ADOPTION AND USAGE OF COMPUTER ASSISTED REPORTING AMONG JOURNALISTS IN KWARA STATE.

BY

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CERTIFICATION

This is to certify that this research work has been completed by **HASSAN HALIMAH GBEMISOLA,** with matric number, **HND/23/MAC/FT/1098,** read through and approved as meeting the requirement of the Department of Mass Communication, Institute of Information and Communication Technology, Kwara State Polytechnic, Ilorin in fulfilment for the Award of Higher National Diploma (HND) in Mass Communication.

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DEDICATION

This project is dedicated to the Almighty Allah, the Lord of the universe, for His infinite mercy and guidance. I also dedicate it to my parents and siblings, whose unwavering support and encouragement have been my guiding light throughout my academic journey. Your love, prayers, and sacrifices have been invaluable.

In loving memory of my dear father, Hassan Jolayemi. May Allah grant him Jannah and bless his legacy.

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ABSTRACT

This study investigates the adoption and usage of Computer-Assisted Reporting (CAR) among journalists in Kwara State, Nigeria. As digital technologies continue to reshape the media landscape, CAR has emerged as a vital tool for data-driven journalism, enabling reporters to analyze large datasets and uncover hidden trends that support investigative reporting. The study adopts the Diffusion of Innovations Theory to examine how CAR tools are perceived, adopted, and utilized by journalists in the region. Using a mixed-methods approach, data was gathered through structured questionnaires and in-depth interviews with practicing journalists across various media organizations in Kwara State. Findings reveal that while awareness of CAR is relatively high, actual usage remains limited due to factors such as inadequate training, lack of access to necessary software, and institutional resistance to digital innovation. The study recommends targeted training programs, improved infrastructure, and policy support to enhance the integration of CAR in journalistic practices, ultimately improving the quality and credibility of news reporting in the state.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The emergence of technology has revolutionized various fields, including journalism. Computer-Assisted Reporting (CAR) refers to the application of digital tools and software to collect, analyze, and present data, enhancing the traditional processes of news gathering and storytelling. The importance of CAR in modern journalism cannot be overstated. By enabling journalists to handle large volumes of data, it helps uncover patterns, trends, and insights that might otherwise remain hidden. CAR has been pivotal in investigative journalism, where in-depth analysis of data can reveal systemic issues such as corruption, social inequality, and environmental challenges (Houston, 2019). In the global context, CAR has been employed to produce impactful stories, such as The Panama Papers investigation, which relied heavily on data analysis tools to uncover financial crimes. In the Nigerian context, CAR tools hold immense potential for addressing local issues, from electoral transparency to public service delivery. However, while CAR has gained prominence in many parts of the world, its adoption in Nigerian states, including Kwara, has been slow, raising questions about the factors influencing its integration into journalistic practice.

Journalism in Kwara State plays a crucial role in shaping public opinion, fostering democratic ideals, and promoting accountability. The state's media landscape comprises both legacy outlets, such as radio stations and newspapers, and digital platforms that cater to an increasingly tech-savvy audience. In this dynamic environment, the demand for accurate, timely, and in-depth reporting is higher than ever. Traditional reporting methods, reliant on manual data collection and narrative storytelling, are often inadequate in meeting these demands. CAR tools, such as spreadsheets (e.g., Microsoft Excel), statistical software (e.g., SPSS), and data visualization platforms (e.g., Tableau), offer a solution by streamlining the reporting process and enabling journalists to produce data-driven stories. For example, a journalist investigating budget allocations in Kwara State could use CAR to analyze financial records, identify discrepancies, and visualize findings for better audience engagement. These tools not only enhance reporting accuracy but also boost credibility, as data-backed stories are perceived as more trustworthy (Bradshaw & Rohumaa, 2017). However, despite these advantages, CAR remains underutilized in the state, necessitating a closer examination of its adoption and usage among journalists.

The adoption of CAR among journalists in Kwara State is influenced by various factors, including access to resources, technical proficiency, and institutional support. Many journalists in the state work in resource-constrained environments, where limited funding and infrastructure impede the integration of advanced tools. Training opportunities in CAR are often scarce, and when available, they may not be accessible to all journalists due to high costs or logistical barriers. Additionally, resistance to change is a significant factor, as some journalists prefer traditional methods over unfamiliar technologies. This resistance is often rooted in a lack of awareness about the benefits of CAR or fear of job displacement due to automation (Gynnild, 2014). Furthermore, the socio-political environment in Kwara State can pose challenges. Journalists operating in politically sensitive contexts may hesitate to use CAR for fear of reprisal, especially when reporting on corruption or other controversial issues. Understanding these barriers is crucial for developing strategies to promote CAR adoption and usage, thereby empowering journalists to deliver higher-quality reporting.

Given the transformative potential of CAR, addressing the barriers to its adoption is essential for improving journalistic practice in Kwara State. Policymakers, media organizations, and training institutions all have a role to play in this regard. Investments in training programs, provision of affordable software licenses, and creation of collaborative platforms where journalists can share knowledge and resources are some strategies that could drive CAR adoption. For instance, partnerships between local media houses and international organizations, such as the International Center for Journalists (ICFJ), have proven effective in other regions by providing journalists with the skills and tools needed to leverage CAR (Lewis & Usher, 2016). Additionally, fostering a culture of innovation within media organizations can encourage journalists to experiment with new tools and approaches. This study aims to investigate the current state of CAR adoption and usage among journalists in Kwara State, identifying gaps and opportunities for improvement. By doing so, it seeks to contribute to the broader discourse on how technology can enhance the role of journalism in fostering transparency, accountability, and social progress.

1.2. Statement of the Problem

In today's rapidly evolving media landscape, journalists face increasing demands to produce accurate, timely, and in-depth reports that meet the informational needs of their audiences. The rise of data-driven journalism, powered by Computer-Assisted Reporting (CAR), has offered an innovative solution to these challenges. CAR tools enable journalists to analyze complex datasets, visualize trends, and uncover hidden insights, thereby enhancing the quality and credibility of their reporting (Houston, 2019). Despite the global adoption of CAR, many journalists in Kwara State appear to lag behind in integrating these tools into their professional practices. This technological lag hampers the quality of reporting, especially on complex issues that demand data analysis. Studies in other regions have shown that media houses that adopt CAR have higher reporting accuracy and a greater ability to uncover systemic issues, such as corruption and public mismanagement (Bradshaw & Rohumaa, 2017). In Kwara State, however, journalists continue to rely on traditional methods, which limit their ability to meet the growing demands of the audience and produce more insightful stories.

The problem lies in the fact that while CAR has the potential to revolutionize journalism, its adoption among journalists in Kwara State remains limited. Several factors contribute to this gap. Inadequate training opportunities, lack of access to necessary tools, and resistance to technological change are significant barriers (Gynnild, 2014). Many journalists in the state still depend on conventional reporting methods, which, although effective for routine stories, are often insufficient for in-depth investigations or for analyzing large datasets that could uncover critical information (Lewis & Usher, 2016). This reliance on outdated methods limits the ability of journalists to leverage the full potential of modern technology in their work, thereby diminishing the quality of journalism produced in the state. Without CAR tools, many journalists find it difficult to tackle more complex reporting challenges that require precise data analysis and visualization. As a result, media reports may lack the depth, accuracy, and credibility needed to influence public opinion or hold government officials accountable.

Moreover, the limited adoption of CAR poses broader implications for journalism's role in promoting transparency, accountability, and societal development in Kwara State. In an era marked by the proliferation of misinformation, data-driven journalism is critical to ensuring that news stories are rooted in factual information, and that journalists can effectively counter false narratives (Bradshaw & Rohumaa, 2017). Without the use of CAR tools, journalists in Kwara State may struggle to produce investigative reports that address critical issues such as corruption, government mismanagement, and social inequality. This failure may hinder their capacity to contribute to the public good, especially in a region where media outlets often lack the resources to engage in deep investigative work (Houston, 2019). Furthermore, without adopting CAR, journalists risk falling behind in the competitive media industry, where the ability to handle and present data is increasingly becoming a requirement for success.

This study seeks to address the gap by investigating the factors influencing the adoption and usage of CAR among journalists in Kwara State. It aims to identify the challenges journalists face in utilizing CAR tools, assess their level of awareness and technical proficiency, and explore potential strategies for promoting CAR adoption (Gynnild, 2014). By examining these factors, the study hopes to provide actionable recommendations for overcoming the barriers to CAR adoption and fostering a culture of innovation within the local media landscape. Such initiatives would not only improve the quality of reporting in Kwara State but also contribute to the overall development of the media industry in Nigeria, enhancing the role of journalism in holding governments accountable and fostering public trust (Lewis & Usher, 2016).

