Data Journalism Stories In The Cyberspace: Study Of Media Houses In Lagos State

BY

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A PROJECT SUBMITTED

TO

THE DEPARTMENT OF MASS COMMUNICATION

COLLEGE OF HUMANITIES, MANAGEMENT AND SOCIAL SCIENCES MOUNTAIN TOP UNIVERSITY, OGUN STATE.

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN MASS COMMUNICATION

AUGUST, 2022

CERTIFICATION

I certify that this research work was carried out by Peace Makinde Dayo at the Department of Mass

Communication, Mountain Top University, Ogun State, Nigeria under my supervision.

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DEDICATION

This work is humbly dedicated to God Almighty for His unending love and mercies that has helped me all through this journey. Also, I dedicate it to my loving and understanding parents for their support and commitment, and to all lecturers of the Department of Mass communication in Mountain Top University who have impacted me greatly.

ACKNOWLEDGEMENT

My topmost gratitude goes to God Almighty who has remained faithful all through this programme. I acknowledge that I was only able to achieve this by His strong support, love,grace, and not my human strength.

My great appreciation goes to my project supervisor,Dr Nwanbam, who ensured that I played my part well; and also acted as an understanding Father to me. I pray for God's reward over your life sir.

Also, my appreciation goes to my Head of Department; Dr Mbake Chinyere , who has acted as a Mother to all in the department. Her efforts through the years have left nothing but great impacts in my life. Likewise, other lecturers in my department, Prof. Anaeto, Dr.Adebiye, Dr. Oriola, Dr. Udeh, and Dr. Odunlami, are all sources of remarkable transformation in life and I am very grateful for all they have instilled in me during my four years in this institution. God bless you all immensely.

I acknowledge the efforts of my parents, Mr.Frank Zuokumor and Mrs. Juliet Zuokumor for all their supports, love and prayers. You shall reap the fruits of your labour in Jesus' name. To my wonderful siblings, Doubra, Anita, and Tina I say a big thank you for supporting me. May you continue to soar high with wings as eagles in Jesus' name.

Also, to my spiritual teachers, Mr. Dayo Makinde and Mrs.Martina Panti. I say a big thank you. God bless you for all your wonderful prayers and words of encouragement. May the good Lord reward you.

I would like to acknowledge my friends who have ensured that the success of this project was made possible. I direct my special appreciation to my friends

Peter Ericson, Tolani Ayomide, MoyinOuwa Jesuloba, and Also, notable people are: Tolulope Odofine, Boluwatife Oyedepo, Olawale Pelumi, I appreciate your efforts and support all through and I wish you greater heights in your endeavours.

Finally, the members of staff of Mountain Top University, Ogun State, Nigeria, are worthy of appreciation, for all their positive parts played towards making my undergraduate journey a success.

And to all those who contributed directly or indirectly to the accomplishment of this work, I say thank you for your contributions. God bless you all.

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ABSTRACT

1. The study was based on Data Journalism Stories In The Cyberspace: Study Of Media Houses In Lagos State. The aim of the study was to investigate data journalism stories in the cyberspace through media houses in Lagos State, how they get data stories,analyse it, and interpret it.In line with the objectives of this research, the instrument of data collection used was the structured questionnaire, distributed to a sample size of 124 media Houses in Lagos State. The data gathered was thereafter analysed, presented and interpreted using the descriptive data analysis technique; by presenting the data in tables. The result from the data analyst showed that if journalist give positive attitude towards data journalism, the media organization are in position to use data journalism to report their findings before disseminating information. This project therefore recommends that resources and data analysis tools should be made available for employees, as well as time should be created to ensure that they have time to practice. Adequate monitoring of progress can ascertain even development of data skills among all the employees.

Keywords: data journalism, cyberspace, journalism.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF STUDY

Even among journalists, the phrase "data journalism" is still unclear. While some contend that it cannot be considered journalism, others assert that it might mark the start of a new era in journalism (Rogers 2013).

A burgeoning area of journalism is called "data journalism," which actively seeks for, examines, and interprets various types of data for narrative purposes. Large data sets are analyzed and filtered as part of a journalistic process with the aim of developing or enhancing a news article. To put it plainly, data journalism is the process of uncovering stories in data, or tales that are interesting to the general public, and then presenting those stories in the most effective way possible for general consumption.

Public information dissemination through interactive web content using data visualization tools, such as tables, graphs, maps, infographics, microsites, and visual worlds, has become a trend in journalism and the digital era. Such data sets may be thoroughly examined to produce more conclusive findings and observations on current issues of interest. Additionally, data journalism may make hidden concerns apparent that appeared to not have been given priority in the news coverage.

What was once known as computer-assisted reporting (CAR) in the 1960s has evolved into data journalism. The main focus of CAR was the use of computers, and more especially databases, in journalism. Precision journalism is a word that was

developed in the 1990s to describe the use of statistics and social scientific techniques in journalism.

Data-driven journalism (DDJ) is a growing trend that may be seen as journalism's response to the abundance of data in society. In reality, the phenomenon of "big data" and a culture that is more and more data-driven are so pertinent for journalism: First of all, it is a subject worth discussing in order to put the developments and effects in their proper perspective and promote public discussion of them. Second, the "quantitative shift" (Coddington, 2015) has already started to influence news creation, leading to the development of innovative techniques for finding and communicating stories (Lewis and Usher, 2014).

A boom in data journalism-oriented scholarship has been sparked by practitioners' intense focus on data driven journalism (Fink and Anderson, 2015: 476). The Guardian Newspaper, which debuted its Datablog in March 2009, is the first major news company to have publicly employed data journalism, despite the fact that practitioners of computer-assisted reporting have been using it informally for decades. Despite the fact that the term's origins are in question, it has gained widespread use since *The Guardian Newspaper*, which launched its Datablog in March 2009. Despite that the paternity of the term is disputed, it is widely used since Wikileaks' Afghan War documents leaked in July, 2010.

Over time, journalists' usage of data in digital tools has greatly increased. In order to create interesting investigative stories, journalists have delved deeper into the analysis of unstructured data, including text, video, and sound. -- and have woven those media into compelling investigative stories. They have routinely managed gigabytes of data for stories and organized massive data leaks with agility, and this becomes more

sophisticated in visualizing data through maps, social network analysis or change over time in both news gathering and presentation.

The results have been growing stream of data-driven stories by small and large newsrooms -- often in collaborations -- that provide not only context and depth to stories, but also real facts, tips, surprises and epiphanies for journalists and their audiences. By 2020, the Corona Virus pandemic revealed the breadth and depth of the skills journalists had accumulated, and throughout the world, journalists collected, analyzed, and visualized pandemic data on a daily basis. These were often far, exceeding what public health officials offered, and in fact, exposing the shortcomings of the data on which policy and practice were being decided.

1.2   Statement of the Problem

Decisions about who and what gets attention are intimately connected to sourcing practices: what sources journalists consider to be credible, how they prioritize them, and what they do with the information that they have sourced? What matters is not only the type of source information (such as whether it is an interview or a database), but also where it is from, how it was produced, and what it is, according to advocates of data journalism, who promise a shift from opinion to evidence, report to analysis, and punditry to statistical predictions.The major challenges, faced by journalists is that most journalists are not equipped with data skills or, in many cases, are rather afraid of data. It is on this premise that the researcher intend to investigate data journalism stories in the cyberspace using media houses in Lagos State.

1.3   Objective of the study

The main objective of the study is to investigate data journalism stories in the cyberspace through media houses in Lagos State. But to aid with this study, the researcher intends to achieve the following specific objectives:

I.   To ascertain data journalism stories in the cyberspace using media houses in Lagos State

II. To find out how media houses in Lagos State make use of data journalism

III. To find out the barriers of engaging in data journalism

IV. To find out the attitude of journalist towards data journalism stories

1.4   Research Questions

The study would be guided by the following research questions:

I.   What are data journalism stories in the cyberspace?

II. What are the ways media houses make use of data journalism?

III. What are the barriers to engaging in data journalism stories?

IV. What are the attitude of journalist towards data journalism?

1.5   Significance of the Study

At the completion of the study, it is believed that the findings will be of great benefit to media organizations as it will serve as an essential tool in enlightening them about data journalism in the cyberspace, the students of mass communication, as the study seeks to explore data journalism stories in the cyberspace. secondly, the study will also be useful to practicing journalists as the study seeks to enlighten them on the efficiency of data driven reporting/journalism. Furthermore, The study will also be of great importance to researchers who would intend to embark on studies with similar topics, as the study will serve as a reference point to further researches and lastly, the

study will be of importance to students, potential journalists, lecturers, teachers and the general public as the study will contribute to the pool of existing literature on the subject matter.

