analysis, Qualitative Analysis of the Interviews and the Quantitative Analysis of questionnaire responses) for this research objective, revealed some commonalities which were privacy and confidentiality, and integrity. With reference to Denning (1999:37) and later Laudon and Laudon (2013:26), it was proposed that the factors of privacy, confidentiality and availability be combined under the element of information security. The other key factors that were strong in the quantitative aspect i.e. open access, transmission speed for this research objective were not directly present in the qualitative aspect but were addressed in the South African legislation and governing frameworks i.e. The King III report (Section 6.2.3) addressed the factor of openness and transparency, The South African Constitution (1996) (Section 6.2.1) together with the Batho Pele Principles Section 6.2.2) address the open access to information, the National Evaluation Policy (Section 6.2.6) and the South African Constitution Act 108 of 1996 and Protection of Personal Information Act (POPI) (Section 6.2.8) addresses the most prevalent factor from all three methodologies which was Privacy.

8.4 RO3: Identify the possible South African legislative and governance requirements for the use of social media as a crisis communications tool

For the qualitative part (the interviews) of this objective Section 6.3.4 the respondents stated that that there were no clear governance frameworks in place that applied to social media usage but did provide some examples they perceived would apply to its governance. These included the Protection of Personal Information Act, ECT and RICA and Privacy featured as a key factor of concern in the decision to use social media as revealed in Section 6.3.4.1 of the interview analysis.

For the quantitative part pertaining to the objective Section 6.4.3 revealed that privacy laws in general were perceived to be the most important, followed by communications laws, and access to information laws, interception laws, corporate governance frameworks and international best practices frameworks. Privacy is a reoccurring theme, which persists through the perceptions of the participants in this study.

Table 6.4.1 was created as a guideline of the Chapters, Sections and Parts that may be relevant for the development of a possible social media legislation for South Africa from the content analysis. The main sections of these legislations are privacy, freedom of speech, openness and transparency, monitoring and evaluation, the necessary interception of information (RICA), which could also be included as a guideline to the planning phase of a crisis communication plan.

From the Chapter 6 document analysis, even though social media is not specifically mentioned, there are a number of relevant sections in the various legislation that may apply to social media as a communications platform. The Monitoring and Evaluation: National Evaluation Policy Framework of 2011: demonstrates the attempt to govern social media. Furthermore, the factors that many respondents see as an influence to the use of social media were availability, integrity, accuracy, confidentiality, non- repudiation and timeliness.

Of the authoritative documents considered, all were highly relevant except for the Batho Pele principles, the e-Government Policy, and the Protection from Harassment act, which had limited relevance. The relevant sections from the various documents are outlined in Table 7.4.1.

Table 6.4.1: Sections of Legislative Frameworks Applicable for Development

Legislative Framework	Relevant Section to Crisis Communication	Relevant Section to Social Media
Constitution of South Africa Act 108 (1996)	S 14, S 11 (d)	S 16
The Batho Pele Principles	Principles 4, 5 & 6	Principle 3 & 6
The Electronic Communications and Transactions Act No 25 of 2002	Chapter 13	Chapters 2, 4 & 13
The South African e-Government Policy	-	-
The Disaster Management Act No.57 of 2002	S 1	S 1
King III Code	S 1	S 1
Protection of Personal Information Act 4 of 2013	Chapter 1 S2	-
Monitoring and Evaluation: National Evaluation Policy Framework of 2011	-	Part C S 8, S 6
Regulation of Interception of Communications and Provision of Communication-Related Information Act, 2002 (RICA)	S 2, 10, 11, 62	Chapter 7 S 40
The Cyber Crimes & Cybersecurity Bill	Chapter 2 S 17	Chapter 2 S 8, Chapter 3
The Film Publication Board Bill	-	S 4 A
The Protection against Harassment Act of 2013	-	S 4

To summarise the possible South African legislative and governance requirements that influence the use of social media as a crisis communications tool, information from the three methodologies were combined and the results were as follows privacy and confidentiality were grouped together and integrity, monitoring and evaluation were grouped together. What is evident from Table 7.4.1 is that there is a lack of consistent legal/legislative guidance specific to social media in crisis communication.

As an example to illustrate a case in point: In a recent case in South Africa, the #Feesmustfall protests engulfed the country, bringing tertiary education to a complete halt for period of time. As a result South Africa's highest ranked university, the University of Cape Town sought an interdict against the Feesmustfall protests. While the interdict prohibited certain actions by students which included the

actual protests, incitement of violence and intimidation, the application for the interdict also included the #Feesmustfall hashtag. Interestingly enough, the interdict was awarded by the Cape Town High Court. This raised a few concerns, as it is evident that the South African judicial system lacks knowledge into the scope and use of social media platforms like Twitter and the concept of a hashtag. Duncan (a journalism professor at the University of Johannesburg), stated that the interdict against a hashtag is rather problematic as it means that the courts failed to understand the futility of interdicting a hashtag. This meant that the #Feesmustfall cannot be used legally even by researchers using the term for the purpose of research. Furthermore the interdiction of the hashtag has other ramifications which includes the infringement of the freedom of expression which is premised for in the South African Constitution Act 108 of 1996. Alternatively the hashtag could be changed to #FeesmustfallSouthAfrica or something similar by students wielding the power of social media (Ramluckan, Ally & van Niekerk, *in press*). From this judgement it is further evident that an authoritative document is required providing guidance on the relevance of the laws applicable to social media.

8.5 RO4: Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management

The majority of respondents of the qualitative study were positive in their outlook of the use of social media in crisis communications as evidenced by their responses in Section 7.2. But this was the perception of the respondents, a majority of whom never actually used social media platforms in a crisis. The respondents did provide examples of social media in crisis and disasters, as discussed in Section 7.2.4. The key factors that was identified were global and local reach, timeliness of warning signals to the stakeholders, and interactivity or two-way communication.

The quantitative part of the study revealed the general perception was that social media was an applicable strategic communications tool with the means averaging 3.8, and skewness between -0.4485 and -1.3096. But the actual usage compared to the perceptions, may reveal differences i.e. perceptions differ from actual usage.

From the document analysis it was revealed that social media was not specifically addressed apart from one document i.e. The Standard SANS 22313:2014, mandates the use of social media. Under (S) (8.4.4.3.2) Communications procedures it clearly states:

“Use all communications channels open to the organisation including social media.”

From the interviews the factor of timeliness emerged. For crisis communications, one of the key elements is timeliness, in disseminating necessary information. The characteristic of social media is the ability to disseminate information quickly and to multiple stakeholders as defined by the many-to-many model.

The overall perceptions of the respondents from information gathered and analysed revealed that social media is relevant as a tool for strategic communication and perception management in crisis and disaster management. Furthermore it is evidenced that it does have an impact in crisis and disasters. To a small extent the use of social media has been given some recognition as a possible communications toll in crisis communications and disaster management.

