26 Weighing the Reliability of Audiovisual Evidence in Nigerian Courts: Challenges in Verifying Video and Audio Records

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INTRODUCTION

In recent years, there has been a significant increase in the use of audiovisual evidence in courtrooms. This can be attributed to advancements in technology, which have made it easier to access video and audio recordings for legal evidences and exhibit purposes, while in a trial in courts.

Barry, (2015), in a study submitted that Audiovisual materials, ranging from surveillance footage to voice recordings etc, play a vital role in shaping court decisions by offering visual and auditory evidence that traditional testimonies might not capture.

Gina, & Derik-Ferdinand (2017), in another study confirmed that Section 83 of the Evidence Act regulates the admissibility of video images in Nigerian courts, as they are not computer-generated documents.

While Cai, Ghosh, Gedeon, Dhall, Stefanov & Hayat, (2023) opined that there exist a sophisticated deepfake that includes small segments of audio or audio-visual manipulations that can completely change the meaning of the video content.

Hence the question on the integrity and authenticity of such document, considering the possibility in manipulation, fabrication or distortion of audiovisual data, in the pursuit of fairness and accuracy in the Nigerian criminal justice system, the courts in this case.

With the birth of AI replacing in our world today, the increasing reliance on certain evidence brings forth serious challenges regarding its integrity and authenticity. Concerns about the manipulation, fabrication, or misrepresentation of audiovisual data raise important issues in the justice system, which must prioritize fairness and accuracy.

Assessing the credibility and genuineness of audiovisual evidence requires a careful examination of its technical and legal aspects, and demands, sound digital forensic that must check the admissibility of such evidence based on its reliability to

eliminate, the challenge of interpreting increasingly complex technical findings, deciding which evidentiary rules apply, and ensuring that audiovisual records meet the standards of fairness and due process in the courts.

The focus of this paper is on the relevance of audiovisual evidence in present-day litigation, delving into the authentication methods employed and the legal frameworks that oversee its application.

By thoroughly examining legal precedents, forensic scientific methods, and standards of evidence, the study seeks to offer a complete comprehension of how courts can effectively balance the use of audiovisual materials while ensuring the integrity of the judicial system.

In courtrooms, the growing presence of audiovisual evidence, including video and audio recordings, has raised important questions about its trustworthiness and credibility.

While these forms of evidence can be visually and audibly persuasive in legal cases, they also come with specific difficulties, there lies a significant possibility for the tampering, manipulation, and misrepresentation of audiovisual data which injects in substantial risks to the fairness and accuracy of judicial outcomes.

Despite the advancements in digital forensic methods that aim to uncover alterations, many courts face challenges in understanding and incorporating these findings into the current legal structure. This challenge brings up concerns regarding the criteria for accepting audiovisual evidence, the importance of expert testimonies, and the capacity of legal experts to accurately assess the legitimacy of intricate digital information.

As a result, the credibility of court proceedings can be undermined if judges are unable to accurately evaluate the truthfulness of audiovisual evidence. And these issue of verifying and confirming the status and integrity of audiovisual evidences in courts remains a core problem

REVIEW OF LITERATURE

Nigeria's legal system plays a pivotal role in maintaining law and order, with courts playing a pivotal role in the hierarchy, jurisdictional limits, and appellate system. Sokefun, & Njoku, (2016). Olarinde and Idem (2019) emphasized that hearsay evidence in Nigerian courts is considered both weak and untrustworthy. They argued that hearsay lacks reliability because it is derived from a person who did not directly witness the event in question. This inherent limitation raises questions about the accuracy and credibility of such testimony in legal proceedings.

https://www.lawinsider.com/dictionary/audiovisual-materials provides a comprehensive description of audiovisual materials, categorizing them as various types of items designed to enhance communication and information dissemination. These include traditional formats such as tapes and discs, as well as visual aids like slides and transparencies. Additionally, the category encompasses films and filmstrips, maps, globes, charts, prints, photographs, and three-dimensional models or mockups. Each of these materials serves a unique purpose in aiding comprehension and engagement in various contexts.