1.6   Scope of the study

This study is expected to be of tremendous impact to the practice of journalism, the study is focused on data journalism stories in the cyberspace a study media houses in Lagos State. This would help to get good view points on data journalism stories. A well structured questionnaire is the instrument for data collection.

1.7 OPERATIONAL DEFINITION OF TERMS

Data-driven journalism:is a word that has been in use since 2009 to describe a journalistic method that relies on analyzing and filtering huge data sets with the intention of elevating or producing a news story. The practice of journalism involves acquiring, analyzing, producing, and presenting news and information.

Journalism: is the activity of gathering, assessing, creating, and presenting news and information.

Newspaper: A printed publication [usually issued daily,or weekly] consisting of folded unstapled sheet and containing news, article, advertisements and correspondence.

Cyberspace: the notional environment in which communication over computer network occurs.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter's first portion explores a range of research-related literatures. The literature examined the following concepts:

- Definition of data journalism in the cyberspace

- History of data journalism

- Types of data journalism

- Stories about data journalism in the cyberspace

- Knowledge about data journalism

- And a study of media outlets in Lagos State.

The goal of the chapter's last section is to make this work systematic while also presenting the academic background and supporting empirical data.

2.1 Conceptual review:

2.1.1 Identifying data journalism

The phrase "data journalism" is a shortened version of "database journalism" or "data-driven journalism," in which reporters search through vast amounts of data for stories or interesting viewpoints. Data journalism is a kind of public writing where the journalist examines huge data sets to locate prospective news items.

Uskali and Kuutti (2015) underlined the necessity for data journalists to study "huge datasets through spreadsheets or database software tools," whereas Bounegru et al. (2012) described data journalism as the use or adoption of massive data sets.

In simple terms, data journalism is about finding stories in data – stories that are of interest to the public – and presenting these stories in the most appropriate manner for public use, and reuse. Data journalism is about the investigation, the story, and the public dissemination of that story, much like any other form of journalism. In data journalism, the source is the data, and the tools are computational techniques and software programs. Data journalism is a form of journalism that is the investigation, the narrative, and the dissemination of that public.

Data journalism is described as "a field that comprises a set of approaches for gathering, analyzing, visualizing, and publishing data for journalistic objectives" by Berret and Phillips (2016, p. 15). Alexander Howard is also cited as having said that it is "the application of data science to journalism, where data science is defined as the study of the extraction of knowledge from data." According to Veglis and Bratsas (2017), the process of extracting information from data, writing articles based on the information, and embedding visualizations (sometimes interacting ones) that aid readers in comprehending the significance of the story or enable them to identify specific data that pertains to them, constitutes data journalism.

2.1.2   Types/forms of data journalism

- The term "Computer Assisted Reporting" (CAR) refers to the process of using computers and databases to research news stories. CAR gives journalists the

chance to investigate the veracity of data, and the comparative analysis that a computer can perform frequently raises relevant issues. Reporters' use of CAR enables them to get knowledge and insights that readers may use to break through the cacophony of opinionated discourse and celebrity fascination.

- Infographics are graphic representations of information that are intended to make the information clear and understandable at a glance. Infographics are used to quickly communicate a message, simplify the understanding of complicated data presentations, identify relationships and patterns in data, and monitor the development of variables.

- Data visualization is the process of presenting information and data graphically. Using visual elements like charts, graphs, and maps, data visualization tools provide a simple way to spot trends, outliers, and patterns in data.

- Graphical representations of information and data are known as data visualization. Data visualization tools offer an easy approach to observe and analyze trends, outliers, and patterns in data by utilizing visual components like charts, graphs, and maps.

- Interactive visualization: Interactive data visualization is the process of allowing people to interact with current data analysis applications. Database journalism, often known as structured journalism, is an information management philosophy in which news material is arranged around structured data sets rather than news stories.

- Database journalism is described as "supplying databases with raw material - stories, photographs and other information - by employing medium-agnostic

publishing tools and then making it available for multiple platforms" by communication professor Wiebke Loosen.

2.1.3 History of data journalism

The information was utilized for news because journalism existed. The amount of data available for analysis, study, and communication has grown at previously unheard-of speeds during the last two decades. In addition to expanding the number of sources of data accessible, technological advancement has also made it simpler to access, process, and disseminate that data. In order to produce better journalism, newsrooms are currently rebranding their structures. Data has been utilized in journalism for many centuries, long before newspapers ever existed.the early 1600s cost a few cents (Rogers, Schwabish & Bowers, 2017). In the middle of the 1960s, Ben Wattenberg first used the phrase data journalism. His study illustrates how to utilize a story to support a hypothesis using statistics That the Golden Age has come to the United States. Data analysis started in 1967 when Philip Meyer, a journalist for the Detroit Free Press, analyzed a poll of Detroit inhabitants using a mainframe computer and a sociological methodology. He then reported his results in CJoC 9 (1), June 2022; Data Journalism. The study was conducted to provide an explanation for the disturbances that occurred in the city that summer. The amount of data available for study, communication, and analysis has grown at previously unheard-of speeds during the last 20 years. In addition to expanding the number of sources of data, technological advancement has also made it simpler to access, analyze, and distribute data. For media outlets, journalists are reorganizing themselves to better utilize these new sources of information to serve their mission of providing news for consumers with a richer, more accurate understanding of the world (Rogers, Schwabish &

Bowers, 2017). Steensen and Westlund (2021) states that technical development has also simplified the access, analysis, and distribution of data. Journalists are restructuring media outlets to more effectively use these new sources of information in order to fulfill their mandate to deliver news for customers with a fuller, more accurate view of the world (Rogers, Schwabish & Bowers, 2017).

Data journalism, according to Steensen and Westlund (2021), is the next best alternative for news reporting since it will usher in a new era that is independent of traditional journalism. The necessity to use facts, statistics, numbers, and other sources of information to make sense of situations or matters occurring in the news is recognized by data journalism, even if it hasn't completely supplanted conventional journalism. The United States of America's.   program concentrated on modern data journalism tools. Wangui (2018); Premiumtimesng.com (2017). The Nigerian Bureau of Statistics (NBS) and the News Agency of Nigeria (NAN) together organized a workshop in 2019 with the topic "Using Official statistics for storytelling in Nigeria." To achieve the objective of "producing meaningful newswire of data-driven news," a training session was arranged. The workshop's main goal was to clarify the importance of data journalism in Nigeria.

2.1.4 Defining data journalism stories in the cyberspace

A science fiction film is where the phrase "cyberspace" first appeared. It has, nevertheless, become an essential component of our existence in the twenty-first century. Electronics and the electromagnetic spectrum are used in cyberspace to store, alter, and share data via networked computers and related physical infrastructures. Many meanings and semantic interpretations of the word "cyberspace" have been proposed, particularly by lexicographers and specialists looking to clarify the meaning

of the phrase. This is typical of current ideas or occurrences that are gaining attention nowadays or sparking investigation. Adnan (2010) defined cyberspace as an other reality where computers are continually transmitting information to one another. It is a web of both public and private computer networks. geographical context of online chats, email correspondence, spam assaults, and the transmission or distribution of information. According to Pf affenberger (2000), the term "cyberspace" simply refers to the virtual space that was created with the use of computer systems, or the world that was created using computer technology.

Empirical Review

There is evidence that data journalism plays an important role in cyberspace. Additionally, it is obvious that certain requirements must be met in order for data journalism stories and the influence of cyberspace to be successful and result

in an improvement and relevance in cyberspace. A number of researches have been conducted in the sub-sectors of the journalism industry, media industry, newspaper industry.

