

# A-Z OF SOCIAL MEDIA RESEARCH METHODS



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This book publication contains original and empirical academic work on social media research methods for upcoming and established researchers and industry professionals with ready-to-use knowledge in carrying out social media research. The book involves qualitative, quantitative, and mixed research methods providing readers with first-hand content on social media research methods to improve social media research and teaching and learning.

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This book content provides scholarly views on social media research methods for use in higher education and industry. The content provided answers to some issues confronting researchers and industry professionals in conducting social media research.

### **Editors**

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## Preface

Social media has become a game changer in facilitating social, political, educational, and personal communication and engagement. The advancement of social media produces millions and billions of data daily for educational and professional use. Therefore, scholars continue to use social media data in conducting research within the platforms and their content which is regarded as social media research (SMR). Social media research (SMR) provides research on social media data, information, contents, and sources. This book provides theoretical and practical discussions on social media research methods for academic scholars, practitioners, and undergraduate and postgraduate students in gaining comprehensive knowledge in conducting social media research (SMR).

There are ten (10) chapters in this book with the purpose to inform the global audience (readers) on how to apply social media research (SMR) in their teaching and learning and research process. **Chapter one – A-Z of social media research: An overview** illustrates an overview of the book in focusing on the A-Z of social media research methods for scholarly research. It presents the starting point in understanding social media research (SMR) with emphasis on the introduction to the concept of SMR. **Chapter two - The role of social media research in the digital age of research and innovation**, the chapter covers the role of social media research (SMR) in sharpening the current age (digital age) research and the nature of innovation brought by SMR. **Chapter three - Conducting useful social media research literature review**. The chapter presents the processes and steps to be followed in conducting a systematic SMR literature review from searching for materials to data cleaning and analysis. **Chapter four - Social media research philosophies** cover the different kinds of social media research (SMR) philosophies.

**Chapter five - Theoretical and conceptual frameworks in social media research** guide the readers on the process of determining and choosing a suitable theoretical framework and conceptualizing conceptual framework in social media research (SMR). **Chapter six - Social media research methodology: conducting qualitative, quantitative and mixed approaches** discusses the research methodology is conducting SMR. The emphasis was on the process of applying qualitative, quantitative and mixed research methods in SMR. **Chapter seven - Social media research: Sampling techniques, data collection, analysis, and discussion** of the book presents the sampling techniques and processes of SMR. The chapter focused on the different kinds of SMR sampling techniques, data collection and analysis and discussion process.

**Chapter eight - Guidelines and principles in carrying out social media research: Ethical conduct and compliance** which presents different guidelines and principles in carrying out SMR. It focused on the ethical conduct and compliance processes that should be followed in conducting SMR. **Chapter nine - Rounding up of social media research, recommendation, future study, implications and conclusion** points on the process in rounding up of SMR, how to write a recommendation, future research perspectives, implications and conclusion. The chapter guides a reader to understand what to do at the stage of rounding up, writing recommendations,

future studies, implications and conclusion. *Chapter ten - Social media research writing, dissemination, and publication* cover all that the reader needs to know in writing up social media research (SMR), how to disseminate the findings, and publication procedures.

**Editors**

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# Introduction

Social media has offered a different avenue for connecting with and communicating among people in the global community with vast opportunities to harness. Such vast opportunities include conducting research that in one way or the other to solves human problems and contributes to the scientific body of knowledge. Harnessing the research opportunities associated with social media gave birth to this timely and organized textbook titled “A-Z of social media research method” which provides holistic information for scholars globally. Understandably, conducting social media research can be tricky owing to the vast level of available social media platforms and the quantity of data that could be generated from social media space. Thus, conducting social media research follows a systematic method of inquiry to actualize the study objective. Hence this textbook is insightful and adequately written for scholars, social media experts, undergraduate and postgraduate students, and consultants across disciplines in conducting social media research. This A-Z of social media research method provides systematic step-to-step approaches to conducting and reporting scientific studies. The researchers in taking their time in conceptualizing, researching, and writing this book, believe that it will be an excellent resource for higher institution libraries and generally for knowledge expansion. Therefore, this book is recommended for scholars, Data scientists, higher institution libraries, political scientists, and anyone interested in and conducting social media research. The book is written into understandable chapters for easy comprehension by readers. The book objectives are summarized below:

- ✓ Providing an insightful and robust understanding of the overview of social media research methods in the digital age.
- ✓ Presenting research philosophy for social media research methods in the digital age.
- ✓ Presenting conceptual and theoretical frameworks for social media research methods.
- ✓ Providing a step-by-step approach to the methodology for social media research.
- ✓ Describing the processes involved in the publication and dissemination of social media research.

Through the objectives of this book, the strength lies in the following:

- ✓ The book addresses the A-Z methods of conducting social media research which is an essential driver in academia and the world of work.
- ✓ The book is written in a manner that is insightful and understandable to a wide range of audiences including lecturers (for teaching), researchers, students, consultants, and many more.
- ✓ The book is comprehensive in its coverage, guiding the reader on A-Z methods of conducting social media research.
- ✓ Different parts of the book provide achievable goals, with each chapter having an introduction and concluding sections.
- ✓ The authors who have signed up for the book are experts in the field of social media research with a strong record of academic publications, which gives the book scholarly credibility.

- ✓ The book followed a double-blind peer review process which further enhanced its credibility.

### **Intended readership/users**

- ✓ This textbook is aimed primarily at **Researchers, Lecturers, Students, Consultants, Social media experts, and Higher learning institutions**, while the secondary audience would be the **Humanities, Sociology, and Social science researchers, Economists, Computational data scientists, Data analysts, Political scientists, and health science researchers**.
- ✓ Social media research is fast growing among researchers, consultants, and companies. The purpose of this book is very clear and well-thought-of because it provides new insights and offers a paradigm shift on how social media research can be conducted in making social media research more engaging and practical in society.
- ✓ Also, this book provides comprehensive components organized into different chapters to assist any reader, to conduct research on social media.
- ✓ This practical-oriented book is not limited to a particular academic discipline. However, it will be exceptionally relevant to computing disciplines like information systems and computer science because of their close affiliation to social media in theory and practice. It will also serve the interest of scholars in social sciences, sociology, humanities, economists, education, and many more. This book will appeal to the international audience across different regions and continents of the world. The book is crucial to the audience as a result of the growing interest in social media research among academics and stakeholders around the globe.

## Foreword

This book, *A-Z of Social Media Research Methods*, gives crucial insight into the effectiveness of various social media in enhancing academic research. I believe that social media can provide a positive impact in the application of 21st-century skills and offers flexibility in the academic research space when used well. The book points out social media are now established as an important aspect of contemporary education, placing social media as mainstream research tools. The book further provides a scholarly systematic approach to utilising social media for the purpose of information gathering and sharing. As social media platforms change and evolve, so too will public perceptions towards the use of social media for research. Researchers will need to engage with this as part of their ethical considerations.

A wide range of insights from chapters compels scholars and researchers to consider reviewing their belief systems based on the new understanding of social media and its value in research. The book embraces a wide variety of disciplines, themes, topics, approaches, and applications, related to research.

It creates an opportunity for further debates, deliberation, and conversations that can be held around issues and further challenges practitioners to consider integrating social media in their academic research.

**Dr. Thamsanqa Ndlovu**

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## CHAPTER ONE

### A-Z OF SOCIAL MEDIA RESEARCH: AN OVERVIEW

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#### CHAPTER OBJECTIVES

- Overview of A-Z social media research.
- Understanding social media research.
- Types of social media research.

#### ABSTRACT

This handbook chapter focused on presenting an overview of A-Z social media research methods for scholarly research. Social media continue to draw attention from all walks of life with people maximizing the associated vast opportunities. To understand social media research, it is imperative to delve into the modern social media research methods, which are rooted in scholarship and developed in line with digital media. To that effect, it is necessary to understand that it is the persistent proliferation of social media usage that gave rise to social media research. On that premise, this chapter gave an overview of information on social media and further elaborated on “understanding social media research” and the types of social media research methods.

**Keywords:** Methods, Research, Social media research, Social media, Types of social media

#### OVERVIEW OF SOCIAL MEDIA

It is an exciting moment thinking about the advancement in the social media space and the numerous scholarly research opportunities it presents. Such advancement has given rise to so many areas of social media writings and publishing journals for example; Communication and Society, social media and society, and journal of computer-mediated communication. Social media continues to draw attention from all walks of life with people maximizing its presenting vast opportunities. To understand social media research, it is imperative to delve into the modern social media world. To that effect, it is necessary to understand the persistent proliferation of social media usage that gave rise to social media research. Despite social media being a recent development, research into the use of networking technologies by people as a tool for interpersonal communication has been in existence in time past. Scholars such as Barry Wellman in the 1980s were already curious about understanding the nature of sociality in what was widely accepted as ‘computer-mediated communication’ which includes internet-based networks though not covered in this book. The researcher began to delve more into online community research in the mid-1990s due to the growth in the number of internet users. This gave rise to discussions and emphasis on continuity of offline

relationships and attitudes of internet users on the need for discontinuity and amplifying the need for social media context (Hjorth & Hinton, 2019). Notwithstanding the already made headways in online community research which paved way for social media research, it is not worthy to neglect the giant strides made by Wellman and other scholars. Key studies into the ways people use information technologies were first conducted by Wellman, who was among scholars to argue on the importance of offline factors in online communication.

There has been a sporadic rise in interest of researchers into the nature of online communities giving rise to various questions regarding what is unique about the internet and the online community. The emergence of social media has further raised the eyebrow with different schools of thought with many scholars believing that it is part of refinement in control. While some see it as democratizing, empowering, and emancipator in all, social media digitalizes, the social lives of its users. With the digitalization of users' social lives, it renders the personal statistics of its users into binary digits which circulate in the global digital communities at an unimaginable speed (Hjorth & Hinton, 2019). With such high circulation of digital information in the global communities, it amounts to the subjection of humans into information society control mechanism and that speaks huge volumes about the human control system since the inception of the industrial revolution. Notwithstanding the persistent spread of social media and its vast research opportunities, there are still challenges regarding what is the “formal definition”, because many scholars believed that it is still evolving (Ellison & Boyd, 2013).

Many scholars believe that social media definition should be context-specific and dynamic to accommodate other disciplines such as health sciences, humanities, social science, etc. Social networking sites (SNSs) and online social networks (OSNs) are related to social media hence the two were more predominant as common terms among journals, media releases, and monographs including among disciplines such as sociology, computer science and communication between 2003 to 2008. But things got a turn from 2009 to 2014 with more scholarly works adopting the term social media which can be attributed to social media being a broader term as it accommodates concepts such as blogging. Blogging is more concerned with building social connections and not merely information broadcasts (Sloan & Quan-Haase, 2017). To that effect, Kaplan and Haenlein (2010) defined social media as “. . . a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content”. Social media constitutes websites of communication that enhance forming of relationships between users irrespective of their background, religion, or social structures. Its users can connect with people from both far and near with the opportunity to share ideas and content (Kapoor et al., 2018). Social media encompasses platforms such as WhatsApp, Instagram, Facebook, Pinterest, and Twitter (Sloan & Quan-Haase, 2017). It is distinct from other forms of media because of its uniqueness in sociality.

The widespread social media usage has been promulgated by the increased influx of smartphones, tablets, iPads and other internet-using technologies. Social media promulgation

in society and its usage has forced people into adapting to a new version of reality where the bulk circulation of information and entertainment does not depend on institutions alone rather anyone can at any time disperse news. It is widely believed that the continuous usage of social media is influenced by the attitudes of people in the use of mobile devices such as smartphones which increase their readily access to social media apps for searching for information, sharing text messages, pictures, and ideas (Sloan & Quan-Haase, 2017). To that effect, social media platforms and their sporadic spread in society have penetrated deep into the lives of humans with great impacts on their daily interactions and generally their daily lives, institutions, and professional space while paving the ways for viable research areas (Van Dijck & Poell, 2013).

Owing to the vast opportunities presented by social media space, it fosters avenues for the development of new strategies for research data collection, data analysis, and data visualization tools including developing and refining web and mobile applications. Further, social media produces a large volume of data and is flexible which portrays its huge research advantages (Kitchin, 2014). Such juicy avenues create more grounds for scholarly exploration into social media research programmes and pave ways for the incorporation of large volumes of data and wide opportunities for new knowledge. Researchers and stakeholders globally have begun maximizing the vast opportunities of social media including people from various disciplines such as computer science, sociology, nursing, and other health sciences, this is evidenced by various scholarly publications (Kapoor et al., 2018). Duggan et al. (2015) also maintained that social media research is still new to scholars around the world. Social media research emerged because of the emergence of social media technologies and the rise of their usage. Thus, little is known regarding the quantity of qualitative, quantitative, or mixed method research published in that perspective (Snelson, 2016). Nor vast understanding of the process of selecting the suitable research design, data collection techniques, and process of data analysis. To that effect, this handbook is focused on adding voice in clarifying social media research methods for in-depth understanding, for scholars.

This handbook on A-Z Social media research methods presents an exposition on the methods for conducting social media research that is worthy of use by researchers. This chapter provides holistic information on social media research methods with an exclusive explanation of an *overview of social media, understanding of social media research, and types of social media research methods* for an in-depth understanding of the authors. Following the vast debate on social media research by different authors, Sloan and Quan-Haase (2017) argued that social media application should be seen as an important part of human society. Data for social media research can be readily obtained from social media space hence it is derogatory to assume that social media data are embedded in space. Meanwhile, Social media users' daily interactions can be deemed to have a link with their daily engagements including the link to other events that are happening outside social media space. To a large extent, social media interactions and engagements are seen to be produced in users' political, social, historical, health service providers, and economic spaces. Therefore, a researcher should take

cognizance of the above concepts in adopting social media research methods or in carrying out social media research (Sloan & Quan-Haase, 2017). This handbook on A-Z social media research methods is believed to be of crucial importance owing to its expository concepts on social media research methods.

## **UNDERSTANDING SOCIAL MEDIA RESEARCH**

Social media platforms are used by people in socializing and sharing a wide range of information on a daily basis. In teaching, social media usage has proven a high level of usefulness in innovative teaching and lecturing across disciplines including research (Peck, 2014). Across other disciplines such as in nursing science, social media platforms have brought improvement in student and nurse practitioners' communication, understanding of health care policies, professional ethics, and professionalism (Schmitt et al., 2012). Further, social media facilitates access to a handful of information for nurses and other healthcare practitioners, individuals, educational institutions, and organizations (Barry & Hardiker, 2012). University students across all disciplines are maximizing the opportunities presented by social media in actualizing their educational goals including in the acquisition and sharing of knowledge among students and people from all walks of life (Chukwuere & Chukwuere, 2017). Hence, social media is not only an emerging technological platform or cultural trend but rather a new means of communication that is tremendously altering organizational and institutional communication processes, including the professional and individual process of communication globally.

Economy-wise, research has it that social media contributes to the growth of countries' economies, promulgates unity among friends, and fosters the making of new friends both in schools and working places (Chukwuere & Chukwuere, 2017). On that premise, the emerging values of social media are not negotiable hence providing vast research opportunities. Notwithstanding, social media usage can be addictive, especially to youths and students (Mingle & Adams, 2015). This is in line with the report by Chukwuere and Chukwuere (2017) revealed that a larger population of their study sample was addicted to social media and exposed people to a series of female violence owing to travelling distance to meet social media friends.

Among the common and readily used social media platforms such as Facebook, Twitter, Instagram, and the rest of them came after previous computer-mediated communication (CMC) which in past allowed for many-to-many communication. However, scholarly research interest has developed in the past decades on the premise of the growing nature of Facebook, Twitter, Instagram, and others (Lomborg, 2017). Facebook, YouTube, and Twitter are considered the top 10 most visited social media platforms with high service standards which is gaining the attention of scholars (Alexa, 2015). Snelson (2016) further confirmed that social media research has been attracting numerous scholarly attention, which is obvious, owing to the increasing literature and ever-expanding literature reviews covering different aspects of social media research.

Social media platform such as Facebook has their users running over a billion whereas Twitter users have increased over 600 million boasting over 500 million tweets daily according to Statistic Brain as cited by (Ottoni et al., 2014). Meanwhile, other technology companies are working tirelessly in expanding their internet space to increase their chances of attracting more users, increasing their brand name, and placing their name in a better position globally. To that effect, companies like Instagram which started existing in 2010 has seen their users increase by over 150 million. This Instagram allows users to share pictures among themselves to the general public (Bakhshi et al., 2014). Owing to this steady growth, there is a need for social media research methods that can foster the collection, storage, and analysis of this bulk of data emanating from the social media space. On that premise, the quantity of naturally emanating information on various topics such as climate change, health-related, political issues, social issues, or business-related in circulation on social media space, should be harnessed. Townsend and Wallace (2016) concur that social media space is an avenue that provides huge space for researchers in gathering readily available data at no or little cost.

In addition, social media has opened up room for numerous questions and debates across disciplines both in the aspect of the methodology. The emanating questions further cut across the issues with regards to ethics and question of scales. Questions with regards to social media research methodology arise from the issues of identification of participants, sampling, data collection, data analysis, and visualization of data arising from social media. Despite that, the majority of social media methodological questions are about platforms specific whereas others are general to all forms of social media platforms. Social media most times presents researchers or scholars with an easy and accessible large volume of data. Meanwhile, it could be difficult or nearly impossible to get hold of some needed social media data by researchers which might frustrate research at that point. On the ethical questions, organizing and adoption of social media data have led to numerous ethical debates owing to issues about confidentiality, authenticity, accountability, and privacy. Despite the public availability of social media data, issues of ethics are not to be neglected and hence should be prioritized. The issues about respondent consent forms have been a point of debate owing to the presumed ignorance of the respondents regarding the use of their data by the researcher (Beninger et al., 2014). To that effect, issues regarding ethics in social media cut across the use of big and small-scale studies and should be prioritized.

On the question of scale, social media researchers are faced with the task of overcoming questions of scales in social media research methodology owing to the reliance on the quantity of data. Researchers adopting social media methodology examine the different phenomena from various areas of study which exposes them to both big and small data. This handbook strictly focused on addressing issues related to A-Z of social media research methods.

## TYPES OF SOCIAL MEDIA RESEARCH METHODS

Understanding social media research necessitates bearing in mind the increased evolvement of new social media platforms and a steady influx of information. As new social media platforms are emerging, some are also closing down or integrating with flourishing companies to form a stronger platform (McKie & Ryan, eds., 2015). The existence of social media platforms tends to modify their interface, adding or removing central features, which affects the type of services they render. Social media companies can sometimes affect changes at their ‘back end. Different social media research methodology has emerged in the past owing to the growth of various disciplines in social media research (Hjorth & Hinton, 2019). To that effect, this handbook covered a series of social media research methodologies that were deemed important across disciplines. In line with three fundamental research typologies, social media research can be conducted through the adoption of qualitative research, quantitative or mixed method types of research. Given the vast quantity of data obtainable from social media platforms, the researchers in this handbook believe that qualitative, quantitative, and mixed method research methods are all suitable for conducting social media research. In this handbook, the researchers only explained research designs under the qualitative social media research method.

### Qualitative social media research method

Qualitative research method presents a researcher with the avenue to explore or describe the perceptions, views, or lived experiences of participants (Creswell, 2014; Creswell & Plano Clark, 2011). The qualitative social media research method enables researchers in exploring participants’ perceptions, views, opinions, or experiences thereby gathering non-numerical data for analysis. The adoption of qualitative social media research method enables researchers to probe research questions for an in-depth understanding of the phenomenon. Conducting qualitative social media research requires careful thought and planning to ensure the gathering of accurate data for the study. The qualitative social media research method enables a researcher in establishing a direct dialogue with the participants either through Facebook messenger voice or video call, WhatsApp voice or video call, over the telephone, through emails, across Skype, online surveys, and many more to answer research questions for a study. The researcher can be able to actively listen to the participant during the dialogue to generate in-depth data for the study. Qualitative social media research, depending on the tool for data collection such as email messages, could allow respondents to give a broader response to research questions for in-depth and broad research data.

The collected data are best analyzed qualitatively to arrive at the participant's authentic meanings ascribed to the research questions. The qualitative social media researchers adopt different designs in realizing the objectives of the study. The following designs could be adopted in qualitative social media research method; *qualitative digital ethnography research design, qualitative experimental design, qualitative observational design and qualitative survey design*. The qualitative social media research method generates a range of narrative, observational and visual data from social media spaces. These data can be analyzed

qualitatively by adopting content and thematic analysis technique to actualize the objectives of a study.

### ***Qualitative digital ethnography research design***

Digital ethnography researchers are primarily interested in describing the experience of their respondents that are using social media in their day-to-day living or enabling research respondents to respond to research questions through social media platforms. Researchers doing digital ethnography research has no intention to generalize their study finding or give an explanation for the bulky structures of social media networks. Rather, they are more concerned with carrying out a “thick” description of the respondents’ experience by engaging them in interviews, observations, and engaging themselves amid the online communities to have comprehensive data for the study (Hjorth & Hinton, 2019). An ethnographic researcher has a world view that the respondent’s experience is “unique” hence they endeavour to obtain authentic information regarding the lived experience of their respondents instead of mere provision of a general summary of their experience which might not capture the respondent’s general experience. Hjorth and Hinton stressed that researchers adopting digital ethnographic research design entails the acknowledging the fact that digital is a part of many people’s daily life in contemporary society. Ethnographers believe in understanding and describing human experience hence the need for the digital elements to be understood and properly described. Pink et al. (2016) maintained that ‘we are interested in how the digital has become part of the material, sensory and social worlds we inhabit and what the implication is for ethnographic practice’. The above can be said to be underpinned by innovation in technology that has given rise to social media. Digital ethnographic research has led to debates on the core issues of ethnography in digital pointing out the impacts of the environment, methods, and methodologies that are shaping the practice of ethnography.

Ethnographic researchers are known for close engagement with their respondents which at times allows them to immerse themselves in the communities in which they are studying to enhance their in-depth understanding of the context and the people and foster asking of ‘standard survey-like questions’ for the study. Digital ethnographic researchers are more concerned about listening to their respondents for a better understanding of their experience and to ask more probing questions. The digital ethnographic researcher’s role is a huge methodological consideration in digital research. The digital ethnographic researcher should be able to understand their roles in the knowledge production which is not merely eliminating bias which arguably is not completely possible rather playing proper roles in constructing the knowledge from the digital ethnographic research data. This is crucial because digital ethnographic researchers are expected to be able to understand and interpret the information obtained from the respondents. By so doing, the digital ethnographic researchers are expected to be able to understand the process of collecting credible data, conducting data analysis and able to ascertain and control their influences in the research. Hence ethnographic researchers should integrate reflexivity measures while conducting the study. On that premise, Pink et al. (2016) proposed key principles crucial in digital ethnographic research, which are reflexivity, openness, multiplicity, unorthodoxy, and non-digital-centric-ness. Data could be generated

through telephone interviews, individual interviews, focused group discussions, or qualitative content analysis (Snelson, 2016).

### ***Qualitative experimental design***

Experimental design can be conducted in social media research method. Qualitative experimental design allows for assigning participants randomly to a control group and treatment group. The control group is the group of participants that do not receive any treatment or intervention while the treatment group is the group of participants that receives a certain type of treatment. Thus, the research intends to understand the casual inference between the groups. Because participants are randomly assigned to each group, it is imperative that the groups virtually possess pre-treatment characteristics on the same average (Singh et al., 2020). Possession of the same average pre-treatment characteristics by the two groups of participants results in confidence that any differences in average outcome between the groups are as a result of the administered treatment rather than the environment or the features of the participants. In social media research, the experimental design could be used in three different ways which are; participant recruitment, means of applying treatment, and avenues for measuring the outcome of interest.

In participant recruitment, social media space has resulted in a huge level of success including in research adopting experimental design. The recruitment of participants through adopting an experimental design could be recruiting from Twitter ads, online message boards, or Facebook. Experimental design can allow researchers in applying treatment to participants. This implies that social media users can be used as assigned to a control or treatment group as an experimental subject. In measuring the outcome of interest, the experimental design could be used to measure the outcome of interest following the engagement in some research intervention. Munger (2016) posits that intervention could take place within a social media space.

### ***Qualitative observational design***

Qualitative observational design is known for its features for collecting unstructured data in various formats. The characteristics of the qualitative observational design are consistent with the social media research area in the aspect of its descriptive data on how an individual is interacting with those around them in an uncontrolled context (social media space) in the absence of intervention measures initiated by a researcher (Singh, Bode, Davis-Kean et al., 2020). Social media space enables for collection of text bulk data, videos, or pictures, and adoption of various forms of content analysis to evaluate construct and themes. It is imperative to understand that social media data are complex on human behaviour and most times reflect the opinion and beliefs of individuals while coming in a huge volume different from the traditional pattern of qualitative observation design.

In social media research, qualitative observation design, researchers should delve into data that could be used to answer various questions of interest, ascertain the strength and limitations of utilizing these data, and then generate theory-driven hypotheses. To understand

the large quantity of qualitative data describing human behaviour in qualitative observational design in social media research, it is imperative to appropriately classify primary text and conduct data analysis to derive meaning from the different representations of text (Singh et al., 2020).

### ***Qualitative Survey design***

Survey design follows a systematic method of gathering data from a given sample to generate a quantitative description of distinct features of the larger population. Among the characteristics of the survey design, is the ability to construct valid measures and represent the target population. In survey design, researchers can sample participants through probability sampling and non-probability sampling. The adoption of probability sampling in survey design allows the involvement of every element in the chances of being selected for the study. While non-probability sampling does not give every element the chance of being selected in the study. Understanding these sampling methods is essential in applying the proper method of estimating sampling variance and in generalization of the study population (Singh et al., 2020). Researchers using survey design in their social media research should focus on construct measurements through carefully drafting survey questions to reflect the construct of interest. Most times, pre-tests are measured and then validated to ascertain if they are reliable and exactly measure what they are expected to measure. The structuring of the question is also carefully put into consideration to reduce acquiescence biases, social desirability and to ensure that the research participants do not answer the research question in a particular way.

The survey design question for social media research is structured in such a way that it will enable gathering data related to participants' attitudes, behaviours, and characteristics. The questions could be open-ended or open-ended. The participants participating in social media research using a survey design could be required to be treated as the unit of analysis. The researcher meanwhile, must obtain consent from the participants. With the obtained consent from the participants, the researcher can access and use their social media data. Data are collected through the linking of survey questions with the account of the social media user.

### **Quantitative social media method**

The quantitative research method follows a traditional method in its inquiry which is a controlled and systematic process of generating numerical data for analysis. Quantitative research might start with a theory, conceptual model, or framework to ascertain how or why things vary and understand the link between a change in a variable and if it affects another variable (Polit & Beck, 2017). The quantitative research method collects primarily quantitative data known as numerical data for analysis. For instance, a researcher might intend to ask social media users about the impacts of online bully their willingness to accept a new friend request on a social media platform. Research might present a survey of 0 to 10 with related concepts and expect the participants to 'agree' 'disagree' 'strongly agree'. The provided data will enable the researcher to quantify the participant's response to answering the research questions. Quantitative research can be adopted in social media research in the

form of a quantitative social media research method through systematic and controlled processes to generate numerical data for analysis.

The choice of research method is mostly defined by the researcher's experience or worldview. For instance, an individual who is competent or trained in technical, and familiar with quantitative journals, statistics, computer statistical programs, and scientific writing could decide to adopt a quantitative research method (Creswell, 2014). This also implies to quantitative social media research method. Social media provides researchers with a huge quantity and rich data regarding the daily life experience, views, beliefs, and opinions of users (Singh et al., 2020). Thus, the effect of leveraging on this vast quantity of data could improve the ability of people in understanding economic, psychological, political, and sociological behaviours. The following research designs can be adopted in quantitative social media research method; experimental quantitative research design, quasi-experimental quantitative research design, correlational quantitative research design and descriptive quantitative research design. The quantitative social media research method enables researchers in drawing samples from a large pull of research participants, specify studied variables, and generate numbers and statistics for analysis. For instance, Daowd, Kamal, Eldabi, Hasan, Missi and Dey (2020) investigated the impacts of social media on the performance of microfinance institutions in developing countries using a quantitative method. They collected data from microfinance institutions using web-based questionnaires. Data can be collected through the use of web-based questionnaires or surveys while analyzed using SPSS. The generated data are based on precise measurement using structured and validated instruments of data collection. The quantitative social media method enables researchers to be critical in their thinking and able to generalize their findings to other populations.

### **Mixed method social media method**

Mixed method research can address research topics that cannot be addressed by other methodologies (Molina-Azorin, 2012). Mixed method research allows researchers to collect both qualitative (open-ended) and quantitative (closed-ended) data in a single study, analyze the collected data, interpret the findings and draw the conclusion depending on the strength of the various data for an in-depth understanding of a research problem (Creswell, 2014). Mixed method research can be used in social media research. The following research design can be adopted in mixed method social media research; exploratory sequential mixed method research design, explanatory sequential mixed method research design, convergent mixed method research design, embedded mixed method research design and multiphase mixed method research design. An example of such research work is the study conducted on social media websites by Morgan, Snelson, and Elison-Bowers (2010), using a qualitative analysis of social media contents together with a survey to investigate the behavioural pattern and attitudes of adolescents regarding depictions of alcohol and marijuana use. Furthermore, Vyas, Landry, Schnider, Rojas and Wood (2012) conducted another study combining a survey and a follow-up interview to investigate short message service and social media usage among young adults of Latin and the possible roles of these services as a public health program communication methods. The above examples demonstrate the strength of

qualitative and mixed method research in solving social media research-related problems. Thus, the mixed method social media research method enables researchers to combine qualitative and quantitative social media research methods in a single study for an in-depth understanding of a study. For instance; Shifman (2012) conducted social media research by adopting qualitative and quantitative mixed method research methods. The adopted research method enabled the researcher in uncovering the attributes common to “memetic videos”.

The mixed method social media method draws its strength from the combination of qualitative and quantitative methods in a single study for the generation of broader data to best answer research questions or actualizes research objectives. Casselman and Heinrich (2011) investigated the novel use patterns of *Salvia divinorum*: unobtrusive observation using YouTube through adopting a mixed method research method. The study's adoption of a mixed method research method for social media research enabled the researchers in collecting data through ethnographic observation and further user-generated content crawlers. The mixed method social media research method enabled the researcher in integrating the strengths of the two research methods and they complemented each other to foster the understanding of the study. Smith, Smith and Knighton (2018) analyzed social media dialogue in a crisis using a mixed method research method. A mixed method research method enabled them in collecting data using NodeXL to generate quantitative and qualitative data for a detailed result for the study. This method can as well provide researchers with benefits such as the ability to investigate the network of greater scope, reduced informant bias, increased capability for longitudinal design, and broader access to diverse social actors (Williams & Shepherd, 2017).

Data in mixed method social media can be collected through written social media diary, using NodeXL or job posting website. For instance, Alfaro, Bhattacharyya and Watson-Manheim (2013) conducted a social media mixed method research collecting data from Indded.com, which is a job-posting website that aggregates job announcements from different sources. The researchers used an automated process to collect all the advertised jobs in a format HTML daily. Mixed method social media data can be collected and analyzed in a parallel fashion or converged during data interpretation. Data could be analyzed through a technique such as content analysis or semantic network analysis.

## **CONCLUSION**

The handbook gave an expository overview of social media research as an evolving research area with vast scholarly opportunities. The overview of the study was underpinned by properly conceptualized ideas backed with literature to foster the understanding of social media as a crucial background to understanding social media research methods. The handbook demonstrated different social media research methods crucial for researchers undertaking social media research.

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## CHAPTER TWO

### THE ROLE OF SOCIAL MEDIA RESEARCH IN THE DIGITAL AGE OF RESEARCH AND INNOVATION

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#### CHAPTER OBJECTIVES

- The role of social media research (SMR) in the digital age of research and innovation.
- The innovation brought by social media research.

#### ABSTRACT

Traditionally, the distribution of academic studies, research and innovations is mostly done through other forms of media such as television, radio and print media (magazines, newspapers, bulletins, books and textbooks). The advent of social media has revolutionised and influenced how academic knowledge, research, ideas and innovations are conducted and distributed globally. Academic research in the digital age keeps gaining popularity in the academic world and beyond as a result of wider usage and influence of social media and its applications. Its innovations are widely distributed within and outside the academic community. At this point, the role and influence of social media research on the academic world in the digital age cannot be underrated toward providing innovative solutions and findings to human challenges. Social media research (SMR) can be regarded as research derived from social media data and sources using an analytical process in understanding how events unfold on social media platforms. This chapter provides an analysis of the role of social media research in the digital age of research and innovation. Furthermore, the chapter determines the innovation brought by social media research.

**Keywords:** Academic research, Academic studies, Digital age, Innovation, Research and innovation, Social media research

#### INTRODUCTION

Academic research keeps delivering ideas and innovations that transform human social, economic and political (SEP) environments. The wide usage and acceptance of academic research work and innovations in the digital age are rooted in the role and influence of social media usage. Traditional media channels such as radio, television and print media have been used for many years in distributing information and communication and influencing how individuals think, perceive, speak and behave (Douai, Auter, Wedlock & Rudyk, 2013). These traditional media channels for years have helped in contributing to the distribution of academic research. The digital age has witnessed the advent of social media. Social media and its applications such as Facebook, WhatsApp, Twitter, Instagram, WeChat, and many

others have changed the information sharing and communication landscape of academic innovations, ideas and findings. In recent years, social media and its applications have grown exceedingly and changed how communication and sharing of information take place (Douai et al., 2013). The growth of social media is fuelling an increase in different kinds of research conducted within the platforms by academics, organisations, and many others that address different topics such as user behaviour, addictions and many more.

Social media research (SMR) aimed to produce knowledge, ideas and innovations that can transform individuals, companies and society at large. The research also determines the social, economic and political (SEP) influences. Social media research analyses every event that occurs within the social media environment and the daily application by users and organisations. Social media research is conducted in the same manner that other forms of academic research are done. The process and procedures may slightly differ. Social media nowadays positions itself as the right channel to conduct research, collect data and disseminate academic research in this digital age. Social media enables like-minded individual researchers to build research networks and collaborations nationally and internationally. The rate of dependence on social media platforms by individuals, public, private and even non-profit organisations makes it a repository for a huge data source that can be collected and analysed for a range of academic and market research topics. Based on the rich data available on the social media platforms, which brings meaningful contribution (innovation and invention) to the scientific community and other sectors of society. However, little or none is known on the role of social media research in contributing meaningfully to digital age research and innovation.

Social media drives communication and information sharing among different audiences. Increasingly, academics are conducting academic and non-academic research around social media, its applications and its usage by the users. The roles of social media and its applications are felt across different sectors. The increasing interest in social media by academics and non-academics opens a door for social media research that analyses an understanding of different events within and outside the platform. Social media is the place for researchers in this digital age to research events and build connectivity and network. This chapter presents the role of social media research in the digital age of research and innovation with a focus on determining the innovation brought by social media research. The entire chapter is structured into four main categories: literature review, the implication of the chapter, conclusion and references.

### **LITERATURE REVIEW**

Social media can be seen as an application that enables users to interact and communicate with one another (Boateng & Amankwaa, 2016). Academically, it provides collective access to data for research. Social media provides the platform for instant texting (messaging), information sharing, content editing and many others. The use of social media in collecting research data and disseminating research findings in this digital age is inevitable.

### **Theoretical perspective**

Academic research is grounded in theoretical perception. There are two forms of theoretical concepts: a theoretical perspective and a conceptual framework. The theoretical perspective assists researchers in understanding the research methodological viewpoint of the study in establishing the research objectives and questions, while the conceptual framework shows the researcher's framework guiding the study (Chukwuere & Chukwuere, 2020). Theoretical perception or theory provides the base upon which the research concept is built. There is a number of theories used on SMR. According to Kapoor, Tamilmani, Rana, Patil, Dwivedi and Nerur (2018: 551), the following are the top ten social media research theories: Social exchange theory, network theory, organisational theory, learning theory, use and gratifications theory, elaboration likelihood model theory, rational choice theory, attribution theory, dual-process theory, and social capital theory and much more. Furthermore, Douai et al. (2013:110) suggest that attributed agenda-setting theory, cognitive dissonance theory, cognitive-affective personality theory, a 3M model of motivation and personality theory, diffusion of innovation theory, and many other theories are used to understand social media impact. Furthermore, the 'push-pull-mooring' (PPM) theory can be used (Balakrishnan, Teoh, Pourshafie & Liew, 2017), Revised Technology Acceptance Model (RTAM) (All these theories seek to underpin SMR across different topics and disciplines.

### **The role of social media in academic research**

In today's social world, social media is changing every aspect of communication and information-sharing space (Boateng & Amankwaa, 2016). Social media can be regarded as an instant sharing platform that allows the exchange of information between individuals and groups of people (Douai et al., 2013). Social media provides communication channels for users (Al-Rahmi, Othman & Yusuf, 2015). Importantly, social media today changes the academic research world and allows researchers to build internal and external relationships and network with fellow researchers and maintain connectivity (Douai et al., 2013). The platform uses the Internet or data via computer, mobile technologies, and other forms of computer devices to share instant information and other content and to develop social interactions. The growing penetration of social media usage in society attracts a lot of challenges and research gaps, calling for solutions for academics. The solutions come in the form of innovations and ideas through its data to change and improve the social, economic, political and market environment, and many others.

Social media research provides innovations and solutions that determine users' interaction with each other, users' perception of a product in the market, political climate, education situations, health issues such as the COVID-19 pandemic outbreak, and many more. The findings inform users and the general public to take action, alert, understand a certain situation, and many more. The role of social media in influencing digital age society and research can only grow in the near future.

According to Al-Rahmi et al. (2015), social media promotes collaborations among academic researchers. The role ensures that researchers get connected and establish relationships that strengthen their partnership. The researcher's partnership is geared towards identifying and solving human, social, economic, political and educational challenges confronting humans daily. Furthermore, the platform fosters engagement between researchers and the audience. Researchers use the platform to distribute their research work, while the audience gets notified of the new research findings and outputs. Academic research is now accessible by audiences across different social media platforms, which promotes readability and usability. According to this chapter, social media provides the hub for research data and data collection. It supports the sharing of academic research innovation and ideas, and strengthens social and academic collaboration and partnerships within national borders and globally.