8.6 RO5: Propose an integrative model for the enhanced use of Social Media to address crisis communication and recommend social media strategies for effective use in crisis management for Public/ Private South African organisations

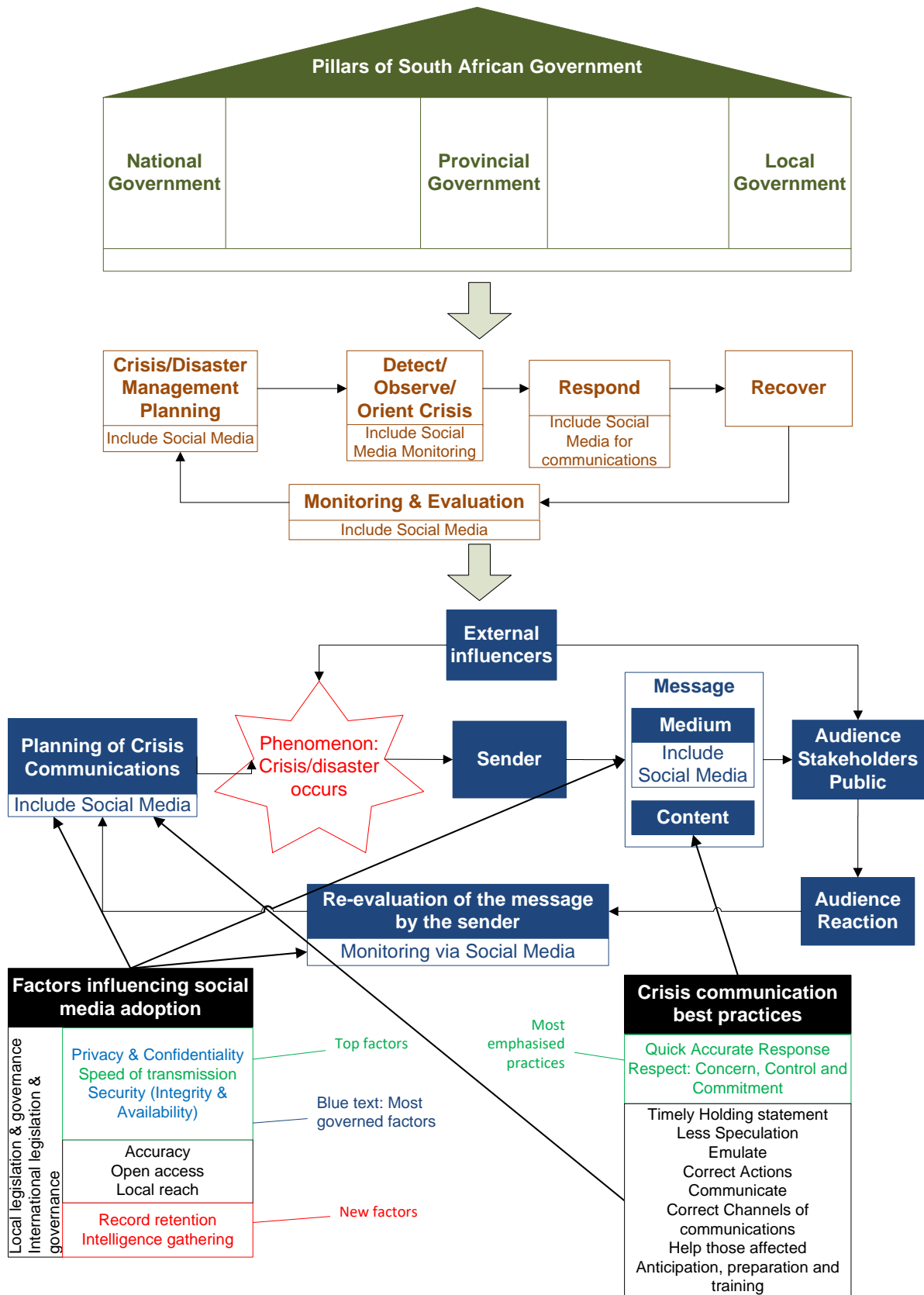
From the discussions in Sections 7.2 to 7.4, the model has been updated as follows: The initial model provided the process from the Pillars of the South African Government to the adapted crisis and disaster management models to the adapted message flow model by Cox. With the data collected and analysed from the three different methodologies, additions were made to the model. The changes that took effect was (1) the second part of the model incorporated social media into the relevant phases of the crisis and disaster management model- social media was incorporated into the crisis/disaster management planning phase, the observation/ orientation and detection phase incorporating social media monitoring, the respond phase incorporated social media for communications, and the monitoring and evaluation phase incorporated social media.

After the data was collected and analysed from the three methodologies, further amendments were made to the third part of the model. The effected changes are as follows:

- (1) The factors influencing the use of social media in crisis and disaster management were ranked in accordance from the strongest factors which were privacy and confidentiality to the emergence of new factors which included records management/ retention and intelligence gathering. The most governed factors were highlighted in blue. The local and international legislation and governing frameworks, were moved to the side- the reason being that these factors that were perceived to have been the most influential, are actually being governed by these legislations and frameworks.
- (2) From all the data collected and analysed, the best practice requirements were amended in order of most emphasised which were quick, accurate responses, respect incorporating concern, control and commitment.
- (3) Social media was added to the crisis management part as per its usage.

The updated model is shown in Figure 8.1.

Figure 8.1: Updated Model



The proposed model (Figure 8.1) would enhance the use of social media in crisis communication, based on the finding that social media is a relevant and useful communication tool during crises and disasters e.g. as mentioned earlier with reference to the Nepal Earthquake. The model also took into consideration the factors and best practices regarding the decision to implement social media as a crisis communication tool, which need to be considered by corporates, governments and the public. In conjunction with this updated model, a guide to the relevant legislation is provided from the document analysis in Table 8.1 and the applicable or relevant sections of the different legislation and governing frameworks in Table 8.2.

Table 8.1 shows the relevance of the legislation to various factors. In this table EP denotes factors that are directly considered and IP are those factors that are indirectly considered.

Table 8.1: Analysis of the Factors with South African Legislation and Frameworks for Governance

Legislation and Governing Frameworks	Factors									
	Confidentiality	Integrity	Availability	Non-Reputation	Consistency	Timeliness	Completeness	Accuracy	Crisis Communications	Social Media
Constitution of South Africa Act 108 (1996)	EP	IP	EP	IP				EP		
The Batho Pele Principles			EP			IP				
The Electronic Communications and Transactions Act No 25 of 2002	EP	EP	IP	EP	IP					
The Disaster Management Act No.57 of 2002		EP	EP			EP		EP		
King III Code	EP	EP	IP				IP	EP		
Protection of Personal Information Act 4 of 2013		EP	EP	IP				IP		
Monitoring and Evaluation: National Evaluation Policy Framework of 2011		EP	EP			EP		EP		
Regulation of Interception of Communications and Provision of Communication-Related Information Act, 2002 (RICA)	IP	EP	EP	EP				EP		
The Cybersecurity Bill	EP	EP	EP							
The Film Publication Board Bill		EP	EP		EP			EP		IP

Table 8.2 provides the relevant sections to crisis communication and social media.

Table 8.2: Sections of Legislative Frameworks Applicable for Development

Legislative Framework	Relevant Section to Crisis Communication	Relevant Section to Social Media
Constitution of South Africa Act 108 (1996)	S 14, S 11 (d)	S 16
The Batho Pele Principles	Principles 4, 5 & 6	Principle 3 & 6
The Electronic Communications and Transactions Act No 25 of 2002	Chapter 13	Chapters 2, 4 & 13
The South African e-Government Policy	-	-
The Disaster Management Act No.57 of 2002	S 1	S 1
King III Code	S 1	S 1
Protection of Personal Information Act 4 of 2013	Chapter 1 S2	-
Monitoring and Evaluation: National Evaluation Policy Framework of 2011	-	Part C S 8, S 6
Regulation of Interception of Communications and Provision of Communication-Related Information Act, 2002 (RICA)	S 2, 10, 11, 62	Chapter 7 S 40
The Cyber Crimes & Cybersecurity Bill	Chapter 2 S 17	Chapter 2 S 8, Chapter 3
The Film Publication Board Bill	-	S 4 A
The Protection against Harassment Act of 2013	-	S 4

8.7 Chapter Summary

The data from the three methodologies was collected and analysed- from this the most influential factors were identified being privacy and confidentiality, the speed of transmission, and security incorporating integrity and availability. The relevant laws and governing frameworks were also identified for the use of social media in crisis communications and disaster management – these included the Film and Publication Board and RICA. The overall perception of the participants to the study revealed that social media can be an effective communications channel in crisis and disaster, even though their use of social media within this context was limited. The model was updated and presented. The objectives of the study was completed.