One of such studies is by Roger (2013) on data journalism. He explained that In data journalism, the goal is to use data to write the most compelling story possible. It is not about arithmetic, chart-making, or even programming. First and foremost, it's about telling tales; the arithmetic, charts, and programming are just tools. All in the service of Your shifting your focus from words to something else. Instead, this is concerning the most effective method of telling that tale. The methods of data journalism are always evolving. time, however they can be distinguished by the availability of readily available instruments that enable complex data processing and analysis. Imagine having a job as say, a reporter in the 1980s. What would your

working tools be? a journal and Certainly shorthand. a backup cassette recorder, likely a reel-to-reel if you worked in broadcast.would rely on a clippings library for research, likely staffed by someone who understood the collection inside and out. You need some research done. Your search engine would be them. The likelihood is that you would use a typewriter to compile your notes, the whose outcomes would be presented using a scalpel, whereas the images that went With a ruler and pencil, it would be clipped.

Another study by Lewis and Usher (2013, 2014) ``Explains Data Journalism in an era of Cyberspace'' is thus a way of seeing journalism as interpolated through the conceptual and methodological approaches of computation and quantification. It is about both the ideation and implementation of computational and mathematical mindsets and skill sets in newswork—as well as the necessary deconstruction and critique of such approaches. Taking such a wide-angle view of this phenomenon, including both practice and philosophy within this conversation, means attending to the social/cultural dynamics of computation and quantification—such as the grassroots groups that are seeking to bring pro-social "hacking" into journalism.

Data journalism defies simplistic explanations (Lewis & Waters, 2018). Yet a strict definition may be less important than an appreciation for the broad scope of activities it encompasses and the fundamental skills required in numeracy and basic descriptive statistics

According to study conducted by American journalism researchers,cited in MPDA, there has been a growing body of studies on the practice of data journalism in various countries or specific geographical areas. Examples are Sweden (Appelgren and Nygren 2014), Norway (Karlsen and Stavelin 2014), Belgium (De Maeyer et al. 2015),

Canada (Young et al. 2018), Russia (Radchenko and Sakoyan 2014), the United Kingdom (Arias-Robles and López 2020; Borges-Rey 2017; Borges-Rey 2016; Hannaford 2015; Knight 2015; Dick 2013), the United States (Fink and Anderson 2014; S. Parasie and Dagiral 2013; Parasie 2015), Germany (Stalph 2017; Weinacht and Spiller 2014), Italy (Porlezza and Splendore 2019), Australia (Wright and Doyle 2019), Latin America (Mutsvairo et al. 2020; Borges-Rey 2019;Palomo et al. 2019; Borges-Rey et al. 2018), China (Zhang and Feng 2019), the Arab region (Fahmy and Attia 2020; Lewis and Nashmi 2019), Pakistan (Jamil 2019), and further studies beyond the Majority World countries (Appelgren et al. 2019; Wright et al. 2019).

Another study by American journalism researchers states that there have been a smaller number of recent studies examining the characteristics of good or award-winning data journalism (Young et al. 2018; Ojo and Heravi 2018; Loosen et al. 2017). Amongst these, Ojo and Heravi (2018) examined the evolving skill set and competencies required for data journalism and their adoption pattern by winners of the Data Journalism Awards, and identified a set of core skills, technologies, and tools that appear central to award-winning data journalism practices.

It is important to know the importance of data journalism in media houses in Lagos State and how media houses report data news.

2.2 Theoretical framework:

The theories to support this study are:

- Grounded Theory
- Gatekeeping Theory
- Technological determinism Theory

2.1 Grounded theory

logical argument In their 1967 book The Discovery of Grounded Theory, Barney Glaser and Anselm Strauss first outlined this concept (Glaser and Strauss 1967). In response to what they perceived as the prevalence of hypothetical-deductive, theory-testing Glaser and Strauss proposed grounded theory as a method of developing theories. Systematically utilizing data from social science research. Ever when it initially appeared. Eventually, grounded theory developed into "today the most commonly used and popular a variety of disciplines and topic areas using the qualitative research method' {Bryant and Charmaz 2007: 1}

Grounded theory is a systematic methodology that has been largely applied to qualitative research conducted by social scientists. The methodology involves the construction of hypotheses and theories through the collecting and analysis of data. Grounded theory involves the application of inductive reasoning. The methodology contrasts with the hypothetico-deductive model used in traditional scientific research. Grounded theory involves the collection and analysis of data. The theory is "grounded" in actual data, which means the analysis and development of theories happens after you have collected the data. However, it's use isn't limited to qualitative studies; it is a general method that can be applied to many areas of research. Researchers collect data through any means they prefer and then analyze the facts to arrive at concepts. Through a comparison of these concepts, they plan theories. They continue until they reach sample saturation, in which no new information upsets the theory they have formulated. Then they put forth their final theory.

In grounded theory research, the framework description guides the researcher's own interpretation of data. A data description is the researcher's algorithm for collecting

and organizing data while also constructing a conceptual model that can be tested against new observations.Grounded theory doesn't assume that there's a single meaning of an event, object or concept.

A study based on grounded theory is likely to begin with a question, or even just with the collection of qualitative data. As researchers examine the data they have gathered, conceptions or ideas start to emerge. According to the theory, these concepts/ideas originate from the facts. The researchers assign codes to such thoughts and notions that briefly describe them. Codes can be categorized into higher-level ideas when more data have been gathered and examined. These classifications serve as the foundation for a hypothesis or novel theory. Thus, grounded theory differs significantly from the conventional scientific model of research, which calls for the researcher to select an existing theoretical framework, develop one or more hypotheses based on that framework, and then only gather data in order to determine the accuracy of the hypotheses. derived from that framework, and only then collects data for the purpose of assessing the validity of the hypotheses.
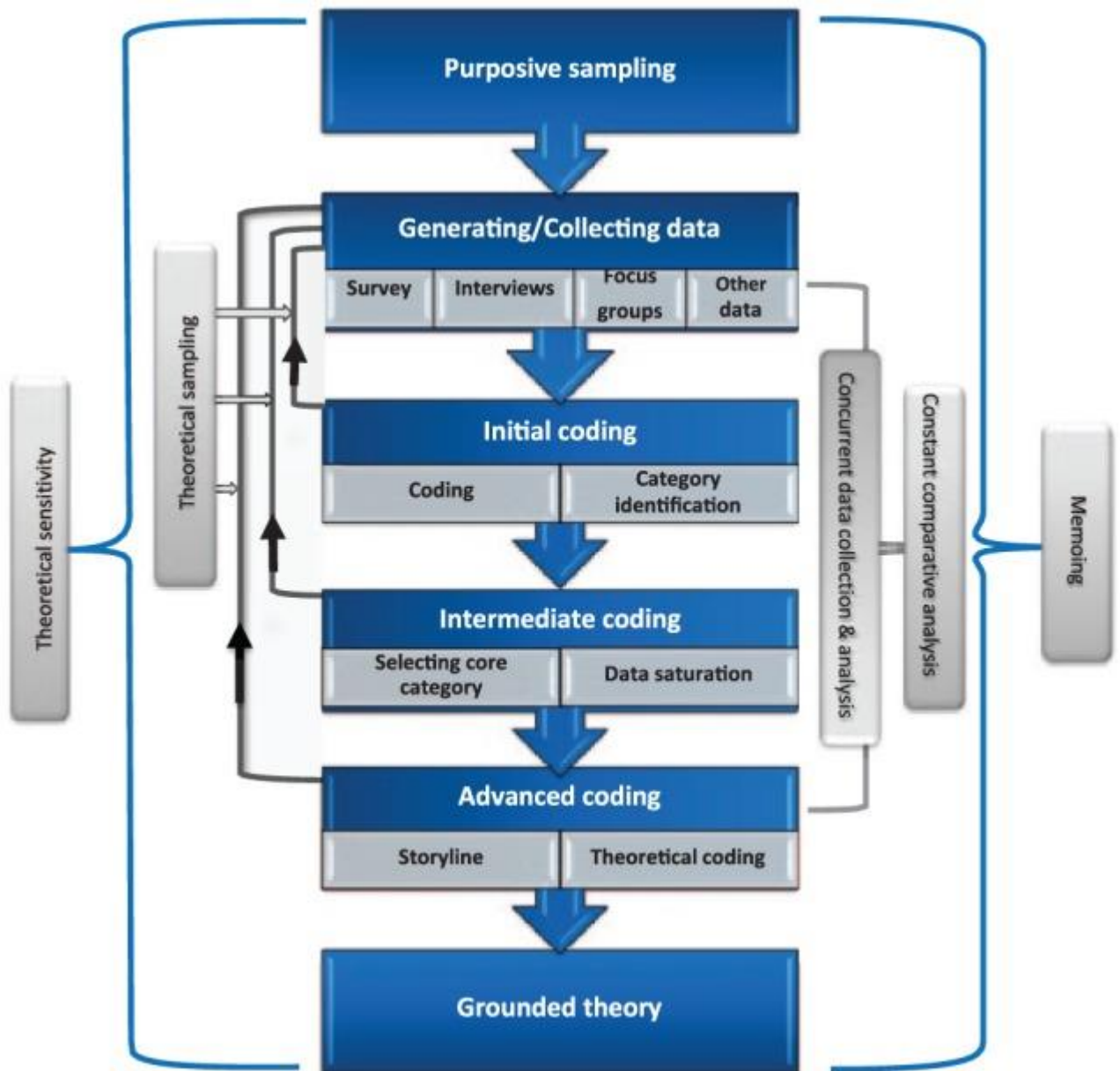
2.2 Gatekeeping theory