In contrast, https://www.lisedunetwork.com/audio-visual-materials/#google_ offers a broader definition of audiovisual materials, portraying them as a dynamic and engaging means of communication that effectively combines auditory and visual elements. This integration serves multiple functions: conveying information, providing entertainment, and facilitating education. The scope of these multimedia resources is extensive, including videos, films, presentations, animations, audio recordings, and interactive content. The blend of these elements creates impactful experiences that can enhance audience understanding and retention of information.

Furthermore, Gina and Derik-Ferdinand (2017) conducted a study that highlights the importance of Section 83 of the Evidence Act in Nigeria, which specifically addresses the admissibility of audiovisual images in legal contexts. They concluded that, due to the prevalence and acceptance of electronically-aided documents, these materials are increasingly recognized as legitimate evidence within the courtroom.
Barry (2015) also contributed to this discussion by noting that appellate judges actively consider audiovisual evidence, such as audio recordings and video footage, when evaluating whether there is a genuine issue of material fact that warrants a trial. This indicates a growing reliance on such forms of evidence in the judicial process, reflecting the evolving landscape of legal standards and practices in relation to technology.

Legal Foundation
"In Nigeria, the admissibility of audiovisual evidence is governed by the **Evidence Act of 2011,** which recognizes the relevance of electronic and digital evidence, including audio and video recordings", according to Gina, & Derik-Ferdinand, (2017), while Taanimu, & Doma-Kutigi, (2021), stated that the "Evidence Act, 2011, is not clear on the authentication of electronic documents, making it more likely that courts will be misled by electronic evidence than a hard copy".

In this case, the evidence must demonstrate its origin from a reliable and frequently used system or process, and whosoever is presenting such evidence must also tender a certificate confirming the genuineness of the digital material, and the court must be convinced that the device used to produce the evidence is operational and free from any tampering.

Another study by Aidonojie, Wakili, & Ayuba, (2023), agreed that Digital technologies in Nigerian court proceedings can improve justice administration, but legal and socioeconomic challenges may reduce its effectiveness. This is a problem of lack of proper technical knowledge of forensic methods used in the verification of such evidence. But this study recommends the training and retraining of Judges, counsels and court staffs on digital technologies.

Akumba, Iorliam, Agber, Okube, & Kwaghtyo, (2021), revealed that individuals manipulate these videos to either defame or incriminate innocent people. Others indulge in video tampering to falsely escape the wrath of the law against misconducts, recommending, proposed inter-frame video detection model using correlation coefficients which effectively detects inter-frame forgeries, aiding forensic investigations in Nigeria.

The Birth of AI (One Major Challenge)

Generative AI presents significant challenges that may deepen existing issues related to visual meaning-making, jeopardizing the integrity of video evidence in Nigerian courts (Ristovska, 2023). In recent times, growing apprehensions have emerged in Nigeria concerning the trustworthiness of audio and visual evidence, prompted by the increasing incorporation of AI technologies into the judicial system. The ability of these technologies to manipulate and alter media has raised pressing concerns for legal practitioners, judges, and lawmakers alike, particularly as advancements in AI capabilities progress at an unprecedented pace.

Below are various types of AI technologies that can be utilized to manipulate audio-visual materials, along with their specific applications:

Audio Manipulation AI:

1. Murf AI: This innovative platform provides powerful AI voiceover solutions, enabling the replacement of human voices with strikingly realistic voice synthesis. It's commonly used in media production to enhance the auditory experience. Mohammadkarimi, (2024).

2. Respeecher: Specializing in voice cloning, Respeecher allows users to recreate voices for various media projects, offering a unique solution for filmmakers and content creators who wish to maintain vocal consistency.

3. I-Speech: Known for its exceptional text-to-speech capabilities, I-Speech can produce audio that closely mimics human voice patterns and intonations, making it useful for numerous applications, including accessibility tools. Verma, & Das, (2015).

4. Lovo.ai: This versatile AI voice generator excels in creating lifelike voiceovers for a wide range of applications, from advertisements to educational videos, ensuring that the voice quality matches the intended tone and style.