CHAPTER 9 CONCLUSION

9.1 Introduction

The main objective of the study was to establish if social media is an effective communication tool during crises and disasters in South Africa. The study entailed a three-fold methodological approach including obtaining the perceptions of participants to this study through interviews for the qualitative aspect, the completion of questionnaires for the quantitative aspect and an analysis of authoritative documentation for the content analysis. From the results and interpretation of the data collected, the gaps were identified and recommendations proposed.

9.2 Primary Research Problem

The study addressed the evolution of the social media in aiding crisis communication management in the public domain. The main goal of this research was to create awareness as to the increasing importance of social media as a possible tool in communicating to the various parties involved in a crisis and disaster. Public and private institutions, embraced the use of social media and social media technologies such as Facebook and Twitter in aiding its stakeholders, and local communities in communicating messages. However, there is a concern as most organisations and governments seem to have used social media as more of a marketing and/or promotional tool. The study thus aimed to examine how organisations and the public can utilize and incorporate social media into its crisis management plan as a tool for communication with its most salient stakeholders.

9.3 Conclusions

9.3.1 RO1: To investigate the extent of social media usage in crisis and disaster communication

Collectively from all three data gathering and analysis methodologies it was evident that social media has and is being used but only to a limited extent as a possible communications tool in crisis communications and disaster management. It was also revealed as discussed in Section 7.2.2, that the strongest area that social media was noticeably used were (1) to shape public opinion of the organisation, and (2) to gauge public opinion of the public as to their perceptions of the public during a crisis. Some perceptions were that social media usage had to be monitored and evaluated, for optimal usage as discussed in Section 7.2.6.1.

9.3.2 RO2: Determine global factors influencing the use of social media as a crisis communications tool and propose updated communication flow models for the specific case of social media in crisis management

The data obtained from the three methodologies (Content Analysis, Qualitative Analysis of the Interviews and the Quantitative Analysis of questionnaire responses) for this research objective,

revealed some commonalities which were privacy and confidentiality, and integrity. With reference to Denning (1999) and later Laudon and Laudon (2013), it was proposed that the factors of privacy, confidentiality and availability be combined under the element of information security. The other key factors that were strong in the quantitative aspect i.e. open access, transmission speed for this research objective were not directly present in the qualitative aspect but were addressed in the South African Legislation and governing frameworks i.e. The King III report (Section 6.2.3) addresses the factor of openness and transparency, The South African Constitution Act 108 of 1996 (Section 6.2.1) together with the Batho Pele Principles Section 6.2.2) address the open access to information, the National Evaluation Policy (Section 6.2.6) and the South African Constitution Act 108 of 1996 and Protection of Personal Information Act (POPI) (Section 6.2.8) addresses the most prevalent factor from all three methodologies which was Privacy.

9.3.3 RO3: Identify the possible South African legislative and governance requirements that influence the use of social media as a crisis communications tool

To conclude the possible South African legislative and related requirements that influence the use of social media as a crisis communications tool, information from the three methodologies was combined and the results were the following the Privacy Laws were most prevalent in the responses in Section 7.4. From the document analysis Section 6.2.13, the Regulation and Interception of Communications Act (RICA) and the Film Publications Board Bill were the most “governing” laws. The gap that was identified was that there is no specific governing authoritative documentation in place for the governing of social media in crisis management and disaster management in South Africa. The matrix represented as Section 6.2, provides the relevant laws that are currently governing aspects of social media. Table 6.3 illustrates the relevant sections from the applicable legislation which provides a guideline as to the implementation of an authoritative document to govern social media usage in South Africa.

9.3.4 RO4: Examine the relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management

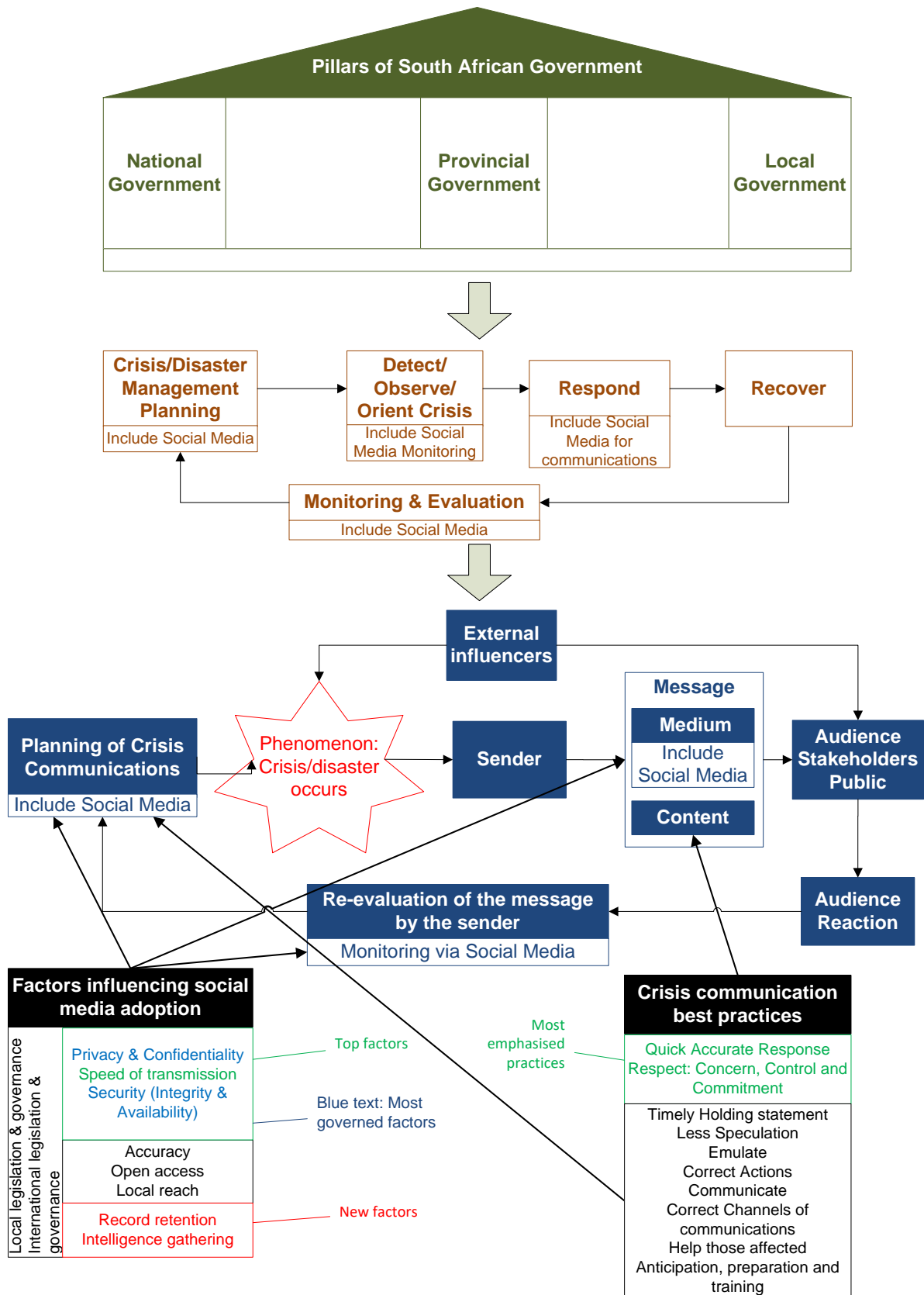
From the interviews the factor of timeliness emerged. For crisis communications, one of the key elements is timeliness, in disseminating necessary information. The characteristic of social media is the ability to disseminate information quickly and to multiple stakeholders as defined by the many-to-many model.

The overall perceptions of the respondents from information gathered and analysed revealed that social media is relevant as a tool for strategic communication and perception management in crisis and disaster management. Furthermore it is evidenced that it does have an impact in crisis and disasters. To a small extent the use of social media has been given some recognition as a possible communications tool in crisis communications and disaster management.