Addresses how the news messages that circulate throughout society are selected and shaped (Shoemaker and Reese, 1996; Shoemaker and Vos, 2009). Given Given the enormous number of events that take place every day and the practically infinite ways to depict them, why do certain news stories go viral while others are kept under wraps? Understanding who controls the media outlets with the most reach and influence, such

as television, newspapers, and social media sites like Facebook and Twitter, is one of the most crucial aspects of understanding this.

The players in charge of these channels may be thought of as gatekeepers since they have the authority to determine which messages go through and which don't.The most striking example comes from David Manning White's groundbreaking gatekeeping research.
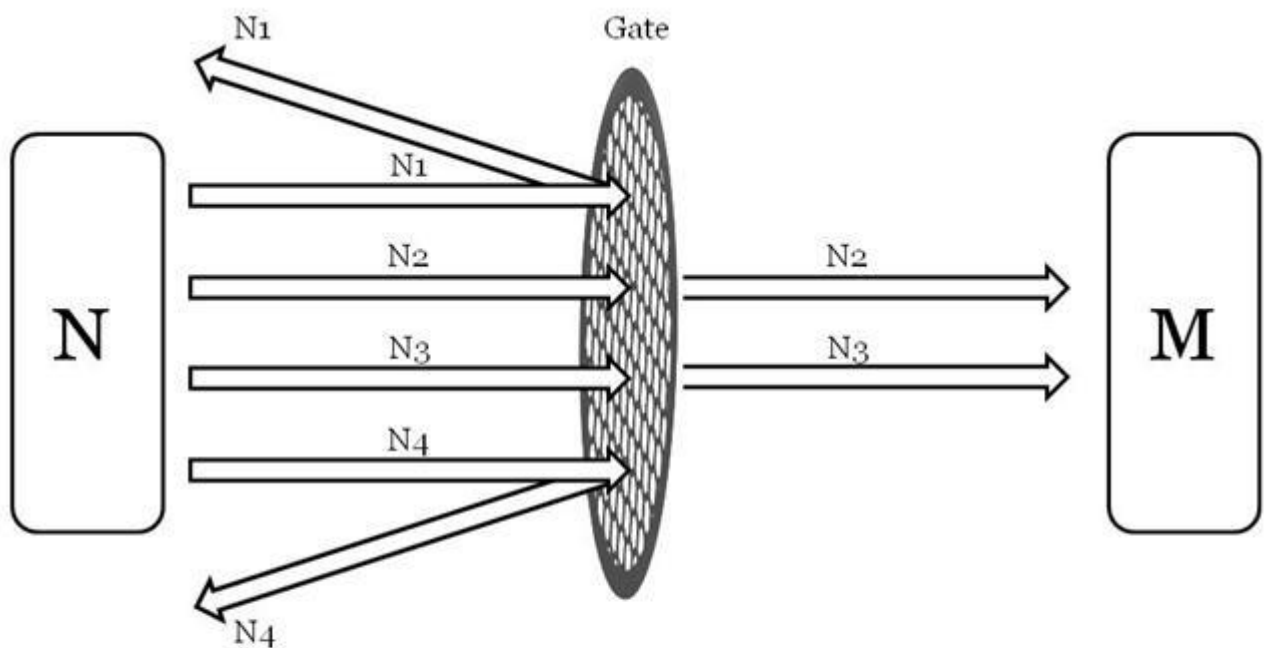
N – Source of news item   N1,2,3,4 – News items   M – Audience
N1,4 – Discard item   N2,3 – Selected item

Gate Keeping Theory

The actors that control these channels can be conceptualized as gatekeepers, referring to their power to decide which messages may and may not pass through their channels. Perhaps the most vivid example stems from the seminal gatekeeping study of David Manning White (1950), who investigated how the wire editor of a local newspaper,

referred to as Mr. *G*ates, selected which messages were published. Kurt Lewin (1947), who coined gatekeeping, argued that gatekeepers operate in a complex field, in which the gatekeeper and its environment "have to be considered as one constellation of interdependent factors" (p. 338) The idea was first posited by Kurt Lewin (1890-1947), a German psychologist and pioneer in social psychology. He developed his concept in his quest to understand the human behavior and its important consideration of total life space (looks this up, it's a very interesting concept in social psychology). He focused more on personal perception and how a person worked to understand their own world (physical, mental and social) through frequent conversation and acknowledgement of memories, desire, and goals. He coined the word called "Gate keeping" in his studies. At first it was widely used in the field of psychology and social psychology and later moved to the field of communication as mass communication because a specific area of study (largely due to the advent of mass publication technology). Now it's one of the essential and foundational theories in communication studies. Kurt Lewin argued that gatekeepers operate in a complex field, in which the gatekeeper and its environment "have to be considered as one constellation of interdependent factors" (p. 338). A technology or human technique called "gatekeeping" regulates the flow of information. Initially, the idea of gatekeeping was founded on journalism and concentrated on how news is chosen, with reporters and editors acting as human filters. Later theory development defined gatekeeping as a process that involves not only selection but also the shaping and presentation of news stories. The digital environment forced the reconceptualization of the framework to highlight the role of the gated, those who are impacted by gatekeepers' actions. It also produced a variety of new techniques to undertake gatekeeping. Gatekeeping, according to Pamela Shoemaker and Tim Vos, is the

"process of culling and crafting countless bits of information into the small number of messages that reach people every day, and it is the center of the media's role in modern public life {Pamela Shoemaker} This procedure establishes which information is chosen, as well as what the media's role in modern public life. This process determines not only which information is selected, but also what the content and nature of the messages, such as news, will be.

2.3 Technological determinism Theory

A reductionist theory called technological determinism seeks to establish a causal connection between technology and the character of a civilization. It makes an attempt to elucidate who or what might be in charge of human affairs. The hypothesis queries the extent to which technological influences on human mind or behavior. Thorstein Veblen invented the phrase "technological determinism," which centers around the idea that technology in any given society defines it.

A society's culture is said to be driven by technology, which also shapes the path of its history. The method is centered on the collection of information for analysis and knowledge retrieval. Given that it is primarily a by-product of facilitating information flows and transactions in the digital world, data journalism is necessarily a technological phenomena{Coddington2015; }. However, there are a number of intricate aspects that might effect how data storytelling is used in newsrooms.

The majority of research on data journalism has tended to concentrate on how this process works within journalistic teams, but little is known about creativity and innovation outside of the technological aspects {Gynnild 2014;} these components are crucial in areas where there are currently technological gaps. Karl Marx argued

that as technology advanced, new methods of production emerged in society, which in turn affected its cultural, political, and economic facets and inevitably transformed society as a whole aspects of a society, thereby inevitably changing society itself.