### **Forms of social media applications/sites/networks**

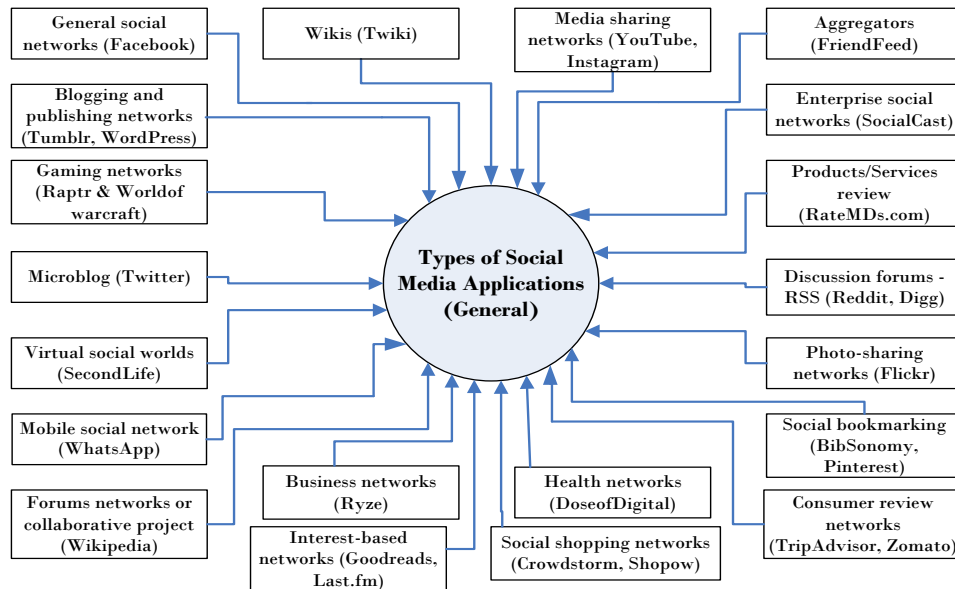
Since the advent of social media, different applications have been invented and changes continuously take place. According to Chukwuere and Ramawela (2019), there are more than 120 various forms of social media sites or applications. Individuals use the applications, public, private, government, non-government agencies and even academics for different purposes. According to this chapter, forms of social media applications (SMA) are grouped into two main types: general types of social media applications (it covers social media applications used by everyone (users) for various purposes) and academic, social media applications or sites (these are platform explicitly used for academic or educational purposes). Irrespective of the form of SMAs, they provide individuals and organisations the opportunities to connect, communicate, and share information with others (Jordan, 2019). They provide the avenue to generate innovative ideas that solve common human or users (individuals) and organisational challenges in the community.

### ***General types of social media applications***

There are different forms of social media used by individuals or groups of people and organisations in general. Social media differs, including micro-blog, social networking applications, and sites, and many with the ability to connect stakeholders by sharing pictures, and videos, playing online games, sharing information or chats, and many others (Douai et al., 2013). The definition of social media remains challenging because the platforms are classified according to their functions. For example, Facebook (general social networks), Twitter (microblog) and WhatsApp (mobile social network) are all social media applications; however, these are categorised differently as a result of their functions (Chukwuere & Ramawela, 2019), and the definitions differ (Douai et al., 2013). Figure 2.1 highlights the different forms or classifications of social media used by the general public in performing various functions. These platforms contained big data that are collected, analysed, and reported for decision-making purposes. For instance, researchers collect social media data on users' behaviours and their influence on their lives, market, health, education and many more. These data are analysed using different statistical analytical tools and interpreted and reported for making decisions. According to Li, Wei, Xiong, Feng, Ye and Jiang (2017), there are six

leading social media types, such as wikis, forums, blogs, microblogging, and podcasts. However, the platforms can be used by academics to connect and communicate with other colleagues and fellow researchers in sharing academic resources and findings that shape the human, social, economic and political environment.

**Figure 2.1:** Types of social media applications (general) (adapted from Chukwuere and Ramawela (2019); Kakkar (2018); Social Media Research Group (2016))



As earlier noted, social media applications have given individuals and organisations unlimited opportunities to network with friends, peers and others within and outside the local boundary in search of new knowledge and information and able to distribute resources (Palmer & Strickland, 2017). Figure 2.1 has the classes or types of social media applications used by the general public in sharing information and other purposes. Each of them has one thing in common, such as the ability to connect and build a network of users. However, researchers have no common definition of social media applications. Increasingly, researchers are discussing the platforms in discovering a new range of topics concerning individuals and organisations (Chukwuere & Ramawela, 2019; Al-Badi, 2014; Shrivastava, Paperwala & Dave, 2011; Safko, 2010).

***Types of academic social media applications (ASMAs)***

ASMAs provide academics with ‘low-cost’ platforms to build personal and professional profiles (Palmer & Strickland, 2017). It also allows academics to share their research findings, information, network and finding research findings on a daily basis. Social media has positioned itself as a gateway to the academic research process and publication. There are a number of dedicated social media platforms for academics, such as Academia (academia.edu), Epernicus (epernicus.com), Google Scholar, Researchgate (researchgate.org), ResearchID (researcherid.com), ScienceStage (sciencestage.com), Methodspace (methodspace.com), Mendeley (mendeley.com), Zotero (zotero.org) and many more. Each of these holds a number of innovative findings that address human and

organisational needs. According to Asmi and Madhusudhan (2015), academic social media applications enable researchers to communicate, distribute and gather information, while Chukwuere and Ramawela (2019) regard ASMA as ‘research and collaboration networks’ for researchers.

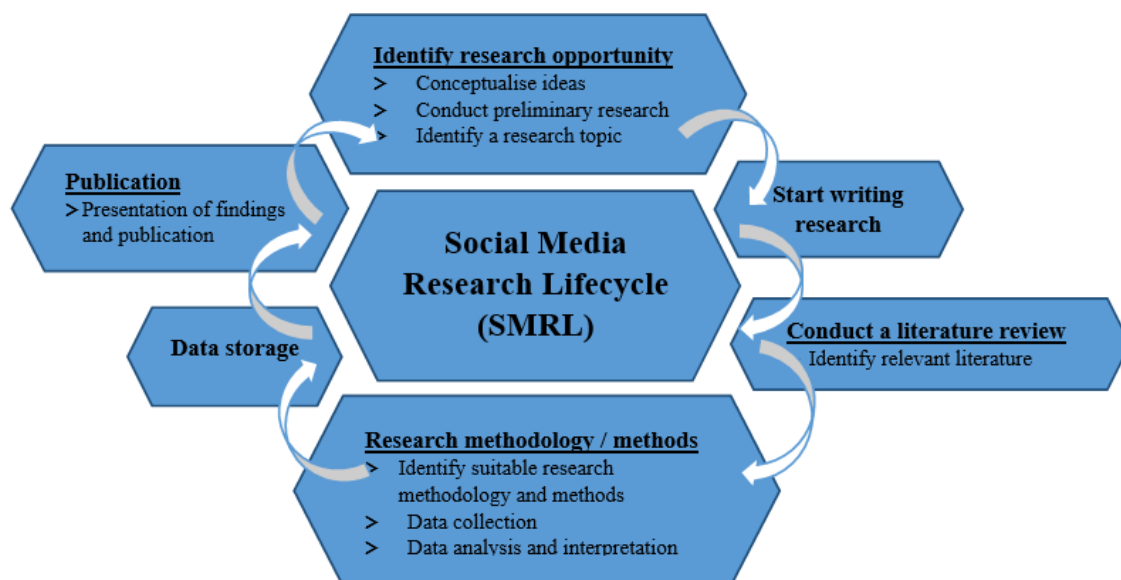
**Social media research (SMR)**

The term social media research (SMR) is still less popular and varies in the definition. Social Media Research Group (2016) defines SMR as research derived from social media data, contents and sources. Research can be conducted using data from social media platforms. SMR can be categorised into two parts (types): “using social media as a research” instrument or tools (conducting survey or questionnaire on social media applications or platforms) and research on events, incidents and activities of social media (researching social media content itself) (Social Media Research Group, 2016). Detailed information on both categories can be found in the section “The innovation brought by social media research”, below.

**Social media research lifecycle (SMRL)**

Figure 2.2 highlights the social media research lifecycle (SMRL). SMRL provides the processes or changes that a researcher must undergo in researching on social media. These processes allow the use of social media platforms as a research instrument for data collection or researching social media events. Figure 2.2 shows the changes and stages that cover processes that can achieve social media research in the digital age. Every cycle (Figure 2.2) tells the researcher what must be done towards achieving SMR.

**Figure 2.2:** Social media research lifecycle



**a. Identify research opportunities**

The identification of research opportunity(ies) is regarded as the first step in carrying out SMR. The research opportunity is a motive that drives the researcher to conduct research, which is to benefit students, the research community, policymakers, society, and many other

stakeholders. The first step in research opportunity(ies) identification is to **conduct preliminary research** – this initial step assists a researcher in determining whether the research opportunity(ies) identified is(are) doable or the opportunities identified can contribute to the academic world and society at large. As soon as the opportunity(ies) is(are) doable and expected to contribute, then the idea conceptualisation starts. The second step will be to **conceptualise ideas** – through the preliminary research process; an idea/s can be conceptualised or formulated, which gives more insights into the possibility of the research being investigated. According to Chukwuere and Chukwuere (2020), the ability to write research lies in the conceptualisation and imagination of ideas that define the purpose of the study. The last step will be to **identify a research topic** – conceptualised idea/s assist(s) in coming up with or formulating research topics, which guides the research on the area of concentration.

***b. Start writing research***

This cycle involves the actual writing of the research in translating ideas into reality. The writing involves the formulation of a research proposal or manuscript that comprises an introduction, problem statement, research objective(s)/question(s), the significance of the study, and many others. However, research writing is done by reading the existing literature for empirical backing and argumentation.

***c. Conduct a literature review***

SMR literature review is centred on the analysis of existing studies covering the identified research topic being investigated. The process of conducting a literature review lies in identifying **relevant literature** – relevant literature covering the identified research topic must be researched through online search engines and database sources in looking into keywords that cover the topic under investigation. Furthermore, digital and offline libraries could be used in the identification of relevant literature. However, SMR literature is the same as non-SMR literature.

***d. Research methodology and methods***

This cycle provides an overview of the research methods and methodology to be used in conducting the study. Research methodology and methods can be used interchangeably. The cycle involves *identifying suitable research methodology and methods, data collection, and data analysis and interpretation.*

- **Identify suitable research methodology and methods:** There are different forms of social media research methodology and methods (see Chapter 6); these methodologies and methods enable researchers to determine the techniques and processes of data collection and analysis.
- **Research methodology:** It proves the systematic techniques to conduct research that can be through qualitative, quantitative, mixed methodology and literature review. Irrespective of the category or the type of SMR to be conducted, the methodology and method are necessary to be identified.

- **Research methods:** It involves steps, techniques and processes used in data collection and analysis in order to discover meaningful findings from the study. The research methods can be surveys, experiments, interviews, focused groups, observation and many more.

Qualitative, quantitative, and a combination of both approaches could be used to analyse social media research. For example, the uses of graphical media, thematic and sentiment analysis while group/segmentation identification and passive/active ethnographic approaches are different forms of qualitative approaches that are suitable for SMR. While using the quantitative method, the following approaches can be used to analyse social media data such as clustering, classification/regression, geographical information systems (GIS), volume analysis, correlations, and relationship analysis (Social Media Research Group, 2016). Each of these approaches helps a researcher to analyse and understand data on social media. Furthermore, an analysis can be done in considering quantitative data on a qualitative approach (Social Media Research Group, 2016; D’Orazio, 2013). Social Media Research Group (2016) categorised social media research methodology according to the methodology (see Table 2.1).

**Table 2.2:** Social media research methodology (Adopted from Social Media Research Group, 2016)

| <b>Quantitative</b>  | <b>Qualitative</b>  |                          |
|--|---|--------------------------|
| Units of volume and frequency<br>> Number of followers/friends<br>> Number of users<br>> Rate of use and interaction<br>> Searches   | Visual audio content<br>> Photo tags<br>> Media tone and content            | <b>Mixed methodology</b> |
| <b>Biographical data</b><br>> Age, name, gender<br>> Nationality, residence<br>> Occupation and qualifications<br>> Lifestyle activities and interests<br>> Culture and traditions | <b>Tone and sentiment</b><br>> Emotions and feelings<br>> Tone and opinion  |                          |
| <b>Number of reactions</b><br>> Views<br>> Comments<br>> Likes/endorsements<br>> Retweets/quotes<br>> Posts and chats  | <b>Influence and clout</b><br>> Topics and discussion<br>> Search           |                          |
| <b>Textual semantics</b><br>> Group discussions<br>> Keyword content from posts<br>> Comments on primary posts<br>> Hashtags   |   |                          |
| <b>Location</b><br>> Latitude/longitude<br>> Settlement/address  |   |                          |
| Volumes per unit time  |   |                          |
| Scores/other ordinal rankings  |   |                          |
| Deletions  |   |                          |
| <b>Other suitable research methods</b>   |   |                          |
| > Network analysis<br>> Semantic analysis<br>> Geographical information systems<br>> Pseudo-experiment   | > Thematic codifications<br>> Ethnographic observation<br>> Action research |                          |

- **Data collection:** According to Social Media Research Group (2016), data can be collected on social media in different ways. The data collection techniques depend on the kind or type of SMR underway. Automated data collection processes on social media provide tools to collect, sort, clean, save, retrieve, analyse and interpret large volumes of data. These technological tools can provide and analyse real-time data (Social Media Research Group, 2016). There are a number of free and subscribed technological tools that are used to analyse social media data. The technological tools are regarded as text analysis tools, which are NCapture, SentiStrength, DiscoverText, Mozdeh, while network analysis tools are Gephi, SocSciBot, and NodeXL, and many more (Social Media Research Group, 2016). At the end of data collection, data analysis and interpretation will be done.
- **Data analysis and interpretation:** Social media data are analysed and interpreted in real-time, no matter the type of SMR conducted, the analysis and interpretations are simplified. According to Edwards, Housley, Williams, Sloan and Williams (2013), data collection on social media can be real-time or time bound, while the data analysis can be intensive or extensive. Figure 2.3 highlighted the data collection and analysis as applied on social media.

**Figure 2.3:** Data collection vs. data analysis on social media (Adopted from Social Media Research Group, 2016).

*Data collection*

|                      |           | <i>Data collection</i> |                         |
|----------------------|-----------|------------------------|-------------------------|
|                      |           | Real-time              | Timebound               |
| <i>Data analysis</i> | Intensive | Ethnography            | Interviews              |
|                      | Extensive | Social Media Specific  | Surveys and Experiments |

**e. Data storage**

Ideally, any collected and analysed data require appropriate storage facilities to keep the data safe and secure. Due to data confidentiality, social media data should be secured, and researchers should choose a very secure platform to use. SMR data can be used stored on the cloud, local storage, memory stick, or hard disk. Respective of the storage platform used, adequate security measures must be in place in secure to safeguard the data.

**f. Publication**

This cycle is aimed at making SMR public through online or printed mediums.

**Presentation of findings and publication:** It ensures that research findings are presented to the audience through publication. Textbooks, books, magazines, journals, conference proceedings, and many others can be used to present SMR finding to the general public. However, a suitable presentation format should be used in presenting SMR findings.

**The role of social media research in the digital age of research and innovation**

Social interaction is fundamental for individuals and groups of people to build social cohesion and engagement. At the World Telecommunication Development Conference in

Buenos Aires on 21 March 1994, former US Vice-president Al Gore recommended that researchers make a “Global Information Infrastructure” for an “information superhighway on which all people can travel” (Douai et al., 2013: 91). “Information superhighway” aimed to facilitate and improve citizen’s participation in social discussion and democratic actions. Since the advent of the Internet, growth has been exponential, and many inventions have emerged, which have increased globalisation and made the world a global village. The interconnectivity on social media is bridging the social, economic and political divide in the world with the empowerment of citizens to actively participate in social and democratic processes.

The role of social media in social interaction is massive in creating action across different sectors of society. The roles are felt in different disciplines such as advertising, marketing, communication, politics, and many others. In understanding the role of social media in academic research in the digital age, the following questions are important to be considered: What is the role of social media research in academic research in the digital age? What are the implications of social media research? What are the ways to conduct social media research without negative consequences on the audience? What theories are used in conducting social media research? These questions drive the effective usage and applications of social media research in the digital age research, society and beyond.

Currently, social media research is gaining recognition globally among academics, and they continue to invest efforts in researching the platform. The increasing research is rooted in the use of social media in creating an opportunity for relationship building and collaboration (Al-Rahmi et al., 2015). The role of social media is no longer unnoticed in the educational environment, because students, lecturers, supervisors, and other stakeholders are actively using the platform to collaborate and share information, which directly shapes engagement and networking. Through social media, academics can conduct research in any part of the world, and the authors contribute and collaborate effectively. Furthermore, the platforms allow academics to share research findings, which redefines society in a positive direction in informing and educating practitioners (professionals), students, academics, and other stakeholders in decision-making. Furthermore, researchers perform different tasks on social media such as information sharing, instant messaging, distribution of research outputs (publications), scientific news, grant news, achievements, and many more. Academic research and innovations are delivered to the right audience using social media applications or sites, which, in turn, increases its impact and usability in the world.

Billions of people are using computing devices with social media enabled to access social media platforms, SMR and other information. A large number of people are on social media and billions are active daily (Douai et al., 2013). The daily usage of social media in our time makes the platform useful for all purposes, including showcasing academic work. Academic work is fundamentally transforming the social, economic and political climate, as well as

other sectors. The influence depends on how practical social media applications were implemented.

Social media research (SMR) is becoming a known term in the academic world; the concept is aimed to engineer a form of analysis into users' events happening on social media platforms. According to Gaál, Szabó, Obermayer-Kovács and Csepregi (2015), social media has become a lifeline and cannot be undermined. Social media affects every aspect of human engagement and communication. The usage and influence must be monitored, analysed and evaluated using different types of research methods (qualitative, quantitative, mixed or literature review). This chapter will lead to a better analysis and understanding of every incident that happens around social media, the influence on different stakeholders, and many more. The application of social media in conventional research also applies to social media research. Social media research involves many authors and audiences who get included and benefit from its study. Social media must be utilised in a situation where it will help all stakeholders as well as be suitable for social media research.

At this point, social media research (SMR) presents the following opportunities in the digital age of research and innovation:

- ✓ In-depth analysis of social media events.
- ✓ A better understanding of how different events happen on and off social media applications.
- ✓ Better prepare to predict future incidence in society.
- ✓ A better understanding of the social, economic, educational and political influence of social media applications on the users.
- ✓ A better understanding of the past, present and future of social media and its impacts.
- ✓ Engage in data mining.

Social media research is a new phenomenon, and it presents opportunities for academics to research mining in different areas and events around the platforms. There is little and unknown research on the role of social media research in digital age research and innovation. Research and innovation are continuous and inevitable in the academic field; the advent of social media is making it easy for knowledge and information dissemination.

### **The innovation brought by social media research (SMR)**

The importance of social media across different sectors has increased its attention from academic researchers in various disciplines (Kapoor et al., 2018). Social media builds a relationship between individuals and organisations, and individual and individuals. The level of attention given to social media has derived from social media research (SMR), which looks into two main categories of the research area of social media (see *social media research (SMR)* section above). SMR delivers innovations in the academic world and society at large. Social media presents researchers with the opportunity to obtain big data across different topics such as users' attitudes towards education, climate change, consumer

behaviour, and many more (Townsend & Wallace, 2016). Researchers keep exploring ways to make their research outputs very relevant and acceptable both to the academic and non-academic world. Achieving this means conducting empirical studies that are of interest to the audience and other stakeholders on social media.

Li et al.'s (2017: 4) research findings show that research on social media cut across different disciplines and topics and is published in various journals; the top of them being on *computers in human behaviour*. Furthermore, research on social media is growing exponentially, covering interdisciplinary topics. These researches provide innovative findings in showcasing knowledge about users' perceptions, behaviours, acceptance and attitudes on a range of issues. Consumer perception and behaviour are discovered, and users' social, economic and political influence and behaviour are found. At the same time, educational and health impacts are measured, and findings are drawn on social media.

In line with the two main categories of social media research (SMR): social media as a tool for research and research on events, incidents and activities of social media, both deliver innovation and new knowledge. *Using social media as a research instrument or tool* can be done in using social media as a tool to examine a particular issue(s), for example using social media to understand customers' perceptions of a brand, users' perceptions, and many more. The findings from such research can be regarded as 'social media research, which can assist a company in understanding as what and how customers perceive their products and brand at large.

While *research on social media itself* focuses on researching to understand how users use social media, the impact, and many more, the research could be done to determine the effects of social on users' social behaviour and so on. The findings from social media itself can be used to predict, measure and understand the positive and negative perceptions and impact of social media on a population. Both categories of social media research are increasing in the academic world and in practitioners' research in showcasing the impact and usability of SMR in our society.

## THE IMPLICATION OF THE CHAPTER

Social media research is increasingly under-used, and it will define future research. Its research is solving real-life challenges and providing a better understanding of our world, both for individuals and corporate organisations. This chapter provides comprehensive benefits to students, researchers, consultants, and others in understanding the role of social media and social media research in our today's world and the years ahead.

Students are to benefit from understanding different categories of SMR, how to identify research conducted on any of the categories, and how to conduct social media research both for academic and non-academic purposes. Academic researchers will benefit from determining and understanding the steps involved in carrying out SMR, identifying different

categories of SMR, different types of general social media and academic social media applications/sites, or platforms. Academics will benefit from understanding the role of SMR in the digital age of academic research and publication. Finally, consultants and other audiences will gain enough knowledge through this chapter on how SMR can be conducted, and the innovations brought by SMR.

### **CONCLUSION**

Social media research (SMR) presents a new view on conducting empirical (primary) and non-empirical (secondary) studies in the digital age. The chapter managed to cover the role of social media in the digital age academic research and different forms of social media (general and academic). The chapter also presented the role of SMR in digital age research and innovation. The chapter also provided innovations brought by SMR, and the implication of the chapter to students, researchers and consultants around the world. The chapter contributes to the overall textbook in seeking a better understanding of the steps in conducting social media research with the right methods, methodologies and processes.

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## CHAPTER THREE

### CONDUCTING USEFUL SOCIAL MEDIA RESEARCH LITERATURE REVIEW

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#### CHAPTER OBJECTIVES

- Ways of carrying out literature review in social media research.
- The components of a good literature review in social media research.
- Steps and key elements needed on social media literature review.

#### ABSTRACT

The literature review is informed by the insights they carried out through some stages. It depends on the approach the researcher wants to adopt. There are several approaches to use in searching for a literature review. The chapter explained social media research literature review as a term that has evolved in such a way to describe various mediums for online transmission. It also explained four stages of selection and analysis of articles in social media they are pre-search, searching, data cleaning and Analysis. The chapter explained the meaning of literature review and six steps to follow in searching literature review which involve: define the topic, develop a strategy, locate the information, use and evaluate the information, synthesising, organize and evaluate your work. The article also explained the stages in the development of the literature review. Steps in the literature review process and finally the key elements that need to be included in all literature reviews which include an introduction, and conclusion. In conclusion, the article has presented an elaborate guide to guide to conducting a useful literature review.

**Keywords:** Literature review, Social media research literature review, Social media, Write review

#### INTRODUCTION

Many social media research literature reviews were informed in a certain field of study. The literature review is carried out through four stages – pre-search, searching, data cleaning and analysis. The use of the stages in social media research literature review helps the researcher to find the current issues and problems in research and the possible changes in work life due to the upsurge in social media (Tranfield et al., 2003). The aim of writing a literature review is to obtain information for the purpose of developing policies and showing proof of the steps in the research literature process which is a branch of academic assessment (Ramdham et al.,

2014). Literature review requires following a good step in the literature review process. This is followed by a structure which helps a researcher to achieve an up-to-date literature review.

### **WHAT IS SOCIAL MEDIA?**

Social media is a term that has evolved in such a way to describe various mediums for online transmission. In all, social media refers to any technology that promotes the disperse and allocation of information over the internet (Robbins & Singer, 2014). Kaplan and Haenlein (2010) explained social media as an internet-based application that builds on the theoretical and technological foundations of Web 2.0 that permit the design and exchange of content generated by the researcher. Reference has been made to Social media research as a major contributor to the widening of the literature base and an increasing number of comprehensive literature reviews which have been conducted, to survey various facets of Social Media research.

### **FOUR STAGES OF SELECTION AND ANALYSIS OF ARTICLES IN SOCIAL MEDIA**

According to Snelson (2016), four stages of carrying out literature survey on social media include:

- a. Pre-search stage is to identify and test by word and to identify databases. In this stage, the principal priority was placed on literature review planning and it includes the following two phases: i) Forming a group of experts (review panel) that discuss and develop the review methodology and routinely assess the results. ii) Instituting the context of the field of investigation in order to obtain the subject vocabulary, find important variables applicable to the topic and identify data collection sources.
- b. Searching involves identifying and organizing studies. Here you search the databases, and import citations into bibliographic management software. This stage include the following process: i) Writing a review protocol that supplies guidelines on how the literature review will be managed. The review protocol should authorize other researchers to replicate the review. ii) Deciding the actual literature search process. iii) Organizing the identified studies via Zotero reference management programme.

At this stage, there is Phases, Phase 1- Review protocol, which provided the particulars on how the literature review should be managed by the research team. In the review protocol, we provide information about the search keywords (search vocabulary), literature search engines and databases used for data collection, the criteria for including and excluding studies, the basis for assessing the quality of the studies selected. In Phase (2) Search, the literature searches the EBSCO database in accordance with the review rules developed in phase (1).

- c. Data Cleaning deals with extracting and evaluating data. The facts that this stage is considering a large number of data, drawing of data, evaluation and analysis were handled. Here you remove, duplicate screen and select articles. The following four phases are undertaken: ii) Abstract screening, ii) Surveying the fulltext of the studies iii) Citation frequencies analysis, and iv) Bibliography analysis of the cited studies.

- d. Analysis: The state is consist of i) Citation Frequencies Analysis and ii) Bibliography analysis of the most cited studies. Citation frequencies Analysis, when writing literature review it was possible that we cannot read all important studies and we should try to read systematically. We should know that reading systematically may lead to missing some relevant studies. Therefore our major concern should be pointed to identifying the mainstream debates and ascertaining important studies on the topic of investigation. We should do a citation frequency analysis in order to determine which studies embody and disseminate the main ideas on the topic.

In the Bibliography analysis: In this bibliography analysis of the articles in the most cited folders after the author read the full text of the like 10 most cited articles from each most cited folder (9 folders), altogether 90 articles. After the first round of reading of 90 most cited articles, many papers were removed and new important references were found by looking at the references in the included papers.

### LITERATURE REVIEW

According to Taylor (2007), literature review is made up of an outline, a summary and an evaluation of the latest issue of knowledge about a particular area of research. It may involve a conversation of methodology and suggestions for subsequent research. The purpose of writing literature review was to find out current areas in qualitative and quantitative-qualitative approaches used in the emergent field of social media research. A literature review is a detailed summary and expository analysis of the relevant research and non-research literature on the topic being studied (Hart, 1998; Cronin et al., 2008; Ramdhari et al., 2014).

### Six steps to follow in searching literature review

According to Karl Mundt Library (2021), there are six steps to follow in searching literature review:

- a. **Define the topic** - This is all about defining the task. Here you chose the topic and write down the questions you know about the topic. This will guide you to the strategy and will provide the right words to use in searches.
- b. **Develop a strategy** - Strategy means riddlingout where the information might be and identifying the best techniques for finding the sources. The strategy section identifies particular types of research databases to use for particular purposes.
- c. **Locate the information** - Here, you apply the strategy developed so that you can locate specific articles, books and technical reports.
- d. **Use and evaluate the information** - After relevant and useful materials were located, you then read and analyze the items to determine if they have value for your research and the reliability of the sources.
- e. **Synthesize** - You will justify what you have learned and demonstrate your knowledge.
- f. **Organise** - You will understand, organize and integrate the information. Become literate enough to use your own words to support and explain your research and its relationship to existing research by other researchers.

- g. Evaluate your work** - In every interval you should evaluate your work. This is the final step that needs a thorough check to make sure your work is finalized and of high quality.

### **Development of the Literature Review**

These consist of four stages:

- a. Problem formulation** - These describe the topic or fields under examination and their constituent issues.
- b. Literature search** - This describes the materials relevant to the subject under investigation.
- c. Data evaluation** - This determines the particular literature that makes a remarkable contribution to the topic under investigation.
- d. Analysis and Interpretation** - This interprets the findings and conclusion of pertinent literature.

### **Steps in the literature review process**

#### **1. Choosing a review topic**

Tips for selecting a topic

- i.** Skim through your textbook and point out a general topic of interest.
- ii.** Read the Chapter that relates to the topic and develop familiarity with the context, primary investigators, and controversies in the area.
- iii.** Collaborating with experts and reading around a topic (Timmins & McCabe, 2005; Ramdhari et al., 2014).

#### **2. Searching and selecting appropriate articles**

A systematic approach is considered most likely to generate a review that will be beneficial in informing practice (Hek & Langton, 2000; Cronin et al., 2008; Ramdhari et al., 2014). The type of articles that are selected for a good review of literature is theoretical presentation, review articles and empirical research articles. Cronin et al. (2008) argue that the publication should be included in the review. In conducting the literature search, it is important to keep a record of the keywords and methods used in searching the literature as these will need to be identified later when describing how the search was conducted (Timmins & McCabe, 2005). Ramdhari et al. (2014), it is always more desirable to use primary sources whenever possible as primary sources in sciences are usually in the form of articles published in reputable journals.

#### **3. Analyzing and synthesizing the literature**

After the collection of articles, the researcher is ready to analyze each one (break it down and identify the important information in it) and then synthesize the collection of articles. Integrate them and identify the conclusions that can be drawn from the articles as a group. There are a number of tools that can help the scholar to analyze and synthesize key sources like using a synthesis matrix to organize the sources in a literature review and integrate them into a unique interpretation that not only serves as the foundation of the study but also contributes to the dialogue in the field and establish credibility as a scholar (Sally, 2013).

Initial classification and grouping of the articles by types of sources are different ways of analysis and synthesis. Once the initial overview has been completed, it is necessary to return to the articles to undertake a more systematic and critical review of the content. It is recommended that some type of structure is adopted during this process such as that proposed by Cohen (Cohen, 1990). This simple method is referred to as the Preview, Question, Read, Summarize (PQRS) system. The researcher is not only focused and consistent but ultimately facilitates easy identification and retrieval of material particularly if a large number of publications are being reviewed (Cronin et al., 2008).

#### **4. Organization in writing the review**

The main aim of structuring review of the literature is to understand the need to conduct a research paper. The key to a good literature review is the ability to present the findings in such a way that it shows your knowledge in a plain and consistent way (Cronin et al., 2008). The introduction and conclusion to a review of the literature should reveal how the project will join the ongoing discussions, identify the key terms and concepts and designate how the research will resolve unresolved questions in the work of others. You may also form the structure of the review itself by previewing in the introduction or review in the conclusion and you then predict the direction of the next section.

The final stage of appraisal is to write a summary of each article. These include the key idea, remarks, strengths and weaknesses of the publication. It should be explained in the scholar's own words to ease your understanding of the material. It also forms a good foundation for the writing of reviews.

### **WRITING THE REVIEW**

Once the appraisal of the literature is completed there should be deliberation on how the review will be structured and written. The key to a good academic paper is the capacity to present the findings in such a way that it reveals your knowledge in a clear and consistent way. The basis of good writing is to avoid long and confusing words and keep slang to a minimum. Sentences should be kept as short as possible with one clear message and spelling and grammar should be correct and consistent with the form of English being used. The organization of material in an objective manner and the structure of the review are crucial to its comprehensiveness. The structure will depend on the purpose of the review. For instance, systematic reviews have a clear structure that must be followed and that will order for the most part, how the writing should be undertaken. It is important to be rational and some key elements need to be included in all literature reviews. Primarily, the written report should include an introduction, body and conclusion (Grove, 2010).

#### **Introduction**

The introduction should include the intent of the review and a brief survey of the problem. The literature sources and the key search terms must be outlined. Any limit, inclusion or exclusion basis should be clearly described. Some comment on what was found in the literature should be proffer that is whether there was a dearth or wealth of literature on the

topic. This gives the reader some insight into the breadth and depth of the literature sourced and also facilitates some judgement as to the validity of the assertion being made.

### **Main body**

The main body of the review presents and discusses the findings from the literature. In any case, in which the main body of the review is framed, there are key points that must be considered. Literature that is central to the topic should be analyzed in depth here. When discussing empirical or research literature, a critical review of the methodologies used should be included. The reviewer should be careful not to end up just as a description of a series of studies. In addition, it is best to avoid indiscriminate statements about the conclusiveness of research studies (Cronin et al., 2008).

It is relevant for the reviewer to remain objective about the literature and personal views about the quality of research studies should not be included but need to be written in the writer's own words. The reader should know that the reviewer has understood and incorporated the important information rather than merely describing what other authors have found. The review should read like a critical assessment of the information available on the topic, highlighting and comparing results from main sources. If using a thematic approach, the account should flow logically from one section or theme to the next to maintain progression and consistency (Beyea & Nicholl, 1998).

This can be achieved by summarizing each theme or section and outlining how it is related to the derived one. In respect of theoretical literature, agreement or difference regarding the topic should be outlined. Inconsistencies and discrepancies in the literature should be addressed (Colling, 2003) as should the strengths and weaknesses built in the body of literature.

### **Conclusion**

The review should conclude with a summary of the findings that explain current knowledge and offer a rationale for conducting future research. In a review which forms part of a study, any gaps in knowledge that have been identified should lead logically to the motive of the proposed study. In some cases, it may also be possible to use the developed themes to construct a conceptual framework that will inform the study. In all reviews, some recommendations or inferences for practice, education and research should be included.

### **References**

The literature review should conclude with a full bibliographical list of all the books, journal articles, reports and other media which were referred to in the work. Despite everything whether the review is part of a course of study or for publication, it is a crucial part of the process that all sourced material is acknowledged. This means that every citation in the text must be present in the reference/ bibliography and vice versa. The reference list may be a useful source of literature for others who are interested in studying this topic (Coughlan et al., 2007) and therefore every effort should be made to ensure it is correct.

## **CONCLUSION**

This article has presented a detailed guide to conducting a useful literature review. They are four stages of carrying out literature survey on social media, and steps in the literature review process. The articles also explained how to develop a literature review and step by step approach to a good literature review. Whether the approach is qualitative or quantitative, it will often dictate when and how it is carried out. Any of the approaches or steps may be used depending on the reasons for the literature review.

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## CHAPTER FOUR

### SOCIAL MEDIA RESEARCH PHILOSOPHIES

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#### **CHAPTER OBJECTIVES**

- Conceptual explanations of social media concerning research philosophy.
- Overview of social media research philosophies.
- Kinds of social media research philosophies.

#### **ABSTRACT**

Social media has become an inevitable aspect of the entire life of mankind in the 21st century including research. In the last decade, research are carried out in the conventional mode of the use of methodologies that are more physical than digital. Contemporarily, social media is gradually usurping the mode of research in academia technically. Social sciences benefit more from the use of social media research methods because of the unfettered access to large data easily obtained from the comfort of internet gadgets. The main issue with any credible method of research is reliability and validity and social media has these potentials. One of the fundamental elements of research is philosophy. This chapter therefore examined analytically the social media research philosophies. Data were assembled from documented sources and interpreted using a content analysis method. The study discovered that the influx of internet and digital communication facilitates global research among academics and it has succeeded in improving the visibility of research and dissemination of data but any researcher that is using social media research method must adhere strictly to the ethics and philosophies of the research undertaking as discussed in the findings section of the study such as validity, reliability, ethics, confidentiality and other elements. The study recommends among others that the social media research method will dominate the future of research as it has already done in the 21st-century world of academia. Researchers should embrace and utilise positively the social media research methods but they should maintain the etiquette and philosophies to avoid unethical conduct and bastardisation of knowledge.

**Keywords:** Internet, Research method, Social media, Philosophies

**INTRODUCTION**

The emergence of the internet and mobile communication in modern times led to the revolution in another form of communication called ‘Social Media. Social media involves types and varieties of internet and mobile communications that allow users across the globe to interact personally either privately or publicly. Social media consists of blogs, networking, media sharing, bookmarks and other related contexts and contents. Social media evolves in the early 2000s and are in different varieties such as Facebook, WhatsApp, Twitter, Instagram, YouTube, LinkedIn, WeChat and many others (Dewing, 2012). Social media tools and internet apparatus offer the users a large data, information, networking, and cross-fertilisation of ideas and activities (Wooley & Howard, 2019: 3). Today’s society is described as the ‘Information Society’ because of the influx, influence, and revolution in the social media (Fuchs & Sandoval, 2014). Contemporarily, even journalism has been digitalised courtesy of the internet revolution and the emergence of social media (Howard & Hussain, 2013).

Social media is a new form of media that is referred to as personal and marketable interactive participation. The social media era has been seen as the era in which the broadcast media subsided for interactive media and journalism. With the emergence of social media, internet technologies, and mobile gadgets, a new variety of media age was born based on collective and easier interaction unprecedented in the history of mankind (Harvey, 2014). Social media created a pattern of relationships accompanied by visibility in modern times where the usage of the tools exposed an individual to public and private scrutiny (Busch, 2019). Social media has recently become the tool of business and marketing promotion by those who built the skills in doing so. Goods and services are promoted using the platform where millions of customers are reached. Thus, it is not only used for social networking or the expression of an opinion but rather for several purposes (Kelsey, 2017).

Social media has been reaching a wider population in the world in 2019 as revealed by the Global Web Index 2019. For instance, the total number of internet users in 2019 is reported as 4.388 billion which is more than half of the entire global population in the same year. The number of social media users is reported worldwide in 2019 as 3.484 billion which is nearly or equally half of the entire population of the world. The number of mobile phone users is recorded at 5.112 billion in 2019. The total percentage share of penetration of the use of social media is 3% up from 2018. The report further indicates that Europe has the highest number of internet users, mobile and social media users more than any other region in the world followed by North America while Sub-Saharan Africa and the African Continent are the least. The most frequent social media sites used by internet users are Facebook, YouTube, WhatsApp, Facebook Messenger, WeChat and Instagram (Global Web Index, 2019). These statistics revealed that social media is a global force that cannot be ignored in all ramifications. This is the reason why academics to are not left behind in the utilisation of social media for research and data gathering.

Academics and researchers in various fields of human endeavours have been exploring the contents of social media for academic activities currently. Many studies (Riffe, Lacy & Fico, 2008; Poynter, 2010, Tyson, 2012; Page, Barton, Unger & Zappavigna, 2014; Townsend & Wallace, 2015; Snelson, 2016, Matzner & Ochs, 2017; Wright, 2017; Queen-Haase & McCay-Peet, 2017; Kapoor, Tamilmani, Rana, Patil, Dwivedi & Nerur, 2018; Micova, 2019; Hasebrink & Holig, 2019; Arelli, Spezzano & Shrestha, 2019; Chesher, 2020; Pinto, 2020) agreed that social media is now a tool beyond mere social interaction but one of the reliable source of data collection and analysis. Surveys, interviews, studies and other forms of research techniques as well as statistics are now obtainable and applicable in the social media context. The studies further supported the fact that there are ethics, sources, philosophies and a designed method for data gathering, data dissemination and analysis in social media. This is a new field of research in academia which deserves much attention. This chapter is an effort in explaining social media research philosophies being one of the vital areas that are not properly and adequately addressed by researchers. The aim of contribution of this chapter is to present a new dimension in that perspective which will cover the research gap and enrich the existing body of knowledge in the subject matter of study. The chapter explored critically and analytically the overview of social media and kinds of social media research philosophies which provides a practical guide for academic researchers who find it interesting in utilising the platform of social media for data gathering and sharing of knowledge. It is a new field of research that has not been fully divested by researchers and which requires much attention because the future of academic research is seemingly inevitably in the use of social media platforms for the generation of data and its dissemination. Thus, the chapter was arranged in the following themes: an overview of social media; meaning, nature and dimension, global distribution in the usage of social media, an overview of social media research philosophies and kinds of social media research philosophies.