9.3.5 RO5: Proposal of an integrative model for the enhanced use of Social Media to address crisis communication and recommend social media strategies for effective use in crisis management for Public/ Private South African organisations

As stated in Section 7.6, the final objective of the study was to propose an integrated model for possible use in crisis communications and disaster management. The model was developed and is proposed in Figure 9.1. The model was a continual development incorporating and adapting various crisis communication

Figure 9.1. The Proposed Model



9.4 Recommendations

Even though there are some legislation and governing frameworks in place, there is no specific authoritative documentation addressing all the elements contained within social media. With the increased use in social media by individuals and organisations, a need has been identified for regulatory authoritative documentation to protect the users and prevent abuse of this medium especially in crisis and disaster therefore the recommendation to the study, is the proposal of a social media legislation regulating the use of social media specific platforms in crisis communications and disaster management.

The second recommendation is an updated best practice document guiding the implementation of social media in crisis communications alongside other communications channels, as evidenced in Section 6.2.

The third recommendation is the possible training of persons involved with crisis and disaster management within local government in South Africa, in social media usage for the collection and dissemination of pertinent information during crises and disasters.

The fourth recommendation based upon the feedback received from the interviews discussed in Section 6.2. is for the acquiring of funding to improve the awareness of social media warning capabilities in vulnerable communities in South Africa.

For future research, it is proposed to redo this study in the future due to the evolution in technological advancements and capabilities and the legislative environment.

9.5 Contribution of the Study

9.5.1 Contribution to Research

The study involved researching the use of social media in crisis and disasters from a South African governance perspective. Numerous issues were identified which influenced the use of social media by the various types of organisations into their crisis communications plans. Whilst social media is considered a global phenomenon, the rate of adoption in crisis communications has been slow, if not non-existent. Holistically the study was able to identify the gap between social media usage by the public and the rate of adoption by organisations as a means of communications in crises and disasters.

The outcome of the study was based on findings of the mixed methods approach performed and collectively gathering all necessary data which formed the basis of the conceptual model. The proposed model would serve as a guideline to the implementation of social media in crisis communications for effective communications during crises and disasters and provides the mapping of applicable legislation and best practices. The outcomes of the research proposed a model describing the use of Social Media in crisis and disaster management in a global/general context and for the public

sector in South Africa. The study will also provide an analysis of factors surrounding the use of social media in crisis communications, from both the implementation and audience perspective. This will provide both the public and private sectors with a strategy to analyse the effectiveness of their crisis communication efforts.

Another gap that was identified from the research study, were the perceived factors influencing the incorporation of social media platforms into crisis communications plans versus the actual factors influencing the implementation. The factor that was perceived to have the least influence were the governance factors. The conceptual model established the need for the governance factors, but also establishes the need for a dedicated social media policy or legislation.

From the authoritative document analysis in Chapter 6, the key elements that a social media legislation would incorporate was recommended.

9.5.2 Theoretical Contribution

From previous research and through consultation with local experts in the field of social media governance and crisis communication it has become evident, that not much research has been done integrating all three areas. As evident from the study conducted by Graham *et al.*, (2015), not much research has been conducted on social media as a communications tool in crisis and disaster. Although their study did relay the importance of social media as a viable crisis communications tool, the governance of social media was not considered as an influencing factor. Therefore this research may be used as a basis for continuing research and development of social media policies, legislation and implementation of such a versatile communications tool in crisis and disasters in South Africa.

Methodological Contribution

9.6 Limitations of the Study

The limitation to the study was that each of the results for the data method was not conclusive or significant on their own due to the number of responses. However, by combining the three sets of documents, interviews and the quantitative results provided sufficient confidence in the results and to some extent mitigated the effects of Researcher bias. The questionnaire was used to an extent to moderate the interviews as qualitative research is more susceptible to researcher bias.

Another limitation to the study is the possibility to generalise. Due to the focus on South African legislation and regulatory frameworks, the research may not be applicable on an international level.

Word cloud analysis can be considered a limitation as it generates the key words but has the ability to lose the positive and/or negative contexts, depicting the frequency of words but not necessarily the importance of them. For this reason word cloud analysis was limited to two documents in order to illustrate its use in governance research.

9.7 Future Research

The overall study has prompted the need for future research into the area of social media as a crisis communication tool. Whilst it has been used to a minimal extent in a global context, South Africa has been slow to adopt it. The factors influencing the decision to implement social media as a communications tool in crises, that emerged in the study, can be used as a basis for the consideration of the development of policies, legislative frameworks and guidelines for scholars, corporates, government and NGOs to implement and test, conduct further research and develop new solutions to crisis management.

9.8 Conclusion

In conclusion all the objectives were achieved to some extent. Social media has grown from a “social “interactive tool into a strategic communications tool, which is to some extent being used by different organisations to communicate with its stakeholders. The study provided an indication of the extent and purpose to which social media is being used in South Africa. The study also gauged the perceptions of specialists in the area of social media and crisis communications. As revealed in this study, a need has been identified for the development of an authoritative document governing social media usage.

From conducting the study, the various South African legislation and governing frameworks had been identified by the participants who had been interviewed. It became evident that there are a number of laws and governing frameworks pertaining to communication, however, it was revealed that there is no document of authority applying directly to the governance of social media usage in South Africa. Social media has evolved into an “instrument of the peoples’ power”, with the capability to influence governments and the citizenry. With no law or specific governance framework in place, social media usage remains uncontrolled leading to the perception, as evidenced by the respondents to the study that governance of social media usage is of a lesser importance.

However, social media was used as an effective communications channel, when all other forms of communication failed as in the 2015 Nepal earthquake, the Japanese earthquake in 2011 and Hurricane Sandy in 2012 amongst other crises and disasters. Governments should acknowledge the effectiveness of such a versatile and resilient communication tool for effective service delivery, promoting the ideals of legitimacy, openness and transparency between governments and their stakeholders. Social media has established itself as the peoples’ instrument, and if used correctly can lead to the mitigation of damage in crisis, but as with all powerful instruments, there must be proper control mechanisms instituted i.e. applicable legislation needs to be established in South Africa to effectively govern social media usage as a crisis communication tool.

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APPENDIX A: ADDITIONAL STATISTICS FOR FACTOR ANALYSIS

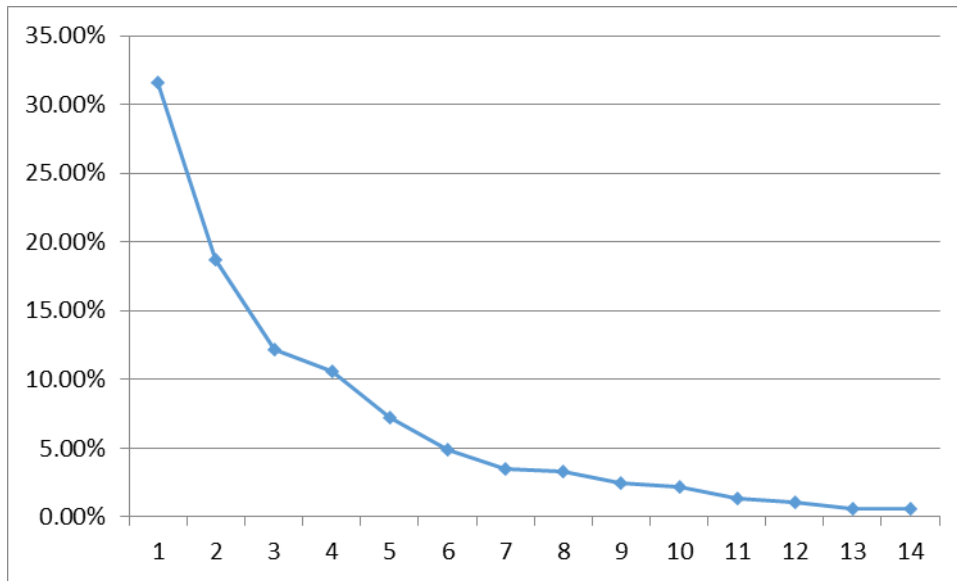


Figure A1: Scree Plot for the Global Factors Influencing the Use of Social Media as a Crisis Communications Tool