1.3. Research Objectives
1. To assess the level of adoption and usage of Computer-Assisted Reporting (CAR) tools among journalists in Kwara State.
2. To identify the factors influencing the adoption of CAR among journalists in Kwara State.
3. To propose strategies for promoting the adoption and effective usage of CAR among journalists in Kwara State.

1.4. Research Questions

1. To what extent are Computer-Assisted Reporting tools adopted and utilized by journalists in Kwara State?

2. What are the key factors hindering or facilitating the adoption of CAR tools among journalists in Kwara State?
3. What strategies can be implemented to promote the adoption and effective use of CAR among journalists in Kwara State?

1.5 Significance of the Study

This study holds significant value for several stakeholders, including journalists, media organizations, policymakers, and the broader public. First and foremost, the study contributes to journalistic practice by assessing the current state of Computer-Assisted Reporting (CAR) in Kwara State. It will provide valuable insights into the extent to which CAR tools are utilized by journalists, shedding light on the challenges and barriers they face in adopting these tools. By identifying gaps in the current practices, the study will offer recommendations that can guide journalists in improving the quality of their work. Through the adoption of CAR tools, journalists can enhance the depth, accuracy, and credibility of their reporting, particularly in investigative journalism, where data analysis and fact-checking are crucial. This will empower journalists in Kwara State to produce more insightful and data-driven stories that cater to the increasing demand for accuracy in news dissemination.

The study is also significant in enhancing the capacity of journalists in Kwara State. As the media landscape evolves, there is an increasing need for journalists to acquire technical skills related to data analysis, visualization, and digital tools. This study will identify specific gaps in knowledge and skills among journalists, particularly with respect to CAR tools. By recognizing these gaps, the study will lay the groundwork for the development of targeted training programs that can equip journalists with the necessary expertise to navigate the digital age. Improving journalists' proficiency in CAR will allow them to produce more investigative, data-backed stories, which are critical for promoting transparency and accountability within the state. Therefore, the study directly contributes to the professional development of journalists, enabling them to meet modern journalistic standards.

For media organizations, the study provides valuable insights into how they can better support their journalists in adopting CAR tools. Many media houses in Kwara State may be unaware of the challenges journalists face in adopting new technology, and this study will bring those challenges to the forefront. Media organizations can use the study's findings to make informed decisions about providing the necessary resources, training, and infrastructure to facilitate CAR adoption. By promoting a culture of innovation and data-driven journalism, media organizations can improve their editorial output, stay competitive in an increasingly digital media landscape, and produce higher-quality, accurate content. This will also help them meet the expectations of a more discerning audience that demands transparency and factual reporting.

The significance of this study extends beyond journalism and media organizations; it also plays a critical role in promoting transparency and accountability in the public sphere. In an era marked by misinformation and the spread of fake news, data-driven journalism powered by CAR tools is essential for providing the public with accurate and reliable information. Journalists who adopt CAR are better equipped to produce investigative reports that uncover corruption, social inequality, and other issues affecting public welfare. By empowering journalists in Kwara State

with the tools to analyze and report on such issues effectively, the study will contribute to a more transparent media landscape. This, in turn, can promote accountability among government officials, institutions, and private entities, ensuring that they are held responsible for their actions.

Finally, the study contributes to the advancement of research on technology in journalism, particularly in the context of developing countries like Nigeria. As CAR tools become integral to modern journalism practices globally, this study will add to the growing body of research on how technology impacts news reporting in regions where resources and infrastructure may be limited. The findings from this study can serve as a valuable reference point for future research on the challenges and opportunities of adopting technology in journalism, not only in Kwara State but also in other regions of Nigeria and Africa. By focusing on a specific context, this research fills a gap in the literature on the adoption of digital tools in the media sector in the Global South.

In conclusion, this study is significant because it offers practical insights that can improve journalistic practices in Kwara State, enhance journalists' technical skills, and promote transparency and accountability in the state's media landscape. By addressing the barriers to CAR adoption and providing actionable strategies, the study has the potential to contribute to the overall development of the media industry in Kwara State and beyond. Through these efforts, the study will help create a more robust, data-driven journalism environment that benefits both journalists and the public at large.

1.6. Scope of the Study

This study focuses on the adoption and usage of Computer-Assisted Reporting (CAR) tools among journalists in Kwara State, Nigeria. It specifically targets journalists working in both public and private media organizations, including print, broadcast, and online platforms, within the state. The scope is geographically confined to Kwara State, providing a localized perspective on CAR adoption in the context of Nigerian journalism. While the study acknowledges the broader trends in the media industry, it primarily examines the situation in Kwara State, as the challenges and opportunities in this region may differ from those in other parts of Nigeria or the world.

The study will explore the extent to which journalists in Kwara State are aware of and utilize CAR tools in their daily reporting activities. It will investigate the factors influencing the adoption of these tools, including training, technological access, financial resources, and institutional support. The research will also examine the barriers that hinder CAR adoption, such as a lack of technical expertise or resistance to technological change. Furthermore, the study will assess the benefits and challenges of CAR usage, particularly how it influences the quality, accuracy, and depth of news reporting in Kwara State.

In terms of time frame, the study focuses on current practices and trends, investigating how CAR tools are used today in the state. It does not cover historical perspectives on the evolution of journalism in Kwara State, but instead looks at contemporary challenges and developments. The study's findings will be based on data gathered from surveys, interviews, and observations of journalists working within the state during the research period.

While the study will primarily focus on journalists, it may also touch on the role of media organizations in supporting or hindering CAR adoption, particularly in terms of providing access to resources and training. However, the role of government policies and broader socio-political factors influencing media practices will be acknowledged but not the main focus of the study.

In summary, the study is limited to the adoption of CAR tools by journalists in Kwara State, Nigeria, examining the factors influencing usage, the challenges faced, and the potential strategies for improving CAR adoption within this specific context. It will provide valuable insights into the state of journalism in Kwara State and propose ways to enhance the capacity of local journalists in the digital age.

1.7.Definition of Terms

1. Adoption

Adoption refers to the process through which journalists in Kwara State begin to accept, integrate, and make use of Computer-Assisted Reporting (CAR) tools in their journalistic practices. It involves recognizing the utility of CAR, acquiring the necessary skills, and incorporating it into everyday reporting to enhance the quality, accuracy, and depth of news coverage.

2. Usage

Usage refers to the frequency and extent to which journalists in Kwara State actively employ CAR tools in their daily work. This includes utilizing software, databases, and other digital tools for data analysis, visualization, and investigative reporting. It measures how CAR is integrated into the practical workflow of journalists within the region.

3. Computer-Assisted Reporting (CAR)

Computer-Assisted Reporting (CAR) is a journalistic practice that uses computer software and technology to collect, analyze, and present data for news reporting. It often involves the use of spreadsheets, databases, data visualization tools, and statistical analysis to support investigative journalism and data-driven reporting. CAR enables journalists to uncover trends, verify facts, and present complex data in an accessible and engaging manner.

4. Journalists

Journalists refer to individuals who work in various media organizations in Kwara State, including those in print, broadcast, and digital media. These professionals are involved in the gathering, editing, and dissemination of news and information to the public, aiming to inform, educate, and sometimes influence societal opinions.

5. Kwara State

Kwara State is a region located in the North-Central geopolitical zone of Nigeria. The state is home to a diverse population, with media organizations operating within its boundaries that include both private and government-owned radio, television, and print media.

CHAPTER TWO

LITERATURE REVIEW

2.1. CONCEPT OF COMPUTER ASSISTED REPORTING

Computer-Assisted Reporting (CAR) refers to the use of computers and digital tools in the news-gathering and reporting process. As Garrison (1998) explains, CAR encompasses various techniques that help journalists research, analyze data, and produce more in-depth stories. This includes online research, data analysis, database journalism, and even artificial intelligence-driven reporting. CAR is sometimes referred to as computer-assisted journalism and has significantly transformed modern newsrooms by enhancing efficiency, accuracy, and investigative capabilities.

The integration of computing in journalism has its roots in early computational devices. One of the earliest breakthroughs in computing came in the late 19th century when Herman Hollerith developed the punched card system to process the 1890 U.S. census. His invention revolutionized data processing, allowing large sets of information to be systematically analyzed and stored. Hollerith's work laid the foundation for modern data-driven journalism, as his methods were later adopted in business and industry. His company, initially known as the Tabulating Machine Company, eventually became International Business Machines (IBM) in 1924 (Bashe et al., 1986).