### **OVERVIEW OF SOCIAL MEDIA: MEANING, NATURE AND DIMENSION**

Social media has a question attached to it ‘what is social about social media?’ The term was coined to identify the new demands for economic strategies of internet companies, especially after the ‘dot.com’ financial crisis that led to the crash of internet companies. The term social media has various concepts depending on the target and usage. For instance, Amazon, Google and Wikipedia are also social media but purposely aimed at business promotion and profit-making. Others such as Gmail, Yahoo, Facebook, WhatsApp, YouTube, Instagram and many are having a different perception. While they are still serving as a platform for internet companies to generate money, the users get much more personal and collective usage than Amazon or Google for example (Fuchs & Sandoval, 2014:2). Social media is tagged as ‘Digitalised media’ by Howard and Hussain (2013) is in their views, social restructuring and social movement in the modern era of democratisation which offered the civil societies and activists the leverage for the liberation of the society from dictatorship as in the case of the Arab Spring in North Africa which later spread into the Middle East.

Social media, according to Harvey (2014), is a term that is referring to new kinds of media that involves collective and interactive participation. They are some kind of digital platform

be it mobile or a stationary gadgets or equipment that are receptive to internet network. Social media involves participation and it does not accommodate passiveness because a user must create a profile even if it is a fake one at least, to be able to interact. Harvey (2014) identified different forms of social media including Email, Texters, Blogs, Message Boards, Connection Sites, Social Networking Sites, Games and Entertainment and Apps. Social media is viewed as the consequence of the spread of the internet and mobile phones where communications and activities were transferred and taken to the world of the internet. Online shopping, advertisements, e-governance, and economic activities such as tax collection, e-commerce and digital election or digital democracy are all carried out on various social media platforms in our contemporary world (Schwanholz & Graham, 2017:1).

Social media is perceived as a variety of internet technologies and mobile services which enable users to interact online, and join groups and communities and associations online. Some of the internet services that are associated or linked up with social media include Blogs which is mostly online journal, Wikis where someone has access to create his own page or modify information, and Social Bookmarking where individuals are allowed to share links to websites, Social Networks Sites where personal and private connections and communications are made, Status Update Services such as Twitter where people share an update, Virtual World Content where games and entertainments are offered for the visitors of the site and Media Sharing Sites where users post messages, videos and pictures such as Instagram and YouTube (Dewing, 2012). Social media is not only for entertainment it can be used for marketing and most of those who acquired skills in the attraction of customers online become hot cake in the global business environment. Kelsey (2017) presented four (4) basic areas where social media marketing is beneficial to the users which include Content, Adword, Social Media Marketing and Analytics (CASA). Stevenson (2011), Del Giudice, Peruta and Carayannis (2014) argued that social media such as Facebook, WhatsApp, LinkedIn, Twitter, YouTube and Instagram have come to stay and will be the dominant influence in people's life. The ability of a company or a business organisation to utilise the strategy of social media presence will determine its survival and success in the future.

The 21<sup>st</sup> century is flooded with the presence of various internet platforms that build on the ideological and technological foundation of 2.0 which witnessed the generation and sharing of content values by individuals and organisations. Unlike traditional media platforms where the users are the end recipient without input, social media distinguishes itself because it is action-oriented where the participants can initiate debates and actions in an equal flow. These are what social media assumed today in modern communication (Cheng & Cameron, 2018:9). Social media are internet platforms that offer the public an opportunity to share their pictures, videos and meet new friends or share views and ideas like never before in the history of the world (Greve, 2014). Apart from socialising in the internet, Bock (2012) believed that social media is used in contemporary world to prevent violence, especially against vulnerable groups through advocacy and sharing of vital information on impending or suspecting violence or the one that occurred to protect its re-occurrence.

Social media is a dramatic change that occurred in the life of mankind in some years ago. The internet technology revolution set the foundation for an easy means of spread of information with accessibility and affordability. Thus, communication, marketing and academic activities are now carried out in the social media arena unlike some years back when it is not possible. These social media tools are the platforms, apps and other designed means of sharing of data, information, news, pictures, videos, locations and virtually all the information and services that one needs in modern times to be comfortable (Young & Akerstrom, 2016:2). However, Merkelson, Mollerstrom & Platen, 2016:13) argued that social media is today beyond a personal or marketing communication. It is now the central dominant tool for Public Relations (PR) design and strategy. Young, Coombs and Holladay (2016:26) further supported and extended the above argument that modern technology enables the digital world to influence convincingly PR practice in both direct and indirect ways possible. Social media can claim credit for its sharing of information in an equal way or participatory approach. Initially, communication took the dimension of transmission of views only but social media made it possible today for a co-participatory perspective from both the supplier and recipient of the knowledge or information (Cassinger & Thelander, 2016:34).

The realm of public governance, democracy and citizenship has also been touched positively and is directly affected by social media. E-Governance or digital communication is now being embraced more by public organisations to communicate to the citizens or members of organisations. Tools such as Email, WhatsApp, Facebook, Telegram, YouTube, LinkedIn, Instagram and WeChat are utilised by organisations and national governments to communicate (Criado, Pastor & Villodre, 2018: 3). Some case studies China, (Ma, 2018), Sweden (Liden, 2018), Greece (Triantafillidou, Lappas, Kleftodimos & Yannas, 2018), Turkey (Sobaci, Hatipoglu, Mehmet & Korkmaz, 2018), USA (No & Park, 2018), Israel (Lev-On, 2018), Norway (Larsson, 2018) and Ecuador (Welp, Capra & Freidenberg, 2018), all revealed the level of engagements of citizens with their governments through the platforms of social media in terms of elections, policy-making participation and lamentations. The studies, although, revealed several challenges that vary from one area to another, disclosed that the level of engagement and utilisation of social media is commendable and progressive.

Thus, drawing from the above various views and submissions of scholars in the field, social media from the perspective of this study is deduced as a new platform and source of data collection online for academic research through data collection in both primary and secondary methods, data dissemination and revelation of information as well as public engagement through advocacy and political as well as socioeconomic development.

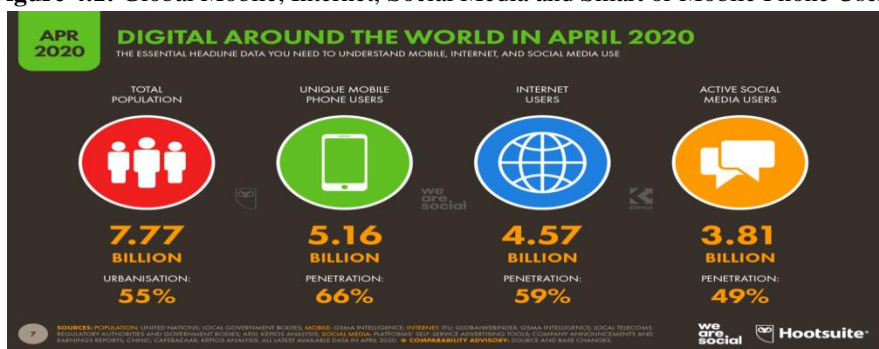
### **SOCIAL MEDIA USAGE: A GLOBAL VIEW**

Social media and social network services and activities have become so dominant and permeative today that the percentage of global users keeps on rising annually. The nature and pattern of penetration are satisfactory for the pundits that are keeping a close watch on social media research. Although the level and pattern of the usage of social media vary from one

region to another depending on the sustainability of the possession of smart phones and internet as well as the economic buoyancy and political liberty in respective countries, in overall, social media made a significant breakthrough across the globe in 2019 as revealed by the following data.

The 2019 Global Web Index (2019) reported a staggering percentage which is more than half of the global population as having access to internet in 2019, nearly or equal to half of the world population is using different varieties of social media in 2019 which is impressive, nearly two-thirds of the world population is possessing or using smartphones or mobile on the globe. This has been further projected with a 3% increase annually. This has been shown below as illustrated by the figure.

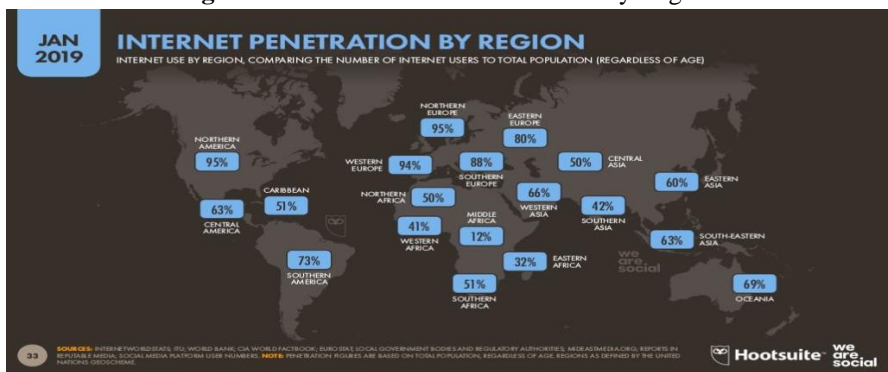
Figure 4.1: Global Mobile, Internet, Social Media and Smart or Mobile Phone Users



Source: Adopted from Kemp (2020)

The level of internet penetration as of 2019 disclosed that Northern, Western and Southern Europe have the largest share of penetration followed by North America as the second region with the higher penetration. South Europe specifically is the biggest increase in internet penetration with 11% constant increase for many years. Africa, especially, Sub-Saharan Africa is the backward region in terms of internet penetration in 2019. This may have to do with the economic issues and the willingness of the policymakers to encourage broadband penetration and other internet services. This scenario is presented in figure 2 below.

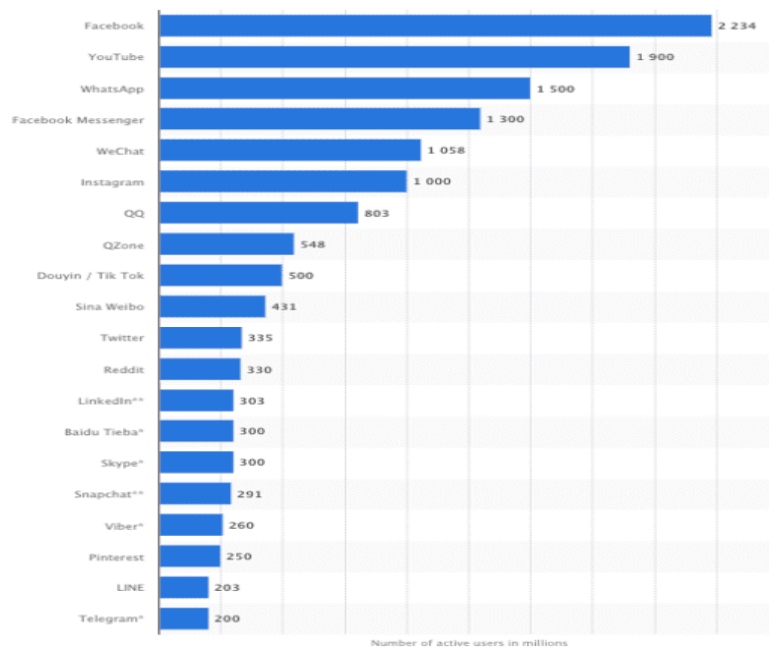
Figure 4.2: Global Internet Penetration by Region



Source: Adopted from Global Web Index (2019)

The global increase in social media usage since January 2018 is 9%. Saudi Arabia has the largest social media penetration in 2019 at 99%, which is well above the global average of 45% (Global Web Index, 2019). Other countries with the largest social media penetration included Taiwan, South Korea and Singapore. Ghana, Kenya and Nigeria have the lowest levels of social media penetration. The global distribution of social media usage indicates that Facebook is the most used or visited the site. The Global Web Index used the methodology of identifying the most frequently visited site on social media and the time spent on it for the period of 2019. Facebook is inarguably the most popular going by the registered users of over 2 billion followed by YouTube with 1.9 billion users, WhatsApp with 1.5 billion users and others as revealed in the statistics below.

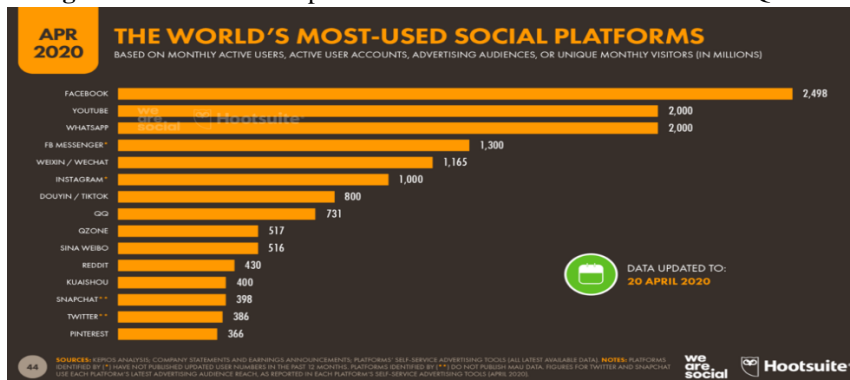
**Figure 4.3:** The Most Popular Social Media Platforms Based on Population of Users



Source: Global Web Index 2019

In the wake of COVID-19 pandemic, the most popular used social media in the second quarter of 2020 revealed the following statistics.

**Figure 4.4:** The Most Popular Used Social Media in 2020 Second Quarter



Source: Adopted from Kemp (2020)

Africa is one of the continents that is much interesting in this study. It is a continent bedevilled with myriads of political, socioeconomic and technological backwardness. But to show how effective and vehement the internet and social media are, the level of penetration displayed how defiant of all the odds the digital age is in terms of usage and accessibility. For instance, in the first quarter of 2020, the percentage of internet penetration in Africa reached 39.3%. This is significant even though, the rest of the world recorded 62.9% with a global average of penetration of 58.8%. Countries with high penetration percentage in 2020 consisted of Kenya (87.2%), Libya (74.2%), Seychelles (72.5%), Mauritius (67%), Tunisia (66.8%), Morocco (64.3%), Cape Verde (63.3%), Mali (61.6%), Nigeria (61.2%), Gabon (58.8%), Senegal (58.2%), Algeria (58.0%), Zimbabwe (56.5%), South Africa (55%), Djibouti (55.5%), Zambia (53.7%) and Namibia (53%) (Internet World Stats, 2020). This sample is taken only from countries in the report who meet up the criteria of 50% penetration and above in this study. Africa recorded 11.5% global internet penetration in the first quarter of 2020 as against the rest of the world with 88.5% penetration (Global Web Index, 2020). In the realm of social media usage in Africa, statistics revealed that 66.71% used Facebook, 18.16% used YouTube, 8.27% Pinterest, 5.66% Twitter, 0.75% on Instagram and 0.17% Tumblr (Social Media Stats Africa, 2020).

The above data point toward one interesting philosophy for this research; the use of social media for academic research. Indeed, previous researchers in the world of academia had never had it this easy as their contemporary counterparts in data collection with ease of accessibility and breaking the barrier of time and financial constraints (Romele & Terrone, 2018). A platform that is engaging nearly one-third of the global population cannot be ignored by researchers and it should be a viable platform for generating data and disseminating them (Bachimont, 2018). This work is interested in the above figures and statistics to show the necessity and the urgent desire for undertaking the project itself, and to show, why social media research method is inevitable today. Surveys, qualitative and quantitative approaches, interviews and other methods of data collection are now carried out by millions of researchers through social media. The biggest challenge is the question of validity, reliability and checkmating fake news and cooked data which have been dominating the social media arena (Ferraris, 2018). This study will come up with some philosophies and guidance towards scientific and reliable ethics and philosophies of data collection, data dissemination and other methods of undertaking research using social media instruments.

There are various divergent views on the impacts of the explosion of social media on research. For instance, Ali (2019) argues that the explosive number of users of internet and social media as reported by data from 2017 to 2019 reveals that in the near future, the entire activities of research in terms of data gathering, information dissemination and research would be taken to the arena of social media as it has started manifesting today. However, it is emphasised that the nature of anonymity and numerous fake data sharing on social media means that researchers should be extra cautious than in the conventional research method because it is easier to fall into the trap of gathering unreliable data, especially considering the number of those who are frequenting the social media today (Audenhove & Donders, 2019).

In another view, it is observed that the fact that nearly half of the global population in 2019 are using internet and social media means that the platforms cannot be ignored in academic research but at the same time it cannot be relied upon entirely for valid research except if the researchers take extra care to distinguish between the authentic deposited data or gathered data from the fake ones that are provided on the social media platform daily (Bastos, 2020). In a different view, a study (Bonenfant & Meurs, 2020) argues that social media has emerged as a formidable force in research that must be utilised owing to the number of internet users and social media visitors. Data in large quantities is now generated and shared easily but it has its own point of concern majorly which is the issue of anonymity and fake data that a researcher has to identify and take care of.

### **PERSPECTIVES ON PHILOSOPHY**

Philosophy is what we do every day in search of answers to the most demanding questions of life. It is not what the world views it in terms of eccentric thinking and an exclusive reasoning of some extraordinary men of wisdom. It consists of using reason and logic to answer or inquire on positions and conventional arguments without believing in them except on being convinced beyond doubt. Philosophy is the archetypal use of logic and reasoning through language and knowledge to present ideas, views, principles and perceptions in a most fashionable way (Buckingham, Burnham, King, Hill, Weeks & Marenbon, 2011). Philosophy involved the use of some techniques and tools to examine and understand ideas and the world around them. These techniques include arguments, deductive reasoning, inductive reasoning, validity, invalidity, consistency, fallacies, refutation, axioms, hypotheses, dialectics, analogies, intuition, logical constructions and other related methods of epistemology (Baggini & Fosl, 2010; Kelley, 2013). Philosophy is an attempt to get to the bottom of things by asking questions and answers. The foundation of philosophy is concerned with asking questions about religion, universe, arts, mathematics, psychology, languages and general science. Philosophy or philosophical thinking does not imply that only the philosophers or a certain section of society is saddled with the task of philosophy. Mankind in all his life has a philosophy of living and existence. One can become a philosopher if he thinks and reasons beyond doubt on what he feels is believable, presentable and dependable by science and knowledge (Loewer, 2009).

Philosophy is perceived to have been the process of equipping oneself with the tools of analysis on why argument is important, how to argue, how to refute arguments, how to present arguments and how to establish facts and eschew distortions and fallacies scientifically (Simmott-Armstrong, 2018). From the above diverse scholastic views and drawing from the inferences towards the study at hand, philosophy is thus, regarded as the objectives, principles and values that are provided in a convincing argument on why social media research is necessary contemporarily and the ways in which some ethics and arguments can be adopted in undertaking social media research as discussed extensively in later sections of the work.

**OVERVIEW OF SOCIAL MEDIA RESEARCH PHILOSOPHIES**

Social media research is an offshoot of media communication research according to Riffe et al. (Riffe et al., 2005). Media communication uses mostly content analysis in data generation and analysis. However, for the purpose of this study, social media research is now beyond media communication research. The internet explosion and the proliferation of social media tools enable all fields of academic research to utilise social media as a methodology for conducting research. Tyson (2010) postulates that there are some strategies of social media research that should start with coming to terms with telling your story taking into consideration the risks and rewards involved, how to get oneself enlisted in the media coverage, developing a media strategy, resources for contacting social media, media interview which can be either for a special in-depth or general random sampling and presenting new research findings in professionalism. Data can be gathered through opinion articles, interviews, feedback and report. Friedrichsen and Muhl-Benninghaus (2013) argued that social media has become a new strategy of research by academicians through the use of techniques of data gathering such as opinion polls, opinion articles, interviews, sharing of findings for feedback and searching for new data posted online for consumption.

A collection of an edited volume identified several ways in the nature, pattern and dimension of social media research. A study by Vintimilla-Tapia, Bravo-Torres, Gallegos-Segovia, Ordonez-Morales, Lopez-Norez and Blanco-Fernandez (2019:1) suggests that initially, social media was used for an inter-personal relationships but that aim has since been changed as it is now actively used for education in terms of student-teacher interaction and for academic research especially apps such as Facebook, WhatsApp, YouTube and Instagram. Research is carried out in social media through surveys, participants' observation, outreach to experts in various fields, improving knowledge transfer, and the use of powerful electronic and telecommunications systems to reach out to the target audience for the collection of data all which promoted the use of different learning skills and models. For instance, if a researcher consulted Wikipedia, a book may likely be consulted in the process and data has been accessed through social media. Video materials for lectures are pasted in YouTube, Facebook, Instagram and WhatsApp which facilitate learning and sharing of information for research (Vintimilla-Tapia et al., 2019:2). However, even with the numerous advantages of the use of social media for academic research, several obstacles are encountered. One of these difficulties is the security and privacy of the consulting site which are not adequate unlike books and other printed materials which are safe. There may also occur the case of information isolation where the data is not properly managed or understood and there are no experts to be consulted for clarification (Vintimilla-Tapia et al., 2019:3).

The traditional research method tools used by academicians are now transformed into full usage through the instrument of social media as in the case of Wu, Hsieh, Cheng, Yang and Fanghuizhu (2019:27) who used regression method to study model of the online customer review. Another study (Amornbunchornvej, Crofoot & Berger-Wolf, 2018:39) used social media to study academically the trait of leaders in movement initiation. In another dimension, diffusion algorithms in multimedia social networks were studied by Amato, Moscato,

Picariello and Sperli (Amato, Moscato, Picariello & Sperli, 2019). Snelson (2016) presented some steps in undertaking social media research using both qualitative and quantitative methods. The researcher argued that the most important first step is in the search for literature or data, keywords strategies can be used to search on Facebook, Twitter, YouTube and WhatsApp or the author search. The next step is the search proper where the exact title of interest is typed or looked for in the social media platform. The third step is the filter of the data obtained to select the relevant and reliable one and the final step is the analysis using a suitable method of interpretation.

Rich data is gathered from social media for research across all sectors of knowledge. Social media data includes content users create such as comments, tweets, videos, pictures, blog posts and other ones. Data that indicate the records of users' engagement with content and other users including likes, shares, retweets, followers, friends and related terms. Other user data that is collected by a social media company probably without the prior knowledge of the user such as location also disclosed the level of interaction and engagement. Social media data can be used for different purposes depending on the nature of the research. Some of the applications of social media data in research involves observing social media users gain insight into a social phenomenon. Another use is using social media to test a new tool (The Sheffield University, 2017).

The strategies of researching in social media contexts can place different emphasis on the extent to which "human subjects" are important to the project in question. Methods include multiple activities, from directly interacting with people through interviews and surveys, to collecting samples of materials that have been published online by people (including publications that may be anonymous or written under a pseudonymous user name), to programming tools that will scrape large sets of text and metadata that are selected without any regard for the text's authorship (Page et al., 2014:59). Different research models can be generated through the social media platform. The methods can include a qualitative method, ethnographic approaches and quantitative approaches. The ethics and philosophy of undertaking such research in a normal form should be observed strictly or even with extra care because of the nature of anonymity, privacy and vulnerability in the context of social media (Page et al., 2014:83).

There are proposed steps in collecting quantitative and qualitative data from social media. They are presented and analysed below.

**Formulation of research questions:** The first stage is the formulation of research questions which should be based on the target population, the context and situation of the research project. The questions when designed should take into consideration the target population of the study (Ali, 2019) and the target audience for response accordingly (Audenhove et al., 2019). The questions should be precise, either open-ended or closed-ended, or even flexible depending on the purpose of the research (Bruns, 2020). Research questions are in their nature formulated using plain language, unambiguous terms and an easily perceptible form.

In social media research approach, it should be more precise and plainer because the target informants or respondents are mostly not physically contacted in case of seeking additional clarification. They should be in such a way that it will look as if the researcher is directly talking and asking the respondents or informants without any barrier to accurate responses (Esser, 2019).

**The linkage between research questions and variables:** The second stage is the identification of the linkage between the research questions and variables that they seek to answer or to counter. In designing a research question using the platform of social media for collecting data, one fundamental issue that should not be overlooked is the direct linkage between the asked questions and variables. The linkage should be to either establish support for an existing knowledge or to debunk it and reconstruct a new model (Greve, 2018). A good instance is where a political researcher is trying to connect the link between election and response to policy choice by the voters. Such questions indicating a required response on voting behaviour are necessary for establishing a linkage between how the voters voted and the performance of political office holders. An assumed point can be proved or dismissed based on the responses. The voting behaviour pattern is the question here while the response to policy choice in terms of support or opposition to politicians is the variable that is connected (Criado, Pastor & Villodre, 2018).

**Choosing a type of sampling:** The next stage is to determine after the formulation of research questions and variables what type of sampling and representatives one is looking for. Is he using existing data for content analysis or is he looking for a response from the users of social media? If he is looking for content analysis, what type of data is the specifically targeting and where to source for them and if he is looking for responses, who are the target, the sample size, the population and the nature of responses or type of tools for gathering of data? All these should be carefully chosen. The tools to use for generating data especially if it has to do with primary sources include surveys, experiments and quasi-experiments, metadata and social streaming data. After the data collection from the contexts of quantitative and qualitative data, the next step is coding and interpretation. The most important point to consider here is how to organise the data in which a specific method is identified and chosen such as tables or graphs or content analysis, moving beyond raw frequency in calculations of generated data, and using varieties of tools for analysis such as concordance software, visualisations, pictures and others (Page et al., 2014).

Social networks are studied with the techniques of social network analysis where each character in the studied group is examined based on the link and the structure of the network. Mathematical tools like block modelling and graphical illustration can be used in the study specifically in the presentation of data. Another option is the use of probability concepts in the contextual contents of the data generated from social media (Forestier, Stavrianou, Velcin & Zighed, 2017). Internet research or social media has now taken the arena of academic investigations in various fields as studied by Hunsinger (2020), Allgaier (2020), Bastos (2020), Bruns (2020) and specifically on the collaboration or inter-marriage between social

sciences and computer sciences (Bonenfant & Meurs, 2020). A study (Wright, 2017) established that there is a strong evidence of the use of social media by the academics for data gathering, passing and dissemination of information to peers and public engagement or advocacy. Many research teams have promoted interest in their general research area through social media, and such efforts can be seen as steps toward engagement. Research news and new research findings are presented in Twitter, Facebook, YouTube and other social media by academicians. Some social media platforms are highly academic in nature and are purposely created to disseminate research and knowledge. ResearchGate ([www.researchgate.net](http://www.researchgate.net)) is available to host millions of academic researchers where individual pages are opened by academic researchers, they upload their works, connect with colleagues across the globe, ask questions, and responses and access data for future research. Another similar page is Academia.edu ([www.academia.edu](http://www.academia.edu)) accessible which has similar purposes and futures to that of ResearchGate. Kudos is another academic social media page where researchers meet and share knowledge for research purposes. Any researcher that successfully published an article in the Scopus web index or Sage and other high-profile journals can get registered in Kudos where their works are automatically uploaded for sharing of data with academic community. In addition, there are other related sites such as Mendeley Elsevier, Google Scholar Citation and Publons. All these platforms are Internet media sites that accommodate researchers across the world where data of great magnitude are shared and accessed by academics without any barrier. Previously, data can be accessed mostly through contact with hard copies or a physical approaches but these platforms today make research a global affair with utmost ease.

The power of social media in shaping political behaviour and changing the trend and dimension of politics in many societies made it a viable alternative for research by academicians. The internet politics is now going transcendental beyond regions as observed by Calderaro (Calderaro, 2014). Contemporary social movements are gaining more momentum on the web than even physical engagement (Romero, 2014). Some tools are analysed to arrive at research findings as in the case of the application of the Graph Theory Algorithm to study or analyse political blogs (Patrut & Popa, 2014) and analysing of the frequency of the use of Twitter in the Italian 2013 Election (Di Fraia & Missaglia, 2014).

Previously, researchers gathered information on attitudes and behaviours through different methods such as questionnaires, in-depth interviews and observation. Such data is often now accessible within a blink of an eye. Such data, found on social media platforms, online discussion forums and blogs are typically rich, numerous and naturally occurring. Contemporarily, social media platforms such as Twitter are becoming popular field sites for data collection by researchers across diverse disciplines. Some ethical issues are vital in the consideration of data collection and information sharing in social media research. These include among others publicity versus the privacy of the data, informed consent, anonymity, risk or harm involved and consideration of reliability (Townsend et al., 2015).

The current state of affairs of survey research is facing several problems such as non-response and the question of reliability. The social media research is becoming closer to resolving the issues associated with the failure of the traditional survey method used reliably previously by social science researchers. Social media research provides simplicity in terms of variety, volume, velocity, and validity. There is no doubt that adding social media to the tools of survey research is now inevitable in the current state of affairs of research. YouTube, Facebook Twitter, WhatsApp, Instagram and other social media outlets are providing big data that cannot be ignored by researchers. Multiple methods, netnography, are some of the approaches used in survey in social media research (Hill, Dean & Murphy, 2014:6). A study (Kim, Murphy, Richard, Hansen, Powell & Haney, 2014:61) predicts that tweets can replace polls in the near future which is one of the most conservative ways of survey in research. In another study (Sage, 2014:87), it is emphasised that the use of Facebook plug-ins, data, graphs, applications and other tools can serve as a good instrument for surveys in future. Crowdsourcing is a good method of survey where a large and rich data can be obtained using social media and the tools for this method consists of group modelling and the use CISCO model to coalesce information that is vital for the research needs (Keating, Rhodes & Richards, 2014:179).

Notably, an online media quantitative survey is not that much different from other models of quantitative research methods. Techniques and styles are applicable in social media research as in other methods of research. Online data collection should be designed in stages such as creating and agreeing with the target respondents and designing a questionnaire, hosting the survey by installing the questionnaire on a chosen social media platform, testing and approving the survey, inviting people to take the survey, monitor the survey, close the survey and analyse the collected data using several tools of research interpretation as appropriately chosen. In designing online qualitative research, the following are steps to be adopted which include focus groups with selected targets, in-depth interviews via phone or social media apps, observational qualitative research, ethnographic approach, blog and buzz mining and online discussions (Poynter, 2010).

Social media has several research designs which are carried out online involving case study research (Micova, 2019:71), comparative research (Esser, 2019:85), meta-analysis (Meier, 2019:103) and action research (Hearn, Swan & Geels, 2019:121). Data can be generated through surveys (Hasebrink & Holig, 2019:143), qualitative interviews (Selm & Helberger, 2019:161), expert interviews and elite interviews (Audenhove & Donders, 2019:179), Focus Group (Lunt, 2019:199), observation (Jackson & Glowacki, 2019:215), experiments (Handke & Herzog, 2019:233), document analysis (Karppinen & Moe, 2019:249), media content analysis (Schweizer, 2019:263), content and link analyses (Just, 2019:295) and official and industry statistics (Komorowski, 2019:311).

The data collected can be analysed using statistical analyses (Minnebo & Cambre, 2019:329), qualitative content analysis (Puppis, 2019:367), thematic analyses (Herzog, Handke & Hitters, 2019:385), discourse analyses (Ali, 2019:403), frame analyses (Loblich, 2019:419)

and Nvivo (Mortelmans, 2019:235). Important research questions in social media can be asked appropriately (McCay-Peet & Queen-Haase, 2017:13) which is tantamount to big data generation (Kitchin, 2017:29).

### **Kinds of social media research philosophies**

In undertaking social media research, just like the traditional (a seemingly new coinage to refer to other previous methods of research before social media), there are philosophies and ethics of consideration to ensure professionalism and scientificity of the work. These philosophies are aimed at avoiding fake data, manipulation and presentation of non-reliable and non-valid data and to enable attracting the confidence and support of the intellectual world and the wider world in accepting research outcomes with fewer doubts. To this end, this section will examine some of these philosophies and how they can be situated within the context of social media research which is, undoubtedly, the future of academic research in the world in the near future.

### ***Epistemology***

Epistemology is the philosophy of doing everything based on beliefs and values that are in line with how best it should be. It is simply the quest and engagement exercise with objective knowledge and information sharing scholastically. Kant (1986) argues that epistemology is the critique of pure reason and its replacement with scientific and ethical values of conducting scholarly research for the purpose of the production of knowledge. In the tradition of the conventional research method, each research methodology or design has its own philosophy ranging from the motivation behind the choice of the topic of study and the population of the study, to the data gathering and method of data analysis. This has been observed in both the qualitative and quantitative approaches to the research (Creswell, 2014; Lune & Berg, 2017). In this perspective, social media research too has a philosophy which is of paramount importance for the academic researchers that decided to engage in using it for research purposes.

Social media research should have the philosophy of data gathering, knowledge distribution and information spreading as well as knowledge acquiring from the perspective of research purpose. Posts are made on social media which are sometimes for entertainment purposes. Some posts are for social interaction, some are for amusement while some are informative (McFarland & Ployhart, 2015). In the case of social media research which in most cases is academic; there are several investigations or data that are gathered for marketing purposes or public opinion shaping, they are also more related to academic purposes since they are targetted at data assembling for a research purpose, it is expected that the philosophy of the research or researcher should be on emphasis in knowledge generation and knowledge distribution ethically (Page et al., 2014).

Social media research should ask what type of problem or knowledge is investigated. How is it investigated and why? In doing so, it should be noted that the major aim of the research is to produce new knowledge for the consumption of a target community be it the entire society,

community of belonging or a specific organisation (Di Fraia et al., 2014). Epistemology in social media research should consider that the entire process of data gathering is to generate reliable and accurate information or data that can be used for research purposes with the aim of influencing a certain behaviour or action from the outcome of the research. Thus, if the purpose is to generate reliable data, then the outcome of the shared data on the social media platforms too should consider the validity and reliability of the shared data to ensure that society is protected from fake information that may be harmful or misleading to the populace (Forestier et al., 2017).

Epistemology in social media research is much concerned with addressing social problems and providing solutions to them. The academic researchers are in their sublime effort to provide an easy and accurate means of the methodology of research undertaking finding social media as a viable tool for investigation. Thus, social media is utilised in order to generate knowledge, advance it, enrich it, support it or debunk it, deconstruct it and reconstruct a new one. This is why social media research method is now a good means of research because the audience is reach more than other existing means (Handke et al., 2019).

### ***Ethics***

One of the basic requirements for scientific, valid and reliable academic research irrespective of the methodology or approach adopted is the observation of ethical conduct of the environment and the parties involved in addition to the procedures examined (Harvey, 2014). This is because researchers have responsibility and confidentiality with the people that they engaged within the process (Hearn et al., 2019). This includes the participants, the targetted audience, the environment, institutions of affiliation and the community. The research design, implementation and dissemination of findings should take into consideration all the above-mentioned parties that are involved. Some practices are unethical which may consist of fabrication of data, manipulation of results, diversion of analyses and findings and this led to harm to the researcher or the audience that may consume his information (Page et al., 2014:58). Designing of models and frameworks for conducting social media research and strict regulations are important in this regard (The University of Sheffield, 2017).

Social media research is anchored on the threshold of a private world with privacy that should be observed strictly. In conducting social media research, the privacy of the participants and the beneficiaries is important. It is easier to have a confidential outing with your informants or participants in conventional research methods but in the current trend of social media, privacy may be breached (Herzog et al., 2019). For instance, data generated through an interview either through WhatsApp, Facebook, YouTube, Twitter, Instagram or Email can be revealed unnecessarily. This ethics should be observed strictly. Other ethical practices that should be observed in the philosophy of the social media research comprises of honesty in data generation, presentation of the data as genuinely interpreted, avoid hoarding of information, avoid diverting the discussion as in the case of responses in Twitter to sway opinion and other values that promote integrity should be maintained strictly (Matzner et al., 2017:39).

Social media research must be ethical because the purpose of research is to produce a reliable and valid knowledge that could be utilised immediately or in the future. The ethics in social media research should consider that what is undertaken is the trust and confidence of the public which should be secured and maintained continuously (Buchanan, 2017). Faking data, manipulation of data and misinterpretation of data deliberately are what an ethical social media researcher should desist from in his utilisation of the platform for research conduct (Matzner et al., 2017). This can be done if he keeps to the flow of the generated data or presents the derived data from his fieldwork in their pure and accurate nature (Hutchinson, Martin & Sinpeng, 2017). Control of flow is important and relativity. When many works point towards a certain finding with an approach or a methodology that is satisfactory, a researcher came up with a contradictory presentation which will raise doubt and validity questions even though, it cannot be totally debunked until it is further investigated (Puschmann, 2017). Thus, a researcher can be just in generating and disseminating data by maintaining originality and trustfulness in his work. This is important because social media data are accessible to billions today rapidly more than ever before in the history of world research. A misrepresentation can affect a large number of audiences unlike in the previous mode where the number is less. Furthermore, manipulation of data in its generation and sharing can erode people's confidence and support in the use of the method (Seko & Lewis, 2017).

### ***Anonymity***

One of the philosophies to consider in social media research is the doctrine of anonymity. Anonymity simply means the extent to which a user on the internet can be identified or the extent to which he can hide his identity and behaviour. This is because being associated with an idea will link somebody consciously to that idea, behaviour or movement publicly. Sometimes revealing vital or shocking facts, especially that concerns us is difficult. People prefer to do so in a private discussion. In the generation of data using social media research, the researchers may encounter the problem of anonymity. In a non-digital world, it is difficult to be anonymous. In the era of the digital world, it is easier to go anonymous. This means somebody be it an informer or a participant under the guise of anonymity may release harmful or wrong information or data undetected. The information or data can be realised as fake or dangerous while the anonymous party may not be detected. In this regard, it is essential for academic researchers that are focusing on the social media as their instrument of research to be extra careful with the risk involved in the course of their research due to anonymity (McFarland et al., 2015).

Digital media is providing an opportunity for the users to be anonymous. Through this process, they can create pages and platforms with fake names, fake pictures and fake locations to release dangerous information, unreliable, invalid and unscientific. However, like in the usual social science research method of data collection, the informants or participants are relaxed in releasing information under privacy. In this regard, the philosophy that an academic researcher can use to handle the issue of anonymity is to verify the pages and platforms of the respondents. The targets can be clear and specific and in a situation whereby

a random and neutral survey is carried out, the best way to measure the reliability of the anonymous data or information provided is the flow of the discussion and the context which can significantly determine the direction to which it should be (McFarland et al., 2015).

Anonymity is equivalent to the doctrine of confidentiality in conventional research methods and that is exactly the argument here. The doctrine of anonymity is what is important in terms of maintaining privacy. Unlike the previous method of research which is undertaken under the oath of secrecy, confidentiality and non-disclosure, the social media and internet research method is already fully-loaded with anonymous personalities, anonymous data, anonymous respondents and anonymous researchers (Hill et al., 2014). How can this anonymity in social media research be attained? Personal biodata of the respondents or informants can be skipped or ignored with an emphasis on the required data. The personal information and profile of the informants or respondents can be ignored or remain hidden under the license of anonymity but that should not warrant a total ignorance of the informants, respondents or sources of data. The major point of concern is for the identity of the interviewers to be preserved for research ethics while it is confirmed as an authentic source or genuine social media account to prevent a fake supply of data or information (Hunsinger, 2020). Anonymity can be preserved during the process of data generation but it is not relevant to maintain it after the processing of the data and the findings. The identity of the source of information may be revealed especially in a rigorous academic exercise such as corruption perception data, poverty index generation or indicators of good governance (Just, 2019).

### ***Objectivity***

In social media data gathering, one vital aspect, like any other research method, is the concept of objectivity. A research philosophy must take into its ethics and responsibility to ensure objectivity in handling the responses of the participants or the informants. A researcher should not attempt to redirect the flow of the debates or the information that is being supplied even if it is against what he is anticipating. For instance, a researcher who designed a questionnaire or initiated a survey to gather data from his respondents should allow them to flow freely without unnecessary intervention except where there is a question asked or confusion that he needs to clarify. It is a known tradition that objectivity in research simply means the ability to present issues based on their natural flow irrespective of the outcome (Page et al., 2014). The tribe, religion, community and organisation of the researcher may not get a favourable or convenient response. In this regard, presenting the issues as they are is the best option for a serious neutral and professional researcher. The way to handle such negativity is only to make recommendations based on the way forward for the undesired comments. Sometimes researchers are found to have indulged in the act of manipulating data or diverting findings deliberately. In this regard, wrong information may emanate which can harm the society or the environment of the researcher unwittingly due to his unethical conduct. To avoid this, he should be reminded of his tasks and responsibilities to the beneficial targets of his work. Presenting issues without fear, favour, sentiments, and manipulation is a research philosophy that must be observed in the social media method of conducting research (Matzner et al., 2017).