Table A1: Full Varimax Rotation Factor Matrix for the Global Factors Influencing the Use of Social Media as a Crisis Communications Tool

	1	2	3	4	5
B1 Security	0.322376	-0.19439	0.620301	-0.17848	-0.41503
B2 Privacy	0.179264	-0.02682	0.858468	-0.01729	-0.163
B3 Open Access	-0.03865	0.078399	0.79373	0.25258	0.240451
B4 Speed of Transmission	-0.10175	0.778578	0.18487	0.123389	-0.06248
B5 Lack of Control	0.656085	-0.37304	0.240858	0.048291	-0.17887
B6 Global Reach	0.160392	0.909993	-0.11306	-0.08051	-0.05247
B7 Local Reach	0.092872	0.87871	-0.1187	0.162052	-0.19098
B8 Accuracy of information sent	0.365721	0.06456	0.059291	0.122693	-0.84294
B9 Accuracy of information received	0.414666	0.208832	0.011399	-0.04403	-0.79989
B10 Consistency	0.038269	0.107441	0.041478	0.325469	-0.83128
B11 Capability of Infrastructure	0.003275	0.160903	0.064302	0.81039	-0.3163
B12 Cost	0.123685	0.009391	0.044125	0.909756	-0.01373
B13 Local legislative requirements	0.893678	0.133488	0.048053	0.085887	-0.2252
B14 International legislative requirements	0.863709	0.18821	0.102413	0.048647	-0.22763
	2.479834	2.528755	1.895057	1.763303	2.575914

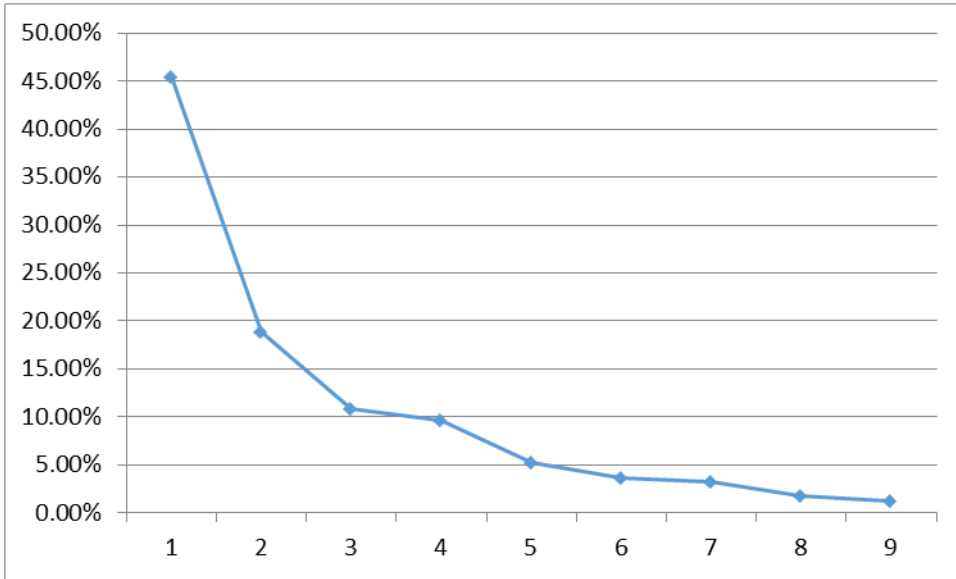


Figure A2: Scree Plot for the Extent of Social Media Usage in Crisis and Disaster Communication

Table A2: Full Varimax Rotation Factor Matrix for the Extent of Social Media Usage in Crisis and Disaster Communication

	1	2	3	4
C1 My organisation has used social media to communicate with stakeholders during a crisis	0.747959	-0.11798	0.17334	-0.34079
C2 My organisation has used social media to communicate with the public during a crisis	0.77486	-0.16236	0.373855	-0.2122
C3 My organisation has used social media to shape the public opinion	0.153365	-0.15918	0.207832	-0.90381
C4 My organisation's brand image has been attacked through the use of social media	0.21907	-0.6813	-0.26798	-0.47004
C5 Social media has been used to uncover stakeholder perceptions during a crisis	0.228864	-0.84822	0.312282	0.051284
C6 Social media has been used to uncover public perceptions during a crisis	0.036475	-0.93279	0.093259	-0.16003
C7 My organisation has used social media platforms to communicate with stakeholders during a natural disaster	0.225405	-0.03153	0.881196	-0.23781
C8 My organisation has used social media platforms to communicate with the public during a natural disaster	0.346387	-0.18315	0.855002	0.012035
C9 My organisation has used social media platforms to disseminate information during political protest or strike to stakeholders	0.889496	-0.12828	0.178832	0.080871
	2.247066	2.170364	1.930554	1.290454

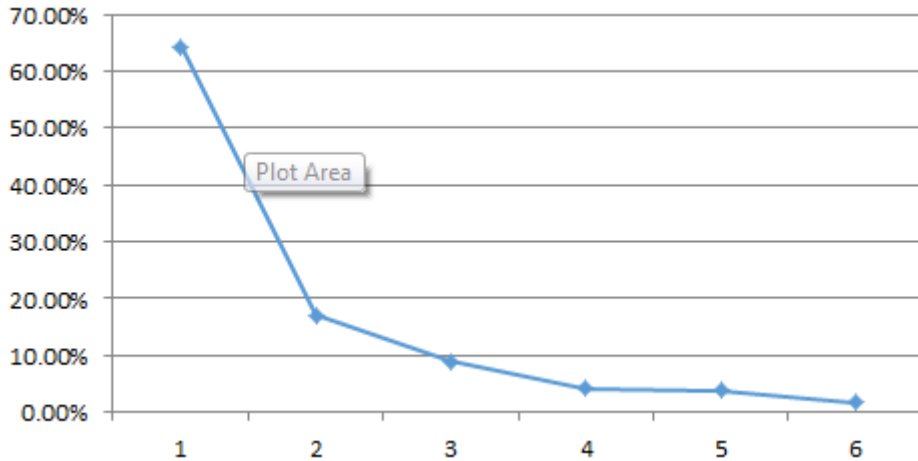


Figure A3: Scree Plot for the Legislative and Governance Requirements that Influence the Use of Social Media as a Crisis Communications Tool

Table A3: Full Varimax Rotation Factor Matrix the Legislative and Governance Requirements that Influence the Use of Social Media as a Crisis Communications Tool

	1	2	3	4
[D1 The privacy legislation e.g. Protection of personal information act]	0.45565	-	0.19844	0.83549
	3	0.23148	4	6
[D2 The general communication laws e.g. the Electronic Communications and Transactions Act (ECT)].	0.82014	-	0.33362	0.35230
	3	0.05905	4	7
[D3 The Access to Information laws e.g. Promotion to Access of Information Act]	0.72865	0.54156	-	0.26763
			6	9
[D4 The interception laws e.g. the Regulation of Interception of Communication Act (RICA), Interception of Communications and interference of Practice]	0.28039	-	0.87759	0.17556
	3	-0.3058	3	6
[D5 The corporate governance frameworks e.g. King III, SOX.]	0.09067	-0.8687	0.37863	0.13039
	7		3	9
[D6 The international best practices frameworks e.g. COBIT, ITIL, COSO.]	0.21970	0.93345	-	0.14866
	3		6	6
	1.54629	2.06984	1.08987	0.96373
	8	8	7	4