Computing technology continued to evolve throughout the 20th century. In 1936, Howard Aiken developed the Mark I computer at Harvard, advancing computational capabilities by utilizing stored data and arithmetic processing (Cohen, 1999). Around the same time, the U.S. Army developed the ENIAC (Electronic Numerical Integrator and Computer), a system that used vacuum

tubes to perform calculations at unprecedented speeds. This development was influenced by earlier work from John Vincent Atanasoff and Clifford Berry, who built the Atanasoff-Berry Computer (ABC) (Lee, 1995). By the 1940s, the term "computer" had shifted from referring to human calculators to machines that could perform large-scale computations (Meyer, 1991).

The post-war period saw rapid advancements in computing, categorized into three main phases based on the dominant electronic component used. The first phase relied on vacuum tubes, as seen in the ENIAC. The second phase introduced transistors, which improved speed and efficiency, exemplified by systems like the IBM 7090. The final phase saw the development of integrated circuits, leading to smaller, more powerful computers such as the IBM 360 series (Meyer, 1991). Despite these advancements, early computers were not user-friendly. This changed in 1952 when Grace M. Hopper developed the first assembly language, enabling programmers to write instructions more efficiently. Her work laid the foundation for modern programming languages and compilers, making computers more accessible for various applications, including journalism (Bashe et al., 1986).

As computing technology advanced, journalists began leveraging digital tools for investigative reporting. By the late 20th century, CAR became an essential part of journalism, enabling reporters to analyze large datasets, uncover patterns, and verify facts with precision. Early pioneers in CAR, such as Philip Meyer, used statistical tools to analyze public records, demonstrating how data-driven journalism could enhance storytelling and accountability (Meyer, 1991). The rise of the internet further expanded the role of CAR, allowing journalists to access vast amounts of information instantly. Online databases, search engines, and data visualization tools became integral to investigative journalism. With the advent of artificial intelligence and machine learning, modern CAR techniques now include automated fact-checking, natural language processing, and predictive analytics (DeFleur, 1997).

Today, CAR is a crucial aspect of journalism, empowering reporters to handle large volumes of information quickly and efficiently. News organizations use CAR for election coverage, financial investigations, crime reporting, and public policy analysis. Tools like spreadsheets, SQL databases, Python, R programming, and data visualization software have become standard in newsrooms. Moreover, open-source platforms and collaborative journalism initiatives allow reporters to share and analyze data collectively (Garrison, 1998). The impact of CAR extends beyond investigative journalism. Newsrooms use computational tools to track trends, verify social media claims, and detect misinformation. Artificial intelligence-powered journalism has also emerged, with news agencies using AI to generate automated reports on financial markets, sports, and real-time events (Cohen, 1999).

The evolution of computing has significantly influenced journalism, giving rise to Computer-Assisted Reporting as an essential practice in the field. From early punched card systems to modern AI-driven journalism, CAR has transformed how reporters gather, analyze, and present information. As technology continues to advance, CAR will remain a fundamental tool in modern journalism, enhancing accuracy, efficiency, and investigative depth in news reporting (Meyer, 1991).

2.1.2. CONCEPT OF COMPUTER ASSISTED REPORTING AND JOURNALISM

Birkhoff (1980) noted that by the mid-1950s, the United States had entered a new era of computing, with widespread applications in business and industry. During this period, specialized programming languages were developed, and computers became integral to fields such as applied sciences and the military.

A significant milestone in computer-assisted reporting occurred during the 1952 U.S. presidential election. The race between Dwight Eisenhower and Adlai Stevenson was closely monitored by CBS News correspondent Walter Cronkite. The Remington Rand UNIVAC computer was utilized to predict the election results based on early returns. Despite expectations of a tight race, the computer forecasted a decisive victory for Eisenhower. CBS officials, skeptical of the prediction, delayed broadcasting the results. When the forecast was eventually shared, the network faced criticism for doubting the computer's accuracy. Since then, every U.S. election has incorporated computers for result predictions (Birkhoff, 1980).

Following the 1952 election, computers gradually became part of newsrooms in three overlapping phases: business, production, and information (Reavy, 1996). Initially, they were employed for accounting and circulation management. By the mid-1960s, newsrooms used computers for tasks like inventory control and wire editing. In the 1970s, their application extended to news production, ultimately leading to the information phase.

A major breakthrough in computer-assisted reporting came in 1967 when Professor Philip Meyer of the University of North Carolina used an IBM 360 mainframe to analyze survey data related to the Detroit riots. Working with John Robinson and Nathan Kaplan at the University of Michigan, he examined responses from African Americans and found that college-educated individuals were just as likely to participate in riots as high school dropouts. This research, which won Meyer a Pulitzer Prize, marked a turning point in data-driven journalism (Meyer, personal communication, November 1, 1999; Reavy, 1996).

Meyer's interest in computer applications for journalism began when he learned Harvard Data-Text, a high-level programming language for IBM computers, during his Niemann Fellowship. His goal was not solely to explore computer applications but to integrate social science research into journalistic practices. After the Detroit riot report, Meyer relocated to Washington, D.C., where he continued to pioneer computer-assisted journalism (Reavy, 1996).

In 1968, Clarence Jones of *The Miami Herald* further expanded the use of computers in journalism by collaborating with University of Miami law students to digitize court records. Working with systems manager Clark Lambert, Jones used COBOL programming to analyze 13,000 keypunch cards, ultimately exposing biases within the Dade County criminal justice system. His investigative report, *A Scientific Look at Dade Crime*, was the first instance of journalists using computers to analyze government records, laying the foundation for modern public service journalism (Maier, 1999).

Meyer continued to advance journalism's use of social science methodology. In 1969, he began writing a book advocating for statistical research in journalism. Published in 1973 as *Precision*

Journalism, it promoted the scientific approach to reporting. An updated edition, *The New Precision Journalism*, was released in 1991. Meyer argued that journalism had become more scientific since the 1970s, driven by two factors: increased access to large datasets and the need for newspapers to understand reader preferences due to stagnant circulation rates (Meyer, 1991).

Meyer (1991) outlined six essential steps for data-driven journalism: collecting data, storing it digitally, retrieving information efficiently, analyzing patterns, summarizing large datasets, and effectively communicating findings. He equated journalism with science, emphasizing that both disciplines require skepticism, transparency, operationalization (defining measurable variables), and an acknowledgment of the tentative nature of truth.

Before Meyer's book was published, other journalists also contributed to advancing computer-assisted reporting. In 1972, *New York Times* journalist David Burnham used a computer to analyze crime data from New York City police precincts. His findings exposed inconsistencies in crime reporting and arrest rates across different precincts (DeFleur, 1997).

In 1973, further developments emerged. *The New York Times* launched an interactive information system, while *The Philadelphia Inquirer* published a data-driven investigative series titled *Unequal Justice*, which examined sentencing disparities. Meyer assisted Don Barlett and James Steele in converting city court records into a computer-readable format, marking his first experience with government records analysis (Reavy, 1996).

That same year, Burnham investigated racial disparities in crime statistics. Using computerized court and arrest records, he revealed that Black residents in New York City were eight times more likely than white residents to be homicide victims (Reavy, 1996).

By 1978, *The Miami Herald* journalists Rich Morin and Fred Tasker leveraged digital tax assessment records to uncover real estate pricing inequities in Dade County. Meyer assisted in analyzing the data, allowing reporters to identify assessment discrepancies without manual data entry (Reavy, 1996).

The 1980s saw the rise of microcomputers, following the development of the microprocessor by Ted Hoff in 1971 (Shurkin, 1984). As microcomputers became mainstream, journalists adopted them for word processing and data analysis. Newsrooms began using databases to store archived news clips, conduct background research, and analyze government records for investigative reporting. One notable case involved Elliot Jaspin of *The Providence Journal*, who used database analysis to uncover that school bus drivers with drug-related offenses were employed despite their criminal records, leading to policy reforms (Jaspin, personal communication, November 22, 1999).

Jaspin later investigated mortgage fraud, using digital records from the Rhode Island Housing and Mortgage Finance Corporation. His analysis exposed corruption in which politically connected individuals received the most favorable mortgage terms, resulting in 25 indictments (Jaspin, 1985).