5. Veed.io: Serving as a comprehensive AI platform, Veed.io offers advanced voiceover and dubbing functionalities, allowing users to enhance their video content with seamless audio integration. Akasheh, et, al, (2024)

Visual Manipulation AI:

1. Synthesia: An advanced AI video generator, Synthesia enables users to create realistic avatars for various applications, such as corporate training and video presentations, facilitating engaging and interactive content delivery.
2. Rephrase.ai: This platform allows for the generation of personalized videos featuring realistic avatars that articulate the text provided by users, making it a powerful tool for marketers and educators looking to create tailored messages.
3. Deep Brain: Deep Brain is a human-cantered learning augmented brain-computer interface system that supports fine-grained brain-robot interaction and scalable multi-robot collaboration for domestic multi-task operations. Wu, et, al,. (2022). Empowering users, it facilitates the creation of engaging visual media without the need for complex filming equipment or setups.
4. Hour One: Harnessing virtual human technology, Hour One can transform written text into dynamic video presentations, offering an innovative way to present information while maintaining viewer interest.
5. Avatarify: This technology enables real-time avatar-based video communication, creating a unique interaction experience that combines personal connection with digital innovation.

Moreover, tools such as D-ID, Runway ML, and Wav2Lip specialize in producing talking avatars, animating images with realistic facial expressions, and modifying photos to replace human features seamlessly. Song, et, al, (2024).

With this growing influence and capabilities of AI in manipulating media, there is an urgent need to amend the Evidence Act to incorporate explicit clauses focusing on electronic evidence in court rooms. These adjustments should specifically address evidence produced or altered by AI technologies, ultimately enhancing the admissibility, authenticity, and accountability of parties presenting such evidence in legal settings.

Forensic Application

Forensic science involves the investigation, explanation, and evaluation of events of legal relevance. It utilizes various techniques and methodologies to analyze physical evidence in order to infer behavior, motivation, and criminal intent (Fraser, 2020).

A study conducted by Aaron, Adishi, and Oluka (2019) highlights that Nigeria lacks modern forensic technology and properly trained professionals, which contributes to prolonged crime, insurgency, and insecurity within the country. Similarly, Obafunwa, Ajayi, and Okoye (2018) pointed out that inadequate forensic infrastructure and a limited understanding of forensic science among both prosecution and defense lawyers lead to inconsistent court proceedings in Nigeria. In Northern Nigeria, challenges in managing audiovisual materials include a lack of trained personnel, technological obstacles, insufficient storage facilities, and the perception that these materials are less important than other records (Muhammad, 2019).

Additionally, LaBat et al. (2023) noted that Forensic Science Informational (FSI) videos can aid jurors in better understanding and evaluating forensic expert testimony, emphasizing their significance in criminal cases. There is a crucial need for Nigerian judges to gain knowledge, understanding, and application skills related to audiovisual evidence, as well as a firm grasp of the intricacies and techniques involved in digital forensic reports.

Importance of Audiovisual in Courts.

Audio-visual evidence is defined as any recording that captures both visual and auditory elements, and in Nigerian courts, it is regarded primarily as documentary evidence. The admissibility of such evidence is governed by Section 83 of the Evidence Act, which sets forth specific criteria that must be met for these recordings to be accepted in legal proceedings. According to Kusnanto (2021), audio-visual recordings are deemed valid evidence in Nigerian courts only if they accurately depict the occurrence of a criminal event and have undergone a thorough verification process to confirm their authenticity.

The integration of audio-visual evidence into the judicial framework in Nigeria offers numerous advantages that can greatly enhance the efficacy and fairness of the legal process. One of the most significant benefits is the provision of a more accurate and objective account of events, which reduces the potential for misinterpretation or bias. Traditional reliance on eyewitness testimonies or written statements can often lead to inconsistencies or subjective interpretations; however, audio-visual evidence provides a clear and direct representation of the incidents in question, thereby strengthening the reliability of the evidence presented in court.

Additionally, the utilization of audio-visual recordings can significantly reduce the likelihood of false testimonies. Since this type of evidence can independently corroborate or contradict the statements made by witnesses, it serves as a vital tool for ensuring the integrity of the testimony provided. This independence fosters greater transparency in court proceedings, ultimately helping to bolster public confidence in the legal system.

Moreover, the incorporation of audio-visual evidence can lead to more efficient court processes. Judges and juries can swiftly review pertinent evidence without the prolonged delays often associated with lengthy verbal testimonies. This efficiency not only saves time but also allows for a more streamlined examination of facts, making it particularly advantageous in complex cases, such as those involving fraud or corruption. By simplifying and clarifying the presentation of evidence, audio-visual recordings enable the court to focus on the essential elements of the case, facilitating a better understanding of the issues at hand.