Objectivity is what keeps the confidence of the research community and the society in general. The need for objectivity in the use of social media research is to ensure that the numerous big data in existence or to be generated did not mislead the investigation through manipulation or adoption of unreliable and inaccurate data. How can this objective of objectivity be achieved? It can be approached in many ways but the most important epic centre is gathering data as they are presented and presenting them or analysing them as they are gathered without an attempt to influence any of the variables outside the flow and direction of the revealed information (Jackson et al., 2019). The reason for an emphasis on objectivity is the direction of giving the research a scientific basis and concrete support for the reliability and future occurrences using the investigated work (Kapoor et al., 2018).

### ***Validity and reliability***

The extent to which data or information can be checked, proved, confirmed or debunked is the validity of research. In every research, the methodology carries along it the instruments or scientific tools that can convince the academic community that the work can be subjected to thorough and rigorous critical observation to identify how true or otherwise the data were generated and whether the tools used for analyses are appropriate or inappropriate. In the social media research method, it is even more difficult to identify the validity of the instruments and the data obtained due to many factors such as privacy, anonymity, big data, multiple occurrences and other related issues (The University of Sheffield, 2017). If the instruments used in data collection, the process of data collection and the process of data dissemination are not found to be valid, there is no reliability and the research findings cannot be used for academic works in the future. It will not be a reference for future academic engagements. In order to have profound and valid reliable research using the social media research method, it is imminent to adopt techniques of research that will dismiss all doubts and look scientific in all ramifications. One of these ways is to generate data in the most suitable way for a type of research. If research involves for instance a particular community, and the researcher decided to collect data from another community, he has opened a room for doubt and non-reliability. Research method or data collection in the social media should utilise methods based on the topics of study and the population of the study should be selected based on the philosophy of social media engagement while in the same way, tools of analyses should be chosen based on the possibility of the outcome that will not cast any doubt on the research outcome (Page et al., 2014; McFarland et al., 2015; Matzner et al., 2017).

Validity and reliability are what keep scientific research naturally scientific (Jackson et al., 2019). It is simply anchored on the threshold of adopting sources and tools of research in the social media approach that can guarantee and safeguard confidence and acceptability in the academic community (Karppinen et al., 2019). How can validity and reliability be achieved in this perspective? It is easy and difficult at the same time. It is easy because a researcher must understand the pattern and nature of his research, identified the tool that is suitable for data collection, the time of social media platform suitable for his research work and the alternative option or tool for data analysis in the internet and the social media research (Keating, 2014).

***Social responsibility***

Research undertaking is a matter of social services or respond to many groups involving the researcher, educational institutions, organisations that sponsor the research and the community that is targetted with the research accordingly. This philosophy of social responsibility should equip the researcher with the knowledge and integrity of carrying out research based on what would promote peace, political development, economic prosperity, social cohesion, cultural tolerance, and cooperation and harmony. Research that can fuel discord, create chaos, lead to violence, and promote disunity or mutual suspicion are not the practices of ethical and progressive researchers even if such researchers can benefit their principal such as their community or the organisations that sponsor such researchers. Many scholars (Page et al., 2014; McFarland et al., 2015; Matzner et al., 2017; The University of Sheffield 2017) suggested that using social media research method should consider social responsibility as a philosophy that will guide the purpose of the research. A societal problem identified is the target of investigation for a solution. In this regard, a social media researcher should ensure that the method to be used in data collection and data distribution is taking into consideration a survey or sampling that will provide reliable, valid and ethical data which can be used for policy agenda setting.

Social responsibility is the consideration of the urgent needs of the host society of the social media researcher such as the use of media for hate speech in Nigerian context, the spread of fake news in Nigerian environment and the use of social media for marketing in other countries as a social responsibility. This can be achieved through the formation of a certain opinion and then allow the target audience to respond accordingly flowing their views on the nature and manifestation of the problem as well as the recommendations (Kitchin, 2017). Why is this so? It is simply because any marketer, producer and other aspects of human endeavour in the society are bearing in its venture social services. Research is not an exception but rather a forefront of such social venture. Research is a community service that is aimed at making society better and a social media research should be seen as such (Lev-On, 2018).

**CONCLUSION**

The chapter examined ethics and responsibilities in social media from the perspectives of research philosophy. The chapter is a new approach to research undertaking using the modern tools of investigation. The chapter has practical implications for different stakeholders that are affected by the subject matter of study. Researchers in various fields especially in social sciences are guided in the study towards conducting research by utilising the tools and platforms of social media. Individual users are also provided with the basic background of the philosophy of social media and its basic principles. Some terminologies and simple data that introduced the audience to the current situation of social media are also examined accordingly. The chapter summarily explored the social media research philosophies. The term social media was identified in its various meanings and dimensions including the coinage itself. Various forms and platforms of social media were examined such as WhatsApp, Facebook, YouTube, Twitter, Instagram, LinkedIn and specifically the academic

social media site such as ResearchGate, Academia, Kudos, Google Scholar, Mendeley and Publons which is a network of an academic community in their millions across the globe. In addition, the chapter investigated the social media research techniques and methods including sources of data in the social media research work, tools of data collection, tools of data analysis as well as qualitative and quantitative approaches to scientific research methods. The chapter concludes by examining the social media research philosophies in their what, how and why including epistemology, ethics, anonymity, objectivity, reliability and validity as well as social responsibility.

The study concludes that social media research is inevitably the future of academic research in the world. It has already been providing big and reliable data in both data generation and dissemination. Like the conventional research method, social media research has its own philosophy and ethics that are guiding it. A researcher that is using social media research method should be conscious of the philosophies and factors that will make his research valid and reliable. These should include among others the appropriate choice of tools for data collection and a suitable platform. The researcher should identify where best his targets are whether it is Facebook, Twitter, WhatsApp, Instagram, YouTube or any other platform that he knows his respondents or informants can provide information conveniently. He should also identify the best tools for analysis. In addition, the study concludes that there is a need for a researcher that is using social media research platforms to observe and respect the identified philosophies in this study, observe them, respect them and consider them constantly for reliable and acceptable knowledge production.

This chapter suggests that social media will dominate the future of academic research in no time precisely in the near future. The scientific investigation would be taken into the arena of social media theatre soonest more than ever before. The researchers should utilise the research philosophies identified in this chapter to provide reliable and valid data or to produce knowledge and information that can be relied upon confidently. It is better if the future research method is concentrated on social media with effect from now to save much energy in future as it is glaringly an inevitable research venture that must be turned to for relief in terms of methodology in research.

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## CHAPTER FIVE

### THEORETICAL AND CONCEPTUAL FRAMEWORKS IN SOCIAL MEDIA RESEARCH

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#### CHAPTER OBJECTIVES

- Understand theoretical frameworks in social media research.
- Understand conceptual frameworks in social media research.
- Steps in selecting social media research conceptual and theoretical frameworks.

#### ABSTRACT

The advent of citizen journalism has made social media an all-comers' affair. This has huge implications for Social Media Research (SMR). Inspired by the gap in the literature concerning the absence of research guidelines for SMR, the researchers debuted a robust *vade mecum* for scientific inquiries in social media. The Chapter aims at providing a guide to social media researchers on how to carry out the theoretical and conceptual frameworks of their literature review. It achieved this by presenting two existing social media models - Media and Technology Usage Assessment Scale (MTUAS) which guides researchers on how to assess social media applications and use them in self-reporting through coding and analyzing their responses as well as Technology Acceptance Model (TAM) which helps users to find a suitable social media application that is relevant and helpful to their jobs. The study found Media and Technology Usage Attitude Scale (MTUAS) and Technology Acceptance Model (TAM) as two existing indispensable theoretical frameworks for choosing a topic, doing a literature review, isolating variables, and implementing and selecting a conceptual framework. The use of tables and figures, also showed how variables identified as independent, dependent, moderating, mediating, and controlling variables may be used to create a system's conceptual framework. The study concluded that unarguably, theoretical and conceptual frameworks are mandatory ingredients for contemporary quantitative and qualitative research in the novel field of social media research.

**Keywords:** Conceptual framework, Media assessment scale, Self reporting, Social media metrics, Social media research, Social media usage, Theoretical framework

## **INTRODUCTION**

The 21st century has ushered in unprecedented growth in science and technology. This has also debuted an upsurge in tools and techniques of Information and Communication Technologies (ICT). Importantly too, the information global highway is fertile with both traditional and social media platforms which further enhances trade and commerce, edutainment and infotainment, human interaction and interconnectedness to mention just a few. Indeed, "Social media are becoming an ever more important part of an organization's media mix" (Peters, Chen, Kaplan, Ognibeni & Pauwels, 2013: 282). For example, the everchanging expansive nature of traditional or new media technology and technical competence among people have launched new entrants into the digital space. Because of their impact, it is crucial to "pay more attention to social media channels' effectiveness" (Skulme & Praude, 2016: 132).

Unlike in the past when those behind mainstream media dictated what is newsworthy, who gets what information or not and where those pieces of news could be transmitted, social media has given birth to citizen journalism. In a society where everyone with internet access and a smartphone gathers and disseminates information without a third party, authenticity becomes a huge challenge. To this end, traditional media is in a constant face-off with new media which encompasses various social media platforms. This creates a lacuna for research and documentation. More so, managing social media today is challenging. "Social media are substantially different from traditional or other online media due to the network structure and their egalitarian nature. As such, they require a distinct approach to management. A prerequisite for managing social media is their effective measurement" (Peters et al., 2013: 296).

In media studies, students of communication and researchers have always been searching for how to undertake authentic social media research that is capable of yielding valid responses and offer insight into a phenomenon. This search is elicited by the cacophony of information from amateur pundits who saturate social media platforms with unauthentic theories and methods of doing social media research. It is crucial to note that one area of concern is, that most social media enthusiasts confuse theoretical and conceptual frameworks when it comes to embarking on social media research. This chapter attempts to lay a firm foundation for what constitutes a theoretical framework as distinct from a conceptual framework in social media research. It aspires to create a novel approach to research in the area of social media which would serve as a *vade mecum* for students and experts in media studies.

## **REVIEW SPADEWORK**

Theoretical and Conceptual frameworks are usually content of the literature review section of most research works.

### **Theoretical framework in social media research**

In this study, the researchers conceive theoretical framework as a pathway in a research field that firmly makes overall findings more meaningful and acceptable for generalization (Basyal, 2020). It is also seen as a specific theory that concerns various aspects of human behaviours that should be taken into account while studying events or a phenomenon (Brondizio, Leemans & Solecki, 2014). As a construct that gives life to research, a theoretical framework is a guide or a blueprint (Grant & Osanloo, 2014) that researchers source from other authors to build their research inquiry (Basyal, 2020). Theoretical framework can be employed in qualitative, quantitative, or mixed-method research (Chukwuere, 2021).

### **Conceptual framework in social media research**

For the purpose of this chapter, a conceptual framework is a guide that best explains the natural progression of a phenomenon under consideration or study (Camp, 2001). Bas (2015) defines conceptual framework as a visual or written representation of expected relationships in research. In popular parlance, it is something the researcher develops based on a theory. In statistical terms, it describes the relationship which exists between specific variables identified in the study even as it highlights the input, process and output of the study (Basyal, 2020). Simply put, a conceptual framework is an attempt to add one's concept, construct or variable that is considered relevant to a study towards exploring or testing the relationship between them. It is usually a logical process that is backed by context. It is also an academic effort by a researcher to uncover how the research problem will be investigated in light of the theoretical framework. As it was "Through a conceptual framework, the worldview of the research topic is well understood and provides the base on how the research objectives/questions and the problem statement will be (are) formulated" (Chukwuere, 2021: 2681).

### **Social media research**

In this study, social media research is a study that explores the operability of a gamut of social media platforms - WhatsApp, Facebook, YouTube, Instagram, FB Messenger, Twitter, Telegram, LinkedIn, Tiktok, Snapchat, Pinterest, Skype and Google Hangouts (Varrella, 2021) for meaning. It is essential to note that new or social is characterized by speed, interactivity and media convergence (Egere, Dyikuk, Dapoet & Moven, 2021). Social media research is meant the science of investigating both the technology and usage of these blogging sites to assess their impact and contribution to the advancement of knowledge and learning.

Social media research is also seen as the process of analyzing social media data to undertake both quantitative and research to understand how audiences relate to topics by employing tools and data extraction techniques (Pulsar, 2021). While conventional research relies on surveys and focused group discussions, social media research allows "access to the unprompted feelings and opinions of users" (Pulsar, 2021). It equally assists businesses in

such a way that it improves the perception of marketers' brands online as well as helps machines to understand images.

## **SOCIAL MEDIA THEORETICAL FRAMEWORKS**

### **Theoretical frameworks in social media research: Scholarly explications**

In studies that adopt grounded theory approach, theories to explain are developed to explain phenomena and make predictions. A **theoretical framework** tries to explain theories that support research and shows that work is grounded in solid ideas. Although there are various theoretical frameworks in social media research (SMR) such as Technology Acceptance Model (TAM) which researchers can access to conduct their research, the authors want to guide readers on how to use these.

There are three steps in developing a theoretical framework: Firstly, key concepts are identified from the problem statement and research questions; the output from this is a clear objective. Secondly, it evaluates and explains appropriate theories. A systematic literature review is often conducted to investigate how other researchers have defined, drawn connections or compared certain identified concepts and critically evaluated them. This is followed by a discussion of the different theories and models. Here, the researcher selects a theory or model that best fits the research question. To be sure, a combination of theories from different fields may also be used in more complex projects. Thirdly, the researcher needs to show how his or her research fits. Here, the researcher is expected to show how theories will be implemented in his or her work. Implementation of the theories could consist of testing if a theory has a specific context, uses a theory for interpreting results and a critique is done by combining various theories in a new way. Where relevant, one could employ the theoretical framework by developing a hypothesis for the research (Sarah, 2015).

In social media research, theoretical frameworks are often based on already existing theory/theories because they help researchers to contextualize formal theories in their investigations (Ravitch & Carl, 2016). This is without prejudice to the use of grounded theory in social media studies. Most importantly, a theoretical framework assists researchers in testing available theories and defining their study philosophically, epistemologically, methodology and analytically. Experts argue that a theoretical framework is a time-tested truth that embodies the findings of various research on how phenomena occur (Basyal, 2020). According to scholars, a theoretical framework provides a researcher with a guide on how to study questions as well as select, analyze and plan methods for measuring variables (Liehr & Smith, 1999). It also guides "research, determining what things to measure, and what statistical relationships to look for. In this sense, it is critical in deductive, theory-testing sorts of studies, as the conceptual framework is critical inductive theory building exploratory studies" (Tamene, 2016: 53).

### Developing theoretical frameworks in social media research

Social media is a multi-discipline research area. As such, writing a theoretical review for social media ought to take into consideration the discipline, research topic/research question that the researcher wishes to address. Jiayin, Emmanuel, Binxing and Shichang (2018) suggest two streams for all social media research: They posited that while *Technology Stream* is used in Computer Science social media research to help investigators to analyze user’s behaviour on social media towards developing an automatic intelligent service for users, *Information System Stream* is employed for other disciplines.

These experts found that multiple disciplines such as data science, social sciences, behavioural science and design science make use of this new technology for social media usage. They maintained that combining different disciplines to carry out particular research often yields better research outcomes. While developing an appropriate theoretical framework is important, let us now take a look at the extant social media theories:

**Table 5.1:** Extant social media theories

| S/N | Theory   | View   | Proponent              |
|-----|--|--|------------------------|
| 1   | The honeycomb framework for social media strategy. <i>Source: Somayya &amp; Siddharth (2021)</i> | A model that presents a way of setting out key aspects of social media usage in 7 blocks: sharing, presence, relationships, identity, conversations, reputation, and group | Kietzmann et al (2011) |
| 2   | Social media metrics framework and guidelines  | Framework and guidelines for social media management   | Peters et al (2013)    |
| 3   | Seven layers of social media analytics. <i>Source: Somayya &amp; Siddharth (2021)</i>            | Guide to business managers for understanding social media concepts and tools, such as texts, actions, search engines, apps, hyperlinks, networks, and location layers.     | Khan (2015)            |
| 4   | Social media integration theory model. <i>Source: Somayya &amp; Siddharth (2021)</i>             | Social media platforms effectively provide exposure, feedback, connection, and information sharing in full-duplex communication mode.                                      | Isra (2010)            |
| 5   | Social media theory: Content and Strategy. <i>Source: Somayya &amp; Siddharth (2021)</i>         | Concept of conversation drivers, which provide a guide for brands to identify prospective consumers.   | Jodie (2014)           |
| 6   | Media and Technology Usage Attitude Scale. <i>Source: Rosen et al (2013)</i>                     | For assessing media and technology involvement across various social media-based research interests  | Rosen et al (2013)     |
| 7   | Technology Acceptance Model <i>Fred (1985)</i>   | For testing end-user information systems.  | Fred (1985)            |

### THEORETICAL FRAMEWORK IMPLEMENTATION

Two existing theories are analyzed in this section: Media and Technology Usage Attitude Scale (MTUAS) and Technology Acceptance Model (TAM).

#### Media and technology usage attitude scale

Rosen, Whaling, Carrier, Cheever and Rokkun (2013) developed a comprehensive method for assessing media and technology involvement across various social media-based research interests. The 60-item scale, Media and Technology Usage Attitude Scale (MTUAS) is further grouped into subscales that can be applied to social media research independently. They include smartphone usage, social media usage, internet searching, e-mailing, media

sharing, text messaging, video, gaming, online friendship, Facebook friendship, phone calls, and watching television, and four attitude-based subscales: positive attitudes, negative attitudes, technological anxiety/dependence, and attitude towards task-switching.

Numerous research studies have developed models or scales for measuring social media usage. Ellison, Steinfield and Lampe (2007) developed an open-ended multi-item scale to which survey participants answered by writing down their opinions. These were later modified by Steinfield et al. (2008) to be close-ended, to which participants answer using a 5-point Likert scale. Some studies measured time spent on social media (Hunt et al., 2012), while others measured social media usage by physically counting activities such as the number of times users log into the account daily (Hunt et al., 2012) or a number of friends, or activities users engage in on various social media sites (Rosen et al., 2013).

### ***MTUAS Precepts***

The media and technology usage attitude scale uses the following measurement to assess users' media and technology usage:

1. Self-reported frequency of use
2. Activities were performed across various internet devices: tablets, desktops, mobiles, and laptops.
3. Captures attitudinal statements and beliefs on social media
4. Must be validated by the self-reported time of use (Rosen et al., 2013).

### **Technology acceptance model (TAM)**

Fred (1985) developed a model for testing end-user behaviour and attitude toward information systems. TAM follows certain processes to test the acceptance of computer-based information systems. This model chose the Fishbein model Fishbein (1967) as a reference model upon which TAM is built. TAM became necessary to strengthen MTUAS. Fishbein's model was later remodelled by Fishbein and Ajzen (1975) using three (3) equations. The first equation is based on the ideology that the causal relationship between intended behaviour performance and actual performance of that behaviour. The second shows that an individual's attitude towards given conduct is a function of a perceived consequence of displaying such conduct, multiplied by the evaluations of those consequences. The third Fishbein model ideology upon which TAM was built specifies that the individual's subjective norm is a function of perceived anticipations of particular individuals or groups and their motivation to adhere to those specific expectations (Fishbein & Ajzen, 1975). Fred (1985) studied the Fishbein Model, found a research gap and filled it. This means that while a researcher is adopting an existing model or theory he may find a gap in the theory and fill that gap to birth a new model or theory.

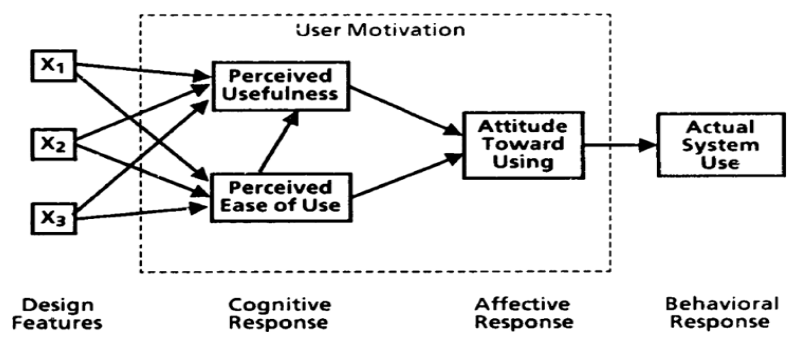
**Model ideology and hypothesis**

Figure 1 below represents the theoretical framework of TAM. Variables X1, X2, and X3 are various design features of target computer-based systems (example: email, social networking site, video conferencing site etcetera).

**The model hypothesis:** A potential user’s overall attitude towards using a given system is a determinant of whether or not he uses that system, and that “attitude towards using” is a function of two beliefs: perceived usefulness and perceived ease of use, and that perceived ease of use has a causal effect on perceived usefulness.

In simpler terms, if a user finds a technology-based product easy to use because of its design features such as interactivity, reliability, availability, robustness, ease to navigate, security of information (for example, end-to-end encryption of WhatsApp), then the user’s belief that the product will be useful to his or her work will increase, hence the two variables (perceived usefulness and perceived ease of use depend on features of the target system. If the system is found to be easy to use, it is considered useful, hence ease of use causes usefulness. When a system is considered easy to use and useful for job, these two variables determine users’ attitudes towards use. Finally, Attitude towards use causes the system to be used.

**Figure 5.1:** Technology Acceptance Model (TAM) **Source:** Fred et al (1985)



**Equations representing variables in TAM model**

TAM specifications for the four variables are represented using the equations below:

Eqn 1-----  $EOU = \sum_{i=1,n} \beta_i X_i + \epsilon$   
 Eqn2-----  $USEF = \sum_{i=1,n} \beta_i X_i + \beta_{n+1} EOU + \epsilon$   
 Eqn3-----  $ATT = \beta_1 EOU + \beta_2 USEF + \epsilon$   
 Eqn4-----  $USE = \beta_1 ATT + \epsilon$

Where

- X<sub>1</sub> = Design features i, i = 1,n
- EOU = Ease of Use
- USEF = Perceived usefulness
- ATT = Attitude towards using
- USE = Actual use of the system
- β<sub>1</sub> = Standardized partial regression coefficient



perceived variables. Finally, the table below shows the multi-item question for each variable in TAM and the measurement scale used. (Fred, 1985).

### **PROCEDURE FOR SOCIAL MEDIA RESEARCH**

Social media researches try to assess various activities of social media users. Some seek to find pros, some the cons, while others aim to make comparisons or find relationships between different variables. No matter what the researcher seeks, assessing social media usage will involve, but may not be limited to the following:

1. Asking research question(s). This helps the researcher identify what variables (Independent and dependent) to look for.
2. Hypothesize relationships among variables
3. Choose a data analysis method based on Nos 1 and 2: Is the research descriptive, inferential or both?

Inferential uses sample statistics to infer cause and effect, recursive, one-way or multi-dimensional relationships.

Descriptive use of sample information to explain Association, Causal relationships, Tendency, trend, range, and dispersion. It is also used in non-parametric analysis such as (chi-square, t-test, 2-way ANOVA) or both statistical methods are required for different hypotheses raised in the research.

4. A survey is generated to collect data from the target group. Here, the questions are raised to find views on the dependent and independent variables. Social media research requires self-reporting feelings on system design features, beliefs, behaviour, emotion, and related variables, attitude towards using, and actual system use. This can be carried out either by finding established multi-item questions and scales for the variables or by generating multi-item questions that will lead to user self-reporting. Variables are categorized in sections, with each section having multi-item questions. The purpose of multi-item questions is for cancelation of inconsistency and for improving reliability ( Fred, 1985).
5. After the survey responses have been collected, the worded items are coded and appropriate statistical tests are carried out to find relationships, associations, trends, causal effects, etcetera. An example of this process can be seen in the social media research by Olebara (Olebara et al., 2021).

Sample of multi-item questions on actual use of email

Figure 5.2: TAM multi-item survey questions on “Attitude towards using” Source: Fred (1985)

**ELECTRONIC MAIL**

Questions in this section concern your reactions to the use of electronic mail. By electronic mail we mean any mail sent via the computer system -- profs notes, messages, memos, files, and so on.

**Usage of Electronic Mail**

1. Electronic mail is currently available for me to use, if I want to. Yes \_\_\_ No \_\_\_ Not Sure \_\_\_

2. On the average, I use electronic mail (pick most accurate answer):

|                  |                              |                          |                             |                         |                            |
|------------------|------------------------------|--------------------------|-----------------------------|-------------------------|----------------------------|
| Don't use at all | Use less than once each week | Use about once each week | Use several times each week | Use about once each day | Use several times each day |
| ___              | ___                          | ___                      | ___                         | ___                     | ___                        |

If you don't use electronic mail at all, please skip to page 6.

3. I normally spend about \_\_\_ hours each week directly using electronic mail.

4. I have been using electronic mail for (pick most accurate answer):

|                   |                        |                        |                             |                  |
|-------------------|------------------------|------------------------|-----------------------------|------------------|
| less than 1 month | between 1 and 3 months | between 3 and 6 months | between 6 months and a year | more than a year |
| ___               | ___                    | ___                    | ___                         | ___              |

5. I use electronic mail because I have chosen to, not because I am required to for my job.

|   |                |   |         |   |                   |
|---|----------------|---|---------|---|-------------------|
|   | Strongly Agree |   | Neutral |   | Strongly Disagree |
|   | 1              | 2 | 3       | 4 | 5                 |
| 6 | 7              |   |         |   |                   |

6. I am quite knowledgeable about how to use electronic mail.

|  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--|---|---|---|---|---|---|---|

Figure 5.3: TAM multi-item Survey Questions on “Actual Using” Source: Fred (1985)

**Overall Evaluation of Electronic Mail**

All things considered, my using electronic mail in my job is:  
(place X mark on each of the five scales)

Neutral

1. Good |\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_| Bad

2. Wise |\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_| Foolish

3. Favourable |\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_| Unfavourable

4. Beneficial |\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_| Harmful

5. Positive |\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_|\_\_\_| Negative

Figure 5.4: TAM Multi-item survey questions on “Perceived Ease of use” Source: Fred (1985)

**Perceived Ease of Use of Electronic Mail**

|   | Strongly Agree |   | Neutral |   |   | Strongly Disagree |   |
|---|----------------|---|---------|---|---|-------------------|---|
|   | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 1. I find the electronic mail system cumbersome to use.                                 | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 2. Learning to operate the electronic mail system is easy for me.                       | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 3. Interacting with the electronic mail system is often frustrating.                    | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 4. I find it easy to get the electronic mail system to do what I want it to do.         | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 5. The electronic mail system is rigid and inflexible to interact with.                 | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 6. It is easy for me to remember how to perform tasks using the electronic mail system. | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 7. Interacting with the electronic mail system requires a lot of mental effort.         | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 8. My interaction with the electronic mail system is clear and understandable.          | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 9. I find it takes a lot of effort to become skillful at using electronic mail.         | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 10. Overall, I find the electronic mail system easy to use.                             | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |

Figure 5.5: TAM multi-item survey questions on “Perceived Usefulness” Source: Fred (1985)

**Perceived Usefulness of Electronic Mail**

|  | Strongly Agree |   | Neutral |   |   | Strongly Disagree |   |
|--|----------------|---|---------|---|---|-------------------|---|
|  | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 1. Using electronic mail improves the quality of the work I do.                              | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 2. Using electronic mail gives me greater control over my work.                              | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 3. Electronic mail enables me to accomplish tasks more quickly.                              | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 4. Electronic mail supports critical aspects of my job.                                      | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 5. Using electronic mail increases my productivity.  | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 6. Using electronic mail improves my job performance.  | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 7. Using electronic mail allows me to accomplish more work than would otherwise be possible. | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 8. Using electronic mail enhances my effectiveness on the job.                               | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 9. Using electronic mail makes it easier to do my job.                                       | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |
| 10. Overall, I find the electronic mail system useful in my job.                             | 1              | 2 | 3       | 4 | 5 | 6                 | 7 |

**ADOPTING TAM IN SOCIAL MEDIA RESEARCH ANALYSIS**

For a researcher intending to adopt TAM’s model in his or her social media research, the equations are used to address the researcher’s social media project. This can be implemented as stated below:

Equation 1:  $EOU = \sum_{i=1,n} \beta_i X_i + \epsilon$   
 Eqn2-----  $USEF = \sum_{i=1,n} \beta_i X_i + \beta_{n+1} EOU + \epsilon$   
 Eqn3-----  $ATT = \beta_1 EOU + \beta_2 USEF + \epsilon$   
 Eqn4-----  $USE = \beta_1 ATT + \epsilon$

Multiple Regression is used to model the attributes of belief individually.

Firstly, in equation 1, design features' effect on the belief “Ease of use” is assessed by finding a multiple regression coefficients. Multiple regression allows more than one independent variable to be assessed. This gives:  $\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \dots \beta_n X_n + \epsilon$  where  $\beta_1$  is the regression coefficient of the effect of the first design feature ( $X_1$ ) on “Ease of Use and Usefulness” and  $\epsilon$  is the random error term.

Equation 2 also allows the effect of design features on the belief “Perceived Usefulness” to be calculated and assessed using multiple regression coefficients as indicated in the equation. Equation3 is used to assess attitude. Here, attitude is evaluated by summing up the individually calculated beliefs (Ease of Use and Usefulness).

Equation 4 evaluates Actual system use by finding the regression coefficient of attitude. Table 5.2 below displays relationships between the four TAM variables. of some or all of independent, dependent, moderating, mediating and controlling variables, with directed The system dependent and independent variables are shown in the table below:

**Table 5.2:** Cause-and-effect relationship of TAM

| Dependent Variable          | Independent Variable |         |         |         |     |
|-----------------------------|----------------------|---------|---------|---------|-----|
|                             | SYS                  | EOU     | USEF    | ATT     | USE |
| System (SYS)                | ---                  | 0       | 0       | 0       | 0   |
| Perceived Ease of Use (EOU) | $\beta$              | ---     | 0       | 0       | 0   |
| Perceived Usefulness (USEF) | $\beta$              | $\beta$ | ---     | 0       | 0   |
| Attitude toward Using (ATT) | 0                    | $\beta$ | $\beta$ | ---     | 0   |
| Actual System Use (USE)     | 0                    | 0       | $\beta$ | $\beta$ | --- |

Source: Fred and Ajzen (1985)

The table shows dependent and independent variables as well as their respective effects in TAM. Variable “System” as stated in the model ideology section.  $\beta$  (Regression coefficient) is used to represent statistically significant relationships between Independent and dependent variables and show where casual relationships exist.

1. The system is an independent variable, while Perceive ease of use is the dependent variable
2. The system is an independent variable, while Perceive Usefulness is a dependent variable

3. Perceived ease of use is an independent variable, while perceived Usefulness is a dependent variable
4. Perceived ease of use is an independent variable, while Attitude towards Using is dependent
5. Perceived Usefulness is an independent variable, while Attitude towards Using is dependent
6. Perceived Usefulness is an independent variable, while Actual System Use (USE) is dependent
7. Attitude towards Using is an independent variable, while Actual System use (USE) is dependent.

For researchers who want to adopt the MTUAS, self-reported importance weights are used instead of estimated regression coefficients.

### **CONCEPTUAL FRAMEWORKS IN SOCIAL MEDIA RESEARCH**

This section underscores extant conceptual frameworks in social media research. While social media has a legion of young users, its usage for academic purposes is thin. For example, a recent study on the *Influence of Social Media on the Moral Formation of Youths in Jos Metropolis* found that the use of social media for academic purposes was as low as 13.4% (Ijwo & Tanko, 2019). Notwithstanding this development, before establishing the place of conceptual framework in social media research, it is important to understand what it constitutes. For the most part, a conceptual framework helps a reader to understand why a researcher is investigating or studying a particular topic, the assumptions the person is making, the conceptual grounds of approach, the scholars the author is dialoguing with, as well as those he or she agrees or disagrees with (Tamene, 2016).

Scholars like Adom, Hussein and Agyem (2018: 440) capture it more beautiful when they opined that: "The conceptual framework is mostly placed in the chapter where the literature survey was discussed. It is in this chapter that the theoretical perspectives of the main variables or constructs are rigorously reviewed. In most dissertation or thesis papers, the literature survey is discussed in chapter two." On the confusion among students and researchers as to whether the theoretical framework is one and the same as the conceptual framework, the authors contend that usually, researchers develop their conceptual frameworks from the theories which support their research.

The concept emphasizes two major points namely, that is, it is a guide to a plan of study in qualitative research paradigms and interdependence of ideas or tentative understanding of a phenomenon under consideration. A conceptual framework consists of assumptions, expectations and beliefs that guide a given research work (Tamene, 2016). In summary, the conceptual framework steers the research activity and serves as a "map" or "rudder" that guides the study to achieve the objectives of the study (Patrick, 2015). An example of a conceptual framework that students or researchers can use is can be drawn from our definition of conceptual framework in social media earlier presented. Notice that although the

authors drew inspiration from scholars like Camp (2001) and Basyal (2020), they conceived conceptual framework as "an attempt to add one's own concept, construct or variable that is considered relevant to a study towards exploring or testing the relationship between them. It is usually a logical process that is backed by context." This means that it is adding a recipe to what one has investigated concerning a subject of study which makes it one's concept or definition.

### **Writing the conceptual framework in social media research**

The method of constructing a conceptual framework depends on what relationship the researcher seeks to find (Bas, 2015). For a cause-and-effect type research question, dependent and independent variables are chosen from the survey variables. Independent variables are variables responsible for problems in a system while dependent variables are the outcome of independent variables, hence the name, cause-and-effect. Other variables include moderating variables, which positively or negatively changes the effect an independent variable has on the dependent variable, mediating variable, which connects independent variables to the dependent variable, and control variable, which are variables that must be constant so they do not interfere with the outcome (Bas, 2015).

### **STEPS IN SELECTING A CONCEPTUAL FRAMEWORK IN SOCIAL MEDIA RESEARCH**

Scholars have proposed various concrete steps in choosing a suitable conceptual framework for social media research. Patrick (2015) outlines these steps as, choosing a topic, doing a literature review, isolating variables from the important variables and generating the conceptual framework. These shall be highlighted thus:

#### **Decide on a topic**

First, to arrive at a sound conceptual framework for your study, it is vital to decide on what your topic of research is. With this foundational decision in place, the researcher can then go ahead to ensure that the topic is within his or her field of study or specialization as the case may be.

#### **Do a literature review**

Second, the author needs to undertake a relevant or updated investigation on the theme that he or she has decided to unravel the point at issue. It is preferable to employ peer-review or other renowned learned journals since they constitute reliable sources of information and knowledge.

#### **Isolate important variables**

Third, it is absolutely important to identify the specific variables mentioned in the literature. This is to find out if they are related especially where abstracts contain variables and major findings. This could be found in the research paper's summary, methodology or the results

and discussion section. Isolating the variables helps the researcher to arrive at the essential points without much difficulty.

### **Generate the conceptual framework**

Fourth, the investigator should build his or her conceptual framework through a mix of the variables found in learned articles. The statement of the problem and objective of the research are catalysts for constructing a good conceptual framework. The person engaging in the study should attempt to answer the question that other researchers are yet to explain on the one hand and address the gaps in the literature on the other (Patrick, 2015).

## **THEORETICAL FRAMEWORKS IN SOCIAL MEDIA RESEARCH: PRACTICAL APPROACHES**

The fact that social media sites are free and open to everyone to either send or download content they desire poses grave challenges to society (Ijwo & Tank, 2019). As stated earlier, some rules guide choosing an appropriate theoretical framework for social media research. These include but are not limited to, avoiding bias, employing random sampling, use of representative coding, creating new insights and taking into cognizance relevance and context. These shall be highlighted thus:

### **Avoiding bias**

The first practical approach in choosing a desired theoretical framework is avoiding bias in data collection. For example, in searching for key terms or phrases in any given social media research, it is expedient to avoid bias when it comes to selecting social handle brands and hashtags associated with various causes. Those researching in the area of social media could also challenge their assumptions to reduce bias in data collection (Carson, 2016).

### **Employing random sampling**

The second step in selecting the right theoretical framework for social media research is using random sampling. A critical guide to framing a conceptual framework is data-led segmentation. This is a representative random sampling approach that involves a manual conversation or coding of themes. This helps the researcher to discover novel ideas towards arriving at more granular themes. For instance, a human being can detect rich and profound data with additional subtleties in tone, emotion and context (Carson, 2016).

### **Use of representative coding**

The third relevant approach to selecting a requisite theoretical framework for social media research is through representative coding. Since the researcher is telling the customer's story and not his or hers, it is critical to challenge your assumptions as a researcher through a coding sample that assists you to fit your topic into both the context and the theory in place (Carson, 2016).

### Creating new insights

The fourth practical approach to developing a theoretical framework in social media research is generating new insights. Since these insights are ideas that are communicated from one person to another, they can be conveyed in a new manner. It is also important to note that the journey from data to insight and insight to action has communication and understanding as two bridges that are reliant on human interpretation. Whenever this process is opened up to more humans, there is the likelihood of risk occasioned by human error. This is rife where research is muddled in the waters of opinion (Carson, 2016).

### Place of relevance and context

The fifth approach is making a place for relevance and context. One major mistake that some researchers and students often make is treating a theoretical framework in isolation. More often than not, once the theoretical framework is discussed after the conceptual framework or in chapter two, no reference is made to it again. To get it right in social media research, a researcher must choose a theoretical framework that is relevant to his or her topic. This means that it has to have a practical application to the context of the study. It means that before wrapping up the study, readers should be pleased to find how your study affirms or disapproves of the existing theory. If the latter is the case, the researcher can propose a new theory based on the gaps in the literature. Using obsolete or Western theories for a study in Africa, by Africans for Africans could be termed "academic suicide" in this regard.

## CONCEPTUAL FRAMEWORK IMPLEMENTATION

The conceptual framework of social media research depends on the relationship the researcher seeks to find among the variables. For cause-and-effect relationships, two variables are required: Dependent and independent variables. An independent variable is a variable that causes a change in another variable, while the dependent variable is the variable that is affected. The dependent variable depends on the independent variable (Bas, 2015).

### Conceptual framework example

The conceptual framework is either represented by a diagram, written text, or both. An example of the conceptual framework is the causal relationship of the TAM model. Fred (1985) presented TAM's conceptual framework in figure 5.6 below, using directed lines to show causal relationships.