The decade also saw Bill Dedman's groundbreaking Pulitzer Prize-winning series *The Color of Money* (1989), which revealed discriminatory lending practices by Atlanta banks. Around the same time, the National Institute for Computer-Assisted Reporting (NICAR) was founded at the

University of Missouri School of Journalism, training journalists in data-driven investigative techniques (Anonymous, 1999, November 15).

By the early 1990s, computer-assisted reporting had become widespread, employing various methodologies. Houston (1996) identified three core tools: spreadsheets for numerical analysis, database managers for organizing information, and online resources for research. Additionally, statistical software like SPSS and SAS became essential for analyzing complex datasets.

Meyer (1991) argued that these advancements transformed journalism into a scientific discipline. He highlighted the use of statistical software, noting that SPSS was more user-friendly for non-programmers, while SAS offered greater flexibility for complex data management. He also emphasized the role of surveys and field experiments in precision journalism, reinforcing the idea that data-driven reporting had reshaped modern news practices.

2.1.3. EVOLUTION FROM COMPUTER-ASSISTED REPORTING TO DATA JOURNALISM

While computers have been used in journalism since the 1950s (Cox, 2000), Philip Meyer is widely regarded as the pioneer of Computer-Assisted Reporting (CAR). In his book *Precision Journalism* (1973), Meyer introduced a new journalistic approach modeled on social science methodologies, including surveys, content analysis, and statistical techniques, to provide more data-driven insights. However, CAR did not gain significant traction in newsrooms until the late 1980s and early 1990s, when Pulitzer Prize-winning investigations demonstrated its effectiveness and established its credibility in professional journalism (Houston, 1996).

CAR became closely associated with investigative journalism, often viewed as a specialized tool for in-depth, long-term public affairs reporting (Cox, 2000; Gynnild, 2014; Parasie & Dagiral, 2013). Although CAR journalists resisted the notion that their methods were only applicable to time-intensive investigative projects—a perception that may have hindered its wider adoption (Gynnild, 2014)—some journalists embraced this reputation, referring to CAR as "the new investigative journalism" (Jaspin, 1993). By the early 2000s, the term CAR became less common as digital technology became ubiquitous in newsrooms. Even Meyer himself suggested retiring the term in 1999, arguing that highlighting computer use in journalism was unnecessary since it had become an integral part of the profession (Meyer, 1999).

Despite Meyer's suggestion, CAR remains in use, though it is now more often referenced in historical discussions of quantitative journalism rather than as a contemporary practice. Comparisons between CAR, data journalism, and computational journalism highlight shifts in journalistic techniques over time rather than direct contrasts between current methodologies. Originally rooted in social science-based statistical techniques, CAR evolved into two key practices: statistical data analysis, as envisioned by Meyer's precision journalism, and more general computer-based research techniques such as online searches, database exploration, and email interviews (Miller, 1998; Yarnall et al., 2008). While these research techniques have become standard journalistic practices and no longer constitute "technologically specific work" (Powers, 2011), statistical and data-driven CAR methods remain specialized due to their limited adoption. This study focuses on CAR's data-driven components, which serve as the foundation for modern data journalism and computational journalism (Gynnild, 2014).

Data journalism, sometimes referred to as data-driven journalism, has largely replaced CAR in contemporary professional reporting. While scholars tend to favor alternative terms, the news industry has widely adopted "data journalism" to describe journalistic practices centered on data analysis and visual storytelling (Appelgren & Nygren, 2014). Professional definitions of data journalism are broad, often describing it as any journalistic activity involving data collection, analysis, and publication for public interest reporting (Stray, 2011). Some experts define it as an interdisciplinary practice combining statistical analysis, computer science, data visualization, web design, and investigative reporting (Bell, 2012; Bradshaw, 2010; Thibodeaux, 2011). Additionally, data journalism is frequently linked to the use of open data and open-source tools, though it is not exclusively dependent on these resources (Gynnild, 2014; Parasie & Dagiral, 2013).

Data journalism has been on the rise since the late 2000s. Before its emergence, most newsroom data analysis was conducted through CAR or by financial news organizations specializing in economic reporting (Bell, 2012). While data journalism is not yet a core component of traditional reporting, it has gained significant traction in the industry, with increasing demand for data-literate journalists, despite the field being relatively small and concentrated in well-funded newsrooms (Fink & Anderson, 2014; Howard, 2014). Some scholars argue that a distinct professional class of data journalists is emerging, though they frequently adapt computational methods to fit conventional newsroom practices (Young & Hermida, 2014).

One notable example of data journalism in action was *The Guardian's* 2009–2010 project investigating UK Members of Parliament's expense claims. The newspaper published 460,000 pages of expense reports online and invited the public to analyze and flag questionable claims. This crowdsourced effort resulted in major investigative reports, data visualizations, and led several MPs to review and repay expenses (Gray, Bounegru, & Chambers, 2012).

Unlike CAR, which was deeply tied to investigative journalism, data journalism is more broadly integrated into everyday journalistic practices (Gray, Bounegru, & Chambers, 2012; Marshall, 2011; Minkoff, 2010). While some scholars argue for continuity between CAR and data journalism (Gordon, 2013; Gray, Bounegru, & Chambers, 2012), key differences set them apart. Data journalism places greater emphasis on visualization, integrating visual storytelling with core journalistic values (Gordon, 2013; Weber & Rall, 2013). Additionally, data journalism represents a shift in journalistic epistemology, as it increasingly treats readers as active participants in constructing narratives and shaping moral perspectives (Parasie & Dagiral, 2013).

This evolving field is also referred to as "Computational Journalism."

2.1.4. ADOPTION AND USAGE OF COMPUTER-ASSISTED REPORTING AMONG JOURNALISTS

According to Ted Mellnik, a database editor for the *Charlotte Observer*, the introduction of computerized publishing systems began in the 1970s. During this period, journalists started using terminals for writing. However, it was not until the mid-1980s that actual computers were integrated into newsrooms, initially in the form of mainframe computers. One of the earliest examples of computer-assisted reporting (CAR) at the *Observer* occurred in 1984 when journalists

created a database to analyze campaign contributions to the North Carolina General Assembly (Mellnik, personal communication, November 16, 1999).

By 1985, personal computers (PCs) were introduced into the newsroom. One of their first applications was analyzing election results, specifically voting patterns by county and precinct (Mellnik, personal communication, November 16, 1999). By the late 1980s, newsroom staff increasingly used PCs, employing spreadsheet software like Symphony, a variant of Lotus 123, to conduct statistical analyses for small-scale stories. One such investigation focused on infant mortality rates across the state. In 1988, the newsroom acquired its first database program for PCs and used it for another campaign finance project, this time examining contributions to federal and state congressional races (Mellnik, personal communication, November 16, 1999).

In 1990, reporters at the *Observer* began using SAS software to analyze extensive datasets. This technological advancement was soon followed by the introduction of computer mapping in 1993. By 1997, journalists had started utilizing searchable databases on the Internet. A notable application of these tools was in analyzing a new school zoning assignment after a federal judge ordered an end to school bussing for racial integration. The newspaper employed computer mapping software to produce a 12-page section visualizing and explaining the new school districts (Mellnik, personal communication, November 16, 1999).

Another innovative use of technology came in February 1998 when local properties were re-evaluated for their current market value. Homeowners received written notices, and the *Observer* developed an online searchable database that allowed residents to compare home values within their neighborhoods. This access to information helped reduce the number of homeowners contesting their property values (Mellnik, personal communication, November 16, 1999).

Initially, only a few journalists in the newsroom were proficient in CAR techniques. In the mid-1990s, the newsroom acquired additional PCs and began training reporters in using spreadsheets, email, and the Internet. By 1999, every reporter and editor at the *Observer* had a personal computer equipped with database and spreadsheet software (Mellnik, personal communication, November 16, 1999).

The *Washington Post* followed a similar trajectory in adopting CAR. Diane Weeks, the deputy IT editor at the *Post*, noted that the first mainframe computers, introduced in the 1980s, were primarily used for text editing. Over time, personal computers became widely available, and journalists started leveraging the Internet for research. The newsroom also incorporated software like Microsoft Excel and Access, while photographers adopted digital scanning tools. Investigative projects using CAR techniques included analyses of Washington D.C.'s police arrest and conviction records, tracking retired police firearms returning to communities, and assessing discrepancies in voting records among county board supervisors (Weeks, personal communication, November 17, 1999).