According to technological determinism, when a civilization transitions from one technological era to the next, technology influences how it feels, thinks, and behaves. Because new media are new technologies as well as an addition to current media, they do have a deterministic nature,also a factor. The famous quote from Marshall McLuhan goes, "The medium is the message." This indicates that the method of communication has an impact on the recipient's psyche. The development of news media such as print, television, and the internet has demonstrated how changes in technology affect the society in which we live.
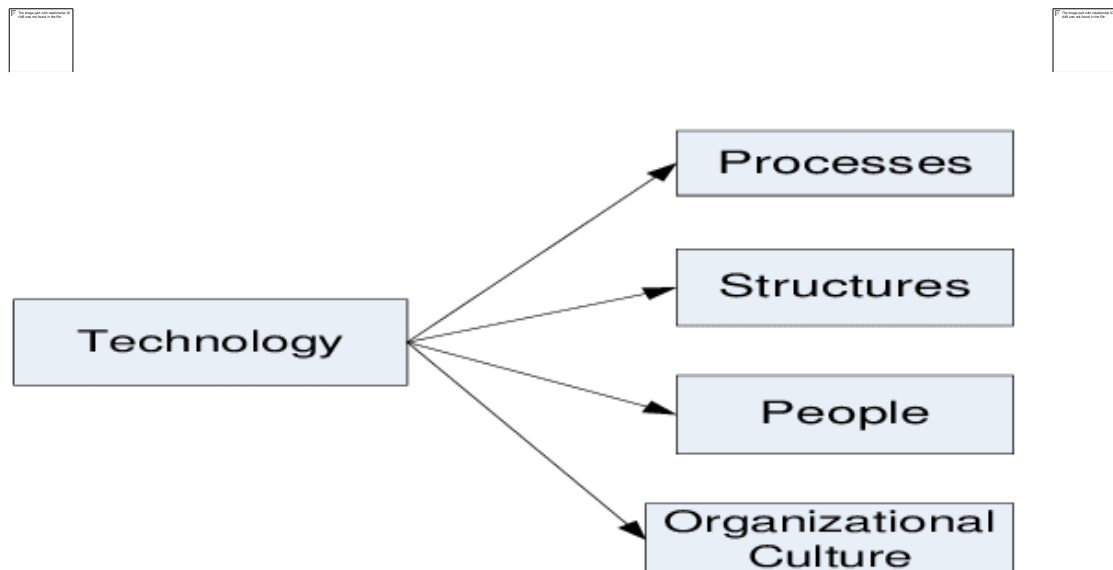
"Technology is a perspective that stresses the artificial and material aspects of human events rather than the real amount that would exist independently of the other parts, have different consequences, and function on its own. It is an analytical angle of global socio-technical systems. He claimed that the internet was a social movement with group leaders, passwords, and rational ambitions. Levy also contends that consideration of any link will make decision considerably more difficult. He claims that the social and cultural landscape is incredibly complicated and partly indeterminate set of interacting processes that are automatically maintained or suppressed. Instead of determination, he, therefore, uses the concept of conditionality. The society is influenced by technological developments, the negative effects are caused by poor use by the people, not by the nature of the technology itself, and also the introduction and use of new technologies is the result of the social order.

CHAPTER THREE

Research Methodology

3.0 Introduction

The tactics, procedures, or methods used in the collecting of data evidence for analysis in order to unearth new knowledge or develop a better grasp of a topic are known as research methods.

3.1 Research Design

According to (Creswell and Plano Clark 2007) a research design refers to the steps taken in research investigations for gathering, analyzing, interpreting, and reporting data. It is the general strategy for linking the relevant (and doable) empirical research to the conceptual research concerns. In other words, the study design determines how the data will be collected, how it will be analyzed, and how it will be used to answer the research question (Grey, 2014). The research design adopted in this study was survey i.e. a well structured questionnaire. (Check and Schutt, 2012) describes survey as the collection of information from a sample of individuals through their response to questions. Questionnaire was used in this study in order to provide quantitative information about data journalism stories in the cyberspace among media houses in Lagos State.

3.2 Population of the study

Population according to Bryman and Bell{2011} is the universe of units from which a sample is to be selected. In other words, all elements, individuals, or units that meet the selection criteria for a group to be studied, and from which representatives sample is taken for detailed examination. The study population was reporters in media houses

in Lagos State, there are 34 radio stations in Lagos state, 12 television stations, and 78 Newspaper house.which is 124.

3.3 Sampling Technique

Sampling technique is the name or other identification of the specific process by which the entities of the sample has been selected. Media houses were selected due to the fact that they are the ones who report the information. And the technique used is simple random

3.4 Sample Size

According to NG Chander (2017), Sample is an unbiased number of representatives taken from a population. It is said to be a group of people, object or items that are taken from a larger population for measurement. The sample should be representative of the population to ensure that we can generalize the findings from the research samples to the population as a whole. 124 media houses was studied.

3.5 Research Instrument

A research instrument is a tool used to obtain measure, and analyze data from subjects around the research topic. The major instrument used in the gathering of data is a questionnaire. It consists of questions designed by the researcher with the aim of accumulating reasonable information from the respondents in order give answers to the research questions and therefore to achieve the purpose of the study.

3.6 Validity and Reliability of Instruments

According to Messick, 1989, Validity refers to the appropriateness of the interferences made about the results of an assessment. Interference being "conclusion derived from empirical bearing on score meaning".The instrument used for this research was verified by experienced professionals in the department, who declared it most suitable for the objectives stated.

3.7 Method of Data Collection

A modified, pretested and well structured interviewer managed questionnaire was employed to collect data from the participants. The questionnaire was designed in a printed survey format, and was distributed to the respondents in selected media houses in Lagos State, The questionnaire was set in English local language, Each correct answer was given one point for knowledge and attitude questions, and the points were converted into a percentage for the translation of the results. The mean points were made use of as a cut of point to depict data journalism stories in the cyberspace. The process of data collection, prevent mistake, keep privacy and confidentiality.

3.8 Method of Data analysis

Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense the recap, and evaluate data.

The data generated from the questionnaire were coded and entered into a computer using Epi-data 3.1 Statistical program and were sent to SPSS (Statistical package for social sciences) for further analysis. Data was processed in order to minimize entry mistakes, and for outliers and missing values. Descriptive statistics e.g. mean,

frequency, and percent were computed for the study variables using SPSS. The quantitative data obtained was evaluated through uni-variate mode of analysis. The uni-variate analysis described and explained the variation in single variables, simple percentages, frequencies and tables.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0   Introduction

This chapter deals with analysis of data based on the information gathered from reporters of media houses in Lagos state. It shows how the data obtained from the variables were analyzed following a methodological approach to investigate data journalism stories in the cyberspace through media houses. This part of the study focuses on the presentation of the primary data elicited through field survey.

SECTION A: Demographic Data Statistics

4.1 Descriptive Analysis of the Socio-Demographic Information of the Respondents

Variable	Frequency	Percentage (%)
Gender		
Male	44	35.5
Female	80	64.5
TOTAL	124	100.0
Age Range		
18-29 years	27	21.8
30 – 39 years	56	45.2
40 – 49 years	37	29.8
50 - 59 years	4	3.2
TOTAL	124	100.0
Marital Status		
Single	47	37.9
Married	65	52.4

Divorced	6	4.8
Widowed	6	4.8
TOTAL	124	100.0

Educational Level

Secondary School	23	18.5
Bachelor's degree	70	56.5
Master's degree	25	20.2
Doctorate degree	6	4.8
TOTAL	124	100.0

How long have you worked for this media organization?

1-5 years	18	14.5
6 - 10 years	61	49.2
11 - 15 years	34	27.4
16 - 20 years	10	8.1
21 years and above	1	0.8
TOTAL	124	100.0

Source: Field Survey 2022

Table 4.1 presented the demographic details of the reporters working in media houses in Lagos state. It was revealed that 44 respondents to [35.5%] are male while 80 respondents to [64.5%] are female. This outcome indicated that females dominate the reporters working for media houses in Lagos State.