**Figure 5.6:** Conceptual framework of technology acceptance model (TAM). **Source:** Fred and Ajzen (1985)

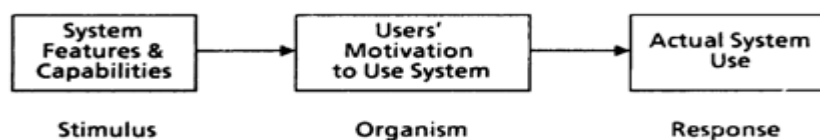


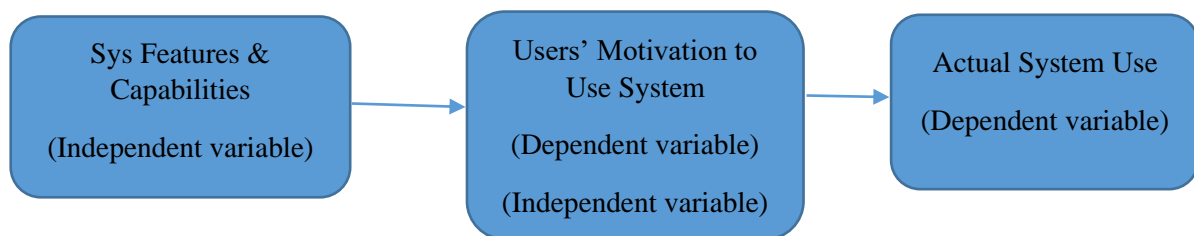
Figure 6 is the conceptual model of TAM and the relationship between the variables can be explained thus: Concepts that make up the TAM study and the relationships between them.

The concepts are:

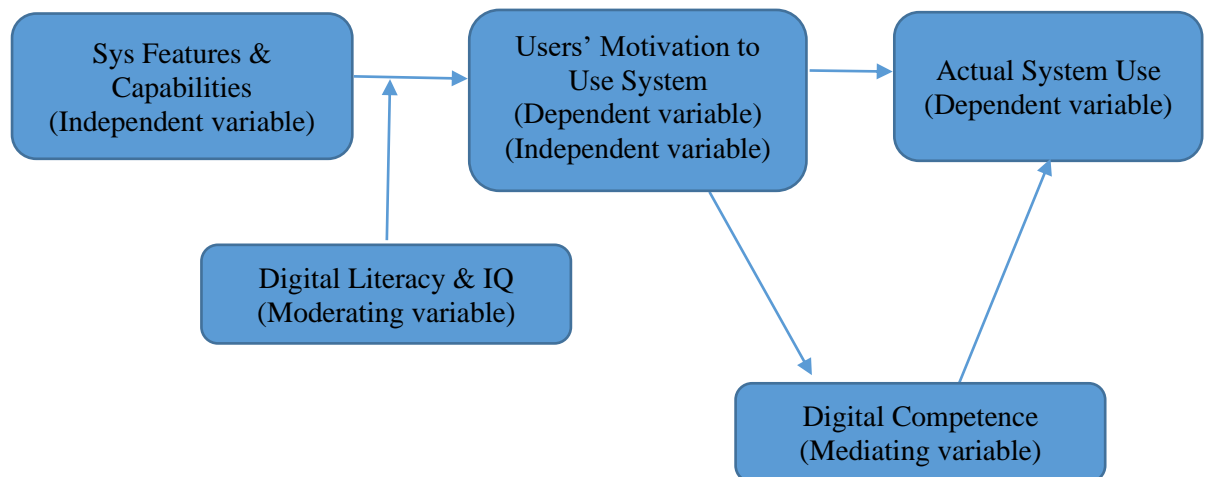
1. System Design Features (Represented by X1, X2, X3...Xn)
2. User Motivation (Represented by Perceived Ease of Use, Perceived Usefulness, and Attitude Towards Using)
3. Actual System Use.

System features and capabilities (functionality advantages, security, user-friendly interface, and all enhancement considerations that the system developer added to help conquer the already saturated IT marketplace) is the independent variable that causes User Motivation. User motivation depends on what features the system has to offer. Secondly, Users' motivation directly influences whether or not they use, and continue to use the system. For this second part, the User's Motivation becomes an independent variable, while Actual System Use is the dependent variable. This relationship is displayed in Figure 5.7a.

**Figure 5.7a:** TAM's Conceptual Model showing the relationship among variables. Adapted from (Fred and Ajzen, 1985)



**Figure 5. 7b:** TAM's Conceptual Model with more Concepts Generated from General Conceptual Framework Relationships: Moderating and Mediating Variables. Adapted from (Fred & Ajzen 1985)



**Implementation of conceptual framework in social media research**

As stated earlier, a Conceptual Framework shows written or diagrammatic view (concepts) of variables in a study, with directed lines showing the relationships between them. These relationships are Independent, dependent, Moderating, Mediating, and Controlling variables. Within these variables are the concepts that make up the study. In this chapter, the researchers ex-rayed two existing models for writing social media research. When the research requires social media usage experiences, MTUAS should be adopted. The MTUAS

allows the researcher to generate questions that allow users self report the various effects using social media has on them. However, when the research is directed towards how users accept social media technology and use it in their job context, TAM is more appropriate. TAM allows the researcher to ask survey questions in-line with the target group's acceptance of a particular social media application and intended continuance with the technology. In this section, the researchers make use of the existing study carried out by the TAM model developer to show how social media researchers can generate their conceptual model. The social media technology studied in TAM is "the email". The conceptual framework of TAM as displayed in figure 6 suggests three important categories around which the model is built, which are further broken down to get the concepts of the study. This suggestion implies that social media research is made up of the following when social media technology acceptance is the problem being studied:

1. The design features of the social media application being studied (this depends on the system developer which is an external dependency). It, however, influences the next category.
2. The motivation for use: this category has to do with the "why" and "what". Why would a user prefer an application over others with similar functionality? what functionalities would keep a user loyal to a social media application? This category consists of three variables in TAM: Perceived ease of use, perceived usefulness, and attitude towards using, where "perceived ease of use" implies its user-friendliness as depicted in the user interface, navigations and number of clicks required to fully accomplish a task in the application (Social media researcher can generate survey questions that would help him collect relevant self-reported user belief on what he perceives as "Ease of use"). The second variable in this category is "perceived usefulness": How useful is this social media application to your job definition? For instance, email would be quite useful to organizations as this is the major mode of communication among staff, office branches, and clients. This belief also follows the self-report of respondents on how useful an application is to their job, and is answered using a set scale as shown in figure 5 above. The third variable in the second category of the TAM model is the "Attitude towards use". This captures the behaviour of users of an application. This behaviour is measured by self-reporting frequency and duration of use. Social media researchers may come up with more variables to measure when generating survey questions.
3. This third category "Actual system Use" is a product of the "Motivation for use" category. Figure 7b is a modified version of TAM's conceptual model that not only shows the causal relationship between the three categories but extends it to visually capture some of the other variables which constitute the Conceptual Framework. While the independent and dependent variables are important, moderating, mediating and controlling variables are also important as they alter the effect of independent variables on dependent variables, connect independent to dependent variables, and control the effects between independent and dependent variables. Relating this to TAM's model, the researchers show how a social media researcher may:

Derive independent and dependent variables from the research question and hypothesis, for example TAM's system features, motivation for use, and actual use.

Find the variable whose presence in the system will alter the effect the independent variable has on the dependent variable, example: system features affect the motivation of a user to use an application, however, if the user is digitally literate, most applications become easy to use especially when they have good Graphical user interface. Hence digital literacy is adjudged a moderating variable in TAM's model. Social media researchers should also find a variable that links the independent variable to the dependent variable. This variable mediates between independent and dependent variables. An example can be seen in figure 7b, TAM adapted model presents two independent and two dependent variables. Between the motivation for use variable and actual use, the variable "digital competence" may connect the motivation a user has to use an application, to actual use and continued use of the system, hence it is the mediating variable between the motivation for use and actual system use.

Following the example in Figures 5.7a and 5.7b, a social media researcher may generate a pictorial representation of variables in his research after asking research questions and hypothesizing. The contexts are now visible and the researcher can expound on them. Figure 7 makes such contexts as System Design features visible, which can lead researchers to expound on software design considerations. Other contexts like Ease of Use, Digital literacy, Digital competence, etcetera may be discussed in the conceptual framework section also.

### **IMPLICATION OF THE CHAPTER**

It has been established that although theoretical and conceptual frameworks are somewhat similar, they are essentially different. For instance, based on your research problem, you can begin to make your hypothesis or claim. The two work hand in hand because they have similar characteristics although, each of them is distinct (Adom, Hussein & Agyem, 2018). The implication is this chapter is, that while it clarifies the similarities and differences between theoretical and conceptual frameworks, it nonetheless provides a guide for current and upcoming students and researchers interested in social media research.

To advance your argument, you can add your perspective to an existing theoretical framework. Your theory becomes the theoretical framework while your analysis translates to the conceptual framework. In a nutshell, "Once you are clear about your theoretical and conceptual framework, you will be clear about your research model, constructs, variables, hypotheses. In the meantime, be always mindful of your research problem, objective(s), and questions" (Basyal, 2020). We shall now take a look at the difference between the theoretical and the conceptual frameworks:

**Table 3:** Social media research: Difference between theoretical framework and conceptual framework

| <b>Theoretical Framework</b>  | <b>Conceptual Framework</b>   |
|---|---|
| It provides a general or broader set of ideas within which a study belongs  | It refers to specific or narrower ideas a researcher utilizes in his/her study  |
| It is based on existing theory/theories in the literature which have been tested and validated by other scholars. | It is based on the concepts which are the main variables in a study   |
| It is in the form of a model that pivots a study, with its exponents and the results of their studies             | It is a researcher's own constructed model that s/he uses to explain the relationship that exists between the main variables in his/her study. It can also be an adaptation of a model in an existing theory that a researcher adapts to suit his/her research purpose. |
| It is well developed, designed and accepted.  | Its design is not accepted, but it's a proposal of the researcher's answer to the research problem s/he has defined.  |
| It offers a focal point for approaching the unknown research in a specific field of inquiry.                      | It is the framework that shows logically how the research inquiry is to be undertaken.  |
| It consists of theories that seem interrelated with their propositions deduced.                                   | It consists of concepts interconnected to explain the relationships between them and how the researcher asserts to answer the research problem defined.   |
| It is used to test theories, to predict and control the situations within the context of a research inquiry.      | It is aimed at encouraging the development of a theory that would be useful to practitioners in the field.  |

**Source:** Adom, Hussein and Agyem (2018: 440).

## CONCLUSION

We have established that "The popularity of social media networks is increasing worldwide" (Skulme & Praude, 2016: 132). This chapter has demonstrated that although the use of social media may be an all-comer affair, engagement with new media platforms requires scientific guidelines. The authors have attempted to provide a systematic approach to employing social media for the purposes of information gathering and sharing. It is hoped that the gaps in the literature as regards the lack of concrete rules of engagement for social media research have been filled.

While the erstwhile conjecture about theoretical framework and conceptual framework is settled, mindful of the limitation of the study, this chapter appears as a tip of the iceberg aimed at stimulating more empirical research in social media research. It is crucial for researchers and students to earnestly incorporate both theoretical and conceptual frameworks into their work. This will make for robust scholarship (Adom, Hussein & Agyem, 2018). Unarguably, theoretical and conceptual frameworks are mandatory ingredients for both quantitative and qualitative research (Adom, Hussein & Agyem, 2018). Given its ever-expansive and explosive nature, it is safe to conclude that social media research has come to stay.

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## CHAPTER SIX

# SOCIAL MEDIA RESEARCH METHODOLOGY: CONDUCTING QUALITATIVE, QUANTITATIVE AND MIXED APPROACHES

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### CHAPTER OBJECTIVES

- Detailed discussions on types of social media research methodologies.
- The approaches to use in applying quantitative, qualitative and mixed methodologies in social media research.

### ABSTRACT

Social media is not simply the utilisation of social networks such as the passing of time and finding about other people, as has been expressed by many scholars. However, the platform is shifting towards serious aspects of human life. It has been evident that it plays a crucial role in socialisation, public debate, interactions and exchanging ideas; helps in trade, legislation, peace and conflict matters, and governance, among others. All of these are key and of great interest to social scientists, and therefore conducting social media research is of great value to society. However, handling social media research is quite challenging and requires innovative approaches. It is in this understanding that this Chapter has been dedicated to tackling social media research methodologies. It discusses different approaches of research such as quantitative, qualitative and mixed, and how they can be applied in conducting social media research.

**Keywords:** Mixed methodology, Qualitative, Quantitative, Quantitative, qualitative and mixed approaches, Social media research

### INTRODUCTION

In everyday life, good and bad things happen. Complexities such as climate change, the development of new technologies, among others, have become matters of concern. The emergence of new technology has empowered and fuelled the utilisation of ‘new’ social media platforms such as *Facebook*, *WhatsApp*, *Twitter*, and *Instagram*, which have so far become tools of massive interactive communication, changing human communicative behaviour at a very fast pace.

The ‘newness’ of social media has brought concerns in the world of communication that need to be researched; phenomena that require investigations that can be achieved through systematic discovery in order to give the correct answers. It is at this level that research is needed to provide helpful insights toward demystifying such societal mysteries. This Chapter

has, therefore, discussed the concepts of research and social media; the meaning of research, the origin of social media, and three major research approaches (qualitative, quantitative and mixed) involved in social media.

### **THE CONCEPT OF SOCIAL MEDIA RESEARCH**

When discussing research, it is invaluable to first understand what kind of research this Chapter is deliberating on. This is because there are many different types of research, some of which are not relevant to this Chapter. For example, a communication skills student who goes to the library, interviews librarians about Library Skills, reads books about the same topic, and eventually writes a paper, will also claim to have conducted research. However, this is not the kind of research we want to talk about in this Chapter. The Chapter discusses research that, according to Jwan and Ong'ondo (2011), is a 'deliberate, systematic, critical, trustworthy and ethical process of inquiry that is undertaken to make a worthwhile contribution to knowledge within a particular aspect of life' (p.1); it is research that focuses on empirical evidence where data are systematically collected, analysed, interpreted and reported (*ibid*).

Nyandemo (n.d), for example, argues that research is the logical, purposeful, formal and critical activity meant to create knowledge; that it is a process of discovery in which answers and solutions to immediate and long-term problems and questions are sought, exposed, examined and investigated. In this case, through research, societal phenomena that affect man directly or indirectly are investigated and the right answers are sought in effort to demystify the mysteries. Mugenda and Mugenda (2003) argue that research has become one of the many different sources of knowledge meant to describe a phenomenon, predict a situation and empower individuals.

Social media, on the other hand, as the name suggests, is a kind of media platform that is 'social.' It is 'social' as it creates an opportunity or space for social interaction where web-based technologies are used (Kanwar, 2021). These are websites that create room for users to share content such as ideas, messages, photos, and videos in the form of networking sites such as *Facebook, Google Plus, Blogs, Twitter, and WhatsApp*, among others (Kanwar, 2021). The era of social networking using different forms of media did not start recently. Kanwar (2021) avers that social media is more than networking websites such as WhatsApp, Facebook, Twitter, and the rest. It is an area that includes all activities and services that facilitate the creation, sharing and exchange of user-generated content (Urquhart & Vaast, 2012). Therefore, the technology of 'social media' is not as new as people may think. The aeon started around 2, 000 years ago (Standage, 2013). Standage (2013) asserts that social communication was in existence at the times of Romans in the form of different documents such as letters, for example, which were shared through papyrus rolls. In this way, the opportunity for commenting was created.

Baruah (2012) traces 'social media' to the use of drums, smoke and beacon fires in ancient China, Egypt and Greece; arguing that these forms of communication opened space for interactions among the people even though they were not as fast as the modern web-based

platforms of *Facebook*, *Twitter*, and the rest. “The seeds of social media were sown during 550BC when the regular postal system was established in Iran where horse-drawn wagons carried mail” (Baruah, 2012: 3). Then later there was a turning point in the area of social media as technology advanced and the emergence of ‘modern’ social media came to fore. This has provided a faster opportunity for information sharing; what many scholars see as acritical juncture in the history of the internet since it has made technology all-inclusive where the audience is no longer silent consumers of the media content.

On the level of popular usage, these technological advancements had not been known until after the 1990s when blogs and Google, for example, came into existence (Allen, 2012; Scholz, 2008). Scott and Jacka (2011) opine that between the years 1993 and 1995, Internet Services Providers (ISPs) started offering internet access in some cities in the United States of America. This promoted wide sharing of opinions through individual homepages. Later other social media platforms such *MySpace*, *YouTube*, *Twitter*, and *Facebook*, were launched between the years 2000 and 2009 (Murphy & Dean, 2014). Fuchs (2017) observes that social media, just like other media, are not only technology oriented but are also techno-social where apart from the technological aspect, they are also social at the levels of human activities. Development of such technological advancements allows people to create their own contents that they can share, respond to, collaborate with, and therefore, giving impetus to the development of social media that we use in the current world (Kanwar, 2021).

Today, according to Dean (2021), there are more than 4.48 billion social media users in the world with an average engagement of 6.6 on various social media platforms. This puts social media as a very crucial outlet whose impact cannot be gainsaid. The impact of the digital revolution is so immense that social media can fuel violence and crush a community or society to smithereens or can promote democracy and good governance for the betterment of society. Globally, social media has played a critical role in revolutions and in democratisation. For example, past revolutions that struck Arab countries like Egypt, Tunisia, Yemen, to mention a few, have been partly a result of the use of social media platforms such as *Facebook* and *Twitter* (Soliman, 2021). On the other hand, social media has been effectively used in countries such as Namibia to promote good governance. In a study by Mwilima *et al.* (2018), the increased use of information technology in Namibia, especially during elections, facilitates communication between government and its people. This study concluded that since internet came into being, consumption of content via traditional media such as newspapers and television is losing strength in the 21<sup>st</sup> century as audiences rush for content found on different social media platforms (*ibid*). This proves that social media has an impact on society and its people. It is on this impact and strength of social media that more research is needed. And as the word ‘re-search’ gives birth to ‘research’, meaning ‘to search again’ (Pandey & Pandey, 2015); ‘research’ is a systematic investigation to gain new knowledge, new facts, new ideas and new concepts of the already existing ones, it is importunate to continuously re-search on social media.

Therefore, when we talk about social media research, we talk of logical, purposeful, formal and critical activity meant to create knowledge in the social media field; a process of

discovery in which answers and solutions to immediate and long-term problems and questions of social media are sought, exposed, examined and investigated. Even though social media is popular, it is giving a narrow view of human social life since not all groups are equally represented on social media platforms (McClay-Peet et al., 2017). Again, there are sections of the population and some areas of the world that do not access the Internet. Social media research is indeed associated with big data that are classified into 3Vs - namely volume, velocity and variety - derived from different platforms such as *Facebook*, *Twitter*, *Instagram*, and the rest (Kitchin, 2014). Scholars argue that the social media large data that are published create a problem of including sensitive data in the study; data that can easily be linked to personal identifiers (Fuchs, 2017). For the researcher to be on the safe side when conducting a social media study, the data should be read item by item and then anonymise the identities of the originators of the sensitive data (ibid).

To effectively conduct social media research, different relevant methods should be utilised. Therefore, some of these methods, which are discussed in this Chapter include qualitative, quantitative and mixed research (both qualitative and quantitative combined). However, handling social media research is quite challenging and requires innovative approaches. For example, a researcher posts on a *Facebook* page, asking where those who are HIV positive store their ARVs. The study gets big data, over 10, 000 responses. Even though this is big, who has responded? How sure is the researcher that the responses are from those who are HIV positive, store their ARVs and are giving facts? Such noise in social media research has traditionally been handled using different approaches to data collection and analyses in some fields; but, social media has fronted many new types of noise that remain unclear to researchers as to how to integrate them into the analysis and interpretation of findings (Sloan, 2017).

### **QUALITATIVE, QUANTITATIVE AND MIXED APPROACHES IN SOCIAL MEDIA RESEARCH**

Even though research has many different purposes, its main aim is to find out the truth which is hidden and which has not been discovered yet (Pandey & Pandey, 2015: 9). Therefore, in order to effectively unearth these phenomena, it is better we understand types of research. Some of the types include applied research, basic, action, evaluation, descriptive, correlation, survey, historical, philosophical, and cross-sectional, among others (Mugenda & Mugenda, 2007; Pandey & Pandey, 2015). However, this Chapter has looked at qualitative, quantitative and mixed research methodologies in social media study.

When we talk of ‘research methodology’, we mean a different thing from ‘research methods.’ Research methods are the techniques used in conducting research. It is a -sub-set of research methodology, which again is the ‘description, explanations and justification of various methods of conducting research’ (Varghese, 2017: 7). Varghese argues that ‘research methodology’ is wider; with many dimensions that ‘research methods’ is part of it. ‘Research methodology’ is beyond methods or techniques; it is all about why a method has been picked for research, what particular data is to be collected, and why, among other questions (ibid). On the other hand, ‘research methods’ are techniques that are used to conduct research;

methods used to collect data; statistical techniques and methods used to evaluate the accuracy of results obtained (UoK, n.d).

Even as we discuss types of research, it is important to realise that there are only three main research approaches, which are also classified as types of research by some scholars that this Chapter has also looked at. These are approaches used both in collecting data and analysis. These are qualitative, quantitative and mixed methodologies, which in a real sense, are key research methodologies. The three approaches work differently and independently to some extent, even though can also be combined for the realisation of more effective results in a study (Flick, 2011). Quantitative looks at the data numerically while the qualitative is concerned with subjective assessment of attitudes, opinions and behaviour; mixed approach is the combination of both qualitative and quantitative methodologies.

Social media research utilises all these approaches or methodologies. There are cases where social media research can use only one of the approaches (either qualitative or quantitative), while at times it can use both qualitative and quantitative approaches at the same time (Mixed approach) (Ngai et al., 2014). Another important aspect of social media research is the fact that it involves a study of different platforms-discussing a variety of issues and disciplines. This makes this kind of study to be tackled by scholars from various disciplines who can ‘draw on diverse methods, theoretical lenses and interpretive frameworks’ (Mcay-Peet, 2017: 40). In social media research, one can use only one approach of data collection from qualitative, quantitative and mixed. In qualitative, one can decide to only analyse the content of social media and end their research at that.

For example, an ethnographic study is a qualitative approach where one takes time to get deep into the study personally and finds out about behaviour, among other things (Myers, 1999). In a study by Jordan (2022) on the influence of social media on the behaviour of newsroom editors and journalists in the US’s *Rapport* and the *Mail & Guardian*, the research explains why the use of mixed method was important; so that apart from just giving questionnaires for the quantitative data, the study also involved the use of ethnography, which as Jordan (2020: 26) states, has principles that, “enabled the researcher to identify where the journalists’ perceptions of their own actions and behaviours differed from reality...and provided the opportunity to observe the journalists within a group setting...”.

This is the beauty of the qualitative bit of the research. The researcher argues that use of only quantitative approach would not get him the quality and detailed data he wanted - and so resorting to mixed method was necessary: ‘Closed-ended questionnaires alone would not have provided the findings necessary for in-depth analysis of themes and issues related to professional social media use’ (Jordaan, 2022: 26). This means, therefore, that when only qualitative research is conducted, it might be difficult to get data that is whole for meaningful analysis. Inasmuch as one can observe, content analyses and interview key informants about the use of social media for qualitative data, it is also important and necessary to interview - using questionnaires - other stakeholders such as the audience and the social media users to find out their take on the subject to fill the gap through quantitative approach.

With this, one would end up conducting research where a weakness of one data collection approach is taken care of by the other approach; what is known as ‘mixed methodology.’ The mixed methodology can be classified based on whether the qualitative and quantitative data are gathered concurrently or sequentially-concurrent mixed and subsequent mix methods. Using both qualitative and quantitative approaches at the same time in social media research as observed above is better than either qualitative alone or quantitative alone as it provides strengths that offset the weaknesses of these two (Anyuor, 2021). For instance, the use of questionnaires, according to Jordaan’s study explained above is weak in understanding the behaviour of the journalists, which qualitative research, through ethnography used, makes up for.

On the other hand, qualitative research is seen as deficient because of the potential for biased interpretations made by the researcher and the difficulty in generalizing the findings to a large group (ibid). So this design of mixing both qualitative and quantitative enables the researcher to gain in breadth and depth the understanding and corroboration of the study and at the same time offsets the weakness that is inherent to using each approach on its own; what Anyuor (2021: 17) argues is ‘better than either qualitative alone or quantitative alone as it provides strengths that offset the weaknesses of these two’.

### **The qualitative approach in social media research**

According to Flick (2014), the evolution of social media over time has made it a phenomenon that requires research with different approaches; qualitative being one of them. Since there is a lot of qualitative data that goes into the internet daily, these researchers have indeed been provided with the space for investigating people’s world views, experiences and interpretations in social media. However, some scholars again claim that many researchers have not embraced qualitative research approach in social media (Muller, 2016).

Lack of adequate qualitative research as Muller (2016) argues, is a concern that has been also witnessed in some other fields of research, not only in social media industry. Mugenda and Mugenda(2007) argue that for many decades, quantitative research approach has been treated as the only conventional mode of research studies and as the only legitimate scientific research method. The scholars assert that the high esteem given to quantitative research was so widespread that some donors and funding agents put pressure on researchers to only using quantitative research methodology in conducting certain studies. Qualitative research methodology is indeed traced from research of the quantitative approaches –the experiments and the surveys - emerging as results of the failings of quantitative research (Bird *et al.*, 1993). Jwan and Ong’ondo (2011) argue that it was because of lack of richness in terms of contents in quantitative that qualitative research rose.

The role of qualitative approach is traced back to 1960s and 70s in the United States and Europe (Atkinson *et al.*, 1993: 7); which was the time of universities and colleges expansions, and ‘time for widespread questioning of education and other orthodoxies’. But what is qualitative research approach? This is a process of collecting, analysing and interpreting non-

numerical data in effort to understand how a person perceives a phenomenon. It is the opposite of quantitative; which is a research approach that is collecting, analysing and interpreting numerical data (Bhand, 2020). Qualitative is a methodology where the researcher is immersed in the study personally - considering themselves as ‘instruments’ since they are involved in all observations, interpretations and analyses-which again are ‘filtered through their own personal lens’ (ibid p.4). It is important to list here some key different methods and techniques that are used in the qualitative methodology for data collection and analysis. They include: case study, ethnography, discourse analysis, the narrative and ground theory (Jwan & Ong’ondo, 2011). All these can be used in social media research.

A look at the social media contents, there is too much qualitative data that goes into the internet on daily basis-which researchers can download, interpret and analyse to answer a problem (Shi, 2014). The huge data on social media has made it easier for researchers to study much about social media. Currently, different techniques can be used in harnessing social media content or ways of social media communication in order to understand a phenomenon. In qualitative research, social media platforms’ content such as those on *YouTube, Blogs, Facebook, Twitter*, among others are analysed (Murphy, 2014). Murphy argues that in qualitative approach for social media, data is not mostly collected, but often available for analysis after being provided by the social media users. Social media qualitative research will focus more on ‘human angle-what are the people thinking and feeling? What is their rationale for doing something?’ (Humphrey, 2020: 4). An example is research that was conducted by Nicholas Anyuor on social media and political conflict, titled: *Social Media Content and Political Conflict in Kenya: Case Study of Facebook in Migori County ahead of 2017 Polls* (Anyuor, 2018).

The study analysed the contents of two Facebook forums, namely: *The Migori Republican Council (MRC)* and *The Nyatike Sub County Politics Form (NSCPF)*. In content analysis, the researcher investigated people’s opinions and feelings, and the reason behind all that in order to make a clear conclusion. This is qualitative data; not numerical quantitative data. It was found that there were postings of opinions, remarks and feelings of the social media users that promoted political violence in Migori County, Kenya. During the analysis, one of the posts read: ‘Nonsense, parrots, continue wallowing, Obado is the Governor upto 2022’ (Anyuor, 2018: 20). Another post: ‘if you claim to be anyone’s choice, why did you lose miserably in the nominations? Stop being clueless’ (ibid: 20). From these remarks, one can conclude that they can bring bitter exchanges which eventually lead to violence. In another social media study, Anyuor and Achieng’ (2021) employed qualitative approach to research social media use by tourists in Kenya. It analysed the contents of social media platforms about tourism in Kenya. During this study, 93 digital content from different social media platforms such as *Websites, Blogs, Facebook* and *Instagram* were analysed and a conclusion was reached that many tourism stakeholders in Kenya’s western region do not effectively utilise social media platforms.

However, qualitative analysis is not only based on content analysis where the researcher immerses deeply into the content and studies it. But there are other ways of data collection in

qualitative approach that are also used in social media. These include, among others; the use of interview schedules, focused group discussions (FGD), observations, informal conversations, use of relevant documents, and journals. Interview and FGD are used to find out social media users' opinions on social media itself and or on social media content. They also include interviewing those who are not social media users but can talk about social media and give relevant information required for social media study. A study can interview users and conclude. This has been effectively utilised in research by Mmbwanga (2018) titled, *Gender Stereotyping in Social Media among University Students: A Case of Machakos University*. Here, 50 members of the staff, who were the key informants and use social media platforms, were purposively interviewed using interview schedules.

The study further concluded that Machakos University students, 'group themselves based on the social networking sites they visit' whereby the female students are said to be 'more wordy, emotional and expressive... while male ones tend to be brief, to the point and factual' (Mmbwanga, 2018: 111). Observation is key in qualitative research. It is where data is collected through watching social media users or social media use in a particular activity in order to obtain a deeper understanding of what is under study (Cohen, 2011). Observation involves 'watching what people do; listening to what they say; sometimes asking them clarifying questions...' (Gillham, 2000: 45). This technique can be used in a social media study where the researcher would watch what people say, listen to them, and read their contents about a phenomenon under study. Informal conversation is another method of data collection that has just been accepted in qualitative approach and can be used effectively in social media research. The researcher can discuss with social media research participants over general issues concerning social media or that are trending on social media. Researchers may also decide to eavesdrop on participants' own comments, remarks or discussions and end up getting the relevant information for the study (Pedamkar, 2020).

Netnography, according to Kozinets (2010), is also another method that can be used in qualitative approach to social media. This looks at the ethnographic research among online communities. This type of content analysis bridges the gap that at times exists between passive data collection and the investigator-initiated one (Murphy, 2014). Netnographers may use content or sentiment analysis to understand the communities, but as an ethnographic method, it involves some interaction with research subjects; the researcher becomes a participant in the online community to better understand its culture and content. Both content and sentiment analysis may be used to analyse the results of netnographic data collection (Murphy, 2014: 22). The use of journals and other documents are also key in data collection in qualitative research. In this, the study will look at what has been published about social media activities that are relevant to the study. Many such have been published in different journals and documented. Qualitative data, to some extent, can be turned to quantitative. This applies to social media research. Humphrey (2020) argues that there is a point where qualitative data can be turned into quantitative. In social media, for example, Humphrey gives an example with email conversations. That in its raw form, email conversations would be considered qualitative data as researchers will look at them and do content analyses.

However, when it comes to answering questions, like for example, ‘what are the most popular greetings in emails?’, the researcher would be forced to numerically check the conversations, add all the different occurrences of a variety of greetings and make a conclusion about the most popular greetings in emails (Humphrey, 2020). This is now quantitative research got from qualitative.

### **Quantitative research methodology in social media**

For many decades, quantitative research approach has been treated as the only conventional mode of research studies, according to Mugenda and Mugenda (2007) as the only legitimate scientific research method. This is any research study that yields quantifiable data; the designs, techniques and measures that result in data that is numerical (ibid). Creswell (1994), on the other hand, defines quantitative as a type of research that explains a phenomenon after collecting numerical data, which is eventually analysed mathematically.

Qualitative research is different from quantitative one since the former’s goal is to become deeply immersed in the setting and among those participating in the study (Metler, 2014). This is different from quantitative study where the researcher remains as objective as possible. Quantitative data looks at the value of data in form of numbers and counts. Surendran (2020) observes that quantitative data answer questions such as ‘How many?’ ‘How often?’, ‘How much?’ It is data that can be verified and mathematically evaluated. Social media effectively uses quantitative approach where numerical data can be collected and analysed using different methods. Some of the data collection methods here include surveys, interviews (through questionnaires), and online polls, among others. All these can be used in social media research. For example, in a social media quantitative study, the researcher would gather numerical data by asking questions that quantify opinions and attitudes from a sample size so that it is possible to know the quantity of what is to be investigated (Humphrey, 2020).

In two types of research by Anyuor (2018) and Mmbwanga (2018) on social media, quantitative approach was used. Mmbwanga, (2018) used questionnaires to gather information from 100 students. The study, after collecting data through questionnaires, found out that while 60 percent of women use social media sites to compare themselves with others online, men tend to use the sites to look at profiles and search for more friends. On the other hand, 10 percent are women who tend to post face pictures (selfies). Again, Anyuor’s quantitative approach looked at 200 social media texts and images whereby it was found that 186 (93%) of the contents were violence-oriented while 14 (7%) were not violence-oriented.

The above two examples are quantitative research in social media. They count and give data in numbers; the quantification. However, sometimes quantitative and qualitative approaches cannot work individually; they have to be used together in research, in what we call a ‘mixed research approach’, so that in-depth study is achieved.

### Mixed research methodology in social media research

Qualitative research methodology recognises the fact that every person - the poor, the rich, those living with disabilities, and the illiterate, among others, are source of knowledge. This is what qualitative researchers feel is ignored by quantitative researchers in their data collection procedures (Mugenda & Mugenda, 2003). Quantitative research is good at providing information from many respondents, especially when administering questionnaires to many people during data collection. However, the qualitative researchers feel it fails when exploring the problem in depth. According to Sukamolson (n.d), when a research problem seems very complicated and somehow complex, and in-depth research is required, it is of value to use qualitative more than quantitative.

This is because quantitative is better at 'looking at cause and effect while qualitative methods are more suited to looking at the circumstances (ibid: 10). It is in this understanding that scholars recently developed a 'mixed research methodology' that embraces the use of both qualitative and quantitative research. It can be realised that this method, which has now become widely used, has come as a result of paradigm wars between qualitative and quantitative approaches. Those in support of quantitative research argue that for a better study, researchers must detach themselves and remain uninvolved with the objects of the study, while qualitative research purists claim that better research is one where 'knower and known cannot be separated because the subject knower is the only source of reality (Johnson & Onwuegbuzie, 2004: 14).

To fill this gap, therefore, it is important to mix the two methods - the use of mixed research - where the researcher has a variety of design choices 'which involve a range of sequential and concurrent strategies' (Terrel, 2012: 254). According to Mugenda and Mugenda, 2003), mixing qualitative and quantitative methods is advantageous as it gives the researcher many objectives which can better be assessed to come up with complete work without unnecessary gaps. Since both methods have some bias, it is important to use both sides of research as it helps to amend such biases because each method can be used to check the other. For example, the subjectivity associated with qualitative research is minimized by the objectivity of quantitative research, and so the findings derived from one approach validate the other (Mugenda & Mugenda, 2003: 156).

The mixed research method works very well in social media studies. This can be done at different levels. Firstly, a study can engage qualitative research by analysing social media content such as texts, photos, and videos, among others. At the same time, look at the frequencies at which these appearances occur (Anyuor, 2018). In *Social Media Content and Political Conflict in Kenya; Case Study of Facebook in Migori County ahead of 2017 Polls* (ibid), the study used mixed approach whereby qualitative, texts, pictures and other images were analysed. On the other side of the quantitative approach, the quantification of the study was performed by counting the frequencies of the appearance of the postings. These were likely to cause political violence on the two selected *Facebook* pages (Anyuor, 2018). At another level, mixed research methodology can be achieved by distributing questionnaires to

social media users and quantifying their responses, and at the same time analysing contents in qualitative approach.

This is what Mmbwanga (2018) did in the study, *Gender Stereotyping in Social Media among University Students*. In this study, questionnaires were distributed to 100 students between the ages of 20-25 years for quantitative data. At the same time, key informants, about 50 members of the university staff were interviewed for qualitative approach (ibid). After collecting such data, analysis is done and the results are corroborated to find out the link.

### **CONTRIBUTIONS TO THE CHAPTER**

Social Media research is a new field that many scholars have not written a lot about. This is because social media is ever in the process of advancement as technology improves. Therefore, content about social media research is crucial, not only to those conducting research but also to learners who would want to gain knowledge about it. This Chapter, therefore, is important in the area of Social Media studies and research. It makes the understanding of Social Media research easier. By doing this, the content herein is expected to help in improving Sustainable Development Goal (SGD) Four of Quality Education as it gives details on matters research on Social Media that can be read by learners and can also be used to improve research activities either by individuals or institutions; and at the same time can promote Industry, Innovation and Infrastructure, which is also an SDG goal Nine.

### **IMPLICATION OF THE CHAPTER**

From the literature reviewed for this Chapter, social media research is an area with huge data that can be of importance for research. However, the huge data should also be analysed with a lot of caution since it is full of the noise of misinterpretation, ismismisinformation, , among other complexities. Therefore, contents such as in this Chapter are key in demystifying the mysteries that have come with Social Media development. It means whoever will be reading this Chapter will benefit a lot in terms of Social Media research in regards to qualitative, quantitative and mixed approaches.

### **CONCLUSION**

Social Media Research is a multidisciplinary area that engages stakeholders from other fields such as Political Science, and Literature, among others. And with the huge data and complexities that are found in Social Media, the platform has become so crucial that it prompts more research work. To effectively achieve this, efficient research methodologies such as qualitative, quantitative and mixed approaches are invaluable. Sometimes Social Media study can utilise only one approach, say, quantitative, or just qualitative; however, it is argued that for proper results in Social Media research, mixed approach is important as it enables the researcher to gain breadth and depth in the understanding and corroboration of the study and at the same time offsets the weakness that is inherent to using each approach on its own (Anyuor, 2012). Therefore, this Chapter is of value regardless of understanding of Social Media research methodologies.

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## CHAPTER SEVEN

### SOCIAL MEDIA RESEARCH: SAMPLING TECHNIQUES, DATA COLLECTION, ANALYSIS, AND DISCUSSION

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#### **CHAPTER OBJECTIVES**

- Overview of social media research sampling techniques.
- Data collection methods for social media research.
- Data analysis methods for social media research.
- Discussion of social media research.

#### **ABSTRACT**

Social media has skyrocketed and massively been incorporated into government, business sectors, universities, and individuals globally in the past years. The deployment of social media tools enabled by Web 3.0 technologies for content dissemination, information diffusion, and engagement by publishing thoughts and views to a targeted audience creates a new meaning to life and social interaction through social media research (SMR). Social media research (SMR) has given rise to massive data collection, analyses, and discussion using YouTube, Facebook, Twitter, Instagram, WhatsApp, and other visual content creators; however, they are less studied thus far. This chapter proposes a sampling technique, data analysis, and discussion for SMR. The chapter applied a narrative literature review (NLR) process in unpacking SMR sampling techniques, data collection, analysis, and discussion. Furthermore, the chapter looked into the critical area of research revolving around ethics and privacy and finally suggested general basics, key principles, and elements that guide future SMR.

#### **OVERVIEW OF SOCIAL MEDIA (SM)**

Social media (SM) can be regarded as a new and evolving area of research with the potential to reshape future research using social media platforms. Social media technologies have been at the forefront and gained considerable responsiveness among different users who continually post videos, pictures, text messages, and content online. Similarly, academics have started engaging empirical studies on the platform for decades (Snelson, 2016). Social media, as a channel for massive content-diffusion, distribution, information dissemination,

and broadcasting of individuals' thoughts and ideas, has been embraced and gathered attention across the heterogeneous area of studies, exploring online action from government and mass media to health and business sectors, and the list continues (Highfield & Leaver, 2015). The emergence of Web 3.0 as an enabler of social media plays a fundamental part in enhancing academic business processes towards information management, decision-making, integration of knowledge creation, and use (Ohei & Brink, 2019a; 2019b). Ohei (2019) asserts that Web 3.0 attempts to link, combine, and analyze several datasets to attain a new information stream. Web 3.0 can increase data management, sustain accessibility, provide creativity and innovation, and improve clients' satisfaction. Social media enabled by Web 3.0 technologies is becoming affordable, efficient, effective, cloud-based, standardized, global, and mobile platforms for meeting personal (individuals) and academic needs. It supports collective interaction in establishing effective communities and creating and trading content. Furthermore, the increase in using social media platforms can be attributed to its openness to everyone, including government, business, customers, suppliers, academics, students, and other users, to list but a few (Alberghini, Cricelli & Grimaldi, 2014).