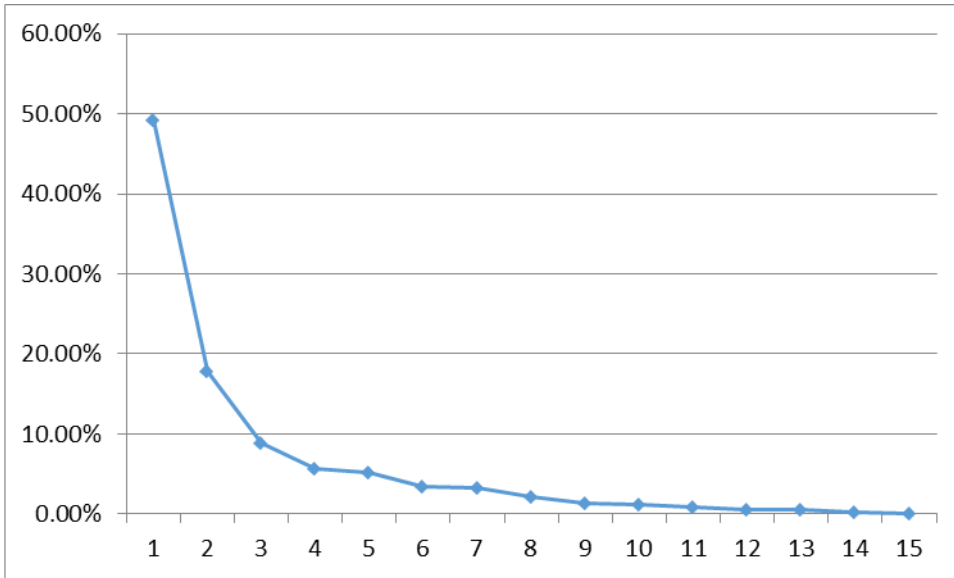


Figure A4: Scree Plot for Social Media in Monitoring & Evaluation

Table A4: Full Varimax Rotation Factor Matrix Social Media in Monitoring & Evaluation

	1	2	3	4	5
E1 Social Media is useful in monitoring and evaluating crises and crisis communication	0.05 1944	0.17 2911	0.01 666	0.86 474	0.10 1888
E2 It is important to monitor and evaluate the use of social media as a crisis communication tool	0.00 054	0.88 3593	0.08 177	0.32 055	0.04 031
E3 It is important to monitor and evaluate the use of social media to mitigate the risk of a public relations crisis	0.02 654	0.91 4198	0.04 1125	0.18 06	0.15 2753
E4 Reviewing social media is useful in constructing “lessons learnt” after a crisis	0.08 4291	0.34 5713	0.02 621	0.78 109	0.03 738
E5 My organisation uses specialist tools/software to manage and monitor social media during crisis	0.45 5166	0.04 3173	0.56 944	0.39 473	0.06 694
E6 My organisation uses a manual process to manage and monitor social media during crises	0.26 4967	0.10 044	0.05 348	0.05 3938	0.90 889
E7 My organisation monitors social media to evaluate the effectiveness/success of crisis communications	0.63 7197	0.00 655	0.39 155	0.07 3097	0.45 667
E8 My organisation monitors its social media accounts during a crisis to ensure the information provided is accurate	0.80 8908	0.07 757	0.19 623	0.03 136	0.35 721
E9 My organisation monitors its social media accounts during a crisis to ensure that there are no inappropriate posts	0.93 6441	0.01 372	0.27 881	0.09 42	0.10 094
E10 My organisation monitors its social media accounts during a crisis to ensure that there are no unofficial posts by employees	0.87 6259	0.00 0178	0.34 171	0.14 109	0.12 399
E11 My organisation monitors its social media accounts during a crisis to ensure that there are no damaging posts aimed at my organisation	0.83 6201	0.05 7509	0.40 453	0.08 641	0.14 861

E12 My organisation regularly audits controls on social media to ensure they are effective in addressing risk posed by social media	0.27 9294	0.00 3151	0.91 929	- 742	- 553
E13 My organisation regularly audits controls on social media to ensure they are still relevant to risks posed by social media	0.35 5346	0.03 717	0.89 689	- 558	- 367
E14 My organisation monitors social media to evaluate public opinion during a crisis	0.91 3851	0.00 5223	0.26 912	0.01 883	0.01 1603
E15 My organisation has established metrics against which social media communications during a crisis is evaluated	0.44 3437	0.00 954	0.82 91	0.06 8816	0.01 2851
	4.92 8263	1.78 8927	3.29 5762	1.70 2118	1.27 1677

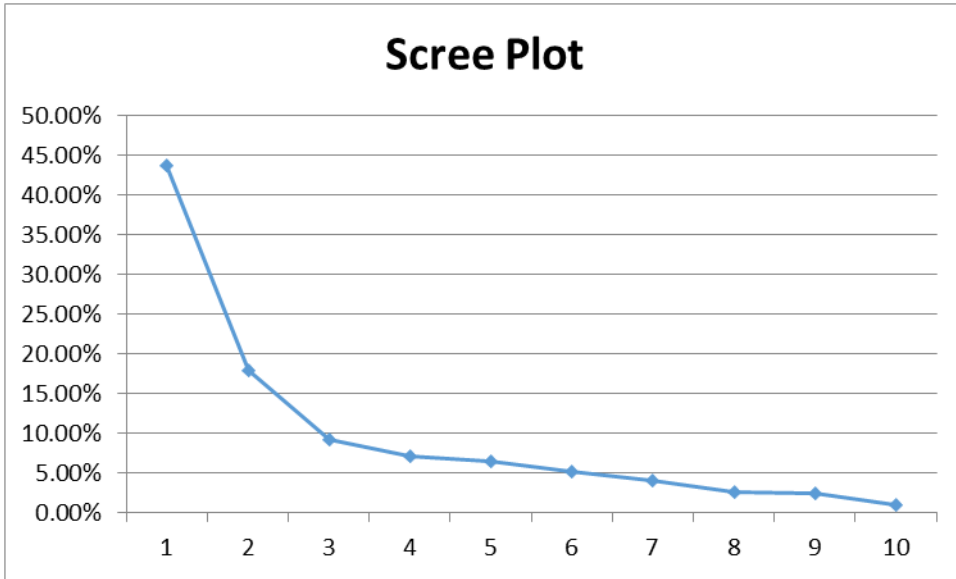


Figure A5: Scree Plot for the Relevance and Impact of Social Media as a Tool for Strategic Communication and Perception Management in Crisis and Disaster Management

Table A5: Full Varimax Rotation Factor Matrix for the Relevance and Impact of Social Media as a Tool for Strategic Communication and Perception Management in Crisis and Disaster Management

	1	2	3
F1 Social media is a convenient way of communicating with relevant stakeholders in a crisis	0.827202	-0.15082	-0.07216
F2 Social media has had a positive impact on crisis communication overall	0.542057	-0.03114	-0.68603
F3 Social media is easy to use when communicating with stakeholders	0.749912	0.210173	-0.0529
F4 Social media has made communicating to stakeholders during a crisis easier	0.788224	0.13881	-0.17391
F5 Social media has provided relevant information on stakeholders perceptions of my organisation during a crisis	0.015912	0.348318	-0.85968
F6 Social media has provided a good platform to receive information from public/stakeholders during a crisis (crowdsourcing)	0.460986	0.608699	-0.0479
F7 Social media has provided a good platform to aid in collaboration for my organisation during a crisis/disaster	0.002511	0.750007	-0.45068
F8 Social media has provided a good platform to aid in decision making during a crisis/disaster	0.138936	0.883816	-0.08253
F9 Social media is a relevant tool in crisis communications	0.719658	0.282952	-0.03711
F10 Social media is an effective tool in crisis communications	0.80241	0.207855	-0.14974
	3.555594	2.045907	1.483957

APPENDIX B: LETTER OF CONSENT AND QUESTIONNAIRE

UNIVERSITY OF KWAZULU-NATAL
School of Management, Information Systems & Technology and Public Governance
Dear Respondent,

PhD Research Project
Researcher: Trishana Ramluckan (0730023336)
Supervisor: Dr. Mogie Subban (031 260 7763)
Research Office: Ms. M Snyman (031 260 8350)

I, Trishana Ramluckan, a Doctor of Administration student, at the School of Management, Information Systems & Technology and Public Governance, of the University of KwaZulu Natal, invite you to participate in a research project entitled Social media as a communication tool during crises and disasters: a South African governance perspective. The aim of this study is to determine the effects of social media in crisis and disasters. The research will also examine the influence social media has on public perceptions in crisis and disaster as a communications tool. Through your participation I hope to understand the extent to which social media is being used or considered to be a communications tool in crisis and disasters. The results of the survey are intended to contribute to my study and the South African Public sector in general.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey. Confidentiality and anonymity of records identifying you as a participant will be maintained by the School of Management, Information Systems & Technology and Public Governance, UKZN.