Similarly, the *San Jose Mercury News* embraced CAR in the 1990s. Prior to that, the newsroom used "dumb" terminals that were limited to text entry on a mainframe. Jennifer LaFleur, a former database editor at the newspaper, recalled that in 1995, PCs became widespread in the newsroom. One investigation analyzed a database of government-subsidized grazing permits and discovered

that many of the largest permit holders were wealthy individuals who benefited from below-market rates. Another inquiry examined how zoos disposed of animals, revealing that some were sold to hunting ranches where they were later hunted for sport (LaFleur, personal communication, November 17, 1999).

At *The Detroit News*, newsroom-wide computer adoption occurred in the early 1980s. Investigative projects included analyzing racial disparities in mortgage loan approvals using ArcView mapping software, which illustrated that Black applicants faced higher denial rates than white applicants. Other CAR applications included mapping crime patterns in Detroit and tracking gang activity while reporting for a newspaper in Montana. Additional projects involved analyzing financial data for a Texas Rangers baseball stadium while working for the *Fort Worth Star-Telegram* (Phillips, personal communication, November 16, 1999).

Ken Zapenski, the associate business editor at the *Pittsburgh Post-Gazette*, emphasized the transformative role of web access in newsroom research. He pointed out that information that previously took hours or days to obtain could now be accessed instantly. Additionally, email revolutionized interview processes by allowing journalists to coordinate and conduct interviews remotely (Zapenski, personal communication, November 17, 1999).

Steve Doig, a Knight Professor at Arizona State University and former journalist at *The Miami Herald*, used CAR techniques for investigative projects such as assessing damage from Hurricane Andrew and exposing flaws in Dade County's criminal justice system. He argued that CAR should not be limited to high-profile investigations but should be a standard tool in everyday reporting (Doig, personal communication, November 15, 1999).

The adoption of CAR across various news organizations followed a pattern of gradual development, largely driven by pioneering journalists. Some, like Philip Meyer and Elliott Jaspin, were early adopters who realized the potential of computers and social science techniques to enhance reporting. Christine DeFleur acknowledged that while CAR would have eventually spread throughout journalism, these early pioneers accelerated its adoption by demonstrating its effectiveness (DeFleur, personal communication, November 17, 1999).

Bill Dedman noted that in the initial stages, CAR was mainly used by investigative reporters rather than general newsroom staff. However, as access to public records in digital formats increased, CAR techniques became more widespread. Philip Meyer emphasized that the technology did not drive the shift to CAR; rather, solid reporting skills paved the way for its integration. He explained that had computers not been available, journalists would have used alternative data-processing methods, such as punched-card sorters (Meyer, personal communication, November 16, 1999).

Ultimately, the adoption of CAR was driven by journalists who saw its potential to enhance their work. Adrian Houston echoed this sentiment, arguing that technology alone does not produce stories; rather, it is the creativity and investigative skills of reporters that make CAR valuable (Houston, personal communication, November 15, 1999). Mellnik similarly asserted that while technology facilitates reporting, it is journalists and their investigative instincts that truly propel CAR forward (Mellnik, personal communication, November 16, 1999).

2.2. THEORECTICAL FRAMEWORK

Numerous established models and theories have been utilized to examine the adoption of technological products and services. Regarding mobile devices, this study will employ two key media theories: Diffusion of Innovation Theory and Critical Mass Theory.

2.2.1. Diffusion of Innovation Theory

Also referred to as the 'Multiple Step Flow Theory,' the Diffusion of Innovation (DOI) Theory explains how ideas and innovations spread. According to Rogers (1996), diffusion is "the process by which an innovation is communicated through specific channels over time within a social system." An innovation can be any idea, practice, or object perceived as new by an individual or group.

The spread of innovation relies on both mass media and interpersonal communication channels. These channels play a crucial role in disseminating information about innovations and influencing people to adopt them. Rogers outlines the adoption process as a five-step sequence:

- **Knowledge** – The individual becomes aware of an innovation and learns how it functions.

- **Persuasion** – The individual forms a positive or negative opinion about the innovation.

- **Decision** – The individual engages in activities that lead to the adoption or rejection of the innovation.

- **Implementation** – The innovation is put into use.

- **Confirmation** – The individual evaluates the decision and its outcomes.

2.2.2. Critical Mass Theory

To fully grasp the focus of this study, it is essential to apply the concept of Critical Mass Theory in the context of adopting new communication technologies. The term originates from physics, where it refers to the minimum amount of material required to initiate and sustain a chain reaction. In communication studies, it describes the minimum number of adopters necessary for a new technology to become permanently integrated into society (Kaye & Medoff, 2001).

Williams, Strover, and Grant (1994) highlight a key aspect of this theory: widespread adoption tends to create a snowball effect. Once a critical mass of people begins using a technology, those without it feel compelled to adopt it due to social pressure, even if there are barriers like cost or usability concerns. Failure to adopt could lead to exclusion from essential communication networks.

For a technology to achieve mass media status, it must reach a critical adoption threshold. Generally, this occurs when about 16% of the population adopts an innovation. However, in mass media, a common benchmark is 50 million users. Historical trends show that radio took 38 years to reach this milestone, television took 13 years, and cable took 10 years. The internet, by contrast, achieved 50 million users in under six years (Kaye & Medoff, 2001).

Between 1995 and 1997, the estimated number of internet users in the U.S. ranged from 51 million to 58 million (CommerceNet & Nielsen Research, 1995). By 1999, this figure had surged to approximately 90 million (Guglielmo, 1999). The Computer Industry Almanac later reported that internet usage in the U.S. exceeded 100 million, representing 40% of the population. By 2003, projections suggested a global internet user base of 545 million (Data Monitor, 1999).

2.2.3. RELEVANCE OF THE THEORIES TO THE STUDY

Diffusion of Innovation Theory

This study is grounded in Rogers' DOI Theory, which explains how new technologies gain acceptance and spread through societies (Rogers, 2003). The decision to adopt a technology follows five key stages: knowledge, persuasion, decision, implementation, and confirmation. Since mobile learning (m-learning) is still in its early stages in several developing countries, understanding potential adopters and their decision-making process is essential.

Greg (2003), in his review of Rogers' work, emphasized that successful diffusion efforts depend on situational factors. Raising awareness of an innovation is most effective when opinion leaders are persuaded to adopt and advocate for it. Mass media plays a crucial role in spreading knowledge of innovations quickly and can influence weakly held attitudes. However, strong interpersonal ties, such as peer discussions and interactions with opinion leaders, are more effective in shaping and reinforcing firm attitudes about an innovation.

Critical Mass Theory

Historical data highlights the varying adoption rates of communication technologies. Radio adoption was slow, taking 38 years to reach 50 million users, while television and cable achieved this milestone in 13 and 10 years, respectively. The internet, however, grew at an unprecedented rate, reaching 50 million users in under six years (Kaye & Medoff, 2001).

Between 1995 and 1997, estimates placed U.S. online users between 51 million and 58 million (CommerceNet & Nielsen Research, 1995). By 1999, the number had climbed to 90 million, and by 2003, global projections suggested over 545 million internet users (Data Monitor, 1999).

This study aims to assess the current state of information and communication technology (ICT) adoption among media professionals in Nigeria. Specifically, it investigates how ICTs are used to educate citizens on achieving the Millennium Development Goals (MDGs) and the challenges associated with their adoption. Additionally, the study examines whether Nigerian media professionals effectively utilize ICTs to shape public discourse on the MDGs and assesses the affordability of ICT tools for media practitioners in the country.

2.3. EMPIRICAL REVIEW

Scholars present compelling arguments on both sides regarding the role of new communication technologies (NCTs) in socio-economic development. Proponents assert that these technologies are crucial for societal progress, often citing the transformation experienced in Western nations due to industrial advancements. They argue that just as industrial technologies revolutionized economies in developed nations, ICTs can drive similar growth in other societies.

On the contrary, critics contend that the belief in ICT-driven development is merely a deceptive strategy aimed at further entrenching underdeveloped nations in a new form of digital colonialism. This debate presents two key perspectives that warrant discussion.

Tehranian (1990) highlights the dual impact of communication technologies in society. On one hand, they facilitate centralized control and governance, characteristic of modern industrial states. On the other, they provide alternative means for cultural resistance and ideological mobilization. He classifies "Big Media" (such as national broadcasting, mainstream press, and large-scale computing systems) as tools of centralization, whereas "small media" (such as independent press, low-budget audiovisual productions, and personal computer networks) enable grassroots resistance and community mobilization. As a result, new communication technologies serve both the powerful and the marginalized in society (Obijiofor et al., 1999).

Similarly, Stevenson, Burkett, and Myint (1993) argue that these technologies can either reinforce centralized economic systems or empower decentralized problem-solving at both local and global levels. However, globalization—driven by new communication technologies—has compelled local communities to engage with international networks to address their challenges, highlighting both opportunities and dependencies.