The concept of social media denotes web-based technology platforms capable of turning interaction and communication into collaborative dialogue. Such SM tools entail wikis, weblogs, media-sharing applications, social networking applications (sites), Internet forums, magazines, podcasts, and social bookmarking (Ohei & Brink, 2019b; Alberghini et al., 2014). All these tools are made affordable through the arrival of Web 3.0 and the Internet. The SM platforms can encourage formal and informal conversation, collaborative content generation, dialogue, and knowledge sharing, giving academics more access to a wide range of ideas, networking, and representations. If deployed well, Web 3.0 provides groups of technologies, business, and social models, characterized by engagement, open participation in using trivial technologies, and decentralized application processes and distribution. These useful applications can facilitate collaborative knowledge distribution, interoperability, user-centred design, and interaction on the Internet (Lee & Ma, 2012; Kaplan & Haenlein, 2010) and application in the academic research community.

Emergent academic researchers (Alberghini et al., 2013; Ferron et al., 2011; Koo et al., 2011) have suggested numerous benefits that Web 3.0, in powering SM platforms and application technologies, can bring to any individual, educational, business, and government institutions. The utilization of SM has given rise to an advanced improvement in massive data analyses and amplified the awareness and gathering of pertinent information. However, there is strong evidence that it brings up pellucidity and group effort while encouraging data distribution and being proficient in rapidly dispensing it. Furthermore, inferring from SM's business perspective, it can increase the number of business operations due to their competence in generating brand awareness, the workforce's trustworthiness, and stimulating employee mindfulness. Additionally, SM platforms allow academia, government institutions, and people to work actively and, on the other hand, have a detailed knowledge of the concerns and interests raised by their audience. As the world is increasingly becoming a global village and connected, the focus has shifted to amplifying SMR and modes of data collection,

sampling techniques, analysing, and discussing SMR (Hansen et al., 2010). Therefore, this research objective has been formulated to provide direction to this chapter. The chapter's objective was to establish guidance on conducting an SMR focusing on data sampling techniques, data collection, analysis, and discussions.

This chapter discusses the SMR sampling techniques, data collection, data analysis, and discussion to offer considerable research strategies and approaches to be followed when conducting SMR activities. This chapter presents a narrative literature review (NLR) as a research method for conducting SMR, which is scientific and philosophical. According to Booth, Sutton and Papaioannou (2016), recognising philosophies in the research literature validates the explicit approach to the theme and the choice of methods. The literature review aids the choice of suitable approaches, but it also encourages the expansion of knowledge and makes a meaningful contribution to the body of knowledge. In a nutshell, the drive was to build a theoretical foundation utilising a narrative literature review process, offering a comprehensive elucidation of the research available in the literature. Consequently, this section presents the overview of SM purported to contextualise by offering an overview of connected academic activity in the developing area of SMR (*read detailed SMR in Chapter 2*). Furthermore, the overview is accompanied by a methodology discourse, which entails sampling techniques and data gathering.

## **BACKGROUND CONTEXT AND LITERATURE REVIEW**

SMR is gradually evolving with research practitioners in building methodologies and techniques to appreciate how the audiences use SM platforms, their interactive nature, behaviour, and discussions using such platforms. Therefore, SM plays an important role, as it has become an integral part of daily livelihood and lifestyle. Consequently, it becomes a crucial area to channel research activities to comprehend this new opportunity for discourse through SMR. SMR is the basic procedure of gathering, interpreting, analysing, and discussing SM data. The procedure can be undertaken using either a quantitative, qualitative, or mixed-methods research approach, with the essential drive to comprehend how audiences narrate topics by merely deploying tools and data extraction practices. Thanks to innovative SM platforms, technologies, and other tools, which have enabled academics and consultants to collect data relating to definite events, subject matters, or topics within a precise audience cluster from YouTube, Facebook, Twitter and Instagram, WhatsApp, and many more. SMR may be conducted in the form of social listening and audience intelligence by noting the content and evidence generated online and discovering predispositions and ideas that emerge from such data sources (Snelson, 2016).

Nonetheless, SMR is growing and gaining academic attention as supported by the proliferation of academic literature and an increasing number of all-inclusive literature studies that have led to probing several facets of SMR. The probe's purpose on SMR is that SM is becoming more and more attractive for the user. The platform provides quicker access to converse ideas and may be classified as a key dataset or data source regarding how individuals interact. For this notion, SM platforms are crucial for deriving peoples'

ideologies, contents, and interactions for research purposes (Snelson, 2016; Bredl, Hünninger & Jensen, 2012). Furthermore, a summarised review of a few listed SMR academic literature is in Table 7.1. Even though not a full list, however, Table 7.1 articles below provide a narrative literature review and analysis defined by the respective scholars.

**Table 7.1: A systematic literature review on SMR**

| Author (s)                           | Short title   | Focus on literature  | Field                       |
|--------------------------------------|---|--|-----------------------------|
| Stieglitz <i>et al.</i> (2018; 2014) | “Social media analytics- Challenges in topic discovery, data collection, and data preparation”.                   | The paper focuses on social media research analytics and processes that involve data discovery, gathering, planning, and analysis. It reviewed the literature on the challenges, and difficulties emerging in involving specific data analysis methods.                                  | Information management      |
| Bredl <i>et al.</i> (2012)           | “Methods for analysing social media: Introduction to the special issue”.  | The emphasis is on research strategies and methods for analysing SMR. It reports on the advent results on advanced social science areas.   | Social media analysis       |
| Snelson (2016)                       | “Qualitative and mixed methods social media research: A review of the literature”.                                | This article explores the methodological analysis of mixed-methods approaches covering SMR. A review of literature collections was published from 2007 through 2013.   | Educational technology      |
| Kivunja (2015)                       | “A convenience sampling investigation into the use of social media technologies”                                  | This paper contributes to articulating the theoretical framework in pedagogy as potential methodologies of convenience sampling case study.  | Education                   |
| Boulianne (2015)                     | Social media use and participation: A meta-analysis of current research   | It shows the results of a meta-analysis of SMR and its use and engagements. The meta-data demonstrates a good association between SM use and participation.  | Sociology                   |
| Kern <i>et al.</i> (2016)            | Gaining insights from social media language: Methodologies and challenges   | The study focuses on SM language research by showcasing descriptive, and predictive language data analyses.  | Social media for psychology |
| Camacho <i>et al.</i> (2020)         | New trends and applications in social media analytics   | This presents special research that focuses on practical usage of data science (DS) and artificial intelligence (AI) in social media analytics (SMA). The focus covers disciplines like natural language, machine learning, processing, evolutionary computation and sentiment analysis. | Computer systems            |
| Sivarajah <i>et al.</i> (2020)       | Role of big data and social media analytics for business to business sustainability: A participatory web context. | This study’s focus presents a paradigm shift on passive information source moving into a collaborative, and intelligent participatory web, that commend active engagement of users and contributors.   | Marketing management.       |

Several research themes covered across the assortment of literature review evidence suggest the multiplicity in prominence and fields of study from which the evidence emerges. In their studies, some researchers (authors) have riveted on the classification of trends and methods in scholastic literature pertinent to definite SMR platforms such as Facebook and others (Bredl *et al.*, 2012; Błachnio, Przepiórka & Rudnicka, 2013; Caers, De Feyter, De Couck, Stough, Vigna & Du Bois, 2013; Dhir, Buragga & Boreqqah, 2013; Hew, 2011; Snelson, 2016; Terras & Warwick, 2013; Manca & Ranieri, 2013; Nadkarni & Hofmann, 2012; Wilson, Gosling & Graham, 2012; Williams).

On the other hand, some studies were substantiated within the precise subject of study to explore SMR. The existing literature reviews are shown in Table 1 to signify the work previously undertaken regarding SMR trends. However, there is little information about social media research (SMR) sampling techniques, data collection, analysis, and discussion

trends. It is evident that the preceding literature reviews have provided trends in discourse in research methods but have offered a global categorisation of universal trends (Snelson, 2016), whereby an author provided an overview of the diverse tacit approach for studying SMR. The contribution of the study focused on the categorisation between statistical, computational, and ethnographical perspectives. The inquiry elucidated the use of YouTube, Facebook, and Twitter studies.

Some authors' contributions focused mainly on the use of Twitter. The study presents a relative study validating quantitative approaches that compare microblogging platforms' communication practices and forms. Based on the research findings, a distinct type of discussion was acknowledged. Therefore, some forms of metrics concerning communications on Twitter were studied. In the following article, another author's study concentrated on the 'social' in social media research and analysed communities' aspects. Employing an analytic framework begins with the digital tracking of every user's life on the web. Particularly, it is conceivable to observe the communication practice in the networks. These emerging approaches induce different challenges, that can be tackled by applying ground-breaking methodologies, as in the case of this chapter and book. The discovery of "proximity in groups" is the foundation for future network analysis.

Academic researchers continue to discover the underlying literature linked to topical network analysis to study and understand online activity. In the author's contribution, the topical networks are units of analysis associated with the big datasets. By applying qualitative and quantitative methods, the method can complement large datasets' analysis to deliver additional facts into what is being tracked. This approach enables scholars to unravel why and when connections are established. Therefore, the findings emerging from the discovery depict an important method for refining the insight into online communication structures. Several academic authors' research focuses on analysing large bodies of data, and media use patterns, looking at the effect of relationship-related content and information, how YouTube can be used for seeking learning and information between young people, and the similar topic often not recognised. Therefore, the study believes such an approach could be able to deliver information that is valuable about the use, which is often not recognised in social media's dominant research.

These authors discuss the methods of archiving web data in a qualitative SMR. The authors depict that 'social media archives (for example, set of posts, text, and comments on different social media platforms) contain important datasets for exploring the social media users' communication pattern. They present a theoretical exploration of Internet (web) archives and provide an example-based analysis and discussion of the technical, methodological, and ethical challenges of analysing and mining archived social media data. Therefore, it is crucial to note that these literature reviews increase knowledge level or base concerning how the methods and sampling techniques were used in SMR. There are different reasons why such might be essentially important today. For one, SMR can be considered a new research area or field that emerged because of the usage of social media, its applications (technologies), and

its growing usage (Duggan, Ellison, Lampe, Lenhart & Madden, 2015). Therefore, little is known about how many approaches to conducting SMR are in the academic literature, where and how they originated, and scholarly journals or publishers that keep publishing them. Furthermore, the trends in choosing the right research design, data collection techniques or instruments, and analytic approaches are still few or not well known. Therefore, this chapter attempts to explain further how SMR is carried out (Snelson, 2016).

### **SAMPLING TECHNIQUES IN SMR**

Sampling is a statistical process used to predetermine the number of persons or observations within a population to participate in a study. According to the study, sampling provides the subset of the population to estimate the attributes of the population. Sampling is essential in carrying out research, but it remains challenging for SMR projects. According to Piña-García, Gershenson and Siqueiros-García (2016), conducting large-scale research such as social media is challenging in determining a suitable sampling and concise size. Social media platforms are housing billions of data daily and analysing these data can be challenging and unachievable for any researcher. Academic researchers are continuously researching social media events. Based on the amount of data available on social media, researchers are using them in their study, but the determination of the appropriate population sample and size is vital. According to this chapter, sampling is an essential part of any research in determining the necessary population and sample size. In determining a sampling, the properties such as “user age distribution, net activity, net connectivity, and node degree” are used (Piña-García et al., 2016: 3). There are several sampling methods (types of sampling) that can be used on the SMR as presented in the next section of the chapter.

#### **Sampling methods (types of sampling) for SMR**

Here are some of the sampling methods that can be used on the SMR. Research can be conducted using the Internet and social media platforms. Whether probability or non-probability sampling, it can be done using the social media platform. According to Fricker (2008), sampling using the Internet in form of an email address requires only participants' contact details. Different types of Internet-based surveys can be done on probability and non-probability sampling (Fricker, 2008), the same types as intercept (pop-up), list-based sampling frame, non-listed-based random sampling, mixed-mode survey with Internet-based option, pre-recruited panel surveys within probability sampling while unrestricted self-selected survey, entertainment polls, volunteer (opt-in) panels and harvested email lists (data) are categorized within non-probability. These types of Internet-based surveys and others below can be applied to social media research. There are two types of sampling in SMR. The probability and non-probability sampling.

#### **Probability sampling**

Probability sampling is a sampling method that allows the researcher to set criteria to determine the population randomly. This method provides the opportunity for participants with an equal chance to be selected with selection criteria. This sampling method can be

applied to SMR to determine the criteria for the sample population (participants) to be included in the study.

### *Types of probability sampling*

- a. **Simple random sampling:** This is the most used probability sampling method to randomly obtain data from the sample population. In this technique, every sample population has an equal opportunity to be selected. For example, in a study with a total population of 300 people, there is a probability that everyone will be randomly selected. The chance of everyone being chosen is possible in the study.
- b. **Systematic sampling:** In this sampling method, the researcher select sample size on a sample interval basis. The researcher selects the participants through sample intervals, for example, with a population of 3000 (N) and a sample size of 300 persons (n), the researcher selects the 10<sup>th</sup> person (k) as part of the study (total population /sample size = k (3000/300 = 10)).
- c. **Stratified random sampling:** This sampling method divide the total population into small groups to draw findings and conclusion. For instance, in a study on social media fake news, the research may group participants according to the effects, practical examples, and challenges of social media fake news. The grouping ensures that meaningful data are collected from each group to define practical solutions for fake news on social media.
- d. **Cluster sampling:** Through this sampling method, the research divides the total population into sections. For example, in a study on social media fake news in a particular, the researchers might divide the participants based on country, gender, education, and others to better gain insightful findings.
- e. **Intercept (pop-up), river, or real-time sampling:** This sampling is used in a systematic study to collect data on visitors who visit a website which is commonly used for the customer-satisfaction study (Fricker, 2008). The author believed that this type of Internet-based survey is non-response in nature and it is restricted to those who visited a particular web page and the visitor's Internet Protocol (IP) addresses (Fricker, 2008). The methods provide the survey post or information to the respondents using the web link, ads, and others (Liu, 2016). This kind of Internet-based survey can be used on social media platform to conduct SMR. Some researchers like Lehdonvirta, Oksanen, Räsänen and Blank (2021) view this sampling method as non-probability sampling. The authors further believed that this sampling method recruited participants through invitation using a web link. The link could be shared on the website, email, or other social media platforms like WhatsApp, Facebook, Twitter, and Telegram. Respondents follow the link to participate and share with others. Members of the population recruit others to join in the survey. However, this sampling method can be biased on coverage because not alltargeted populations will be represented (Lehdonvirta et al., 2021) because of lack of access to the Internet, data, and other forms of digital divides. Researchers in information systems (IS) can use this method to recruit participants through social media platforms, web links, and so many others. Then, participants further recruit others to the study. Social media platforms today are actively used by

billion globally and it presents a perfect opportunity to conduct research. However, the researcher will only stop collecting data when enough data is collected.

- f. **List-based sampling frame:** It seeks the email or social media handles of the participants. However, when the email details of the populations are not available the sample can be homogeneous like the universities, organizations, and government organizations and many other emails can be used (Fricker, 2008). The collected email details can be a source to recruit, share and conduct the survey.

When the sample is complicated, stratified sampling can be used. Stratified sampling is applied in dividing the sample population into small groups known as strata. For example, a researcher who wants to conduct a particular situation on the social media platform, like the fake news of the COVID-19 pandemic. The researcher needs to identify the particular region to consider as a country. To start. profile information on the social media account of the users in that country. For example, in a study that has a population of real-estate journalists as the participants, the researcher can assemble the publication necessary first and contact the editors of the publications (Fricker, 2008). The kind of study can be done on stratified sampling on the Internet.

- g. **Non-listed-based random sampling:** This method is used without determining the sampling frame. Social media research and survey can be regarded as non-listed-based because the sampling frame (population) is not known. Fricker (2008) Internet-based and social media is non-list-based sampling. The study on social media or Internet-based research lies on the respondents. Traditionally, this type of Internet-based survey is used on telephone surveys for recruitment and others.
- h. **Mixed-mode survey with Internet-based option:** This survey method involves the use of different means than email. Fricker (2008) states that telephones or mails could be used to collect data. Through this survey, the researchers will be able to collect data from different modes to accommodate people using other means, for example, a researcher collects data using Twitter but involves the use of Facebook, WhatsApp, and others at the same time.
- i. **Pre-recruited panel surveys:** This involves potential participants who accepted to participate in the study and can be recruited through different means like email, web, or telephone (Fricker, 2008). This kind of Internet-based survey can be used on social media platforms where the participants can be informed about a particular study using social media platforms.

### **Non-probability sampling**

This is sampling method is used to select participants without any fixed criteria for selection. It shows that participants (sample size) are selected non-randomly or subjectively. But the outcome from the non-probability sampling method may not represent the expectations of the sample size or the population because the selection criteria are subjective to the researcher. Etikan and Bala (2017) believed that non-probability is costly to be implemented. According to Showkat and Parveen (2017), the non-probability sampling method is judgmental because the researchers select participants who are easily accessible. It is convenient to use because only those that are available and accessible are considered. For example, on SMR, a set of

sample sizes are available and have the opportunity to be included, but only those who are easily accessible will be contacted. In this study, the non-probability sampling method is the opposite of probability sampling.

### *Types of non-probability sampling*

- a. **Web panels:** This type of non-probability sampling method is used to conduct online or offline studies like social media research. It is used to select participants who are willing to engage in an online questionnaire. When using web panel sampling, all the participants must have social media account and a workable email address. Participants are sourced online using social media, email, phone addresses, banners, posters, group members, websites, community forums or sites, and other channels. While participants can be sourced offline using magazines, newspapers, radio, television, customer registers, outdoor poster, and others. There are sourced or recruited to participate in an online questionnaire or survey. This method is suitable for SMR because it allows researchers to recruit a large number of willing participants on social media platforms.
- b. **Convenience sampling:** This method applies the principle of reachable. The researcher has no authority or influence on whom to select, rather, the selection is purely based on accessibility and proximity. Only those who are convenient will be selected. For example, in a study conducted on social media impact on students, the researcher invited participants or share a questionnaire randomly and only those who are reachable and convenient to participate will be selected. However, this non-probability method is used when the budget is low and other limited resources and there is enough time to conduct the study.
- c. **Quota sampling:** This is a rapid method for gathering samples with the principle of pre-set criteria or standards in choosing participants in a study. The method is used in ISR in providing a set of attributes and criteria upon which participants must qualify. However, the attributes of the sample size must match the same attributes of the total population. As IS discipline and research keep changing and innovating, quota sampling is suitable for managing such changes by speeding up the sampling process.
- d. **Judgmental or purposive sampling:** The researcher applies his or her discretion in determining the sample size. This method is used for a deep understanding of the research objective and the researcher applies personal discretion to select those who can provide the data. For example, when a researcher wants to understand the effects of social media bullying, the researcher can only select those who have experienced bullying on social media. Those who have no experience with social media bullying will be excluded.
- e. **Snowball sampling:** Controlling or determining the sampling frame could be challenging. However, when a study targets the entire population, coverage errors are used (Fricker, 2008); while Baltar and Brunet (2012) recommend that snowball sampling can be used on “hard to reach” samples as in the case of social media platforms. SMR can be challenged in determining the population and sample size, then a sampling method that can cover a wide population should be adopted. Hard to reach is a situation where the population of the study could be hard to participate. Social media

platforms have increased hard to reach research population and making it challenging to get the population that can constitute the sample size. According to Baltar and Brunet (2012), social media especially Facebook have increased “chain-referral” techniques in research questionnaires through snowball sampling. Snowball sampling is a non-probability sampling method. Snowball involves participants sharing research invitation web links with others in the target population (Dusek, Yurova & Ruppel, 2015). Snowball sampling or chain-referral sampling is a method that focused on referrals. It means that the data is incremental, or the data size increases continuously till enough data is collected. The method is used in research when the population size is known or difficult to assemble.

To assemble and reach the target population, each participant (a node) adds another person till the node completes (Wagner, Singer, Karimi, Pfeffer & Strohmaier, 2017). For example, through snowball, researchers continue to increase data size and collect data till enough is collected for data analysis. SMR has no sampling frame, and the total population is unknown and difficult to determine. In this case, snowball sampling methods can use in collecting data till the researcher is satisfied with the collected data.

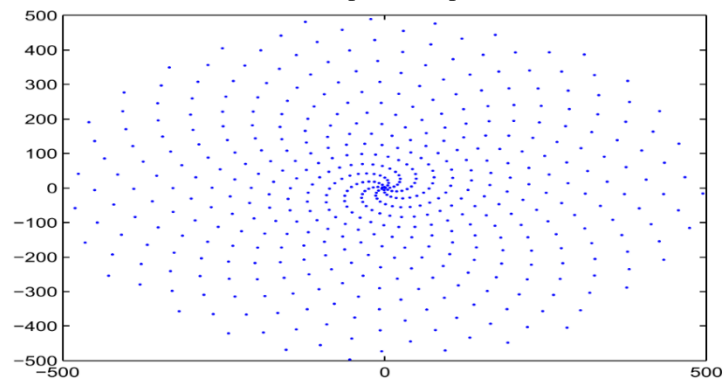
- f. **Random walk (RW) sampling:** This sampling method involves starting with a node and going to the network beginning with the random node and selecting a one-step link randomly and navigating through the network (Wagner et al., 2017). RW as a sampling process, the random movement expands in the same direction towards achieving one goal. Each node is independent of the other with one purpose and discovering an unknown network. Researchers using RW randomly chose a node and it expand in the same directions in the data collection. According to Wagner et al. (2017), this sampling method is used in conducting social media research such as Twitter, Facebook, and many others. Researchers can use this method to collect data and analyze it and be able to reach enough data.
- g. **Unrestricted self-selected survey:** This kind of survey can be posted on the website and is open to the public and allows everyone to participate (Fricker, 2008). The openness to the public makes it part of convenience sampling with the ability to be generalizable. However, Fricker (2008) believes that negatively, the respondents may not be eligible (possessing not the right experience) to participate.
- h. **Entertainment polls:** This is unscientific polls involving a survey done for entertainment through a website and anyone can participate in the survey by visiting the survey website post (Fricker, 2008). However, it can be adopted for SMR in looking at various issues in the research area.
- i. **Volunteer (opt-in) panels:** This method is like the pre-recruited panel, but it is different in that participants choose to participate willingly (Fricker, 2008). SMR is usually voluntary and individuals participate willingly. Then, this method is suitable for SMR because of its ability to accommodate a large number of volunteers. Individuals decide to participate willing, and the survey is usually conducted on market research to gather customers’ views (Fricker, 2008).
- j. **Harvested email lists (data):** According to Fricker (2008), harvested email deals with the collection of email addresses through posting on the Internet. The emails are

collected from the people informed or uninformed; however, some email brokers sell the email addresses of the people to willing buyers. Through this process, social media handles (account names) of people could be harvested with or without the knowledge of the users for the purpose of conducting SMR.

According to Piña-García et al. (2016: 3), Metropolis-Hastings Random Walk (MHRW) provide the node for a candidate which shows: “ $q(y|x) = \{\text{Brownian, Illusion, Reservoir}\}$ ”:

1. **Brownian walk:** this is normal distribution working with node on Java language of Math.random.
2. **Illusion spiral:** it presents a geometric shape showing sequence of points “plane such that they are equitably and economically spaced” as shown in Figure 7.1. The formula:  $z \leftarrow az + bz/|z|$  can be used.

**Figure 7. 1:** Pattern visualisation of the illusion spiral, adopted from Piña-García et al. (2016)



3. **Reservoir sampling** uses algorithm random sampling for  $n$  as the size. However, the  $N$  is not known in the algorithm. While the selected item ( $k$ ) is fewer than the source array  $S(i)$ .

### DATA COLLECTION METHODS FOR SOCIAL MEDIA RESEARCH (SMR)

An empirical study cannot be complete without data collection. Data collection is a process of collecting evidence to answer a given research question/s. Kern, Park, Eichstaedt, Schwartz, Sap, Smith and Ungar (2016) believed that having the correct data is normally better than having a great deal of data, which is more reason to bear in mind as a researcher when conducting any kind of analyses or an SMR, it necessitates that data ought to be gathered. Careful deliberation must be directed towards which type of data can be more relevant and applicable for any inquiry at hand and whether the availability of useful data is attainable and available or accessible. Many social media platforms provide researchers to have access to data, whereas the costs and the amount of information accessibility differ. While some data might not necessarily be obtainable from companies like Google and Microsoft will not able to share users’ private information through search query data, emails, and others. These challenges can be attributed to privacy issues that remain a concern and have continued to emerge in regulatory policies. Data access possibilities will remain a challenge in the foreseeable future. Consequently, it is vital to assert that when planning to

conduct an SMR, it may be helpful to consider the flexibility in terms of the sampling techniques and data collection methods to analyse and interpret the findings based on the questions asked.

Data forms a necessary part of the research process, and obtaining data involves unique techniques for researchers and organisations. Data can be sourced from “value-added data, cleaned data, raw data, a real-time feed, and holistic data” (Batrinca & Treleaven, 2015). This data can be collected for business and academic purposes. According to Alfantoukh and Durresi (2014), data collection is an essential technique or step in any given research. Data collection can be regarded as a process of obtaining valuable information for research. Presently, social media platforms are the most significant data source for researchers (Alfantoukh & Durresi, 2014), and scholars are beginning to explore these platforms for research data collection. Social media platforms house a vast amount of user-generated content (data) because of billions of active users daily. The user-generated content deposited on social media platforms has gained scholars' and researchers' attention to explore the platforms' roles in humans and society.

The platforms provide access to data collection. The benefits of collecting data using social media are encouraging because it limits biasness, open sampling, tracking, and directing sampling (Mirabeau, Mignerat & Grangé, 2013). Social media data allows easy accessibility of raw and massive data and longitudinal studies (Oh, 2012). According to Snelson (2016), several research studies on the contents of social networking activities conducted revealed in 2015 that 1.96 billion users are active on these platforms, with an estimated 2.44 billion users predicted in 2018, and the increase continues. WhatsApp, Facebook, YouTube, and Twitter were the most recognised and encouraged among various social networking sites. These platforms were popularly ranked among the top 10 most profoundly visited and used sites on the Internet (Snelson, 2016). The grouping of prolific individual activities and the creation of user-generated information and content have engrossed academic attention who pursue to appreciate SMR and its protagonist in modern society. Oh (2012) revealed that there are various kinds of data collection methods used in research. For SMR, content analysis is the second most applied SMR data collection method on YouTube, Twitter posts (Tweet), Facebook posts, WhatsApp chats, and many others as a data sources (Snelson, 2016; Drula, 2012).

### **SMR data collection methods**

Data collection methods for SMR can involve name generation, name interpretation, and mining data (Ricken, Schuler, Grandhi & Jones, 2010).

- **Name generation:** This data collection focuses on recording names and relationships rather than understanding the “social ties” (Ricken et al., 2010). This is a form of “diary method” of collecting data; for example, participants record people they interact with and contact over a period. This method works well for a small group of people in a social media circle of friends.

- **Name interpretation:** Scholars use this method to gather deeper information from the participants, such as “relationship types, context, communication methods, frequency of contact,” and many more (Ricken et al., 2010: 2). These details assist the research in understanding social connection, social class, strengths, and others. This data collection method can allow a researcher to gain respondents’ information by connecting friend-of-friends on the social media platform.
- **Mining data:** Different data can be collected on social media, such as interpersonal connections, organizational and online mass communication, or interaction (Ricken et al., 2010). The social media friend list sets name generation in understanding friends’ social relationships and all that through mining data.

### **Conventional data collection techniques (methods)**

Conventionally, there are different types of data collection techniques (methods) that are categorized according to qualitative and quantitative research methods. Qualitative data collection techniques are interviews, observation, focus groups, and case studies, while quantitative data collections are questionnaires. Each of these techniques whether qualitative or quantitative can be collected on SMR. The researchers discuss the data collection methods suitable for SMR.

#### ***Qualitative data collection methods***

- Interview:*** an interview involves the collection of participants' opinions, beliefs, expressions, experiences, and ideas (Parveen & Showkat, 2017). Interview questions are presented to participants who are allowed to provide detailed information on a particular question. Participants express themselves with deeper information on a given phenomenon. Interview questions are categorized into structured (predetermined questions are given and participants are restricted to the questions), semi-structured (open-minded questions, giving the interviewer or interviewed to divert to any ideas not included in the list of questions) and unstructured (no designated range of questions to ask).
- Observation:*** this qualitative data collection method allows researchers to observe the situation as it happens. Parveen and Showkat (2017) suggest that observation is used to deeply understand phenomena under investigation to observe and record the observed results. For example, a researcher can observe things or events on social media and record the results.
- Focus group:*** this method gathers groups of people to engage in a discussion relating to the research underway. This method gathers participants' expressions, opinions, ideas, views, and reactions within the research under investigation (Parveen & Showkat, 2017). While Canals (2017) believe that participants are invited to engage and participate in a research discussion. For example, social media groups can be a starting point to collect data on a particular issue under study.
- Case study:*** it involves a deeper understanding of actors such as occurrence, events, situation, group, and person (Parveen & Showkat, 2017). It is used to understand the social situation by providing detailed information and probing a situation. For instance,

to understand the impact of social media on the social well-being of students, SMR can apply a case study to explore the situation.

**Quantitative data collection methods**

- a. **Questionnaire/survey:** It is a method used to collect data from a large group of people. It is widely used in quantitative research in reaching a wider audience. A questionnaire/survey can be done online or offline. In the case of SMR, a researcher can use this method to cover a range of topics on social media and reach a wider audience.
- b. **Observation:** its method which can be used to collect quantitative data in counting and recording the number of occurrences of event/s or phenomena.

**DATA ANALYSIS METHODS FOR SOCIAL MEDIA RESEARCH (SMR)**

SMR data is collected through posts, words, and text. In instances where the use of a social media platform is deployed as a data collection method, Twitter, as illustrated in Figure 7.2, demonstrates how to name generation and tagging, to mention but a few, are used in SMR.

**Figure 7.2:** Tweet and contents, adopted from Highfield and Leaver (2015)



The process of using a Twitter account is that, after a dataset is deemed appropriate, the data can be obtained (downloaded) and used. Social media data is classically retrieved over an “application programming interface (API)”, which is often regarded as the layout that identifies whether the posted words are copyrighted and used by the “American Psychological Association” or one of its associated publishers. Furthermore, APIs are similar to converters or translators that enable application designers to generate applications on their systems and effortlessly disseminate the content to clients, improving the client or user’s experience. An essential component of the APIs is that it offers platforms that enable research scholars to generate massive amounts of information without interfering with the user’s activities and experiences. APIs allow for easy and accessible big data in terms of live streaming data in an approach that cannot be suitable via the Internet browser like any other download and streaming method. Importantly, there is a growing number of data analyses on SMR.

**Methods of data analysis in SMR**

Different methods and techniques are applied in analyzing data in SMR. Some of them are discussed in the succeeding paragraphs.

**Content analysis:** content analysis is a qualitative research method used to analyse voice recording. According to Bengtsson (2016), content analysis brings together the meanings of the data collected to conclude. The decision on selecting an appropriate data collection method is important for researchers towards content analysis credibility (Elo, Kääriäinen, Kanste, Pölkki, Utraiainen & Kyngäs, 2014). A content analysis means interpreting what is contained in qualitative research data collected especially through interview recording and existing documents. It is done with quantitative or qualitative, or mixed research methods (Snelson, 2016). According to Hsieh and Shannon (2005) and Drula (2012), content analysis is the most used qualitative data analysis technique. By applying content analysis, researchers analyse social media platforms' text, posts, and videos. The analysis seeks to understand, describe, and quantify a situation (Elo et al., 2014). The process involves data cleaning (analysis) and interpreting into meaning. Based on the attribute, content analysis is always unstructured, which is seen in social media data. The unstructured nature of SM data makes content analysis necessary, and appropriate. Content analysis can be done manually (human coding) or using computer-aided text analysis (CATA). There are steps in content analysis (Luo, 2019) of SMR:

- a. Content selection:** This involves the selection of social media data content to analyse. The basis for content selection depends on the research topic, the problem under investigation, and the question.
- b. Define units and category of analysis:** The unit looks into the frequency of the social media text or words. According to Pulido, Redondo-Sama, Sorde'-Martí and Flecha (2018), the units involve all the content organized and analyzed together and not individually.
- c. Define rules for coding:** Coding deals with organising the defined social media units into categories. To ensure consistency, transparency, credibility, and data reliability, it is necessary to determine the rules guiding the included and excluded social media text or words.
- d. Code by the rules:** Assess every social media text or word and record all necessary data that meets the categories. The coding can be done manually or using computer programs such as Atlas.Ti, NVivo, and others.
- e. Analyse data findings and make recommendations and conclusions:** After coding, the collected and coded social media data is evaluated and interpreted according to the study and question. Furthermore, the recommendation is made to stakeholders, and a conclusion is drawn from the findings.

According to Hsieh and Shannon (2005), there are three kinds of content analysis, which are conventional content analysis used to describe and interpret a given phenomenon; directed content analysis which covers the validating and extending existing theory or phenomenon; while summary content analysis focuses on "identifying and quantifying" text or words to understand the actual meaning behind the text or words. The summary of content analysis goes beyond words or text in quantifying and counting the frequency of occurrence used in quantitative research. Also, summary content analysis involves latent content analysis, which covers the content's interpretation and unfolding of the meaning behind the text and words

(Hsieh & Shannon, 2005). These content analysis types can be applied to social media research in unfolding events taking place on social media platforms.

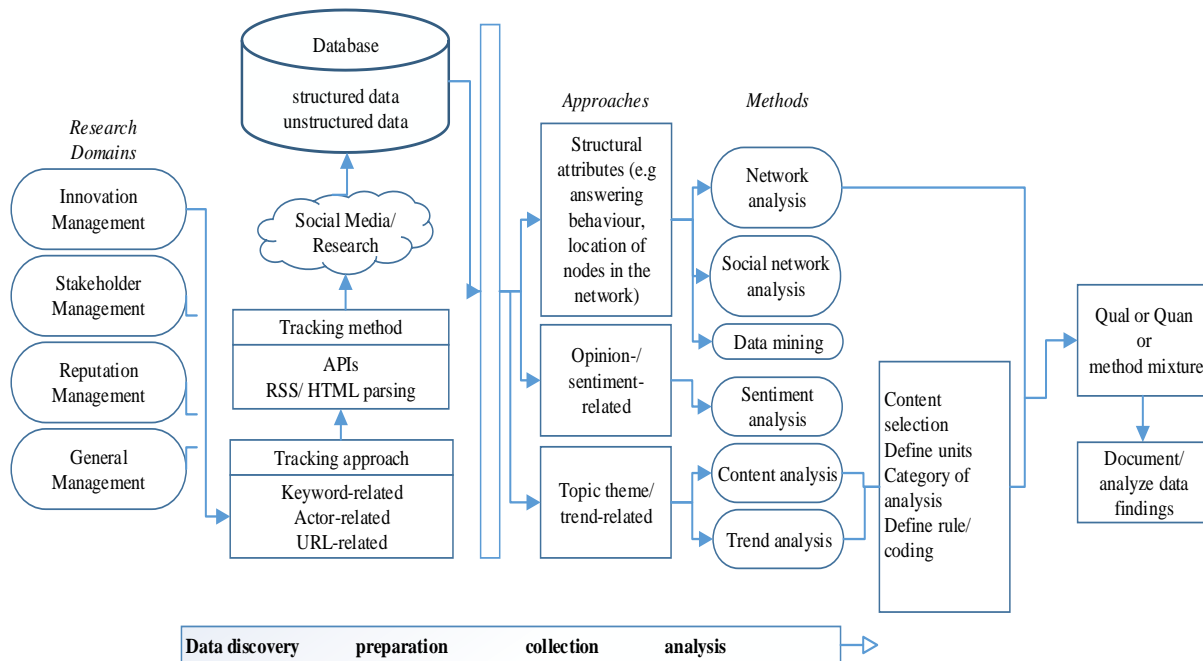
- a. Semantic analysis:** It involves the extraction of meaningful content from a trending issue rather than the frequency of the text or words (Bayrakdar, Yucedag, Simsek & Dogru, 2020). This is achieved by unlocking meaning from social media content. To achieve semantic analysis, text or word, image, and video analyses are performed (Bayrakdar et al., 2020). Semantic text analysis allows the organisation of written words or text based on the relationship associated with each other.
- b. Network analysis:** This method is used when researching social media platforms (Drula, 2012). Text, images, and videos are analysed using network analysis in mining the activities and connections among bloggers. As a mining technique, network analysis is grounded in social media analysis, web mining, games theory, network theory, and graphs theory. It allows the analysis of a large amount of data (Drula, 2012). This shows that network analysis can be used in social media data mining and analysing text, images, and video, whether they are trending.
- c. Social media analysis:** It is a method used to collect and analyse data from different social media platforms like Instagram, Twitter, Facebook, WhatsApp, and many others. Data collection, monitoring, analysis, interpretation (discussion), summarising, and envisioning of social media data are performed (Fan & Gordon, 2014) to understand conversations, engagement, and interaction on the platforms. The application of social media analytics allows social media data analysis to extract intellectual content and pattern. Social media analytics can help academic researchers and businesses understand and access the instance insight, experience, and opinions of users and customers in monitoring hashtags and other trending conversations. On the other hand, social media analytics is among the new and emerging methods of analysing social media data (Pulido et al., 2018). It involves four steps, for example, “data discovery, collection, preparation, and analysis” (Stieglitz, Mirbabaie, Ross & Neuberger, 2018:1).
- d. Data mining:** This is a method used in collecting and analysing data. It is used to sort out the meaning behind a large dataset and identify the relationship that provides solutions to business challenges through data analysis. Social media data is different from the actual traditional data (Zafarani, Abbasi & Liu, 2014). However, the mandate of data mining in traditional research data is the same as social media data and research. The collected and analysed data informs the decision-making process. In this study, data mining can be called social media mining. The growth of social media data has created what is called social media mining. According to McCourt (2018) and Zafarani et al. (2014), social media mining involves interpreting, analysing, and extracting relevant content from social media data. It allows researchers and organisations to collect data and analyse it towards understanding the meaning to make a conclusion and inform decision-making. In social media research, data mining or social media mining is used to gather, analyse, and discuss (interpret) social media data to arrive at a conclusion that informs decision-making.

### **Social media research analysis and procedure**

To fully address this chapter's main core objective, there is a need to offer guidance on conducting an SMR and approaches to adhere to for data sampling techniques, data collection, and analytics. This chapter appreciates the framework of social media analytics (SMA) proposed by Stieglitz (Stieglitz et al., 2018). An SMA framework was adopted to elucidate this procedure, which builds a mutual foundation for conveying social media analytics. Stieglitz et al. (2018) explain the advantages that could emerge of social media analytics and, therefore, deemed it fit to suggest a research framework approach for establishing the guidance and considering the relations among humanity, business organisations, and social media. According to the Stieglitz et al.'s (2018) framework, it entails four (4) practices that ought to be followed, and these practices relate to social media-kind of activities, and three (3) different stages of analysis which any research scholar could pay attention to when tentatively exploring these practices (see Figure 7.3).