Regarding the age, it was revealed that 27 respondents [21.8%] are below 29 years, followed by 56 respondents [45.2%] that are between 30 -39 years, 37 respondents 29.8% are between 40- 49 years, and 4 respondents [3.2%]are between 50- 59 years.

The result showed that most of the reporters of the media houses in Lagos State are between 30 - 39 years.

Pertaining to marital status, it was revealed that 47 respondents [37.9%] are single, 65 respondents [52.4%] that are married, 6 respondents [4.8%] are divorced, and another 6 respondents 4.8% are widowed. It implies that majority of the reporters are married.

With respect to educational level, it was showed that 23 respondents [18.5%] SSCE holders, 70 respondents [56.5%] are Bachelor's degree holders, 25 respondents [20.2%] are Master's degree, and 6 respondents [4.8%]are Doctorate degree holder

When asked how long respondents have worked for their media organization, it was revealed that 18 respondents [14.5%] have between 1- 5 years' work experience, followed by 61 respondents [49.2%] have between 6- 10 years' work experience, 34 respondents [27.4%] have between 11 - 15 years' work experience, 10 respondents 8.1% have between 16 - 20 years' experience, and 1 respondent 0.8% have above 21 years' work experience.

SECTION B: Analyses of the Research Questions

Table 4.2: Status of Data Journalism in Lagos State Media Houses

Questions	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	M
Our media organization is planning to work with data in the next five months	8 (6.5%)	20 (16.1%)	16 (12.9%)	60 (48.4%)	20 (16.1%)	3.5
Our media organization is currently working on data projects	14 (11.3%)	23 (18.5%)	14 (11.3%)	50 (40.3%)	23 (18.5%)	3.3
Our media organization already published a data project	14 (11.3%)	23 (18.5%)	9 (7.3%)	50 (40.3%)	28 (22.6%)	3.4

Our media organization has no plans or immediate plans to start working with data	47 (37.9%)	51 (41.1%)	10 (8.1%)	12 (9.7%)	4 (3.2%)	1.9
Data is too hard and bulky	45 (36.3%)	41 (33.1%)	15 (12.1%)	18 (14.5%)	5 (4.0%)	2.1
Data is too expensive	29 (23.4%)	41 (33.1%)	14 (11.3%)	26 (21.0%)	14 (11.3%)	2.6

Source: Field Survey 2022

Table 4.2 presents the responses obtained regarding the status of data journalism in Lagos state media houses. In terms of whether media organizations are planning to work with data in the next five months, majority of the respondents 80 [64.5%] agreed to this, which was further confirmed by the mean value of 3.52 indicating that most of the reporters were in supports of the assertion that their respective media organization is considering utilizing data. However, 28 [22.6%] of them disagreed, while 16 [12.9%] are undecided.

With respect to if the media organizations are currently working on data projects, majority of the respondents being 73 [58.8%] agreed to this. The mean value of 3.36 also confirmed high cases of agreement among the participating reporters. That implies that some media houses are already using data. It was further revealed that 37 respondents [29.8%] disagreed to the statement, while 14 respondents [11.3%] of them were undecided.

Regarding if the media organizations already published a data project, most of the respondents being 78 corresponding to 62.9% agreed to this assertion. The mean score of 3.44, which is above the average level support the high level of agreement among the reporters. The implication is that media houses are already publishing data.

However, a few of the respondents being 37 corresponding to 29.8% disagreed to the statement, and 9 respondents corresponding to 7.3% are undecided.

Whether media organizations in Lagos State have no plans or immediate plans to start working with data, majority of the respondents being 98 [79%] disagreed to this with the mean score of 1.99 also indicating that the reporters disagreed with the assertion. This implies that most of the media houses in Lagos have plans to utilize data in their operation. It was further revealed that 16 respondents [12.9%] agreed that their organizations have no plans, with 10 respondents [8.1%] that are undecided.

Regarding if data is too hard and bulky, majority of the respondents being 86 [69.4%] disagreed with the statement. Accordingly, the mean score of 2.17 indicated that most reporters do not believe that it is hard and bulky. However, 23 respondents [18.5%] agreed that data can be difficult, while 15 respondents [12.1%] were undecided.

With respect to if data is too expensive, most of the respondents being 70 [56.5%] disagreed that data is too expensive. The mean score of 2.64 also revealed that most reporters do not believe that data is too expensive. On the other hand, 40 respondents [32.3%] agreed to this, while 14 respondents [1.3%] were undecided.

Table 4.3: The Ways media organization make use of data journalism

Questions	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	M
Web Searches	6 (4.8%)	14 (11.3%)	13 (10.5%)	66 (53.2%)	25 (20.2%)	3.7
Primary Research such as applying social science techniques to journalistic investigations	23 (18.5%)	55 (44.4%)	15 (12.1%)	21 (16.9%)	10 (8.1%)	2.5

Data Sites and Services	21 (16.9%)	36 (29.0%)	22 (17.7%)	29 (23.4%)	16 (12.9%)	2.8
Experts: Professors, public servants and industry gurus	7 (5.6%)	13 (10.5%)	11 (8.9%)	50 (40.3%)	43 (34.7%)	3.8
Data Couch: A place to upload, refine, share, and visualize data.	23 (18.5%)	48 (38.7%)	13 (10.5%)	27 (21.8%)	13 (10.5%)	2.6

Source: Field Survey 2022

Table 4.3 presents how media organizations make use of data journalism. It was revealed that majority of the respondents being 91 [73.4%] agreed to use web searches in their respective organization, while 20 respondents [16.1%] disagreed to use web searches, and 13 respondents [10.5%] were undecided. The mean score of 3.73 is an indicator that most media houses utilize web searches for their operations.

When asked if media organizations make use of primary research techniques peculiar to social science, most of the respondents being 78 [62.9%] disagreed to utilizing social science techniques for journalistic investigation. This is followed by 31 respondents [25%] that agreed to this, while 15 respondents [12.1%] were undecided. The mean score of 2.52 also shows that most reporters do not agree to the use of social science techniques in their organization.

When asked if media organizations use data sites and services, most of the respondents being 57 corresponding to 45.9% disagreed to this, followed by 45 respondents corresponding to 36.3% that agreed to using data sites and services, while 22 respondents corresponding to 17.7% are undecided. The mean score of 2.86, which is below the benchmark of 3 for acceptance further revealed that most of the media organization do not use data services.

When asked if media organizations consult experts in the industry, it was revealed that most of the respondents being 93 corresponding to 75% agreed to consulting experts and profession. This is followed by 20 respondents corresponding to 16.1% that disagreed to this, and 11 respondents [8.9%] of them ticked undecided. The mean score of 3.88 is an indicator that most of the reporters agreed to consulting experts, professors, public servants, and industry gurus during their operations.

When asked if their media organizations make use of data couch to upload, share, and visualize data, majority of the respondents being 71 [57.2%] disagreed to this, followed by 40 respondents [32.3%] that agreed to using data couch, and 13 respondents [10.5%] were undecided. The mean score of 2.67 further buttress the opinion of the reporters that most media organizations do not use data couch.

Table 4.4: Challenges to data journalism

Questions	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	M
Lack of adequate publishing or broadcasting infrastructure	19 (15.3%)	28 (22.6%)	20 (16.1%)	43 (34.7%)	14 (11.3%)	3.0
Lack of adequate knowledge of data analysis	4 (3.2%)	4 (3.2%)	16 (12.9%)	63 (50.8%)	37 (29.8%)	4.0
Lack of interest from staff	11 (8.9%)	13 (10.5%)	8 (6.5%)	52 (41.9%)	40 (32.3%)	3.7
Low or inadequate support from management	29 (23.4%)	45 (36.3%)	15 (12.1%)	23 (18.5%)	12 (9.7%)	2.5
Lack of tools for data analysis	9 (7.3%)	21 (16.9%)	30 (24.2%)	43 (34.7%)	21 (16.9%)	3.3

Lack of time and resources	40 (32.3%)	42 (33.9%)	18 (14.5%)	16 (12.9%)	8 (6.5%)	2.2
Inexperience about data verification	1 (0.8%)	5 (4.0%)	14 (11.3%)	72 (58.1%)	32 (25.8%)	4.0

Source: Field Survey 2022

Table 4.4 presents the opinion of the respondents regarding the challenges to data journalism in Nigeria.