As with the introduction of any transformative technology, the diffusion of NCTs has met criticism, particularly from those who perceive it as an extension of Western dominance over developing nations. Detractors assert that these technologies are inherently Western constructs designed to further globalization efforts by dominant powers.

Skeptics highlight several risks associated with adopting NCTs, including:

- The proliferation of pornographic content on the Internet,

- The potential psychological impact on children by distancing them from real-world experiences,

- The facilitation of organized crime,

- The risk of widening the digital divide between the information-rich and the information-poor, and

- The potential for cultural erosion due to a one-way flow of information from developed to developing nations, which promotes an information-based economy rather than fostering genuine communication (Inayatullah, 1999).

Lerner and Schramm (1976) further argue that mass media in developing regions have fueled unrealistic aspirations, exposing people to lifestyles they cannot attain. This exposure has, in some cases, led to feelings of inferiority or frustration, which can manifest as either apathy or aggression—both counterproductive to meaningful development.

Another major critique of new communication technologies is their impact on traditional media. The unrestricted nature of online platforms has led to the widespread dissemination of unverified and often misleading content. Unlike traditional journalism, where editorial gatekeeping ensures

accuracy and ethical reporting, digital media lacks such oversight. Joseph Dominick (2005) outlines three major consequences of this absence of gatekeeping:

1. The overwhelming influx of trivial, irrelevant, or misleading information,

2. The loss of credibility and objectivity, as online content is not professionally vetted, and

3. The circumvention of censorship and ethical standards, leading to the unchecked spread of misinformation.

Ultimately, while new communication technologies offer transformative potential, their adoption presents both benefits and challenges that societies must carefully navigate.

CHAPTER THREE

RESEARCH METHODOLOGY

1.0   INTRODUCTION

This chapter outlines the research methodology that guides this study. Research methodology plays a vital role in providing a systematic plan for collecting, analyzing, and interpreting data, thereby enhancing the reliability and validity of the findings. This study adopts a survey method, using a

structured questionnaire to investigate the adoption and usage of Computer-Assisted Reporting (CAR) among journalists in Kwara State.

1.1 RESEARCH DESIGN

The study adopts a survey research design, which is commonly used in social science research. According to Nwodu (2006), survey research involves selecting a representative sample from a defined population to collect data systematically and analyze it for generalizations. This method is suitable for the study as it allows for the collection of data from a cross-section of journalists in Kwara State regarding their use of CAR. It enables the researcher to gather quantifiable data that reflect the awareness, application, and challenges associated with CAR.

3.2 POPULATION OF THE STUDY

The population of a study refers to the entire group of individuals relevant to the research objectives. Afiwokemi (2015) defines research population as the total number of individuals eligible for a study, while Akinade and Owolabi (2009) describe it as the complete set of observations from which a sample may be drawn.

For this study, the population comprises all practicing journalists in Kwara State, including those in print, broadcast, and online media. According to data from the Nigeria Union of Journalists (NUJ), Kwara State Council, there are approximately 350 registered and active journalists in the state as of 2024 (NUJ Kwara State, 2024). This includes reporters, editors, presenters, producers, and digital content creators working in both public and private media organizations.

3.3. SAMPLE SIZE AND SAMPLING TECHNIQUE

A sample refers to a subset of the population selected for detailed study. Issa (2012) states that a sample size is the portion of the population chosen to represent the whole, often determined by time, cost, and access limitations.

Given the estimated total population of about 350 journalists in Kwara State, the study selects a sample size of 100 journalists, representing approximately 28.6% of the total population. This sample size is considered adequate for drawing valid conclusions in a social science study with limited resources.

To ensure balanced representation, the sample was further broken down across the major media categories in the state:

Print Journalists: Approximately 35% of the total journalist population is estimated to work in the print media (e.g., newspapers and magazines). Thus, 35 journalists were selected from this category.

Broadcast Journalists: About 55% are estimated to work in the broadcast media (radio and television), leading to the inclusion of 55 journalists from this category.

Online-Only Journalists: The remaining 10% comprises journalists working in online-only platforms. Therefore, 10 journalists were sampled from this group.

The study employs a non-probability sampling technique, specifically purposive sampling, to ensure that only journalists with awareness or experience in Computer-Assisted Reporting (CAR) are included. Within this purposive approach, systematic random sampling was used to enhance diversity and minimize selection bias. This method ensures proportional representation from different media sectors—print, radio, television, and online—reflecting the media landscape in Kwara State.

1.4. DATA GATHERING INSTRUMENT

The primary instrument for data collection is the questionnaire. It is designed with a combination of structured (closed-ended) and unstructured (open-ended) questions to allow both quantitative and qualitative insights. The structured questions enable statistical analysis, while the unstructured questions provide room for elaboration and detailed responses.

A total of 100 questionnaires are to be distributed across media outlets in Kwara State. This is done to account for potential non-response or invalid submissions. The researcher intends to collect the completed questionnaires on the spot to enhance response rates and minimize data loss.

3.5. INSTRUMENTATION

The questionnaire contains 20 items that cover key variables such as awareness of CAR, levels of adoption, usage frequency, perceived benefits, and challenges. It is a self-administered instrument and is distributed personally to journalists working in print, broadcast, and digital platforms across Kwara State.

3.6 VALIDITY AND RELIABILITY OF INSTRUMENT

Validity refers to how well the instrument measures what it is designed to measure, while reliability refers to the consistency of measurement over time (Tejumaye, 2003). Wimmer and Dominick (2003) state that a research instrument is reliable if it produces stable and consistent results.

To ensure validity, the questionnaire is reviewed by communication experts and media professionals for relevance and clarity. A pilot test is also conducted among a small group of journalists who are not part of the main study. This helps identify ambiguities and improve the instrument. For reliability, the test-retest method is applied, whereby the same questionnaire is administered twice to the pilot group within a short interval, and the consistency of their responses is evaluated.

1.2 METHOD OF DATA ANALYSIS

Data collected from the questionnaire will be analyzed using descriptive statistical tools, including simple percentages and frequency distribution. These methods are appropriate for summarizing survey data and identifying trends. The results will be presented in tables, charts, and graphs to facilitate clarity and interpretation. Based on the findings, conclusions will be drawn and relevant recommendations will be provided to enhance the use of Computer-Assisted Reporting among journalists in Kwara State.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter presents and analyzes the data collected from the administered questionnaires. The data are presented in frequency tables and percentages to clearly illustrate the adoption and usage of Computer-Assisted Reporting (CAR) among journalists in Kwara State.

4.1 Demographic Characteristics of Respondents

Table 4.1: Gender Distribution of Respondents

Gender	Frequency	Percentage (%)
Male	70	70%
Female	30	30%
Total	**100**	**100%**

The majority of the respondents (70%) are male, while 30% are female.

Table 4.2: Age Distribution of Respondents

Age Range	Frequency	Percentage (%)
18–25 years	20	20%
26–35 years	50	50%
36–45 years	20	20%
46 years & above	10	10%
Total	**100**	**100%**

Most respondents (50%) fall within the age bracket of 26–35 years.

Table 4.3: Educational Qualification

Qualification	Frequency	Percentage (%)
OND	20	20%
HND	30	30%
Bachelor's Degree	40	40%
Master's Degree/Above	10	10%
Total	**100**	**100%**

40% of respondents hold a Bachelor's Degree.

Table 4.4: Media Organization Type

Organization Type	Frequency	Percentage (%)
Print	30	30%
Broadcast	40	40%
Online	20	20%
Others	10	10%
Total	**100**	**100%**

The majority of journalists (40%) work in broadcast media.

Table 4.5: Years of Experience

Years of Experience	Frequency	Percentage (%)
Less than 1 year	10	10%
1–5 years	40	40%
6–10 years	30	30%
Above 10 years	20	20%

Total	**100**	**100%**

Most journalists (40%) have between 1 to 5 years of work experience.

4.2 Adoption of Computer-Assisted Reporting (CAR)

Table 4.6: Awareness of Computer-Assisted Reporting

Response	Frequency	Percentage (%)
Yes	70	70%
No	30	30%
Total	**100**	**100%**

The majority of journalists (70%) are aware of Computer-Assisted Reporting.

Table 4.7: Training on Computer-Assisted Reporting

Response	Frequency	Percentage (%)
Yes	40	40%
No	60	60%
Total	**100**	**100%**

60% of the respondents have not received any formal training on CAR.