On the contrary, a few research studies, for example, Fan and Gordon (2014) and van Osch and Coursaris (2014), discover a procedural practice for social media analytics encompassing three (3) stages "capture," "understand," and "present." They further explained that capturing entails assembling data and handling it, where information relevant to the underlying study is extracted from the data in this stage. This is followed by dealing with irrelevant or noisy information, and if such information exists, it should be removed. Conversely, this stage fundamentally entails using a key system approach, namely the sentiment analysis, or social network analysis for interpreting data, whereas, in the final stage, the discoveries are reported in summaries and presentations (Fan & Gordon, 2014). However, of all the framework discoveries or studies that have been conducted or proposed by academic scholars, the proposed SMA framework by Stieglitz et al. (2018) is among the preferred in the information systems (IS) discipline; this was judged based on the references or citation that the paper had received in information systems (IS) literature. As described by the authors, the adapted framework provides the SMA process as entailing three stages (see Figure 7.3). Figure 7.3 shows the process of conducting SMR.

Figure 7.3: Social media research analysis and procedure as adapted by Stieglitz et al. (2018)



In this chapter, the researchers adapted the Stieglitz et al. (2018) SMA framework, though modified by including the data discovery and collection stage. They excluded the tracking stage that appeared after and before the tracking stage for the following justifications. The initial framework developed was grounded in a political context. In origin, it can straightforwardly be tailored for any other research investigation and different research areas. Nevertheless, the objectives and study methods are likely dissimilar, though the practical procedure and process are principally the same approach.

The framework above in Figure 7.3 depicts four different stages of conducting SMR, namely the data discovery, preparation, collection, and analysis. The first stage entails the data discovery phase, where predefined terms are searched for and stored in the database, either structured or unstructured, as shown in Figure 7.3 above. This stage allows tracking posts, tweets, and text or words used to establish their relevance. The searched words, text posts, and tweets are then selected in an attempt to classify the social media platforms chosen from the dimension of social media analytics that unambiguously mentions the tweets ‘provided’ or any other phrase that may be applied within the context of the study (see Figure 7.3). According to the study being probed, the researcher might decide to increase the search with additional synonymous search terms, which may be best known to the researcher. After this, the researcher may enhance the search terms iteratively and prepare the words to eliminate irrelevant or noisy information and embrace various pertinent ones. After the discovery and preparation, the researchers then applied various collection methods, as mentioned in the previous section of the chapter. There are various ways in which SMR data collection methods can be carried out. This approach deals with selecting the most appropriate method and strategies that suit the research investigation and inquiry. Next is the analysis stage; the original framework proposes that in the analysis stage, “statistical analysis, social network analysis, sentiment analysis, content analysis, and trend analysis”. However, in Figure 3, the

researchers added a few analysis methods to the already existing framework. This included data mining in place of statistical analysis. The researchers also modified the content analysis by including content selection, defining units, category of analysis, and defining rules/coding.

Therefore, overall, the data discovery depicts the uncovering of the underlying latent structures and patterns. This stage includes choices of data source (Twitter and Facebook), data sampling techniques, approach, and output. A specific subdivision of this stage can be traced to Stieglitz et al. (2018). In numerous academic discoveries and studies, diverse Twitter sources' wholeness was compared (Driscoll & Walker, 2014; Morstatter, Pfeffer & Liu, 2014). The initial framework does not discuss the preparation stages needed. Finally, a data analysis depends solely on the research aim, comprising social network analysis, opinion mining, and many more.

### DISCUSSION OF RESULTS IN SMR

Discussion of research findings is an essential aspect of the overall research process in any research, including social media research. It is a process expected of a researcher to translate the analysed data into a common understanding for the audience (Chukwuere & Chukwuere, 2020). It allows researchers to deduce findings from the analysed social media data and build meanings, informing audiences to understand the study better. It also involves extracting and interpreting the study's relevant importance with support from the existing literature (Gemayel, 2016). As an essential aspect of research writing, social media research discussions clarify the research findings and make them relevant to the audience by highlighting the research's implications, the alignment with existing literature, and paving the way forward for future studies.

For example, after data analysis, the findings of the collected data must be discussed in adding meaning to the data in line with existing literature. SMR findings are discussed and aligned with existing literature.

### CHALLENGES, ETHICS, AND RELIABILITY WITH PROCESSING AND ANALYSING SMR

There are several challenges that any research scholar may experience when conducting SMR. The challenges can be:

- a. **Storage capacity or size:** For the preliminary handling of data, some category of server or database management system (DBMS) is desirable to store the raw data that necessitates memory and storage capacity or size. However, storing, and processing the tweets and their tokenized usages necessitated over one terabyte of storage capacity (Kern et al., 2016).
- b. **The language used:** Another issue or challenge that might surface relates to language use and vagueness; language could be ambiguous; and therefore, consideration can be given in particular on how to define "words" in instances where informal text punctuation follows specific rules, while in social media this can reproduce actual punctuation (for example, a period ending a sentence), the use of emotion to express

(for instance, emoticons), emphasise a point, mixture of languages (for example, use of English and home language or jargon) or expose typing errors and misspellings, alongside, overfitting, regularisation, variable assortment, and model error. In a model error, there is a definite degree of error happenings and is conceded throughout the procedure of formulating and data scrutinizing (Kern et al., 2016).

- c. **Reliability and validity question:** Social science research is subjected to several errors that test the reliability of the data collected. According to Cheliotis, Lu and Yi (2015), reliability deals with the consistency of measurements used and each other, while correlations ensure measurement reliability. SMR is collected using social media platforms, while reliability and validity can be questioned. Validity focuses on determining whether the data collected is produced through a valid instrument or measurement. In social media research, methods are used to assess the reliability of data collected, for example, correlation and Cronbach alpha (Cheliotis et al., 2015). Correlation measures the relationship strength between two variables by applying Pearson's *rho* and Spearman's *rho*. These methods are applied to SMR data collection. Though these methods are commonly used on quantitative data, it is still a question of how to apply them to text, specifically qualitative research. Cheliotis et al. (2015) test correlation values are used to determine whether the collected text recorded the correct users' posts on a social media platform. The researcher suggested normalized edit distance (NED) ( $NED = (l - \delta)/l$ ) and the longest common subsequence (LCS) ( $LCS = m/l$ ). Mining and analysing social media research have some ethical and legal implications (McCourt, 2018).
- d. **Ethical issues:** SMR is fast becoming a norm but there is a number of challenges to confront. The privacy, consent, and confidentiality of participants' details are in doubt in conducting social media research. The three issues and many others always confront the reliability and validity of the findings.

## CONCLUSION

Social media datasets are available in the public domain, mined by applying different research approaches and methods. The chapter unpacked the processes involved in SMR sampling techniques, data collection, analysis, and discussions. The chapter presented different approaches that necessitate conducting SMR with a clear definition of steps. SMR stands as an emerging research field with huge attention from scholars across disciplines. This kind of attention can be attributed to the growing usage of social media platforms that keep collecting large datasets that can be mined and analysed for decision-making. This chapter paves the way for Chapter 8, which presents the guideline and principles that should be followed in SMR, emphasizing ethical conduct and compliance.

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## CHAPTER EIGHT

### GUIDELINES AND PRINCIPLES IN CARRYING OUT SOCIAL MEDIA RESEARCH: ETHICAL CONDUCT AND COMPLIANCE

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#### CHAPTER OBJECTIVES

The primary objective of the chapter is to establish the guidelines and principles in carrying out social media research. Also, unravelling the consequences of violating the established ethics and the importance of compliance in the interests of the ever-increasing number of users on the various social media platforms and other stakeholders in the social media research.

#### ABSTRACT

Every profession has rules and regulations that guide its operations. The establishment and enforcement of rules and regulations determine the integrity and public confidence in a given human endeavour. Social media is one attraction for researchers; however, there are ethics to avert the abuse of the research processes in social media. Hence, this chapter addressed ethical issues in social media research. The chapter adopted a qualitative research method which was descriptive in nature. Data were based on the users of the social media platforms, the statistics on users; explorative analyses of the various types of social media and their uses. The data collection and information were sourced secondary through the content analysis of the journals, books and online resources. The chapter anchors on the routine activity theory by Marcus Felson and the Social control theory by Travis Hirsch. Findings showed that as a result of inadequate regard for ethics and inadequate knowledge about ethics, there is an abuse of research processes in social media. Hence, the chapter recommends strict ethical bases in social media research, coordinated enforcement and bringing the culprits to justice. This chapter will be of value to the individuals, regulatory bodies in social media, government at various levels and researchers in the field of social media.

**Keywords:** Credibility, Enforcement, Ethics, Research, Resources, Social media

#### INTRODUCTION

The advancement in the application of information communication technology has brought drastic changes in the scheme of doing things (Kerpen, 2019). One of the areas of technological invention is social media. According to DesJordins and Hortman (2007), social media are the electronic platforms that connect people over the world for the exchange of information, ideas, knowledge, processes, and practices to improve human living conditions.

Social media provides an avenue for the interconnectivity of people to discuss and improve social, economic, political, educational, cultural, and technological ideas and processes all over the world. As noted by Schaefer (2018) on the basis on this, social media research has been found necessary to improve human conditions in those areas. In the meantime, conduct and compliance with ethics in social media is a great issues. There are circumstances where the privacy of the subjects in social media is grossly breached. The infringement leads to loss of life and property of the **victims**. Social media like Facebook, Twitter, Instagram, YouTube, WhatsApp to mention a few are veritable means of getting data on various aspects of human activities. There are over millions of people that are registered users of these social media. In the words of Vaughn (2009), also affirmed by Stroud (2019) there is no innovation without advantages and disadvantages.

There are circumstances, where some unscrupulous individuals have taken advantage of social media to perpetrate criminal activities which undermine global security. The establishment and enforcement of ethical practices in social media will reduce criminal activities committed on social media. Social media is a veritable means of global, online and real-life interactions and a source of revenue and employment for millions of people all over the world. There are many studies on social media research. Morento, Goniu and Diekema (2018) investigated ethical issues in social media research. In a similar vein, Golder, Ahmed, Normal and Booth (2017) examined the attitude towards the ethics of research using social media. To the best of the author`s knowledge, there no research has been conducted on the ethical issues in social media research. On the basis of this, this chapter intends to assess ethical issues in social media research; conduct and compliance.

**Table 8.1: Social media Usage in U.S. 2008-2018**

| S/N | Year | Usage in Millions | Percentage Change |
|-----|------|-------------------|-------------------|
| 1.  | 2008 | 10                | Nil               |
| 2.  | 2009 | 21                | 110               |
| 3.  | 2010 | 44                | 106               |
| 4   | 2011 | 53                | 21                |
| 5   | 2012 | 57                | 7.5               |
| 6   | 2013 | 63                | 10.5              |
| 7   | 2014 | 66                | 5                 |
| 8   | 2015 | 70                | 6                 |
| 9   | 2016 | 77                | 10                |
| 10  | 2017 | 80                | 4                 |
| 11  | 2018 | 77                | -3.75             |

**Source:** <https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/>, modified by the author

From Table 8.1, in the year 2008, the total number of social media users in the United States was 10 million people, in the year 2018, seventy-seven people were active users of social media platforms. This showed that 7 million people have registered on one social media platform or the other. The United State as a world power sets a role model for other countries to emulate. The need for inculcation of ethical standards is necessary in order to protect and promote the image of the country and the world at large.

## CONCEPTUAL CLARIFICATION

**Meanings of Ethics:** According to Fashina (2019), ethics is the branch of philosophy that is concerned with morality. It answers questions about right and wrong, good and evil, justice and crime. It is systematic entrenchment, protection, practising, rewarding, recommending and promotion of culture of right behaviour in personal and social interactions. In moral philosophy, ethics is the focal point. Philosophy as a discipline is the originator of other disciplines, every discipline has a standard of conducting research.

## TYPES OF ETHICS AND THEIR IMPLICATIONS FOR SOCIAL MEDIA RESEARCH

As noted by Kapour et al. (2018), the following are the types of ethics and their influences on social media research.

- **Metaethics:** This revolves around the theoretical exploration of ethics through propositions to determine their rightful place in humanity. It involves using the available theories to fine-tune arguments on morality (Huggins, 2018). In social media research, metaethics is when researchers in social media, really understood the literary meanings of ethics before conducting particular research. In this regard, a researcher knows various ethical issues like consent, openness, harmlessness, confidentiality and voluntary involvement.
- **Normative ethics:** In the assertion of Vaughn, (2019) as metaethics is theoretical, normative ethics is practical in the sense that it deals with how practical morality is achievable. In this regard, social media researchers will demonstrate all the theoretical ethics by seeking the content of social media and respecting their anonymity, privacy and confidentiality.
- **Applied Ethics:** This goes beyond practical to action in general terms to a specific organization. In this regard, every social interaction or organisation attempts to define actions that constitute rights and wrongs and consequences of their infringement. In the opinion of Megan, Natalie, Goniu, Peter and Doug (2010), in every profession, ethics is established to guide against quackery. This leads to the creation of regulatory bodies to guide the integrity of every profession. Social media is a viable source of data for researchers, coupled with the billions of people of active users; it is time to establish ethical behaviour. In social media research, researchers find it difficult to show some levels of professionalism and attract dignity and respect in social media research.

## THE ETHICS IN SOCIAL MEDIA RESEARCH

- **Privacy issues:** As established by Hyatt (2012) social media interactions, and privacy settings affect the possibility of researchers obtaining socio-demographic information like age, place of birth, occupation, residence, number of children, marital status of the subjects or users of a particular social media because in most social media there is no menu for the setting of these personal variables. On the other hand, some researchers abuse the privacy of the social media subjects through unauthorized publication of personal and sensitive information about the subjects.

- **Consent:** In every social research, the consent of the respondents is required. In social media research, researchers do not seek the consent of the respondents due to the complexity of the social media platforms (Kave, 2018).
- **Transparency:** One of the ethical issues in social media research is the establishment of openness in the handling of the data or information from the respondents on social media platforms (Qualman, 2009). The issues some researchers created are either under-reporting or over-reporting of information or absolute digression from the actual information.
- **Avoidance of spam:** Spam according to McDonald (2015), is irrelevant and unsolicited messages sent over the internet for the purpose of advertising or spreading viruses. Some social network researchers do this to attract the attention of online respondents. This must be avoided because some internet fraudsters take advantage of this to defraud social network users.

### Stay away from Click-bait headings

This is a temptation to lure social network users into different sites which may not be of interest to them. Any social research that perpetrates this act is capable of deceiving the users into online fraud-prone websites (Kane, 2018).

- **Avoidance of controversy:** One of the ethics of social media research is that researchers on these platforms must try as much as possible to stay clear of issues that may generate arguments or controversies. Some researchers on social network create unnecessary controversy to gain cheap publicity (Kawasaki & Fitzpatrick, 2011).
- **Desist from fear-mongering:** One of the ethics in social media research is that the researchers should try not to create fear in the mind of the respondents. The questions addressed to the respondents should be straightforward without any trace of intimidation. Whenever intimidation is instilled in respondents. This discourages some respondents from actively engaging in social media discussions (Chain, MClinpharm & Leury, 2018).
- **No public bashing:** One of the ethics in social media research is avoidance of public bashing, which is the researcher should not attack respondents either verbally or in any other form.
- **Zero tolerance to plagiarism:** Academic theft is a serious crime; researchers should try to avoid the presentation of another person's work as his or her own, and adequate references should be made to avoid the consequences of plagiarism (Kerpen, 2019).
- **No room for opportunism:** There are many opportunities on social media platforms. These opportunities may be tempting and eventually undermine the integrity of social media research experts. The researchers are obliged to demonstrate commitment to justice, morality and professional principles (Martin, 2006; Kawasaki & Fitzpatrick, 2011).
- **Empathic understanding:** As established by Hyatt (2012) as part of professional commitment to social media researchers should consider the feelings and aspirations of their respondents and do every possible within their limits to protect their interests.

**MEANINGS OF SOCIAL MEDIA RESEARCH**

As argued by Golden, Ahmed, Normal and Booth (2017) and supported by Mcdonald (2015) social media research is the collection of computer-aided platforms that are used to obtain, process or analysis data from the electronic platforms. This involves the accumulation of related data based on spatial, temporal thematic and psychosocial diversity (Boateng & Amankwag, 2016). The world has become a global village; millions of people are now connected to the internet; so most social media platforms are veritable means or sources of global links among various people in the world (Yudau, Sani, Dhanya & Nernaui, 2010).

**Social media platforms**

In the words of Huggins (2018) social media research in which millions of people interact and exchange ideas, and opinions on the issues that affect their social, economic and religious life. There are many sub-menus under face book. There are many social media platforms, the most commonly used are six in number as established by Melani and Andrew (2017), Facebook has the highest number of users as contained in the table 8.2 below.

**Table 8.2:** Social network ranks by number of active users in 2019

| S/N | Social Network Platforms | Global Active Users In millions | Percentage (%) Active users | Rank             |
|-----|--------------------------|---------------------------------|-----------------------------|------------------|
| 1   | Facebook                 | 2414                            | 17.62                       | 1 <sup>st</sup>  |
| 2.  | YouTube                  | 2000                            | 15.60                       | 2 <sup>nd</sup>  |
| 3   | WhatsApp                 | 1600                            | 11.68                       | 3 <sup>rd</sup>  |
| 4   | Facebook Messenger       | 1300                            | 9.49                        | 4 <sup>th</sup>  |
| 5   | Wechat                   | 1133                            | 8.27                        | 5 <sup>th</sup>  |
| 6   | Instagram                | 1000                            | 7.30                        | 6 <sup>th</sup>  |
| 7   | QQ                       | 808                             | 5.90                        | 7 <sup>th</sup>  |
| 8   | QZone                    | 554                             | 4.04                        | 8 <sup>thh</sup> |
| 9   | Douyin/Tik Tok           | 500                             | 3.65                        | 9 <sup>th</sup>  |
| 10  | Sina Weibo               | 486                             | 3.55                        | 10 <sup>th</sup> |
| 11  | Reddit                   | 330                             | 2.41                        | 11 <sup>th</sup> |
| 12  | Twitter                  | 330                             | 2.41                        | 12 <sup>th</sup> |
| 13  | Douhan                   | 320                             | 2.34                        | 13 <sup>th</sup> |
| 14  | Snapchat                 | 314                             | 2.29                        | 14 <sup>th</sup> |
| 15  | Linkedin                 | 310                             | 2.26                        | 15 <sup>th</sup> |
| 16  | Pinterest                | 300                             | 2.19                        | 16 <sup>th</sup> |
|     | <b>Total</b>             | <b>13699</b>                    | <b>100</b>                  |                  |

**Source:** <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>  
modified the author

From Table 8.2, Facebook has the highest number of users in the world in 2019 it attracted over 2.414 billion users and ranked first among the social media networks. This signifies the popularity of Facebook among the other social media in the world. Aside from facebook, other fifteen social media platforms have some level of patronage. In the same vein, over thirteen billion people are active users, this consolidates the existing arguments that social media is a viable source of information. The usage of social media has improved significantly in the period under review. The usage of social media has improved significantly in the period under review. In every household, workplace, religious centre, ethnic and professional group social media are been actively used.

**LINKS BETWEEN ETHICS AND SOCIAL MEDIA RESEARCH AS THE BASIS FOR CONDUCT AND COMPLIANCE**

In the work of Redondo-Sama, Sarde- Marti, Fleha and Pullido (2018), sound ethical consideration in social research promotes discipline among various stakeholders in the social media arena. It serves as a regulatory framework for building a sound foundation in social media research (Azer, 2018). It protects the image of the social media users and the researchers in the event of a breach of the process but either paper in the scheme. Ethics regulate proper behaviour among and instil public confidence in social media research. It facilitates processes of building legal support to enhance legislative enactment for social media development (Baier, 2018; Hyder, 2010).

**Table 8.3:** The ten most connected countries to Internet in 2019

| S/N | Country    | Continent     | Number of Internet Users | Rank             |
|-----|------------|---------------|--------------------------|------------------|
| 1   | Indian     | Asia          | 97,885,011               | 1 <sup>st</sup>  |
| 2   | China      | Asia          | 50,666,155               | 2 <sup>nd</sup>  |
| 3   | U.S.A      | North America | 25,379,895               | 3 <sup>rd</sup>  |
| 4   | Indonesia  | Asia          | 17,300,000               | 4 <sup>th</sup>  |
| 5   | Iran       | Asia          | 16,241,877               | 5 <sup>th</sup>  |
| 6   | Ukraine    | Europe        | 15,325,055               | 6 <sup>th</sup>  |
| 7   | Tanzania   | Africa        | 14,490,731               | 7 <sup>th</sup>  |
| 8   | Italy      | Europe        | 11, 490,731              | 8 <sup>th</sup>  |
| 9   | Bangladesh | Asia          | 10,158,000               | 9 <sup>th</sup>  |
| 10  | Brazil     | South America | 9,946,450                | 10 <sup>th</sup> |

**Source:** [www.henextweb.com/contributors/2019/01/30/digital-trends-2019-every-single-stat-you-need-to-know-about-the-internet/](http://www.henextweb.com/contributors/2019/01/30/digital-trends-2019-every-single-stat-you-need-to-know-about-the-internet/) modified by the author

From Table 8.3, internet connectivity is a prerequisite for connectivity to the internet. there are diverse ways where people are hooked to the Internet, mobile phones, laptop, desktop computers, palmtops and so on. India has the highest number of internet connectivity. It has 97,885,011 users, while Brazil has 9,946,450 users to be the least. This justifies the fact that India has the highest number of computer experts in the world. In terms of the continent, Asian Continent has the highest number of countries with internet connectivity, out of the ten most connected countries in the world, while the other continents have five. This development strengthens the place of India in software development.

**CHALLENGES TO THE ENFORCEMENT OF ETHICS IN SOCIAL MEDIA RESEARCH**

As opined by Abdulahi, Smadi and Gharleghi (2014) one of the impediments to the enforcement of ethical challenges in social medal research is the multi- complex nature of the users of social media research in terms of the number of people that hooked on to the various social media platforms. Aside from the bogus number of people who are clinched to social media, each country has her peculiar law that governs the information communication sector; the harmonization of the differences is a major challenge. Another factor is the financial constraints to enforce conduct and compliance. The control of viruses and other attacks on the web page requires a lot of money. Some countries are richer than others in terms of technology (Brooks, 2015; Martin, 2006).

**SOLUTIONS TO THE PROBLEMS OF ENFORCEMENT OF ETHICS IN SOCIAL RESEARCH**

Social media could achieve effective ethics by harmonizing the resources from the different stakeholders in social media. The government of different countries should come together to fine-tune different ways of achieving uniform or common ways of setting a standard on right and wrong in social media. Another solution to the ethical issues in social media research is aggressive education of the users in social media on the importance of abiding by the laid down rules and regulations of social media (Abdulahiet al., 2014). The educational institutions should come together through conferences, seminars and workshops on the ethical practices in social media research to protect the scheme from abuse. Institutions like electoral empires and security sectors should give social media usage proper attention to ensure sanity in social media engagements. The media houses like radio, television and other print media should serve as a watchdog in social media research and report any breach of ethics to an appropriate authority. There should be synergy among telecommunication service providers and security agencies to the social media effective monitoring to deal with acts that constitute morass to social media rules and regulations. Electronic monitoring of the activities in social media is necessary for avert abuse of ethical principles in social media research in order to restore public confidence and acceptance.

**Table 8.4:** Digital usage around the World in 2019

| Total Population          | 7.676 billion | Percentage of Penetration (%) |
|---------------------------|---------------|-------------------------------|
| Unique Mobile Users       | 5.112 billion | 67%                           |
| Internet Users            | 4.388 billion | 55%                           |
| Active Social Media Users | 3.484         | 45%                           |
| Mobile Social Media Users | 3.256         | 42%                           |

**Source:** [www.henextweb.com/contributors/2019/01/30/digital-trends-2019-every-single-stat-you-need-to-know-about-the-internet/](http://www.henextweb.com/contributors/2019/01/30/digital-trends-2019-every-single-stat-you-need-to-know-about-the-internet/) modified by the author

From Table 8.4, internet users register on social media platforms in different ways, as depicted above, out of the total population of the world which amounted to 7.676 billion people, 67% of them were unique mobile users and most mobiles users are active users of one social media or the other. In the same vein, out of 55% were internet users, 42% also registered on one social media platform or the other. This consolidates the need to put in place proper ethical measures in social media research.

**SIGNIFICANCE OF THE CHAPTER**

The chapter opens a new window of knowledge for social media researchers by creating opportunities for new theories and themes on social media research. Social media research plays significant role in the globalization processes, hence, the ethical application enhances the global acceptance of the research. Practically, social media researchers, educational institutions, non-governmental organizations, financial institutions, World Bank and other international institutions will benefit from this study (Yudau et al., 2010).

### **THEORETICAL FRAMEWORK**

To buttress the understanding of social media research, the routine activity theory by Marcus Felson will be used to give a better explanation. According to Felson, three factors are motivated offenders, a suitable target and availability of a guardian. Many scammers are motivated offenders, millions of users of mobile platforms are their targets, and the internet security and the willingness of social media are the guardianship (SooHyum & Wicox, 2018). In the process of conducting social media research; a researcher needs to look out for any activities either from him or from users of social media platforms to avert infringement of the laid down rules and regulations. A research on social media platforms needs to screen the identity of the respondents to ensure their uprightness and credibility and ensures that those respondents engage in lawful activities on social media. This could be obtained through their wall posts on face books, Twitter handles and other available information about them, and the available security arrangement is another factor that social research considers. Effective security protects the interest of all on social media. The ability of social media social researchers to adhere strictly to the rules and regulations is another protective mechanism against the promotion of the activities of scammers on the internet and the restoration of confidence in social media research.

Another theory is the social control theory by Hirsch Travis, according to Travis, deviance is caused by the presence or absence of the following variable (Breckin, 2018). This first variable is attachment when there is ethical standards in the social media research and the researchers in the social media are aligned to them in their research methodology and guidelines, the outcome of the social media research will be creditable, the second factor is the commitment when there is rule and regulation, people should show sacrifice towards its success, the commitment to the ethical standards in the social media research enhances the credibility in the social media research processes. The next factor is involvement when all the stakeholders are duly involved in the ethics of social media research, and the possibility for compliance with rules and regulations guiding social media research. When there is a strong belief in the common cause of action the action will result in progress. When all these variables are duly harnessed effective ethical standards will be put in place for realisation of effective social media research. When conducting social media research, attachment enables researchers to be committed to the business of social researcher because he or she knows the dire consequence of breaching the rules and regulations, commitment enables social media researchers to face the research activities with rigour and focus, and involvement enables social researchers watches out for the activities of the respondents and capture those that engage in lawful deals and the belief they possess in the entire research system and research community generally enable them to diligently pursue the social research with high commitment to ethical standards.

**Table 8.5:** Global active social network users, 2010---2019

| Year                           | 2010     | 2011  | 2012     | 2013  | 2014     | 2015  | 2016     | 2017 | 2018     | 2019 |
|--------------------------------|----------|-------|----------|-------|----------|-------|----------|------|----------|------|
| Active Social Network(billion) | 0.97     | 1.22  | 1.4      | 1.59  | 1.91     | 2.14  | 2.28     | 2.48 | 2.65     | 2.82 |
| Percentage Change (%)          | ----     | 25.77 | 12.86    | 13.57 | 20.13    | 12.04 | 6.54     | 8.06 | 6.85     | 6.03 |
| Value Change                   | 25.77    |       | 0.71     |       | 8.09     |       | 1.52     |      | 0.82     |      |
| Comments                       | Increase |       | Increase |       | Increase |       | Increase |      | Increase |      |

**Source:** [www.henextweb.com/contributors/2019/01/30/digital-trends-2019-every-single-stat-you-need-to-know-about-the-internet/](http://www.henextweb.com/contributors/2019/01/30/digital-trends-2019-every-single-stat-you-need-to-know-about-the-internet/)

From Table 8.5, from the year 2010 to 2019 there was a steady increase in the active users of the social media platforms, the value change for 20018 to 2019 was 0.,82 while the percentage increase was 6.03. This justifies the need to embed proper ethics in social media research as means of creating confidence in the system.

### CONCLUSION

Findings from the various descriptive statistics showed that social media is a veritable source of information across the globe. It involves people of diverse cultures and ethnic backgrounds; hence there is an urgent need to establish workable ethics for both researchers and the respondents on the various social media platforms. The chapter recommends an adequate commitment to the realization of social media ethics and punishment of the offenders of social media ethics and the establishment of aregulatory body to report a violation of social media research ethics and come up with appropriate actions. In addition to that, there is an urgent need for the establishment of arrangements for seeking consent in social media research. The global community should come together to establish an ethical review board for social media research. This study will be useful to social media platforms companies, individual users, financial organisations, non-governmental organisations and social media researchers.

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## CHAPTER NINE

### ROUNDING UP OF SOCIAL MEDIA RESEARCH, RECOMMENDATION, FUTURE STUDY, IMPLICATIONS AND CONCLUSION

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#### CHAPTER OBJECTIVES

This chapter aims to provide clarity, based on international best practices, as regards how to round up data collection processes, sustain discussions, make recommendations, and draw up conclusions in social media research (SMR). More importantly, it aspires to furnish scholars and researchers with the knowledge of how to produce high-quality, reliable, and readily publishable publications in the field of social media research. This chapter particularly explores how the social media research community can strengthen social media research and propose satisfactory best practices for rounding up data collection processes leading to discussions, recommendations, and conclusions.

Additionally, this chapter attempts to address the concept of social media and social media research. It progresses in its line of inquiry to dig out opportunities and challenges associated with social media research. Lastly, the chapter sought to present cohesive information that identifies ways to effectively round up and give recommendations for future researchers in social media research.

#### ABSTRACT

The importance of social media in our daily lives continues to linger in symmetrical progression, and the volume of information it generates and records per minute is terrific.

Social media platforms are among the few channels for scholars to access and gather data, but the goal also sets new designs and structures of facts across the Internet. The volume of information spawned and stored within a short timeframe every minute is astounding. This places a huge responsibility on the shoulders of academics and non-academic researchers to access, analyse and interpret data deposits. This chapter seeks to provide ways to round up and recommendations for future researchers in social media research. Therefore, a scoping review methodology was adopted to map the literature on the social media research field, as well as offer a platform to recognise the main notions and challenges accrued to the social media study. It also investigates social media research while making recommendations for future studies.

**Keywords:** Data collection processes, Draw up conclusions in social media research, Recommendations, Round up, Scoping review methodology, Social media, Sustain discussions

## **INTRODUCTION**

Social media studies have been described as a thriving methodology that leverages multi-media platforms. Accessibility of information gathered on social networks has birthed the popularity of social media investigation (Pearce, Özkula, Greene, Teeling, Bansard, Omena & Rabello, 2020). Emergent scholars are enthusiastic about upholding social media as a critical component of the study. The justification that drives social network platforms has successfully transformed the orthodox investigation practices of the research community by facilitating a quick and cost-effective manner of obtaining information; nevertheless, it conveys originality and entertainment to a known stern area of study (Research Design Review, 2020). The authors avowed that this evidence encompasses data collection and examination; that is, looking out for social media outcomes in form of videos, pictures, text, and graphics; confirming it as a model for digital-based references (Research Design Review, 2020).

In recent years, social media research has progressively developed as an acceptable study method and has been published across various disciplines. Remarkably, social media is a wealthy foundation of research information for social impact with good social media research knowledge. Brandwatch (2016) asserts that the volume of conversation on the social media platform breaks unprecedented opportunities for social media research (SMR) to be a novel ability that uncovers qualitative insights on a quantitative scale. Globally, the internet has become very popular and progressively reachable to unskilled communities through social media platforms. While cooperative services have flourished, it allows users to communicate, discuss and segment their comforts, and so on (Poynter, 2010). Social media is prevalent in everyday individual endeavour, promoting socialisation, public discourse, and dialogue engendering vital information that is probable of boundless opportunities to the body of scholars and researchers globally (Sloan & Quan-Haase, 2017).

Popular social media platforms are Facebook, WhatsApp, YouTube, Twitter, LinkedIn, Second Life, and many more. They allow individuals, irrespective of their demographic status, to receive and send desired messages as quickly as possible globally (Poynter, 2010). The shared interest in social media is often used by scholars and researchers to understand and analyse its events. SMR has created a growing need to develop an all-encompassing system, a clear and reproducible to secure, organise and evaluate innovative kinds of information (Sloan & Quan-Haase, 2017).

### BACKGROUND OF THE STUDY

Social media research has become an increasingly popular approach for many scholars and researchers in diverse human endeavours in this present generation. However, a universal definition of social media research is yet to be agreed on as new approaches spring up from time to time in the research community. For example, Beer (2008) highlights that some researchers and scholars often adopt the term Web 2.0 over social media because the former can function as an overall concept that covers a large group of applications online that promote interaction and expression. Furthermore, Trottier and Fuch (2015) highlight three elements of sociality that theorists often adopt as focal points in understanding social media phenomena; they are cognition, communication, and cooperation. Remarkably, social media research has been successful with diverse issues relating to humanity, medicines, business, airline, tourism, science, academics, marketing, information technology, and many more (Poynter, 2010). The author asserts that social media research is now the most popular methodology used globally among various digital researchers.

The volume and collections of social media data in diverse disciplines demand innovation in scientific methodological analysis. This has drawn much attention to research communities. In addition, these novel methods of subjective approach (Salmons, 2017) range from short fiction in a descriptive study (Georgakopoulou, 2017), thorough comprehension (Stewart, 2017), strong statistics report (Latzko-Toth, Bonneau & Millete 2017), to research approaches that centre on nonverbal information such as pictures, similes, music and images (Pennington, 2017). Besides, studies have revealed that social media research creates opportunities for review in an organised and analytical manner based on contemporary societal concerns in a cost-effective approach (Burgess & Matamoros-Fernández, 2016). For example, scholars, social media experts, and the research community at large commended the innovation brought by social media platforms based on opportunities and gaps to exploit (Sloan & Quan-Haase, 2017).

Von Stieglitz, Dang-Xuan, Bruns and Neuberger (2014) affirm that new media research is a developing multi-disciplinary study targeted at integrating, lengthening, and conforming approaches to the investigation of social media statistics. On the other hand, the authors aver that social network platforms can support other research fields to respond to their study questions. It offers and focuses on providing **essential information and meeting the needs and demands of the researcher**, as well as providing structured solutions for social media research-based applications and information systems communities. Despite the significance of

social media research, limited research exists, as works that can help in professionally conducting studies, piloting, and rounding up social media research are insufficient. However, the study by Poynter (2010) confirms that many researchers examine the use of social media to conduct market research, communication, politics, academics, and many more.

Conversely, this book chapter is divided into six major sections. Section I is broad and addresses the literature review to formulate research questions that anchor the study. Section II emphasises the research methodology used to gather information and justify the adopted research methodology. Section III contains the proposed best practices for rounding up interdisciplinary social media research to aid research communities. Section IV presents the results based on the available literature of the study. Section V briefly establishes the book chapter's contribution to potential researchers and existing scholars in the research community. Lastly, section VI presents recommendations, future studies, implications, and conclusions.

### **RESEARCH PROBLEM**

While scholars and researchers in diverse fields of study are fascinated with the new media and online participation, researchers with divergent backgrounds emphasise diverse study inquiries, and yet these researchers lack clear formal descriptions of new media study (Sloan & Quan-Haase, 2017). Notably, this diversity (Von Stieglitz et al., 2014; FoodRisC Resource Centre, 2016; Social Media Research Group, 2016) engenders a dearth of standardisation of practices and, consequently generated a deficiency in recommended global best practice approaches in rounding up social media research concerning the approval, prospect study, inferences, and decision-making.

The lack of consistency among the social media reviewers remains a concern, given the lack of acceptable meaning or goals for social media research in diverse fields. These challenges, as mentioned above, present new tasks to scholars and the research community as it necessitates novel approaches to rounding up social media in the area of recommendation, future study, implications, and conclusion.

Lastly, the research community is yet to wake up to the challenges of developing a standard or suggested best practice regarding innovative approaches, techniques, and how to round up studies specifically tailored towards social media research irrespective of discipline. When there is a lack of transparency, it becomes difficult to detect substandard recommendations and flawed research strategies. Nevertheless, the challenge is how to disseminate this information to the broader social media research public. Therefore, an argument is needed to help develop best practices for social media research to support researchers and protect social media users.

## **PURPOSE OF THE STUDY AND CHAPTER QUESTIONS**

Given the infancy of social media research, the objectives of this study focused on discovering the best approach to rounding up social media research. For this study, a scoping review methodology was adopted to map the literature on the social media research field, as well as offer a platform to recognise the main notions and challenges accrued to the social media study. The overarching chapter questions help to guide the scope of the chapters in providing a quality review. The questions are:

- **RQ1:** What are the concepts of social media and social media research?
- **RQ2:** What are the suggested best practices for rounding up social media, future study, implications, and conclusion?

## **I. LITERATURE REVIEW**

The significant goal of this literature review section was to propose and gather information related to the best practices in rounding up social media, recommendations, future studies, implications, and conclusions. Social media research covers related studies irrespective of their disciplines, such as social sciences, medicine, marketing, politics, information system, education, and many more. Therefore, the first section of this book chapter provides related and relevant literature to the study's research questions. Consequently, the study opens with the benefits and challenges associated with new media studies.

### **Concept of social media**

Globally, social media, otherwise known as new media, has turned out to be more relevant to human endeavours. Therefore, it is obvious and undoubtedly stress-free to identify various disciplines where social media hardly fits in with human endeavour rather than mentioning the broad coverage where it added value and has a significant impact. Social media is an internet mass social group and a platform such as blogs and microblog sites, social networking, wikis, collaborative projects, photo sharing, video sharing, music sharing, and product virtual games (Branthwaite & Patterson, 2011; Kapoor, Tamilmani, Rana, Patil, Dwivedi & Nerur, 2018; Olutade, 2020).

Furthermore, social media is an inclusive term, and no two scholars appear to agree on a clear definition (Treem, Dailey, Pierce & Biffel, 2016). Nevertheless, the basic component of the connotations of new media is how information technology (IT) and various digital technologies have shifted from a fundamentally traditional channel to a multi-point model. The definition of Kaplan and Haenlein (2010: 61) advocates that social media is a collection of web-built sites that were formed on the philosophical and high-tech premise of the social web, and also permits the conception and interchange of online created information. Schlagwein and Hu (2016) argue that new media establishes cyberspace interaction and relationship networks, generally used as an information system outlook, collective channel platforms, and encompassing organisational and administrative framework that institutes communal data systems.

Wakefield and Wakefield (2016) and Kapoor et al. (2018) remark that social media, social network platforms, and internet sites are related through identified qualities and potentials, namely: (i) online participant biodata, (ii) online participant easy contact with social media data, (iii) the online participant record of the social bond, and (iv) online participant capacity to understand and follow social bonds. Online space must be formed by the user and for the user, and to offer a conducive setting aimed at fostering relationships and connections at diverse positions (for example, personnel, expert, commercial, promotion, partisan, and social group).

Remarkably, Kaplan and Haenlein (2010) accredited six allocations for social media arenas formed on the platform of respective diverse competence. These are blogs and microblog sites (Twitter, Tumblr), social networking sites (Facebook, MySpace), content communities (YouTube, Daily Motion, Pinterest, Instagram, Flickr, Vine), collaborative projects (Wikipedia), virtual game-worlds (World of Warcraft), and virtual social worlds (Second Life, Farmville).