In summary, the adoption of audio-visual evidence in Nigerian courts enhances the judicial process by providing accurate and objective information, reducing the risks of false testimony, promoting transparency, and expediting proceedings. As such, it represents a vital advancement in the pursuit of justice.

Video watching in courtrooms significantly influences public confidence in the justice system, primarily due to the positive perception of interpersonal treatment and the fairness of procedures (Xu & Liu, 2020). The introduction of video testimonies allows individuals who may feel intimidated in a courtroom to present evidence in a more secure and relaxed environment, enabling them to share their experiences with greater ease.

Research by Chapman (2020), Birze, Regehr, and Regehr (2022), and Fallik, Deuchar, and Crichlow (2018) indicates that audio-visual evidence can enhance accountability among law enforcement and public officials by documenting their actions. However, this approach also brings technical, logistical, and emotional challenges. According to Ujoumunna, Stobo, and Lowery (2021), “audio-visual records can serve as reliable archives that can be reviewed in future cases or appeals, ensuring continuity and support for long-term legal processes.”

In legal education, the use of electronic audio feedback provides more detailed feedback in a shorter time, increases student engagement, and facilitates personalized, constructive criticism (Carter, Vogl, Methven, & Billington, 2022). Furthermore, legal professionals can use audio-visual materials as educational resources to train new lawyers and judges on the practical aspects of handling evidence.

Keane and McKeown (2018) noted that "The Modern Law of Evidence" is a comprehensive analysis of criminal and civil evidence law, focusing on key concepts such as relevance, admissibility, weight, and discretion. It rests on the legal principles governing the admissibility of evidence in court.

The digital forensic science, on the other hand provides the methodologies used to assess the authenticity and integrity of audiovisual evidence. “Forensic authenticity

examinations of digital audio and video files involve critical listening and visual reviews, data analysis, temporal/frequency analyses, and expert testimony" Ho, & Li, (2015).

The Locard Exchange Principle states that when two objects come into contact, they exchange matter. This principle can be used to determine the cause and manner of death in a criminal investigation (Miller, 2018).

Forensic readiness refers to the proactive process of collecting and storing digital evidence in a manner that preserves its integrity. This practice is essential for investigating digital crimes and maintaining information security, rather than only collecting evidence when it is needed (Sule, D., 2015). Ultimately, forensic readiness serves as the foundation for utilizing physical evidence in criminal investigations.

RECOMMENDATIONS

Courts should require that all audiovisual evidence undergo a standardized forensic authentication process prior to admission. Legal systems, particularly those adhering to common law principles, must develop comprehensive guidelines for the management of audiovisual evidence, encompassing all stages from collection to presentation in court.

It is imperative that deepfake detection techniques are regularly updated to keep pace with rapidly advancing methods of manipulation. This continual enhancement will improve the reliability of forensic results and mitigate the incidence of false negatives in tampered audiovisual materials.

Forensic professionals should have access to consistent and standardized training programs that address emerging technologies and their forensic implications. By unifying training across various jurisdictions, forensic teams will enhance their capabilities to detect and document evidence tampering. Furthermore, certification programs focused on audiovisual forensic analysis should be established to ensure the credibility and reliability of forensic experts testifying in court.
Expert witnesses ought to provide a balanced assessment of the forensic methods employed, clearly articulating any limitations or uncertainties in their findings. This practice will prevent the overstatement of forensic certainty and ensure that juries and judges possess a realistic understanding of the evidence presented.

To enhance the accuracy and reliability of expert testimony, courts should implement a peer-review process for forensic experts. Such a process could involve multiple experts evaluating forensic findings prior to their presentation in court. This approach would serve to validate the evidence and ensure that divergent expert opinions are considered, thereby reducing the likelihood of biased or overly confident testimony.

Judges must be provided with clear instructions and educational materials that elucidate the potential for manipulation in audiovisual evidence through pertinent training. This should include information on the mechanisms of deepfakes and other forms of tampering, accompanied by advisories against placing undue reliance on audiovisual materials without corroboration. By equipping jurors with this knowledge in advance, courts can mitigate the risk of emotional biases affecting their decisions.

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