When asked if lack of adequate publishing or broadcasting infrastructure is a constraint to data journalist, majority of the respondents being 57 [46%] agreed that lack of adequate publishing infrastructure is a constraint to data journalist to this, followed by 47 respondents [37.9%] that disagreed to this, and 20 respondents [16.1%] were undecided. The mean score of 3.04 indicates that most of the reporters were of the opinion that lack of adequate publishing and broadcasting infrastructure is a challenge to data journalism.

When asked if lack of adequate knowledge of data analysis is a barrier to data journalism, most of the respondents being 100 [80.6%] agreed to this, while 8 respondents [6.4%] disagreed that lack of adequate knowledge of data analyst this, and 16 respondents [12.9%]were undecided. The mean score of 4.01 showed a strong acceptance that limited data analysis skill is a great challenge to data journalism.

When asked if lack of interest from staffs is a constraint to data journalism, majority of the respondents being 92 [74.2%] agreed to this, 24 respondents [19.4%] that disagreed to this, and 8 respondents [6.5%] that are undecided. The mean score of 3.78 showed that most of the reporters were of the opinion that employees of the media organization have no interest in data journalism.

When asked if low or inadequate support from management prevents adoption of data journalism, majority of the respondents being 74 [59.7%] disagreed to this, 35 respondents [28.2%] that disagreed to this, and 15 respondents [12.1%] that are undecided. The mean score of 2.55 indicates that most reporters believe that management support is not a challenge to data journalism.

When asked if lack of tools for data analysis is limiting data journalism stories, majority of the respondents being 64 [51.6%] agreed to this, f30 respondents [24.2%] that disagreed to this, and another 30 respondents [24.2%] that are undecided. The mean score of 3.37 showed that most reporters were of the opinion that tool is one of the major constraints to data journalism stories.

When asked if lack of time and resources is preventing media organizations from doing data journalism stories, majority of the respondents being 82 [66.2%] disagreed to this, followed by 24 respondents [19.4%] that agreed to this, and 18 respondents [14.5%] were undecided. The mean score of 2.27 implies that most reporters do not believe that lack of time and resources is a challenge too data journalism stories.

When asked if inexperience about data verification stands as a major limitation to data journalism stories, majority of the respondents being 104 [83.9%] agreed to this, followed by 14 respondents [11.3%] were undecided, and 6 respondents [4.8%] disagreed to this. The mean score of 4.04 indicates that most reporter and employees do not have substantial experience for data verification.

Table 4.5: What are the Attitude towards data journalism

Questions	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	M

						Mean
There is positive attitude towards data journalism among the journalists in the newsroom where I work	8 (6.5%)	16 (12.9%)	15 (12.1%)	58 (46.8%)	27 (21.8%)	3.(
Data journalism is difficult for most journalists and they try to stay away from it	9 (7.3%)	14 (11.3%)	18 (14.5%)	50 (40.3%)	33 (26.6%)	3.(
The competence level in the newsroom where I work is sufficient for building and analyzing databases	6 (4.8%)	14 (11.3%)	12 (9.7%)	57 (46.0%)	35 (28.2%)	3.{
Working with numbers and statistics is fun and creative	6 (4.8%)	10 (8.1%)	10 (8.1%)	66 (53.2%)	32 (25.8%)	3.{

Source: Field Survey 2022

Table 4.5 presents the opinion of the respondents with respect to attitude towards data journalism.

In terms of if there is positive attitude towards data journalism among the journalists in the newsroom where they work, majority of the respondents being 85 [68.6%] agreed to this, followed by 24 respondents [19.4%] that disagreed, and 15 respondents [12.1%] that are undecided. The mean score of 3.65 indicates that most reporters perceived a positive perception in their respective organization.

Regarding if data journalism is difficult for most journalist and they try to stay away from it, majority of the respondents being 83 [66.9%] agreed to this, followed by 23 respondents [18.6%] that disagreed, and 18 respondents [14.5%] were undecided. The mean score of 3.68 showed that the reporters believe that data journalism is technical, which might be the reason media houses employees are not showing interest.

Regarding if the competence level in the newsroom where respondents work is sufficient for building and analyzing databases, 92 respondents [74.2%] being the majority agreed to this, followed by 20 respondents [16.1%] that disagreed to this, and 12 respondents [9.7%] of them were undecided. The mean score of 3.81 implies that there is a higher competence level to build and analyze databases in their respective organizations.

With respect to if working with numbers and statistics is fun and creative, majority of the respondents being 98 [79%] agreed to this, followed by 16 respondents [12.9%] that disagreed to this, and 10 respondents [8.1%] were undecided. The mean score of 3.87 showed that most reporters working for media organizations believed that utilizing data during operation is enjoyable and brings out the creativity in them.

Discussion of Findings

The analysis outcome revealed varying opinion of the respondents, which centered around data journalism stories. Based on the responses gotten from the reporters working in media houses, the study can answer the research questions stated in the first chapter, which were intended to achieve the objectives of the study. The population of the study were radio stations, television stations, and newspaper organizations, where 124 reporters were picked to participate in the study to elicit information pertaining to data journalism stories in Lagos State.

It could be seen from the findings that female dominated the media houses in Lagos State, implying that there are more female reporters and journalists in the media industry than males. It was also deduced from the result that most of the employees of these media organizations are 30 and 39 years, indicating that they are in their mid-career in the industry. The findings further revealed that a number of them are married with majority of them being Bachelor's degree holder. It could also be seen

from the result that most of them have spent between 6 and 10 years working in the media industry with their respective organization.

The first research question intended to answer what data journalism stories are in the cyberspace. From the findings, data journalism stories are gaining more recognition among media organizations as it was revealed that it is part of the plan of these companies to work with data in their operations. Furthermore, the result showed that some of these media houses are already using data in some of their projects, as many of them asserted that their employers have published data projects. A high-level disagreement was gotten regarding if media organizations are not planning to adopt data to their organizational strategies. More so, the reporters do not believe that data is difficult or too expensive. The implication of this outcomes is that within the cyberspace, data journalism stories is a trend welcomed by most media organization as a means to improve their mode of operation and ability to generate more insight that information obtained from difference sources.

The second research question of the study was to know the ways media houses make use of data journalism. The findings revealed that the common ways used by media organizations are web searches, consulting experts and professors, public servants, and personal with in-depth industrial knowledge. However, it could be seen that media organizations are not fully tapping into utilizing social science techniques, data couch, and exploring data sites and services for relevant information.

The third research question was to identity the barriers to engaging in data journalism stories, which were found to be lack of adequate infrastructure for publishing and broadcasting, lack of adequate knowledge of data analysis, lack of tools for data analysis, inexperience about data verification. These could be a pointers as to why some staff of media organizations are not interested in data journalism stories. The

journalists and reporters do not agree that time and resources are barriers neither do they accept that lack of support from management is a limitation to engaging data journalism stories in their respective organizations.

The fourth research question, which was stated to understand the attitude towards data journalism. The findings revealed that across all media organizations, there are positive attitudes to a larger extent among most of their employees. Despite this, they still believe that data journalism is complex, which is why most reporters and journalist are running away from it. However, it is believed that the competence level in the newsroom is adequate to enable journalists and reporters build and analyze databases. Majority of the respondents acknowledged that working with numbers and statistics is fun and creatives, even though most of them do not have data analysis knowledge as asserted above.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECMMENDATIONS

5.1 Summary

The study investigates data journalism stories in the cyberspace through media houses in Lagos State. The study was done under five chapters, namely introduction, literature review, research methodology, data analysis and result presentation, and conclusion. Chapter one extensively discussed data journalism, where it was highlighted that it involved finding stories in data since the responsibility of journalist and reporters is to disseminate information to the populace. The study proceeded to stating the research problem, where it was revealed that most journalist do not have basic data skills, while some were of the opinion that data is difficult, which further pushed them away from understanding data journalism. The study sought to answer the following research questions: What are data journalism stories in the cyberspace? What are the ways media houses make use of data journalism? What are the barriers to engaging in data journalism stories? and What are the attitude towards data journalism? Other aspect of the first chapter includes significance of the study, scope of the study, and operational definition of terms.