Table 4.8: Organizational Support for CAR

Response	Frequency	Percentage (%)
Yes	35	35%
No	45	45%
Not Sure	20	20%
Total	**100**	**100%**

45% of respondents indicated that their organizations do not support the use of CAR.

Table 4.9: CAR Tools Commonly Used

CAR Tools	Frequency	Percentage (%)
Microsoft Excel	30	30%
Google Sheets	20	20%
Data Analysis Software	10	10%
Visualization Tools	10	10%
None	30	30%
Total	**100**	**100%**

Microsoft Excel is the most commonly used CAR tool, but a significant number of journalists (30%) do not use any CAR tool.

Table 4.10: Frequency of CAR Usage

Frequency of Use	Frequency	Percentage (%)

Always	10	10%
Often	20	20%
Sometimes	30	30%
Rarely	20	20%
Never	20	20%
Total	**100**	**100%**

CAR usage is generally low, as only 10% use it always while 20% have never used it.

4.3 Analysis of Respondents' Opinions on CAR

Table 4.11: Respondents' Perceptions

Statements	SA	A	N	D	SD	TOTAL
CAR enhances accuracy in news reporting	40	30	10	10	10	100
CAR improves investigative journalism	35	40	10	8	7	100
The adoption of CAR is low among journalists in Kwara State	45	30	10	8	7	100
Lack of training is a major barrier to using CAR	50	30	8	7	5	100
Media houses in Kwara State invest in CAR tools and resources	15	20	15	30	20	100
CAR makes journalists more effective in data analysis	35	35	10	10	10	100
CAR is essential for modern journalism practices	40	35	10	8	7	100
I find it challenging to use CAR tools due to lack of technical skills	30	30	15	15	10	100
The use of CAR enhances public trust in news stories	30	40	15	10	5	100
I am interested in further training on Computer-Assisted Reporting	50	30	10	5	5	100

From the above table;

1. CAR enhances accuracy in news reporting

Out of 100 respondents, 70% (40 strongly agreed and 30 agreed) believe that Computer-Assisted Reporting (CAR) enhances accuracy in news reporting. This indicates that a large proportion of journalists recognize the importance of CAR in improving the precision and factual reliability of their reports. However, 20% disagreed and 10% remained neutral, showing that while majority support this view, some journalists may not yet fully trust or understand the impact of CAR on reporting accuracy.

2. CAR improves investigative journalism

A significant number of respondents, 75% (35 strongly agreed and 40 agreed), affirmed that CAR improves investigative journalism. This demonstrates that journalists view CAR as a vital tool for uncovering and analyzing in-depth stories. Only 15% disagreed with this statement and 10% were neutral. This suggests that CAR is largely considered essential for robust investigative practices.

3. The adoption of CAR is low among journalists in Kwara State

About 75% (45 strongly agreed and 30 agreed) of the respondents acknowledged that the adoption of CAR is still low among journalists in Kwara State. This reflects a concerning gap between the perceived importance of CAR and its actual use in the region. Only 15% disagreed with this view while 10% were neutral, which further confirms that CAR is not yet widely embraced or applied.

4. Lack of training is a major barrier to using CAR

A combined 80% (50 strongly agreed and 30 agreed) of respondents believe that lack of training is a major barrier to the use of CAR among journalists. This reveals that inadequate exposure and technical know-how are key factors limiting the adoption of CAR. A smaller percentage, 12%, disagreed with this, while 8% were neutral. The result strongly emphasizes the need for more training opportunities.

5. Media houses in Kwara State invest in CAR tools and resources

Only 35% (15 strongly agreed and 20 agreed) of the respondents believe that media houses in Kwara State invest in CAR tools and resources. In contrast, 50% (30 disagreed and 20 strongly disagreed) disagreed with this claim, and 15% remained neutral. This indicates that many journalists feel their organizations do not adequately support the use of CAR, either through funding or provision of necessary tools.

6. CAR makes journalists more effective in data analysis

About 70% (35 strongly agreed and 35 agreed) of respondents believe that CAR makes journalists more effective in data analysis. This suggests that journalists who adopt CAR see it as a means to enhance their analytical skills and produce more data-driven stories. On the other hand, 20% disagreed and 10% were neutral, showing a small portion of journalists who may not fully embrace CAR's analytical potential.

7. CAR is essential for modern journalism practices

A large percentage, 75% (40 strongly agreed and 35 agreed), supported the view that CAR is essential for modern journalism practices. This shows a clear recognition of CAR as a necessary tool in today's digital-driven media landscape. Only 15% disagreed and 10% were neutral, indicating strong acceptance among the majority.

8. I find it challenging to use CAR tools due to lack of technical skills

About 60% (30 strongly agreed and 30 agreed) of respondents admitted that they find it challenging to use CAR tools because of a lack of technical skills. This highlights a practical barrier that prevents many journalists from fully adopting CAR. Meanwhile, 25% disagreed and 15% were neutral, suggesting that a minority feel confident in their technical ability to use CAR tools.

9. The use of CAR enhances public trust in news stories

70% (30 strongly agreed and 40 agreed) of the respondents believe that the use of CAR enhances public trust in news stories. This finding indicates that journalists see CAR as a pathway to greater

credibility and transparency in reporting. However, 15% disagreed and 15% were neutral, which suggests that some journalists either doubt this impact or are unsure of it.

10. I am interested in further training on Computer-Assisted Reporting

An overwhelming 80% (50 strongly agreed and 30 agreed) expressed a strong desire for further training on Computer-Assisted Reporting. This indicates a significant interest in professional development and suggests that journalists are willing to adopt CAR if properly trained. Only 10% disagreed and 10% were neutral, confirming that the majority are eager to expand their skills in this area.

4.2 Analysis of Research Questions

This section provides detailed analysis based on the research questions formulated for the study.

Research Question 1: What is the level of awareness and adoption of Computer-Assisted Reporting (CAR) among journalists in Kwara State?

The analysis of the responses indicates that **70% of journalists are aware of Computer-Assisted Reporting (CAR)**. However, despite this high level of awareness, the actual **adoption rate remains low**, as 75% of the respondents agreed that CAR is not widely practiced among journalists in Kwara State. Additionally, 60% of respondents indicated that they had not received any formal training on CAR, which strongly suggests that awareness does not translate into practical usage. The frequency of CAR usage also reflects this gap, with only **10% of journalists using CAR regularly,** while a significant **20% have never used it.**

The findings suggest that although journalists in Kwara State understand what CAR is and recognize its importance, the level of adoption is still inadequate. The low adoption is largely influenced by the lack of technical training and organizational support.

Research Question 2: What are the factors influencing the adoption and use of CAR by journalists in Kwara State?

From the respondents' feedback, **lack of training emerged as the most significant factor** affecting the adoption of CAR. **80% of respondents agreed that inadequate training is a major barrier** preventing journalists from using CAR effectively. Additionally, **insufficient investment by media organizations** was highlighted, as only 35% of the respondents agreed that their media houses invest in CAR tools and resources.

Furthermore, **60% of respondents admitted that they find it challenging to use CAR tools due to lack of technical skills.** This technical barrier is a critical issue that hinders the smooth integration of CAR into daily journalistic routines. The data also shows that many journalists desire to improve their skills, as **80% expressed strong interest in receiving further training on CAR.**

These findings reveal that technical, institutional, and educational factors play a significant role in the adoption and use of CAR among journalists in Kwara State.

Research Question 3: What are the perceived benefits of Computer-Assisted Reporting (CAR) among journalists in Kwara State?

The study reveals that journalists perceive CAR to have substantial benefits in modern journalism practice. **70% of respondents believe CAR enhances accuracy in news reporting, and 75% agree that it improves investigative journalism.** Journalists also recognize CAR's ability to **improve data analysis (70%)** and **enhance public trust in news stories (70%).**

Most importantly, **75% of the respondents consider CAR essential for modern journalism.** This shows that despite its low level of adoption, the perceived benefits are well appreciated by journalists. The strong interest in further training further suggests that journalists are open to increasing their use of CAR if given the right tools and training.

Overall, CAR is seen as a tool that can improve reporting quality, investigative depth, and audience credibility.

4.3 Discussions of Findings

The findings of this study provide valuable insights into the adoption and usage of Computer-Assisted Reporting (CAR) among journalists in Kwara State. The data gathered reveal both the positive perceptions of CAR and the challenges that hinder its full utilization.

Firstly, the study shows that awareness of CAR is relatively high among journalists, as 70% of respondents indicated familiarity with the concept. This is consistent with global trends where modern journalists are increasingly exposed to digital tools. However, despite this level of awareness, the actual adoption and frequent use of CAR remain significantly low. The data revealed that only a small percentage of journalists use CAR consistently, while many either use it occasionally or not at all. This finding suggests that awareness does not necessarily translate into practical application.

One of the major barriers to CAR adoption identified in this study is lack of training. The responses showed that 80% of journalists agreed that inadequate training is the primary reason why CAR has not been widely adopted. This finding aligns with earlier research that emphasizes the need for skill-based training in modern journalism to bridge the gap between awareness and practice. Without proper training, journalists are unable to effectively use CAR tools to enhance their reporting.

Another significant finding is the lack of institutional support from media organizations. More than half of the respondents (50%) disagreed that their organizations invest in CAR tools and resources. This implies that many media houses in Kwara State do not prioritize CAR or provide the necessary technological infrastructure for journalists to work with data-driven tools. This lack of investment may be due to financial constraints, limited managerial awareness, or resistance to technological change.

The study also reveals that technical skill gaps are a common challenge among journalists. About 60% of respondents agreed that they find it difficult to use CAR tools due to insufficient technical knowledge. This indicates that even journalists who are interested in CAR are unable to fully engage with the technology because they lack the expertise required to operate relevant software and analytical tools.

On the positive side, the respondents strongly acknowledge the benefits of CAR. Many believe that CAR improves accuracy, enhances investigative journalism, supports effective data analysis, and builds public trust in news stories. The perception that CAR is essential for modern journalism was strongly supported by the majority. These findings indicate that journalists recognize the value CAR can add to their work.

Interestingly, there is a high demand for further training. The majority of the respondents expressed a willingness to undergo more training on CAR to improve their competence. This reflects the openness of journalists in Kwara State to embrace digital tools and expand their reporting skills if given the right support and learning opportunities.

In summary, the findings reveal a situation where journalists are aware of and positively perceive CAR, but face practical barriers such as lack of training, insufficient institutional investment, and technical challenges. Addressing these barriers will be essential for the successful adoption and consistent usage of CAR in Kwara State

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This study was conducted to appraise the adoption and usage of Computer-Assisted Reporting (CAR) among journalists in Kwara State. From the analysis of data collected, it was revealed that the majority of journalists in the state are aware of Computer-Assisted Reporting and acknowledge its importance in enhancing accuracy and investigative journalism. However, despite this awareness, the adoption and practical application of CAR remain significantly low.

The findings further indicated that lack of training is a major barrier to the adoption of CAR, as many journalists reported that they find it challenging to use CAR tools due to limited technical skills. The study also found that most media houses in Kwara State do not adequately invest in CAR tools and resources, thereby limiting journalists' access to modern reporting technologies.

In addition, the majority of respondents affirmed that CAR improves data analysis, enhances public trust in news stories, and is essential for modern journalism practices. Despite the challenges identified, most journalists expressed a strong interest in further training on CAR, indicating their willingness to improve their skills and adopt the technology if given the opportunity.

5.2 Conclusion

Based on the results of this study, it can be concluded that while Computer-Assisted Reporting is highly valued among journalists in Kwara State for its potential to improve accuracy, investigative reporting, and audience trust, its adoption remains low due to several critical barriers. The lack of training, limited technical skills, and insufficient organizational support are key factors hindering the widespread use of CAR. However, the positive attitude of journalists towards further training presents an opportunity for growth and advancement in the use of CAR within the state.

If media organizations and relevant journalism training institutions invest in CAR tools and capacity-building programs, there is a high likelihood that the adoption and effective use of Computer-Assisted Reporting will increase, thereby contributing to higher-quality journalism in Kwara State.

5.3 Recommendations

Based on the findings and conclusions of this study, the following recommendations are made:

1. Training and Capacity Building:

Journalism training institutions and media houses should organize regular workshops and seminars to equip journalists with the technical skills required to effectively use CAR tools.

2. Provision of CAR Resources:

Media organizations should invest in modern CAR tools, software, and technologies to facilitate easier access and encourage usage among journalists.

3. Incorporation into Curriculum:

Journalism schools should incorporate Computer-Assisted Reporting as a core subject in their curriculum to expose upcoming journalists to its importance and practical application from the start.

4. Encourage Organizational Support:

Media houses should create an enabling environment that supports innovation and technology-driven reporting by offering incentives, resources, and management backing for journalists willing to embrace CAR.

5. Continuous Professional Development:

Journalists should personally seek further training and development in data analysis and CAR to stay relevant in modern journalism practice.

6. **Collaborative Partnerships:**

Media organizations should collaborate with technology firms and data experts to provide journalists with ongoing exposure to new CAR tools and trends.

By implementing these recommendations, the adoption and practical use of Computer-Assisted Reporting among journalists in Kwara State will significantly improve, leading to more accurate, transparent, and data-driven journalism.

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APPENDIX

DEPARTMENT OF MASS COMMUNICATION

**INSTITUTE OF INFORMATION AND COMMUNICATION TECHNOLOGY (IICT)
KWARA STATE POLYTECHNIC, ILORIN**

Dear Respondent,

I am **[Your Full Name]**, a final-year student of Mass Communication, HND2, conducting a
research study on the topic:
**"Adoption and Usage of Computer-Assisted Reporting (CAR) Among Journalists in
Kwara State."**

This research aims to examine the level of awareness, adoption, and practical application of
Computer-Assisted Reporting (CAR) tools among journalists in Kwara State.

Please note that all responses will be treated with the utmost confidentiality and used strictly for
academic purposes.

Instructions:
Kindly mark [✓] the option that best represents your opinion. The questionnaire is divided into
three sections:

- Section A: Demographic Information
- Section B: Adoption of Computer-Assisted Reporting
- Section C: Usage and Challenges of CAR

Questionnaire Structure:

Section A: Demographic Information

1. Gender:
   [ ] Male   [ ] Female   [ ] Prefer not to say

2. Age:
   [ ] 18–25 years [ ] 26–35 years [ ] 36–45 years [ ] 46 years and above
3. Educational Qualification:
   [ ] OND [ ] HND [ ] Bachelor's Degree [ ] Master's Degree and Above
4. Media Organization:
   [ ] Print [ ] Broadcast (Radio/TV) [ ] Online [ ] Other (Please specify) _____
5. Years of Journalism Experience:
   [ ] Less than 1 year [ ] 1–5 years [ ] 6–10 years [ ] Above 10 years

Section B: Adoption of Computer-Assisted Reporting (CAR)

6. Are you aware of Computer-Assisted Reporting (CAR)?
   [ ] Yes [ ] No
7. Have you ever received training on Computer-Assisted Reporting?
   [ ] Yes [ ] No
8. Does your media organization encourage the use of CAR tools?
   [ ] Yes [ ] No [ ] Not sure
9. Which CAR tools do you commonly use?
   [ ] Microsoft Excel [ ] Google Sheets [ ] Data Analysis Software [ ] Visualization Tools [ ] None
10. How often do you use CAR in your reporting?
    [ ] Always [ ] Often [ ] Sometimes [ ] Rarely [ ] Never

Section C: Usage and Challenges of CAR

Key: SA = Strongly Agree   A = Agree   N = Neutral   D = Disagree   SD = Strongly Disagree

Statements	SA	A	N	D	SD
1. Computer-Assisted Reporting enhances accuracy in news reporting.	[ ]	[ ]	[ ]	[ ]	[ ]
2. CAR improves investigative journalism.	[ ]	[ ]	[ ]	[ ]	[ ]
3. The adoption of CAR is low among journalists in Kwara State.	[ ]	[ ]	[ ]	[ ]	[ ]
4. Lack of training is a major barrier to using CAR.	[ ]	[ ]	[ ]	[ ]	[ ]
5. Media houses in Kwara State invest in CAR tools and resources.	[ ]	[ ]	[ ]	[ ]	[ ]
6. Computer-Assisted Reporting makes journalists more effective in data analysis.	[ ]	[ ]	[ ]	[ ]	[ ]
7. CAR is essential for modern journalism practices.	[ ]	[ ]	[ ]	[ ]	[ ]
8. I find it challenging to use CAR tools due to lack of technical skills.	[ ]	[ ]	[ ]	[ ]	[ ]

9. The use of CAR enhances public trust in news stories.	[ ]	[ ]	[ ]	[ ]	[ ]
10. I am interested in further training on Computer-Assisted Reporting.	[ ]	[ ]	[ ]	[ ]	[ ]