If you have any questions or concerns about completing the interview or about participating in this study, you may contact me or my supervisor at the numbers listed above. This questionnaire should take about 30 minutes to complete.

Sincerely

Investigator's signature _____ Date _____

CONSENT

I..... (Full names of participant)
hereby confirm that I understand the contents of this document and the nature of the research project,
and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

I hereby consent / do not consent to completing the questionnaire.

SIGNATURE OF PARTICIPANT

DATE

.....

QUESTIONNAIRE:

SECTION A: Demographics

Please tick the appropriate box

A 1. Type of Organisation:

NGO /NPO	<input type="checkbox"/>
Public Organisation	<input type="checkbox"/>
Private Organisation	<input type="checkbox"/>

A 2. Sector:

Defence	<input type="checkbox"/>
Education	<input type="checkbox"/>
Emergency Services (Fire, Police, Ambulance)	<input type="checkbox"/>
Finance	<input type="checkbox"/>
Government	<input type="checkbox"/>
Human Resources	<input type="checkbox"/>
Transport/Logistics	<input type="checkbox"/>
Other	<input type="checkbox"/>

If _____ other,
specify_____

A 3. Job Function:

Please tick one or more of the following, where applicable

Senior Management	
Operations	
Corporate Communications/Public Relations	
Consulting	
Media	
Risk Compliance	
IT & telecoms	
Human Resources	
Other	

If _____ other,
specify_____

A 4. Years of Experience in current position:

Less than 1 year	
1-2	
3-5	
5-10	
10 or more	

A 5. Number of Employees:

Less than 100	
100-1000	
100-5000	

more	
------	--

A6. Please mark the stage of implementation/decision to implement the specific strategy below:

	Strategy	Not Considered	Decided Against	Plan to implement	Partial implementation	Full Implementation
A6.1	Social Media Strategy					
A6.2	Crisis Communication Strategy					
A6.3	Social Media in Crisis Communications Strategy					

SECTION B: Global factors influencing the use of social media as a crisis communications tool

Which factors do you think would influence the decision to implement a social media strategy in crisis communications?

		No Influence	Limited Influence	Some influence	Considerable influence	Extremely Influential
B1.	Security					
B2.	Privacy					
B3.	Open Access					
B4.	Speed of Transmission					

B5.	Lack of Control					
B6.	Global Reach					
B7.	Local Reach					
B8.	Accuracy of information sent					
B9.	Accuracy of information received					
B10.	Consistency					
B11.	Capability of Infrastructure					
B12.	Cost					
B13.	Local legislative requirements					
B14.	International legislative requirements					

SECTION C: The Extent of Social Media usage in crisis and disaster communication

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	Not Applicable
C1.	My organisation has used social media to communicate with stakeholders during a crisis						
C2.	My organisation has used social media to						

	communicate with the public during a crisis						
C3.	My organisation has used social media to shape the public opinion of your organisation						
C4.	My organisation's brand image has been attacked through the use of social media						
C5.	Social media has been used to uncover stakeholder perceptions during a crisis						
C6.	Social media has been used to uncover public perceptions during a crisis						
C7.	My organisation has used social media platforms to communicate with stakeholders during a natural disaster						
C8.	My organisation has used social media platforms to communicate with the public during a natural disaster						

C9.	My organisation has used social media platforms to disseminate information during political protest or strike to stakeholders						
-----	---	--	--	--	--	--	--

SECTION D: Legislative and governance factors that influence the use of social media as a crisis communications tool

Which Legislation or regulatory requirements do you think influenced the use of social media in crisis communication?

		No Influence	Limited Influence	Some influence	Considerable influence	Extremely high influence
D1.	The laws governing the use of social media e.g. Protection of personal information act					
D2.	The general communication laws governing the use of social media e.g. the Electronic Communications and Transactions Act (ECT).					
D3.	The Access to Information laws governing the use of social media e.g.					

	Promotion to Access of Information Act					
D4.	The interception laws governing the use of social media e.g. the Regulation of Interception of Communication Act (RICA), Interception of Communications and interference of Practice					
D5.	The corporate governance frameworks e.g. King III, SOX.					
D6.	The international best practices frameworks e.g. COBIT, ITIL, COSO.					

SECTION E: Social Media in Monitoring & Evaluation

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
E1.	Social Media is useful in monitoring and evaluating crises and crisis communication					
E2.	It is important to monitor and evaluate the use of social media as a crisis communication tool					
E3.	It is important to monitor and evaluate the use of social media to mitigate the risk of a public relations crisis					

E4.	Reviewing social media is useful in constructing “lessons learnt” after a crisis					
E5.	My organisation uses specialist tools/software to manage and monitor social media during crisis					
E6.	My organisation uses a manual process to manage and monitor social media during crises					
E7.	My organisation monitors social media to evaluate the effectiveness/success of crisis communications					
E8.	My organisation monitors its social media accounts during a crisis to ensure the information provided is accurate					
E9.	My organisation monitors its social media accounts during a crisis to ensure that there are no inappropriate posts					
E10.	My organisation monitors its social media accounts during a crisis to ensure that there are no unofficial posts by employees					
E11.	My organisation monitors its social media accounts during a crisis to ensure that there are no damaging posts aimed at my organisation					
E12.	My organisation regularly audits controls on social media to ensure they are effective in addressing risk posed by social media					
E13.	My organisation regularly audits controls on social media to ensure					

	they are still relevant to risks posed by social media					
E14.	My organisation monitors social media to evaluate public opinion during a crisis					
E15.	My organisation has established metrics against which social media communications during a crisis is evaluated					

SECTION F: The relevance and impact of social media as a tool for strategic communication and perception management in crisis and disaster management

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
F1.	Social media is a convenient way of communicating with relevant stakeholders in a crisis					
F2.	Social media has had a positive impact on crisis communication overall					
F3.	Social media is easy to use when communicating with stakeholders					
F4.	Social media has made communicating to stakeholders during a crisis easier					

F5.	Social media has provided relevant information on stakeholders perceptions of my organisation during a crisis					
F6.	Social media has provided a good platform to receive information from public/stakeholders during a crisis (crowdsourcing)					
F7.	Social media has provided a good platform to aid in collaboration for my organisation during a crisis/disaster					
F8.	Social media has provided a good platform to aid in decision making during a crisis/disaster					
F9.	Social media is a relevant tool in crisis communications					
F10.	Social media is an effective tool in crisis communications					

APPENDIX C: LETTER OF CONSENT AND INTERVIEW SCHEDULE

UNIVERSITY OF KWAZULU-NATAL
School of Management, Information Systems & Technology and Public Governance
Dear Respondent,

PhD Research Project
Researcher: Trishana Ramluckan (0730023336)
Supervisor: Dr. Mogie Subban (031 260 7763)
Research Office: Ms. M Snyman (031 260 8350)

I, Trishana Ramluckan, a Doctor of Administration student, at the School of Management, Information Systems & Technology and Public Governance, of the University of KwaZulu Natal, invite you to participate in a research project entitled Social media as a communication tool during crises and disasters: a South African governance perspective. The aim of this study is to determine the effects of social media in crisis and disasters. The research will also examine the influence social media has on public perceptions in crisis and disaster as a communications tool. Through your participation I hope to understand the extent to which social media is being used or considered to be a communications tool in crisis and disasters. The results of the survey are intended to contribute to my study and the South African Public sector in general.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey. Confidentiality and anonymity of records identifying you as a participant will be maintained by the School of Management, Information Systems & Technology and Public Governance, UKZN.