The second chapter dealt with literature review, where different concepts with respect to data and journalism were discussed. This aspect of the study also reviewed theories to justify the current research being conducted. Chapter three was devoted to research methodology that was divided into research design, population of the study, sample technique, sample size, research instrument, validity and reliability of instruments, method of data collection, and method of data analysis. The study employed descriptive analysis, where each item in the questionnaire were discussed based on the outcome obtained from the data analysis. The study randomly selected a sample size

of 120 respondents from media houses in Lagos state. Demographic data obtained were analyzed with the use of frequency count and percentage; mean analysis was used to answer the research questions raised in the study.

5.2 Conclusions

Based on the findings of the study, it was concluded that media organizations are aware of the presence of data journalism with a few of them already using it to publish some of their discoveries. It was found that many of these media houses are planning to work with data for long to ensure that they pass adequate information across to the general public. It was also concluded that reporters and journalists working in these organizations lacks data analysis knowledge, making it difficult for fully implementation of data driven structure in most of these media houses. Their perception that data is not difficult is backed by their positive attitude towards data journalism. However, the drawback remains that they are not equipped with the right data skill to explore the latest trend to journalism and reporting. The study concluded that, given their positive attitude towards data journalism, the employees of media organization are in position to use data journalism stories to report their findings before disseminating news to the public if taken through the right data development track.

5.3 Recommendations

Based on the outcome of the study, the following are recommended to ensure increased adoption of data journalism among media houses in Lagos state.

2. Media organizations should endeavor to create a data learning platform that will be incorporated into their business operation. That will enable every reporter and journalist understand how data can be used to improve their jobs. Considering the importance of data to every business today, it should be

strictly adhered to for improvement of news reporting for easy understanding by the general public.

3. Journalist should be encouraged to use sources like that couch for data management and visualization. That will help them gain in-depth understanding of what data analysis entails. Accordingly, it eradicates the fear of data and change their perception about utilizing data for media projects.

4. Resources and data analysis tools should be made available for employees, as well as time should be created to ensure that they have time to practice. Adequate monitoring of progress can ascertain even development of data skills among all the employees.

5.4 Limitation of the Study

A few limitations were observed regarding the study, especially the aspect that was devoted to field survey. These limitations are highlighted below.

1. There was no way the researcher could have determined if the respondents are honest when the questionnaires were being administered.

2. Financial constraint limited the study form extending it to more stakeholders in the media industry. This is because it requires moving from one location to another to gather information required to further buttress the outcome of the research.

3. Although the study was conducted among media organizations in Lagos, there was location constraint because the media houses are spread across the state. That makes it difficult to capture the view of some employees working in the media house.

4. Time constraint is another limitation considering that they study was meant to be completed within the school yearly calendar. Time spend for academic

activities within school also limited the study from covering every areas required for in-depth research.

5.5 Implications of the Study

1. The outcome of this study is based on the responses of the reporters and journalist, which indicated that data skills is significantly lacking in media organizations.

2. The sampled individuals were a few of the working population of media organizations. If another set of people within the industry were asked the same questions, the outcome may differ from what was obtained.

3. Despite these limitations, the use of questionnaire validated by experts have done a great deal to make the result of the study valid and reliable and hence the purpose of the study has been achieved.

5.6 References

Ester Appelgren, Carl-Gustav Lindén & Arjen van Dalen (2019) Data Journalism Research: Studying a Maturing Field across Journalistic Cultures, Media Markets and Political,Environments,Digital Journalism,7:9,1191-1199,DOI:10.1080/21670811.2019.1685899:https://doi.org/10.1080/21670811.2019.1685899

Covenant Journal of Communication (CJOC) Vol. 9 No. 1, June, 2022

https://www.tandfonline.com/doi/full/10.1080/1461670X.2021.1944279)

- Laura Ahva, Steen Steensen. 25 Jun 2019, Journalism Theory from: https://www.routledgehandbooks.com/doi/10.4324/9781315167497-3

Precision Reporting in the New Information Society By MlCHAEL O. UKONU

Advances in Social Science, Education and Humanities Research, volume 439

Tarumanagara International Conference on the Applications of Social Sciences and Humanities (TICASH 2019)

The Principles, Features and Techniques of Data Journalism

- September 2018

- Studies in Media and Communication 6(2):36

DOI:10.11114/smc.v6i2.3208

Buchanan D., & Boddy D. (1983). *Organisations in the Computer Age: Technological Imperatives and Strategic Choice*. Aldershot: Gower.

Prof. Thomas Hauer Technological determinism and new media

International Journal of English, Literature and Social Science (IJELS) Vol-2, Issue-2, Mar-Apr- 2017

Daniela V. Dimitrova Matt Neznanski: Online Journalism and the War in Cyberspace: A Comparison Between U.S. and International Newspapers Journal of Computer-Mediated Communication

QUESTIONNARE

TOPIC: DATA JOURNALSIM STORIES IN THE CYBERSPACE: STUDY OF MEDIA HOUSES IN LAGOS STATE

Dear Respondent

I am DAYO, Makinde Peace,a 400-level student of Mountain Top University. I am writing a project on the above named topic in a partial fulfillment of the requirement for the award of Bachelor of Science Degree in Mass Communication. I want you to help me by filling the will appreciate it if the questionnaire to achieve credible results. The information provided will only be used for academic purpose and will be treated with utmost confidentiality.

Please answer the questions by ticking☐ the one you consider most appropriate among the alternatives.

Thanks in anticipation of your co-operation.

SECTION A: DEMOGRAPHIC DATA

1. Gender: Male ☐   Female ☐

2. Age Range: A. 18-29 year ☐   B. 30-39 ☐   C. 40-49 ☐   D. 50-59 ☐
   E. Above 60 ☐

3. Marital Status: A. Single ☐   B. Married ☐   C. Divorced ☐   D. Widowed ☐

4. Educational Level: A. Certificate ☐ B. SSCE ☐ C. Bachelors' degree

   D. Masters degree ☐ E. Doctorate degree ☐ F. Others (please specify) ☐

5. How long have you worked for this media organization? A. 1- 5 years ☐

   B. 6-10 years ☐ C. 11-15 years ☐ D. 16-20 years ☐ E. 21 years and

   above ☐

SECTION B

Using the scale below, please answer the statement below by ticking the option that

best satisfy your responses to each of the following statements.

Strongly Agree {SA}; Agree {A} Undecided (UN); Disagree{D}; Strongly

Disagree {SD}

   A. Status of data journalism in Lagos State Media Houses

S/N	ITEMS	SA	A	UN	D
1	Our media organization is planning to work with data in the next five months				
2	Our media organization is currently working on data projects				
3	Our media organization already published a data project				
4	Our media organization has no plans or immediate plans to start working with data				
5	Data is too hard and bulky				

S/N	ITEMS	SA	A	UN	D
6	Data is too expensive				

B. **The Ways media organization make use of data journalism**

S/N	ITEMS	SA	A	UN	D
7	Web Searches				
8	Primary Research such as applying social science techniques to journalistic investigations				
9	Data Sites and Services				
10	Experts: Professors, public servants and industry gurus				
11	DataCouch: A place to upload, refine, share, and visualize your data.				

C. **Challenges to data journalism**

S/N	ITEMS	SA	A	UN	D
12	Lack of adequate publishing or broadcasting infrastructure				
13	Lack of adequate knowledge of data analysis				
14	Lack of interest from staff				
15	Low or inadequate support from management				
16	Lack of tools for data analysis				
17	Lack of time and resources				
18	Inexperience about data verification				

D. What are the attitude towards data journalism

S/N	ITEMS	SA	A	UN	D
19	There is positive attitude towards data journalism among the journalists in the newsroom where I work				
20	Data journalism is difficult for most journalists and they try to stay away from it				
21	The competence level in the newsroom where I work is sufficient for building and analyzing databases				

22	Working with numbers and statistics is fun and creative				

Thank you