Given the significance of social media to numerous participants and the many benefits linked across its functionality, new media has engrossed the interest of scholars and research communities from diverse disciplines, for example, communications, politics, computer science, business management, marketing management, and others (Jaring & Back, 2017; Kapoor et al., 2018). The authors asserted that many scholarly articles on social media research have appeared in various outlets. These scholars opined that there is a need to devote an amount of time and effort to the gathering, evaluating, and integrating results from current research studies before they commence social media-related research. Going by the relevance of this contemporary study, a scoping research methodology will provide invaluable sustenance to diverse investigators and scholars proposing to be involved in new media studies.

### **Social media research**

Throughout the last part of the year 2008 and the beginning of 2009, *Research 2.0* has arisen to the level of being seen as overdue; additionally, the phrase *New Research* has begun to dominate the research communities – nevertheless, the two expressions are not the same (Poynter, 2010.) The phrase *Web 2.0* was espoused by the diverse disciplines of mankind undertaking such as Law 2.0, Government 2.0, and Marketing 2.0. SMR was introduced to the research community, with Martin Oxley being the first to make known the concept of Research 2.0 (Oxley, 2006; Poynter, 2010).

However, the notion of Research 2.0 speedily occupied the heart of the research community and turned out to be prevalent among seminars and academic forum planners. Notably, the concept of Research 2.0 grew and linked with the emergent use of virtual communities for surveying businesses, and to a minor magnitude, which also employs blogs and blog mining. Preliminary social media research was incidental from various approaches and is prone to a dearth of standards within a specific discipline of study. Poynter (2010) champions revolution

among scholars and investigators in a specific field of research, where they can mutually approve the use of social media data to solve social concerns and explore as a means of answering recurrent inquiries in a related specific discipline of study.

Previous studies (Duggan, 2015; Snelson, 2016) remark that new media study is a moderately evolving discipline along with the advancement in digital skills and increase in their competence. Therefore, social media research uses social media instead of other research approaches to subjective or measurable studies (Pulsar, 2020). Limited reviewed and published journal articles were recorded as related to quantitative, subjective, and multi-method approaches of new media research in terms of their source and accessibility regarding which academic platform anchored their publications.

By some accounts, social media research is a fast emergent method in the research community and is more extensive than virtual target communities (Poynter, 2010). Preferably, a new media study emerges as a comprehensive examination of the supplementary origin of data gathered for perceptions, as well as orthodox subjective methods, empirical study, and subsidiary social statistics origin (Burke, 2014). However, it is unfortunate that ample social media study publications lack efforts of conventional or uniform meaning; most of the definitions are inferred by the internet or web-based app designated for analysis (Quan-Haase & McCay-Peet, 2017). Nevertheless, this present study succeeded in closing this gap by collating different scholars' formal definitions of social media research. Table 9.1 indicates collections of social media research definitions with authors and year, respectively.

**Table 9.1:** Definitions of social media research

| <b>Definitions of social media research</b>   | <b>Authors/year</b>                             |
|---|---|
| Social media research is a technique of examining social media data to manage both subjective and empirical investigation to comprehend how online participants interact on social issues by exploring the platform and information mining approaches.  | Pulsar(2020)                                    |
| The concept of social media research involves every method of investigation that explores data extracted from community channel sources.  | Luke Sloan and Anabel Quan-Haase (2017).        |
| Social media study is a technique of investigation that provides insights into how social researchers critically collect and discern social formations via a social media platform.   | Murthy (2015)                                   |
| Social media research involves the investigation of numerous social groups that embraced online created information, the information created by these participants, such as users' data, social trends, broadcasts, pictures, and remarks that emanated from the communication that transpires among online participants. | Anabel Quan-Haase and Lori Mc Cay - Peet (2017) |
| Social media research is an emergent interdisciplinary investigation that aims at bonding encompassing and collaborating research techniques for the study of social media facts.   | Von Stieglitz et al. (2014)                     |
| Social media research is an innovative procedure that arises as a result of the gathering, studying, and conceptualising of social media information.   | Lori Mc Cay-Peet and Anabel Quan-Haase (2017)   |
| Social media research denotes a novel way of gathering resources and methods of mining and examining data from communal platforms and cyberspace. For example, integrating communal information associated with programmes or problems that are time-based, topical, and attitude/ subjective.                            | FoodRisC Resource Centre (2016)                 |

Based on the above analysis of the definitions above, the authors established certain agreements on significant fundamentals of prevailing denotations. This study, therefore, proposes a broad definition. Despite a great deal of new knowledge about social media research, we define social media research “as an evolving interdisciplinary methodological platform that accepts user-generated and firm-generated content, with the sole aim of combining, integrating, encompassing, and adopting suitable methods for investigating social media data.”

The above definition will add to the body of knowledge in research communities among scholars, academia, and researchers. Research related to social media varies from listening and identifying participant intellect by spotting the relevant information formed, creating digital content, and discovering developments and intuitions that arise from this information (Pulsar, 2020). As a result of an increase in effortless and rapid accessibility of social media data, scholars and officials in directorate institutions have risen to deliberate on the subjective investigation approach, which can be integrated to aid social media research. These encompass a variety of deliberations such as the merits of social channel information, the usage of social media study as the only approach or in collaboration with supplementary techniques, statistics gathering and evaluation, moral consideration, and the presentation of social media research results.

Social Media Research Group (2016) stresses that opinion search, internet-based surveys, and webpage reviewing are sources of data platforms owing to the communal identity of the information mined from both online and social network platforms. Similarly, with alternative approaches, the new media analysis must be viewed as a critical and essential evolving resource for research. Likewise, many studies employ social media approaches and alternative approaches (Social Media Research Group, 2016). In a nutshell, social media research comprises exclusive lay-down resources that can unveil the influence on individual communication. Social media can track the extent to which a system evolves and responds to an inquiry concerning its growth.

### **Opportunities and challenges of social media research (SMR)**

Relative to the knowledge of social media, this section has assessed the opportunities and challenges accrued to SMR, alternative methods, and their effectiveness as investigation resources.

#### ***Opportunities for social media research***

Social media research significantly broadens the scope of researchers by using the platform to call the attention of academia and researcher in diverse fields (interdisciplinary), especially those that do not study social media as a discipline. However, their study could add value to social media attributes to aid research in numerous fields. Sloan and Quan-Haase (2017) avow that social media research can serve as a distinctive technique that combines alternative approaches, data gathering, investigation, social behaviour effects, and addressing social media research results (Sloan & Quan-Haase 2017). Studies related to social media can be

piloted on numerous subject matters of human endeavours that exist virtually. Life situation experiences can be showcased both virtually and physically (Sloan & Quan-Haase, 2017). Pulsar (2020) asserts that social media research is persistently growing, with researchers emerging with novel approaches and methods in a manner that helps to determine how online participants explore social networks platform, their attitudes, and discussions on these platforms.

Social media has advanced in scope and significance. It is also suitable as an essential part of daily human survival. Social media research uses research tools to comprehend these innovative platforms for conversation (Pulsar, 2020). Social media research possesses a substantial nature of reachability, immediate creation of action virtually, and a sample of a particular set of concerned online participants (Social Media Research Group, 2016). Social media permits a researcher to examine the impulsive emotions and judgments of online participants. Sometimes, it aids empirical researchers to gather data via review or market study. SMR offers a considerable amount of accessible information for researchers to analyse people's words. Social media research encompasses traditional approaches as well as current trends in academic, social sciences research, and industry-based social media analytics (Sloan & Quan-Haase, 2017). Recently, social media's advent and widespread popularity began to offer a novel foundation for data gathering and a unique perception to assess users and communal attitudes. Lastly, the research of Buntain, McGrath and LaFree (2016) concurs that new media research offers a register of numerous online participants' attitudes.

### ***Challenges of social media research***

Social media study offers an opportunity to discuss public problems and issues. The platform updates individuals on the latest community happenings or trending events such as weather transformation, athletic, and entertainment news. Nevertheless, individuals need to appreciate that social media platforms are collections of diverse participants, innovations, and records of information (among other things) that entail researchers to regularly focus their study on the quantitative analysis unit of their study (Marres, 2017; Pearce *et al.*, 2020). Occasionally, social media does overemphasise and influence users' daily behaviour and dispositions by allowing them to occupy a world of fantasy and reality. These habitual occurrences form distrust of a great deal of information emanating from bloggers as an untrustworthy platform for scientific study analysis results. Gladwell (2011) and Branthwaite and Patterson (2011) avow that the platform contributes to trendy feeble bonds and unstable associations, unpredictable and varying behaviours and moods, especially among online users.

Sloan and Quan-Haase (2017) state that connecting statistics at distinct levels is a significant issue in social media statistics relating to methods that are subjectively distinct from prevailing approaches, frequently merging image, script, and transverse communications and backgrounds. Conceivably, it is related to the study by Kuhn (1970), where it was described as "anomalies" leading to new scientific paradigms. As such, predispositions will occur, and this might be tough to deduce conclusions related to the large populace.

## II. METHODOLOGY

The significant goal of this systematic review is to recommend the standard review and to propose the best practices in rounding up the new media study. This analysis is expressive and strictly adheres to scoping review methods, which attempt to describe the empirical and non-empirical research. Scoping analysis methods are known to easily recognise research problem statements and consequences for policymaking. The manner and broadcasting of social media research are inconsistent globally among scholars and researchers. However, the authors of this book chapter conducted comprehensive literature searches from diverse fields in this study.

Firstly, the authors searched electronic databases. This search was peer-reviewed using many electronic search strategies and also searched for grey literature (unpublished material and non-empirical). The scoping review approach used in this study began with designing the specific study of inquiries. Articles with the subjects and conceptual references associated with social media research were reviewed to prevent wasting resources in gathering extraneous journals that are below the required standard established. Meanwhile, the subjects and conceptual significance screening template were designed by the four authors of this book chapter. Furthermore, the authors searched electronic databases for peer-reviewed and non-peer-reviewed (blogs) social media research papers and IDR. Upon independently reviewing, two independent reviewers were consulted to screen all the references incorporated into this study.

Meanwhile, information conceptualisation and authentication were accomplished by the two selected assessors. There were no significant discrepancies among reviewers and the authors in evaluating the available resources, though minor modifications were recommended. The databases searched in this study cover medicine, business administration, engineering, accounting, sociology, broadcasting and art studies, finances, and others.

## III. ROUNDING UP THE SOCIAL MEDIA-RELATED RESEARCH

This section proposed the ideal best practices for concluding social media studies. Therefore, the findings of this book chapter resulted in the development of 12-fold probable suggestions to round up interdisciplinary social media research as significant contributions, based on an in-depth literature review (Markham & Buchanan, 2012; Sloan & Quan-Haase, 2017; Poynter, 2010; Moreno, Goniou & Diekema, 2013; Beninger, Fry, Jago, Lepps, Nass & Silvester, 2014; British Psychological Society, 2013; Gelinias, Pierce, Winkler, Cohen, Lynch & Bierer, 2017).

- **Intellectual property ownership:** The organisation or individual sponsoring a new media study demands their credit for the concept and propositions formed should be addressed to their respective group or individual. Ambivalence not well managed might lead to social issues. It must be clear to all the members participating in the social group that acquired knowledge is exclusively for the final customer.
- **Eligibility status/criteria:** This states the specification of who is fit to participate in the proposed social media research. The section would further look at other matters, for

example, participants' country of origin, and socio-demographics (for example, gender, stage, personal record). Certain researchers tend to exploit social media research more than others, and significant differences can be found among various social media platforms.

- **Information safeguarding and confidentiality:** The operating settings and conditions must be assured with the safeguarding rules of users' information and the extent to all human endeavours regarding societal concerns. For example, the place of information storage, who would have access to it, the nature of data or statistics to be published, and a report of rules and regulations that bind all the participants of the group. Consequently, researchers need to reflect on confidential information to know the information to publish and those not to be published and those not published.
- **Keeping track of the research:** The investigator is expected to adequately search online users who purposely post information that reveals too much about themselves on social media during the research process (i.e. data gathering). For example, avoid prints of their main entrance, and remarks about the aesthetics of their house. Surfing the internet might lead to further dangers; research that broadcasts direct comments from a social group could put an online user in danger (Moreno et al., 2013).
- **Confidential information:** Confidential noticeable information is important and must be handled strictly with esteem care. Adhering to personal information protection policies and government directives is crucial. If a certain person's profile is appraised as confidential, the researcher needs to be very careful in handling them. For instance, the European Union Information Defence describes confidential information as a spiritual conviction, dogmatic sentiments, well-being, and ethnic group (EU Commission, 2020). Whenever research participants are submitting personal confidential facts, such as personal monetary transactions, such data must be treated with utmost care.
- **Identity disclosure:** A researcher must make arrangements when communicating with the online participant before posting their online statement verbatim. The researcher should endeavour to conceal the name of the respondents during the research process. However, there is no absolute assurance of anonymity in new media studies.
- **Participation must adhere to informed consent:** Individual informed consent must be sought before engaging in the research process. Investigators must analyse suitable manners to access the online participants and respondents, ensuring that appropriate measures are adhered to in line with the condition of operation in safeguarding respondents' confidential data.
- **Confidentiality:** The dangers associated with the dearth of privacy protection are weighty, due to the limited influence of social media researchers over various activities on the platform compared to the power of offline research over personal information protection (British Psychological Society, 2013). The study of Roberts (2012) discloses that information uploaded on social media remains forever, and direct statements online can easily be tracked to the origin from where it emanated (BPS, 2013) via the internet, such as Google. Sloan and Quan-Haase (2017) affirm that a user's identity cannot be hidden.

- **Ethical issues associated with mixed methods:** Knowledge about the moral problems related to subjective and empirical investigation methods is vital. Researchers exploring diverse approaches must be conscious of the moral issues related to empirical investigation and the subjective study approach.
- **Report of the scientific environment that facilitates social media research success:** Researchers need to report facilities and other resources that enabled the success of the proposed mixed methods. For example, the empirical study includes workstations, virtual investigation operating systems, analytical programs (for example, R, SAS, SPSS), facilities to assist involvement methods, and experienced research analysis. In contrast, the subjective study comprises workstations, computerised documentation devices, cross-examining areas, data arranging operating systems, subjective statistics study operating systems (for example, Atlas.ti, HyperResearch, MAXQDA, NVivo), and facilities to reinforce.
- **The research methods must be suitable to the research questions proposed to be undertaken:** The research methods in any investigation related to interdisciplinary social media-related research need to be suitable to the specified inquiry study or query. Study questions need to be appropriate for the study method stated. For instance, the triangulation approach is a kind of research method that accommodates both subjective and empirical study methods, due to the inefficiency of a single research approach in developing multi-fold outlooks or offering an all-inclusive understanding of study inquiry (NIH Office of Behavioural and Social Sciences 2018).
- **Social media platforms are not fully representative of populations:** Social media users are not generally accepted as members of the populace (Ruths & Jurgen, 2014). Therefore, prejudice will occur, and it might be difficult to conclude the wide-ranging populace. However, these attributes are valuable, especially when a study centred on a specific association is known to be lively on a social network forum.

#### IV. DISCUSSION

In this book chapter, the search for social media research predominates in the reviewed journal articles and unpublished write-ups that seem to be broad. Furthermore, it is not part of this scoping review approach to evaluate the systematic standard of a user's (unit of analysis) encompassing in this book chapter. However, based on the known attributes, variety of research approaches, and scoping reviews adopted while writing this book chapter, the authors proposed some recommendations for progressing the social media assessment technique and improving the dependability that aids in strengthening the study.

More so, this study validates that SMR is a novel technique that enjoyed geometric progression as an autonomous investigation entity today. Consequently, there seems to be a non-existent precision or concord based on the definite definition of SMR and methodology for social media measurement. Remarkably, this book chapter succeeded in closing this gap by collating a formal report of social media research by different scholars.

Adopting a scoping review methodology that reviewed over ten social media research works from a diverse field of discipline revealed that SMR is a relatively novel research entity. Currently, efforts have been made by this present study to show, clarify, enhance, communicate to the research community, and report social media research about current standardisation in the emerging field of research.

Lastly, it is essential to design a structure that can aid researchers to understand standards or best practices that must be considered when rounding up social media-related studies irrespective of disciplines. Therefore, this is believed to yield a shared benefit to all the research communities, especially interdisciplinary social media-related research at large.

## **V. CONTRIBUTION OF THE CHAPTER**

This book chapter has several contributions:

1. The current book chapter enumerates various definitions of SMR in tabular form and recommends a comprehensive definition of social media research.
2. This book chapter also offers characteristics, opportunities, and challenges associated with social media research.
3. This book chapter recommends best practices for rounding up social media recommendations and future studies.
4. It also provides a social policy guide to potential researchers and existing scholars in social media research communities.

## **RECOMMENDATION, FUTURE STUDY, IMPLICATION AND CONCLUSION**

### ***Recommendation and future study***

This study recommends that researchers need to display honesty and transparency. The researcher should be enthusiastic to entertain the opinion of diverse online participants, be transparent in their goals, and engage online users ethically during both virtual and internet community studies. There is a need for transparency in the recruitment exercises and resources used. This study demands that future studies should protect the personality and status of users. Therefore, a researcher should endeavour to uphold confidence in the assessment of the research community. Social media researchers should endeavour to be open and truthful in their reports to aid the field's progression.

The researcher should endeavour to monitor any chat, tweet, or broadcast and take a satisfactory viewpoint to enlighten online participants, and protect their users' names and status from the general public, if possible. These choices of activity to protect users include rephrasing rather than using exact words or usage of citing. The researcher can also explore the privy to use precise statements, pictures, or audio-visuals such as exact testimonials, secluded communication or letter, and broadcasts. More so, this study recommended that SMR be limited to analysing social media data collected only, relatively accommodating the relationship between data collected via the social platform and traditional media. SMR research is significant; it has increased the level of interdisciplinary progression in systematic techniques for analysing SMR and fostering collaboration in diverse fields.

### **FUTURE RESEARCH DIRECTION**

As regards the social media research obstacles as mentioned earlier, the authors recommend a few imminent study guidelines that need to be accomplished in interdisciplinary research. Firstly, SMR needs to develop and evaluate systematic techniques, methodological outlines, operating system resources, and policy for tracing, evaluating, and collating significant social media information from diverse fields of study. Furthermore, future research could focus on an empirical investigation that centres on rounding up social media studies. Our call to potential researchers and scholars is to expand their scope and extend their study to the analysis of videos and pictures, methodological challenges while gathering data, and engaging in social media analysis.

### **IMPLICATION**

This book chapter has introduced the best practice approach for rounding up social media research (SMR) as an emerging social research field that will favourably impact prospective social media researchers from different disciplines. Furthermore, this book chapter argued that social media research offered several challenges and new opportunities. Therefore, SMR can be extended to other disciplines related to social media research. The clarion call of this book chapter emphasises the need for future researchers to understand, explore and apply best practices identified in this unique book chapter. Remarkably, this book chapter encompasses rounding up social media-related research in various quarters of research disciplines such as medical, public health, political, information technology, animal welfare and genomics, economics, transportation and logistics, education, technology, business, and marketing, to mention but a few; and to protect social media users and support research communities at large.

### **LIMITATION**

The primary means of disseminating results are conventionally through printed manuscripts, but the emergence of social media results has increased online manuscripts and publications. There appears to be a nonexistence of sound/pictorial material, which could be more educative for the participant, researcher, and scholars at large. Gestures, quality of vocal sound, and other kinds of non-lexical communiqué hypothetically impact the quality of communications. The dearth of sound/audio-visual resources could be a result of standard or prerequisite conditions for publication in academic communities, where objects such as images and videodisks might not be alternatives. Another obvious limitation to this review is that it includes material available through academic and non-academic databases. Consequently, there is an increase in the amount of information in this review.

### **CONCLUSION**

Social media research is a state-of-the-art method to research communities at large now that its popularity has risen. As part of the research, objectives stated in this study, rounding up social media research, recommendations, future studies, and implications is far-reaching, yet there is a dearth of uniformity to promote the value and significance of social media research results. This book chapter established the formation of standard definitions and best practices

for rounding up social media research. It also made recommendations as a vital policy toward promulgating the research standardisation piloted. Furthermore, this study's contribution could facilitate and provide a mutual forum for SMR-related discussion among scholars from diverse fields of study.

Given the infancy of social media research, the scoping review approach was adopted. The primary objective of this book chapter focused on recommending the definition of social media research, rounding up social media research, conclusions, recommendations, future study, and implications. Notably, the findings of this book chapter revealed that social media research has remarkable value to researchers interested in engaging in scientific and social media-based data.

### **CONFLICT OF INTEREST**

The authors state that there are no financial and conceivable conflicts of interest. This book chapter study was within our timeframe, and no financial assistance was received. The scholars were genuinely involved in the subject matter and have consequently contributed equally.

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## CHAPTER TEN

### SOCIAL MEDIA RESEARCH WRITING, DISSEMINATION, AND PUBLICATION

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#### **CHAPTER OBJECTIVES**

- Steps in writing social media research and publication.
- Ways in disseminating social media research.

#### **ABSTRACT**

Social media research has been one of the fastest-growing disciplines in the 21st century due to the great interest in social media outlets as an avenue for information, education, and entertainment. However, few published articles offer a clear pathway to the writing, dissemination, and publishing of social media research. This chapter offers simple but comprehensive procedural steps for undertaking the writing of social media research while highlighting the accepted dissemination and publication outlets for social media research papers to reach a larger readership audience. This study heavily relied on a careful document analysis of published articles under the desk survey approach and the time-tested experiences of seasoned researchers. It assures social media researchers that scholarly procedures in writing, disseminating, and publishing the findings of their studies are within reach and highly possible. However, scholarliness on their part would require that they meticulously follow the standard practices elucidated in the chapter for success in undertaking their social media studies.

**Keywords:** Journal article publishing, Research dissemination, Research methodology, Research writing, Social media research

#### **INTRODUCTION**

A new class of information technologies known as social media has exploded in popularity in recent years, allowing people to communicate and collaborate via Internet-based platforms. Sites like Facebook, LinkedIn, and Twitter, which each have hundreds of millions of users as of this writing, are among the most well-known of these tools (Pretorius et al., 2018). The

youth of today are much involved in the use of social media. In recent years, students in second cycle institutions have become increasingly interested in social networking. It is a way to connect with pals from within and outside the school's walls. Social networking offers a means of connecting to a community of users (Karaaslan et al., 2021). However, we have only a rudimentary knowledge of how researchers are using social media, such as Twitter and Facebook, and if so, for what objectives; and how they integrate into the research life cycle (Pretorius et al., 2018). The phrase "social media" has several definitions. At its most basic level, social media platforms are web-based environments that enable users to create and share information while engaging others online. User-Generated Content (UGC) is created and distributed by online users via social media networks (Kaplan & Haenlein, 2010). Platforms can be classified according to their functionality under this definition. Basically, six social media platforms are categorized based on their function (Kaplan & Haenlein, 2010). They include websites for blogging such as Twitter and Tumblr, online platforms for content sharing such as YouTube, Instagram and Flickr, social network platforms such as Facebook, online collaborative project platforms like Wikipedia, Virtual social communities such as Farmville and Online video game for entertainment platforms such as World of Warcraft.

Big data must be considered because of the scope of social media research and data. The origins of big data may be traced back to the early twenty-first century when commercial enterprises began to produce massive databases. For example, Google, eBay, LinkedIn, and Facebook were created from the ground up on big data (Davenport & Dyché, 2013). On the other hand, social media research refers to any study that employs data derived from social media sources (Pretorius et al., 2018). Furthermore, social media research refers to the systematic process of collecting, analyzing and interpreting data from social media platforms. Social media research is mainly quantitative, though there are few qualitative and mixed methods studies available. Based on this premise, there are two types of research. The first is the use of social media as a data collection tool for research, such as the use of surveys. The second is conducting a scholarly investigation on the activities and contents on social media.

Due to the social nature of studies in this area, data is primarily obtained through purpose-built platforms. Various methodological considerations must be considered to ensure rigour, as with any new research; these practicalities will be discussed. Economists, educators, and researchers are disputing whether the use of new technologies, such as social media, can promote better study because of the vast amount of data available due to its expanding popularity. As a result, the main objective of this study was to teach researchers how to conduct social media research. The chapter provides a step-by-step guide for writing, disseminating, and publishing social media research.

### **METHODOLOGIES USED IN SOCIAL MEDIA RESEARCH**

Quantitative and qualitative methods are the two types of methodologies employed in social media research. Quantitative research is a method for investigating the relationship between variables in order to test objective theories. These variables can then be measured using tools, resulting in numerical data that can be examined using statistical processes (Creswell &

Guetterman, 2018). The quantitative approach utilizes the number of followers, users, rate of usage, engagement, and searches, and a number of reactions such as views, likes, comments, quotations, and many more. In contrast, qualitative research is a method of investigating and comprehending the meaning that individuals or groups attach to a social or human issue. Emerging questions and processes are part of the research process, as are data acquired in the participant's environment, data analysis that builds inductively from specifics to broad themes, and the researcher's interpretations of the data (Creswell & Guetterman 2018). The qualitative technique integrates visual, textual and auditory material such as image tags, media tone, text, tone, and sentiment. Furthermore, biographical data (gender, age, nationality, occupation, and so on) as well as geography, textual semantics, and other demographic aspects help both quantitative and qualitative methodologies. Although quantitative and qualitative methods are the main research methods for social media, mixed methods research approaches could also be used. In a mixed-method, wherein the researcher collects both quantitative (closed-ended) and qualitative (open-ended) data, integrates the two, and then interprets the results based on the combined strengths of both types of data to comprehend research challenges have the potential to be useful in social media studies as well (Creswell, 2014).

### **Empirical review of quantitative, qualitative and mixed methods**

This section gives a brief review of studies conducted using quantitative and qualitative methods on social media research. Joshi (2017) employs a quantitative strategy to investigate the influence of social media reviews on brand perception. This study used hypothesis testing to obtain data that indicated a relationship between dependent and independent variables. The correlation method was employed in the investigation. In a linear regression model, the study used the interval scale. Using the R programming language, the study gathered 942 YouTube videos created by tech content developers with 69 YouTube reviewers from the United States and Canada creating these films for six smartphone companies (Joshi, 2017). The values that were assigned to the independent variable were resolution of the video, tonality, video duration, date published, channel, and smartphone brand (Joshi, 2017). The values that were assigned to the dependent variable were views, likes, dislikes, shares, comments, and subscriptions. Cheng et al. investigate the relationship between content creators' videos and YouTube's algorithmically generated recommended videos (Dale & Liu, 2008). While the study stressed the importance of content producer choice, it focused on YouTube's snowball effect rather than the impact of these content creators on viewer choice. In addition, as the essential metric of popularity, this study concentrated on counting the total number of views generated by the videos.

However, in terms of qualitative approaches (Aksoy, 2018) also conducts a study on the causes of social media addiction. The study included 25 students from the Gaziosmanpasa University School of Education who had previously completed the Esgi (2016) Social Media Usage Questionnaire and determined that they were addicted to social media. There were twelve males and thirteen females among the students. The study was carried out as a qualitative investigation. The experience, knowledge, and behaviours of students who use

social media were examined in this study. As part of the document analysis, students' e-mails and social media activities were examined.

Behan (2014) investigated the effectiveness of Facebook fans' perceptions of the Facebook brand. This study investigated the influence of a Facebook page on brand friends using a qualitative non-experimental single case study technique. The issue is a misunderstanding of the influence of social media sites such as Facebook on a user's opinion of a brand. According to the data acquired, the use of Facebook by SMEs aid in the maintenance and, in some cases, improvement of the good perception of the brand. This influence on brand perception is also dependent on the drivers of a) connection, b) change in perception, c) internal value, d) goodwill and e) the choosing process, according to the research (Behan, 2014). The study's findings indicate that Facebook is an important marketing communication medium for SMEs in terms of brand impression.

Vyas, Landry, Schnider, Rojas and Wood (2012), for example, used a survey and follow-up interviews to investigate Latino youth's usage of short message services and social media, as well as the potential role of these services as communication techniques in public health programs. These examples show how qualitative and mixed methodologies research approaches can be used in tandem to uncover new insights.

### **STRUCTURE, WRITING AND APPROACH TO SOCIAL MEDIA RESEARCH**

Social media research is not different from the structure and procedure used in other research however, It must begin with a well-defined research problem and end with a well-designed research protocol that outlines the entire plan (Getahun et al., 2013). This foundation should result in a set of data that can be used to build the manuscript. Manuscripts submitted to journals for publication consideration often comprise these key elements: abstract section, introduction, review of related literature, materials and methods, results and discussions as well as conclusions. The following is a suitable way to draft a social media research manuscript. Write the methods section first, based mostly on your initial study procedure, and possibly during the experimental portion of the work to ensure that all information is covered. The results section details the data garnered from the field, illustrated using figures and tables. Depending on the type of study, there may be some iteration in the display of the data and the drafting of the material. After that, rethink the research questions the study will cover and write the introduction, using your research approach as a guide. Then, using the introduction and results as a starting point, create the Discussion. After summarising everything in an Abstract, condense and refocus it into a Conclusions section (Getahun et al., 2013).

#### **Title page**

The title page of any research study includes the topic, the author's name, the year of publication, the name of the institution, or the name of the journal. It is preferable if the researcher defines the scope of the research issue. Limiting yourself to a particular aspect of social media makes the study manageable and researchable. For instance “the impact of social media on brand perception” is more researchable than “ social media”. Again, "the

influence of social media on brand perception" includes certain essential factors that help to keep the study manageable. Again, the document's title and the authors and author connections should be succinct and to the point. Provide five (5) keywords and a concise title (sometimes known as a running title) for the text. Finally, include detailed contact information for the appropriate author.

### **Abstract**

The term "abstract" comes from the Latin *abstractum*, which means a condensed version of a longer piece of literature. Abstracts are classified into two types: descriptive and instructive. Your field of study determines the type of abstract you write. It is also a summary of the whole study being conducted. The abstract is generally the last thing you write, yet it is the first thing people look at when they want a fast summary of the entire manuscript (Koopman, 2022). We recommend that you write the abstract last because you will better understand all your results and conclusions. The abstract should be viewed as a separate document, with no material from the body of the report dependent on the abstract and no material from the body of the report relying on the abstract. The purpose of the experiment should be expressed clearly in the first sentence. If the experiment is based on a hypothesis, which is highly recommended, the hypothesis should be mentioned first, followed by phrases clarifying the basis and evaluation (Getahun et al., 2013).

For papers in the humanities and social sciences, as well as psychology essays, descriptive abstracts are commonly employed. The bulk of descriptive abstracts shares a few fundamental elements (background, purpose, specific interest or focus of work, and an overview of contents (not always included)). Informative abstracts are commonly used in scientific, engineering, or psychological studies. In roughly 250 words, you must convey the essence of your report's topic (Loopman, 2022). The majority of informative abstracts have a few crucial components in common. Each of these sections might be 1-2 sentences long. It includes the following sections: background, research aim or purpose, technique, findings or results, and conclusion. The word count limit for an abstract is sometimes dependent on the journal's specifications. The IMRAD format, which consists of a concise version of the introduction, methods, results, and discussion, is preferred by most journals. Also, standard practices require that no references be cited in the abstract section. Regarding the word count limit for abstracts, authors must consult the journal's specifications or house style as each of them differs in the word count allowed for the abstract section.

### **Introduction**

A brief survey of related and relevant literature to the research topic is required in the introduction. Three to four paragraphs may be required. The introduction takes the reader from a broad research problem or issues to your specific research topic. Thus, the writing of the introductory section often follows the funnel format where generalized contexts of the topic are discussed from the global perspective and narrowed down to the regional, specific contexts. The introductory section contextualizes your research topic by describing the significance of the study. This is usually accomplished by summarizing current knowledge as well as background information on the subject. The discussions of the theoretical and

empirical studies in any aspect of the social media discipline must assist in exposing the research gaps or academic lacunas that call for new research. This is followed by a statement of the research topic or problem's objective(s). The next section could highlight the study's hypotheses or research questions that you hope to address through your research. If any direct theories could be linked to the study, it is discussed briefly by highlighting its proponents and the theoretical perspectives of the theory. The author(s) must then show the theoretical connections of their study with the theoretical propositions of the existing theories cited. If a conceptual framework is developed, especially in cases where no theory agrees directly with the intents of the new study, a diagrammatic representation of the framework, showing the interconnections of the study's variables or key constructs must be established (Adom et al., 2018). The introductory section should conclude with a synopsis of the paper's structure. This concise synopsis offers a guide for readers on the various aspects of the paper.

### **Methods**

This section of the paper details the research methodologies deployed in carrying out the study. It comprehensively discusses how the study was undertaken. It highlights the research approach, research designs, sampling procedures, sample size and their justification, data collection and analytical tools, and brief information on the study areas. Enough scholarly justifications, with support, preferably from the literature should buttress the selection of each methodological approach adopted. A brief discussion of studies that have successfully utilized the methodological approach in similar studies could be cited to justify the projected success of the study using the same methodological framework. This section must not leave any room for doubts but must offer all essential information to allow other researchers who would want to replicate the study under similar conditions to get the same or similar findings.

### **Results**

The data garnered for the study are presented to readers in this section. It should be noted that the results section is not a forum for debate or interpretation of the findings. Tables and figures should be used to present illustrate and enliven the data collected. Each set of tables and figures should be introduced in its own paragraph, emphasizing the overall trends and key data points (Getahun et al., 2013). You might want to make a note in the text about where a particular table or figure is located in situations where the tables and figures are to be presented separately in the paper submission process. Socio-demographic data of the study participants are often presented before the actual data garnered for each of the specific objectives that undergird the study.

### **Discussions**

When writing the discussion of the research findings, keep the following points in mind. The major findings of the study must be scholarly stated and their interpretations or meanings explained in great detail. In this section, you offer an intellectual and captivating discussion of what the data presented in the results section means in relation to the research questions for the study. The interpretations of the data garnered cannot make full sense if it is done alone. Therefore, it is important to relate the study's findings to other empirical studies that have already been published as part of the scholarship in the field of inquiry. Show the connections

of the study's results with the theories that underpinned the study and the conceptual framework (if any) that was projected to show the connections of the study's variables (Adom et al., 2018). The "Discussion" portion should generally not be longer than the sum of the previous sections (introduction, materials and techniques, and findings), and it should be completed in 6-7 paragraphs (Sanli et al., 2013). The discussions will be academically refreshing if alternative explanations for the findings are given while highlighting the novel findings and relevance of the study (Hess, 2004; Sanli et al., 2013). Finally, be aware of the study's limitations. However, avoid over-interpretation of the data and unnecessary guesswork when writing the discussion section.

### **Conclusion**

The foremost purpose of the concluding section is to go through the key points that have been highlighted in the work. The section assists the reader recall the article as a whole by reiterating the important ideas. The second purpose of the concluding section is to connect the statements presented in the paper to the study's thesis or intent, which was most likely stated in the introduction. This helps the reader to remember the importance of your claims in the context of your larger argument. The conclusions are largely built on the key findings. The conclusion's final purpose is to portray a sense of involvement with the topic that extends beyond the argument or prompt. This shows the reader that you, the writer, have given careful consideration to the consequences of your work (Hedengren, 2020). The limitations of the study suggested areas for further research, and the study's recommendations for policy implementation purposes are highlighted in this section. The concluding section serves as the rope to link the existing study with future studies to be conducted to acknowledge the cyclical nature of the research process.

### **Acknowledgements**

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### **References**

The referencing style depends on how a particular journal renders its publication in social media research. The most common referencing styles include American Psychological Association (APA), Chicago referencing style, Harvard referencing style, American Medical Association (AMA) referencing style, and Modern Language Association (MLA) referencing style (Hedengren, 2020). The selection of the referencing style is dependent on the journal house style. Authors must ensure the inclusion of all the citations of all referenced materials that were used in the text. The references should be carefully chosen to include all relevant field sources as well as earlier studies that support or drive the current effort. On the other hand, extraneous references should not be included in an attempt to simply cite certain authors or periodicals (Getahun et al., 2013). Zotero, EndNote, RefWorks, Citavi, PaperPile, Docear, JabRef, and Mendeley are online referencing management software that can offer immeasurable assistance in referencing researchers.

**DISSEMINATION OF SOCIAL MEDIA RESEARCH**

The process of spreading research findings to stakeholders and a larger audience is referred to as dissemination. Uptake and application of research findings are critical for long-term performance and survival of practice-based research networks (PBRNs) (Pbrn, 2018). Research initiatives must produce a dissemination plan that specifies how the project's outcomes will be shared with stakeholders, relevant institutions, organizations, and individuals to utilise them. The aim of dissemination, the message to be conveyed, the audience, the method, and the time are all explained in detail in a dissemination plan. While there are numerous methods for disseminating information, it is critical to choose the best one(s) to reach your target audience and achieve your goal. The initiative can also be promoted through newsletters and press releases. Information regarding the project can also be communicated through reports, academic papers (journals), and websites. Like any other type of research, social media research is disseminated across all social media platforms such as Facebook, Twitter, Instagram, and so on. The research and its findings can be promoted through conference presentations and academic platforms such as ResearchGate, Academia, Kudos, FigShare, and others. Academic institutional repositories, as well as personal blogs, are equally fertile grounds for the dissemination of research articles from social media research.

**CHOOSING A SUITABLE JOURNAL FOR THE PUBLICATION OF SOCIAL MEDIA RESEARCH**

After the dissemination plan has been decided, the final stage is choosing a journal for publication. There are several categories of journals depending on the kind of paper you want to publish. For instance, if the type of social media research the researcher conducting is basically for education but not on medical issues, it is appropriate to choose an education journal for your paper. Looking at a few issues from various journals, on the other hand, will almost certainly show that research report writing styles vary widely. The length and depth of literature reviews, as well as the extent to which authors describe any underlying theoretical underpinning and the level of statistical data, and the extent to which authors describe any underlying theoretical underpinning and the level of statistical data varies greatly amongst publications (Maddux & Liu, 2005; Sanli et al., 2013). Some publications only require the most basic information, such as whether or not significant differences were found, but others usually include extensive tables and graphs based on the findings. Some publications, primarily aimed at practitioners, want conversational, easy-to-understand language, whereas others require more technical terminology. Looking through back issues of a journal is one of the most important ways to get a sense of the quality and weight (the term weight here can refer to the breadth and depth with which the issue is explored, the number of statistical procedures and results presented, or the level of vocabulary used in the writing) of the work that is typically published in that journal. Furthermore, proper manuscript matching with the relevant journal necessitates a thorough understanding of the available data from a scientific standpoint (Sanli et al., 2013).

## CONCLUSION

This chapter has given a general overview of social media research and the systematic processes that could guide the writing of studies in potential areas in the niche. The points that have been elucidated in the chapter are not cast in stone for the writing of all manuscripts for the vibrant and ever-growing social media research field. Social media research is not delineated from the usual research process in other disciplines. Its uniqueness is based on the use of data largely shared on its platforms. Based on the survey of empirical studies that are largely situated in the quantitative methods, it is recommended that social media researchers engage extensively in mixed methods studies to give room for the use of both qualitative and quantitative data sets to phenomena studied in the area.

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Dr Olutade found it exciting and comfortable to work in technology-driven research interest. His research interest is in digital marketing communication (social media marketing). Dr

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Having worked in the fields of Marketing, Banking, Media, and Consulting, Andrew's experience provides a robust approach to academic research. To his credit, he has worked on several media productions, both online and on TV. He also holds certifications in 'Video Production and Editing for Mobile platforms and Filmed Entertainment Business', 'The Fundamental of Digital Marketing' from Google, and has almost completed a professional certificate as a 'Google Data Analyst'.

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