If you have any questions or concerns about completing the interview or about participating in this study, you may contact me or my supervisor at the numbers listed above. This interview should take about 40 minutes to complete.

Sincerely

Investigator's signature _____ Date _____

CONSENT

I..... (Full names of participant)
hereby confirm that I understand the contents of this document and the nature of the research project,
and I consent to participating in the research project.
I understand that I am at liberty to withdraw from the project at any time, should I so desire.

I hereby consent / do not consent to have this interview recorded

SIGNATURE OF PARTICIPANT

DATE

.....

Interview questions:

1. To what extent has your organisation used social media in general and specifically in crisis situations?
 - Possible follow on questions depending on the answer include:
 - In what ways has this method been effective?
 - To what extent have you used social media to disseminate information to the public?
 - What impact did the social media have on the communication process?
 - What impact did the use of social media have on the information being disseminated?
2. Option A (for academic respondents): In your opinion what impact does the use of social media have in a crisis communication?
 - Option B (for practitioner respondents): In your experience what impact does the use of social media have in a crisis communication?
 - Possible follow on questions depending on the answer include:
 - Can you provide an example of the impacts you mentioned where social media has influenced crisis communication?
3. Option A (for South African respondents): What South African legislative/regulatory governance requirements, that you are aware of, affect the use of social media in crisis communication?
 - Option B (for international respondents): What types of legislation/regulatory governance requirements that you are aware of, affect the use of social media in crisis communication?
 - Possible follow on questions depending on the answer include:
 - In what ways do these requirements affect the use of social media in crisis communication and disaster management?
 - (for practitioners) How do you ensure these governance requirements are met and managed?
4. From your experience, or in your opinion, what do you think are the benefits and/or challenges of using social media in crisis and disaster management?
 - Possible follow on questions depending on the answer include:
 - How do you think that these challenges can be overcome or managed?
 - Are there any challenges that outweigh benefits of social media?
5. How do you think governments/NGOS/public organisations/ private organisations/emergency response teams' use/can use social media effectively to communicate to the public in crisis communications and disaster management?
 - Possible follow up questions depending on the answer:

- To your knowledge, have governments/NGOS/public organisations/ private organisations/emergency response teams **effectively** used social media to communicate with its citizens/stakeholders/general public in crisis communications?
- Can you provide an example from your knowledge or experience of governments using social media in crisis communications and disaster management?

APPENDIX D: GATEKEEPERS CONSENT FOR UKZN



11 February 2015

Ms Trishana Ramluckan
School of Management, IT and Governance
College of Law and Management Studies
Westville Campus
UKZN
Email: 981206124@stu.ukzn.ac.za
Trishana.ramluckan@gmail.com

Dear Ms Ramluckan

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN) towards your postgraduate studies, provided Ethical clearance has been obtained. We note the title of your research project is:

"Social media as a communication tool during crises and disasters: a South African governance perspective".

It is noted that you will be constituting your sample by randomly handing out questionnaires, and performing interviews with staff and students at UKZN.

You are not authorized to contact staff and students using 'Microsoft Outlook' address book.

Data collected must be treated with due confidentiality and anonymity.

Yours sincerely



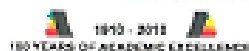
MR B POO
REGISTRAR (ACTING)

Office of the Registrar

Postal Address: Private Bag 354001, Durban, South Africa

Telephone: +27 (0) 31 260 8003/2206 Facsimile: +27 (0) 31 260 7824/2204 Email: registrar@ukzn.ac.za

Website: www.ukzn.ac.za



Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

APPENDIX E: GATEKEEPERS CONSENT FOR IFIP



6 June 2015

Dear Ms Ramluckan

Permission to Conduct PhD Research

You are welcome to distribute your questionnaire through the mailing list and LinkedIn group for the working group for your study 'Social Media as a Communication Tool in Crisis and Disaster: A South African Governance Perspective'.

One of the aims of the group is to foster international collaboration and knowledge sharing. As a member of the group you have access to both the mailing list and the LinkedIn group.

Best of luck with your research,

A handwritten signature in black ink, appearing to read 'Louise Leenen', with a small flourish at the end.

Dr Louise Leenen

Chair: IFIP WG 9.10

Dr Louise Leenen
+27 (0)12 841 4431

Chair: WG 9.10 ICT Uses in Peace and War
leenen@csir.co.za

<http://www.ifip.org/tc/?tc=tc9>

APPENDIX F: GATEKEEPERS CONSENT FOR ISACA



PostNet Suite #773 Telephone: +27 (0)11 236 8616
Private Bag X43 Facsimile: +27 (0)86 684 2979
2157 Sunninghill Email: admin@isaca.org.za

University of KwaZulu-Natal
30 October 2014

Dear Trishana,

RE: Permission to Distribute Research Instruments

We have reviewed your request to distribute research instruments to ISACA SA members and we are pleased to inform you that your request has been granted.

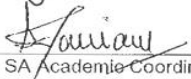
If your request has been approved, please note the following:

- You are required to arrange with the relevant chapter regional coordinator regarding a suitable time to distribute the instrument at the chapter meeting.
- We will not provide access to member contact details or contact lists. Please arrange with the chapter office manager regarding the electronic distribution of the instrument.
- Please ensure that you have sent a copy of your ethical clearance letter from the institution; also present it to the relevant chapter coordinators when requesting the distribution of the instrument.
- Please inform us of any change in the expected schedule.
- The research will not be affiliated with, nor will it be endorsed by ISACA South Africa. We will make this disclaimer in our communications.

We wish you well with your research.

Permission granted by:


ISACA SA President/ Vice President


ISACA SA Academic Coordinator


ISACA SA Membership Coordinator


Date


Date

30 October 2014
Date

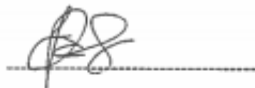
APPENDIX G: LETTER FROM THE EDITOR



22 November 2016

This letter serves to confirm that I have edited the thesis: **SOCIAL MEDIA AS A COMMUNICATION TOOL DURING CRISES AND DISASTERS: A SOUTH AFRICAN GOVERNANCE PERSPECTIVE** by Ms Trishana Ramluckan, student number 981206124.

Yours sincerely



Mr Indrasen J. Moodley

Lecturer

APPENDIX H: UKZN ETHICAL CLEARANCE



03 August 2015

Ms Trishana Ramluckan (981208124)
School of Management, IT & Governance
Westville Campus

Dear Ms Ramluckan,

Protocol reference number: HSS/1009/0015D

Project title: Social media as a communication tool during crises and disasters: A South African governance perspective

Full Approval – Expedited Application

In response to your application received on 27 July 2015, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Shenuka Singh (Chair)

/s/

Cc Supervisor: Dr Mogle Subban and Professor Brian McArthur
Cc Academic Leader Research: Professor Brian McArthur
Cc School Administrator: Ms Angela Pearce

Humanities & Social Sciences Research Ethics Committee

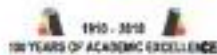
Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag 334031, Durban 4300

Telephone: +27 (0) 31 260 3507/8355/4567 Facsimile: +27 (0) 31 260 4628 Email: omb@ukzn.ac.za | academic@ukzn.ac.za | ethics@ukzn.ac.za

Website: www.ukzn.ac.za



Flagship Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville