



Use of Drone Technology for Television News Gathering in Nigeria

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Abstract

Drone technology, originally designed for military applications, has increasingly been integrated into civilian sectors, including journalism. This study examines the relevance, applicability, and challenges of drone technology in television news gathering in Nigeria. Anchored on the Technology Acceptance Model (TAM), the study explores how perceived usefulness and ease of use influence journalists' adoption of drones, particularly in covering high-risk events such as natural disasters, conflicts, and protests. Adopting a qualitative desk research approach, data were sourced from scholarly articles, institutional reports, media content, and regulatory documents. Findings reveal that drone technology enhances the safety and efficiency of news gathering by enabling journalists to capture aerial footage from inaccessible or hazardous locations. However, the study also highlights constraints such as regulatory hurdles, ethical concerns, privacy issues, and operational risks. It concludes that while drone technology holds immense potential for transforming television news reporting in Nigeria, its effective utilisation requires policy reforms, technical training, and strict adherence to ethical standards. The study recommends strategic investment in drone journalism and regulatory frameworks that balance innovation with security and privacy concerns.

Keywords: Drone Technology, Television, Journalists, Safety, News Gathering, Nigeria

Introduction

Drone technology, which was primarily developed for military use as a weapon and surveillance tool over a decade ago, is no longer exclusive to the military. It has transcended security applications and is now incorporated into various sectors such as the media, agriculture, environment, and health, to mention a few (Goldberg, 2015). Historically, the beginning of aerial news gathering which has now evolved into the use of drone technology was driven by the desire to gather information from life-threatening events. This began with the use of hot air balloons to capture images during the American war by courageous journalists and photographers in the 19th century (Ogunboyowa & Arikenbi, 2022). These efforts were made to prevent casualties among reporters. Subsequently, this developed into the use of fixed-wing helicopters that carried on-board journalists with handheld camcorders to cover wars, protests, wildfires, and other dangerous events in the mid-20th century. However, in the 21st century, technological innovations have led to the development of drones equipped with cameras, sensors, gimbals, and Global Positioning Systems (GPS). These allow for the capturing of videos and pictures from aerial positions without journalists being physically on-board (Lee & Kim, 2017).

The miniaturised size of drones is advantageous, as it enables them to manoeuvre through the air and withstand different altitudes whether extremely hot or cold environments while gathering visuals and images that television reporters can use for news dissemination

from scenes they would not ordinarily access. For example, a drone may be used to capture footage from a volcanic eruption or a conflict zone (Ntalakas et al., 2017). Drone technology is now applied in television news gathering. The first recorded use of a drone as a flying camera to obtain visuals and images for television news broadcast was by the British Broadcasting Corporation (BBC) in 2013 (Adelabu & Wilson, 2022), although experiments with using drones in news gathering began in 2010, when over 2,000 birds were filmed simultaneously from a bird's-eye view (Lee & Kim, 2017).

Furthermore, on the African continent, South Africa and Zimbabwe have been mentioned in research regarding the utilisation of drones for health development and news gathering purposes (Catherine, 2018; Ola-Akuma & Okocha, 2023). However, Odeba et al. (2023) further postulated that the adoption of drone technology for journalism in Africa is still slow. Nevertheless, increasing research on its benefits may lead to greater adoption in the future. Adelabu and Wilson (2022) also noted that not many scholars are focusing their research on drone journalism in Africa, due to the relatively limited number of studies in this area compared to the numerous studies on the adoption of artificial intelligence (AI) by the media.

It is pertinent to state that there have been several killings and murders of journalists in Nigeria and globally over the years during conflicts. *Daily Trust* and *Premium Times*, as cited by Ejiga (2018), reported that in 2018, about fifty-three (53) journalists were murdered during conflicts and civil unrest. Matthew et al. (2024) corroborate this, stating that over 50 journalists lost their lives in 2020, with the major causes of death being crossfire (50%) and dangerous assignments (60%). This research, therefore, aims to address the dearth of studies on drones and media by exploring the importance of drone technology for television news gathering in Nigeria through conceptual and empirical reviews of relevant literature.

Conceptual Clarification

Drone Technology

According to Goldberg (2018, p. 405), “we are not using it as a drone. That is completely the wrong terminology to use to describe it. We see it as a flying camera.” However, the conventional term drone technology is adopted in this research to define the concept, as supported by several authors (Odeba et al., 2022; Harvard et al., 2020; Ntalakas et al., 2017). A drone is a flying vehicle that is either remotely piloted or programmed to perform autonomous actions (Gynnild & Uskali, 2018, p. 2). The authors further assert that “in journalism, drones are referred to as flying robots or camera drones. More formally, they are known as Unmanned Aerial Vehicles (UAVs) or Remotely Piloted Aircraft Systems (RPAS).” These technological devices are used for covering newsworthy events such as protests, floods, fires, and warfare. According to Ejiga (2018, p. 55), citing Gynnild (2014, p. 337), “unlike military drones that are equipped with weapons and used to attack enemies, drones used for journalistic operations are not equipped with weapons or bombs but with high-resolution cameras and sensors that are aimed at shooting aerial photos and videos of areas, people, and actions from previously unknown angles, while being remotely piloted by people on the ground.”

Postema (2015, p. 17) adds that “a drone is an autonomous or remotely piloted powered aircraft capable of flying without an on-board operator or passengers.” This further illustrates the capability of drone technology to access areas that journalists cannot physically reach. As such, the device covers events from the sky, enabling television reporters to acquire videos and images that enhance their reportage. “Drone technology does not have pilots sitting in front of a screen to fly them to their destination” (Javis, 2014, p. 3); rather, an individual remotely controls the drone from the ground to capture desired videos or images, which are then edited before dissemination to the audience. Meanwhile, Odeba et al. (2022, p. 782) state that “one of the most recent developments in journalism is known as aerial newsgathering and reporting. This newsgathering technology is described in many ways. It is referred to as drone journalism,

unmanned aerial vehicles (UAVs), unmanned aerial systems (UASs), or newsgathering, and so on. It is the use of aerial technology to gather and report news stories with minimal human control or involvement.” The authors further explain that “the technology is suitable for newsgathering and reporting in hostile environments such as wars, floods, wildfires, storms, earthquakes, and civil unrest” (p. 782). This implies that the device is capable of protecting journalists from injury and, in extreme cases, death when covering dangerous events. It is worth noting that the death of *Channels TV* reporter Precious Owolabi, who was struck by a stray bullet during the Shi’ites protest in Abuja in 2013, might have been avoided had drone technology been used to cover the violent protest (Odeba et al., 2022).

Singh (2014, para. 2) agrees with the foregoing, stating that “glancing through the modern history of journalism, one can see how aviation technology and journalism have converged and mutually benefitted each other. Using aviation platforms to collect news stories was actually a turning point in journalism, as it marked a departure from traditional newsgathering methods.” However, because drone technology had not yet been utilised in Nigeria’s television industry in 2013, the unfortunate incident involving Precious Owolabi occurred. Whitaker (2016), as cited by Ntalakas (2017), states that “Matt Waite, who runs the Drone Journalism Lab, opined that drone technology is a small unmanned aircraft that is used to gather photos, video, and data for journalism.” This definition is adopted in this study, as it vividly underscores the significance of drone technology in television news gathering.

Television News Gathering

Television news coverage is simply the process of collecting, editing, and presenting information as a programme to a heterogeneous audience scattered across the globe. This process involves the harmonisation of both human and material resources. Reporters, camera operators, and news editors, among others, constitute the human resources, while various equipment such as digital camcorders and Outside Broadcasting Vans (OB Vans), to mention a few, represent the material resources (Owuamalam, 2016). The camcorders are used by camera operators to derive visual footages and sound from the scene of an event, in order to gather information suitable for the medium of communication whether for news, documentaries, or live broadcasts for audience consumption.

In the second decade of the 21st century, TV stations around the world witnessed a remarkable innovation: the advent of Unmanned Aerial Vehicles (UAVs). This equipment has dramatically improved TV news gathering from an aerial or overhead perspective, particularly in the context of conflict, floods, violent protests, or chaotic scenes (Ejiga, 2019). In the past, information could only be gathered from an aerial view during disasters using a handheld camera operated by a cameraman, working alongside a journalist who directed the shots, and a pilot flying a helicopter, in order to record visuals for television broadcast. However, following the introduction of drones originally used exclusively for military warfare and now equipped with sensors and cameras television news coverage from a bird’s-eye view has become inevitable and seamless. The technology provides relatively steady, clear, and wide-angle shots enabled by Artificial Intelligence (AI), and is operated remotely by a journalist in a safe ground position (Ntalakas et al., 2017). Visual impacts that were once difficult to capture are now accessible through the use of drones. Consequently, television news gathering in the event of an earthquake, volcanic eruption, flood, or the aftermath of a hurricane is now possible almost instantaneously, and the resulting visuals are readily available for TV stations that adopt this innovation (Ferguson & Greer, 2019).

Literature Review

Utilising Drones for Television News Gathering

According to Odeba et al. (2022), human-led news gathering and reporting have continually encountered both natural and man-made disasters, ranging from wars, floods, wildfires, and civil unrest, to mention just a few. The innovation of drone technology enabled

with Artificial Intelligence to support journalists in information gathering (Nsude, 2020) is therefore timely. This device can assist in covering newsworthy events from locations that are dangerous and life-threatening to journalists. The authors further assert that “the aerial perspective provided by drones allows journalists to collect and present news from different and comprehensive angles. It offers diverse perspectives in gathering and reporting both positive (such as landscapes, tourism, environmental promotion, nature) and negative (such as floods, fires, traffic accidents, or protest riots) news stories. Drones enable detailed multi-angle shots of these events.” There are several benefits to using drone cameras. Tilak (2020, p. 361) mentions one such benefit: “a drone is very safe in difficult situations like floods, earthquakes, and fires; it is a very safe option in such scenarios. Without direct human presence in the affected geographical area, it provides footage of the disaster situation and enables remote analysis.” Lee and Kim (2017) offer a practical example: drone technology was used to cover Typhoon Haiyan in the Philippines in November 2013. It was also deployed to report the volcanic eruption in Iceland in 2014 (Matthew et al., 2024).

Another important advantage of drone cameras is their capacity for live-streaming programmes. Ntalakas et al. (2017) postulated that in the coverage of events such as environmental journalism, aerial surveillance, nature monitoring, wildlife, and sports, a station can livestream to provide audiences with real-time reports. For example, *Channels TV* in 2023 showcased Gurara Waterfalls to attract tourists to the site. During football matches as well, drone cameras can be used to provide live streams for viewers’ delight, showing the entire stadium from a sky view, including spectators’ reactions and other captivating shots. Drone technology is also utilised to gather news from disaster-prone areas such as flood and wildfire zones where it would be too risky for journalists to report from. Adelabu et al. (2022, p. 26) highlighted that “media revolution can be attributed to the fact that drones are relatively inexpensive and can be deployed to humanly inaccessible areas with minimal risk and exposure to danger such as construction sites, forest surveys, and war zones.” Furthermore, according to the authors, reporters can access visuals without being caught in unpredictable and life-threatening situations by using drone technology to cover risky assignments.

Lee and Kim (2017) noted that experiments using drone cameras for news gathering began as early as 2010, when the BBC presented a documentary titled *Earth Flight* in 2011. The documentary featured a flock of about two million (2,000,000) flamingos filmed using drone cameras. The major breakthrough, however, came in 2013 when the BBC unveiled a hexacopter (a flying camera with six propellers) specifically for news gathering (Ejiga, 2019). Further supporting this empirically, Livberber et al. (2024) adopted a semi-structured interview method with eleven (11) journalists working in Türkiye to assess their perspectives on drone journalism. The findings revealed that the metaphorical ‘third eye’ was used to describe how journalists perceived drones as beneficial for accessing difficult areas that are physically risky for human reporters. They also found that with the introduction of drone technology into journalism, many journalists in Türkiye viewed it as an avenue for employment opportunities. However, concerns were raised regarding ethical considerations based on public interest, such as personal data protection and privacy issues, including challenges relating to public versus private airspace domains.

Camacho and Breijo (2020) examined the relationship between authorities, drone journalists, and professionals who use Unmanned Aerial Vehicles (UAVs) for news gathering in Spain. The study used interviews via phone and email with three security personnel and five drone videographers. Findings indicated that there is a good relationship between law enforcement authorities and drone journalists in Spain, provided that regulations guiding drone operations are strictly adhered to. Furthermore, Duncan and Culver (2020) conducted research to determine whether the relationship between the public and drone journalism was positive or negative. They used a questionnaire instrument administered to 548 respondents in the United

States. The results showed that all three indicators were positive. There was a clear correlation between ‘concern about privacy’, ‘attitude towards technology adoption’, and ‘perception of news media ethics’ with U.S. residents’ openness to drone journalism.

In a study titled *Assessing the Diffusion of Drones in Local Television News*, Ferguson and Greer (2019) sought to determine the extent to which local TV stations in the United States were adopting drone technology for news operations. These authors conducted a survey involving 495 news managers. Of these, 94 responses were collected, revealing that more than half of the stations used drones for news. However, about 49% were not using the technology, primarily due to restrictions imposed by the Federal Aviation Authority. The study also discovered that increased viewership and the enhancement of news programmes were motivating factors for drone adoption.

Theoretical Framework

This research is anchored on the Technology Acceptance Model (TAM), propounded in 1989 by Davis (Adelabu & Wilson, 2022; Ejiga, 2019). According to Igyuve et al. (2020, p. 253), the theory “is based on two basic principles: Perceived Ease of Use (PEOU) and Perceived Usefulness (PU).” Ate and Felicia (2023, p. 162) describe these two principles, stating that “perceived usefulness is defined as the degree to which an individual believes that using a particular system would enhance his or her job performance,” while “perceived ease of use is the degree to which a person believes that using a system would be free from mental and physical effort” (Kim & Kim, 2018, p. 343). Ejiga (2019, p. 57) captures the above explanation more succinctly:

TAM is relevant in this context based on the fact that media outfits and journalists may decide to either use drones as a supplementary tool for news gathering on the ground of its perceived usefulness as well as the perceived ease of use in their news routines. Particularly when covering conflict or risky environment that can pose great danger to the lives of journalists”

Similarly, Ate and Felicia (2023) highlighted, with reference to the theory, that when journalists use artificial intelligence technologies such as drones, the technology has the capacity to free them from both mental and physical effort, thereby making their tasks easier, faster, and smarter. An example can be derived from the use of drone technology to ascertain the magnitude of flooding that led to the devastating damage on the Kano–Maiduguri road in August 2024, as captured by Channels TV (Kano–Maiduguri Road Cut Off: <https://youtu.be/vscvluiRQcA?si=SKfEiMYdJlJN0D0>). In another vein, Ejiga (2019) posited that the intention behind the use of technology to carry out media functions is influenced by the two tenets mentioned above—Perceived Ease of Use (PEOU) and Perceived Usefulness (PU). This is because individuals (journalists) prefer to utilise tools that assist them in deriving footage for television broadcasts from dangerous areas such as wildfires and floods, among other environmental disasters, without putting themselves at risk.

The relevance of TAM to this research lies in its submission and effective explanation, which shows that when drone technology is used to assist TV stations in obtaining video footage or pictures from life-threatening zones (such as violent protests, flooded environments, and conflict zones) from a bird’s-eye angle without harm, it demonstrates both the usefulness and ease of use of drones during news gathering. A trained journalist, therefore, would experience fewer difficulties navigating the Unmanned Aerial Vehicle (UAV) from a safe location to obtain overhead shots that enhance the believability of their report. The shortcoming of this theoretical model is its failure to account for non-technological means of performing tasks, as it assumes only technological advancements are useful and enhance ease of use. However, before the advent of drones, television stations used helicopters to obtain overhead shots during life-threatening assignments (Adelabu & Wilson, 2022; Ogunboyowa & Arikebi, 2022). Despite this limitation, TAM’s perceived ease of use and perceived usefulness of drone

technology highlight how the adoption of drones by Nigerian broadcast stations can offer journalists relative safety from danger during news coverage.

Research Approach

This study adopted a qualitative research approach, specifically the desk research method, utilising secondary data drawn from scholarly articles, official documents, media reports, and institutional regulations. The rationale for choosing a qualitative approach was based on the need to explore in-depth perspectives, theoretical insights, and contextual factors that inform the adoption and use of drone technology in television news gathering in Nigeria. Relevant literature was sourced from peer-reviewed journals, books, online databases and institutional publications from media and aviation regulatory bodies. Additional data were gathered from news archives, including credible Nigerian television stations such as Channels Television, and international reports documenting instances of drone usage in news reporting. The data were analysed using qualitative content analysis, which enabled the identification of recurring themes, trends, advantages, limitations, and regulatory concerns associated with drone usage in the Nigerian broadcast media landscape.

Advantages of Drone Technology in TV News Gathering

Drone technology in television news gathering enables live coverage of breaking news events, as noted by Lee and Kim (2017), citing Park (2014). For example, when a local interstate bridge collapsed in Atlanta, USA, Careless (2017) stated that drones were deployed to cover the scene and document the progress of repairs over several weeks replacing the helicopters that were initially used on the day of the incident. Robert (2015) adds that using drone cameras for news gathering is much cheaper and easier compared to previously used helicopters for aerial news coverage. Ntalakas et al. (2017) asserted that one advantage of drone technology in news gathering is the relative safety it affords journalists. “Drones are considered advantageous, especially for operating in hazardous and hostile environments. Thus, journalists can enjoy safer working conditions when operating under unpredictable circumstances, where expected eyewitnesses are replaced by robotic ones” (p. 190).

Goldberg (2015) confirmed the use of Remotely Piloted Aircraft (RPAs), noting that “in many countries, there are reports of the use of RPAs for news gathering” (p. 421). For instance, in Russia, a hexacopter was sent into the sky by Airpano to capture images of protesters demonstrating against election fraud at Bolotnaya Square. In Poland, a civilian-operated drone (RC copter) filmed riots in Warsaw, while in Argentina, citizen journalists used a drone to cover a large rally. In the Balkans, aerial drone footage documented the scale of regional flooding. Odeba et al. (2024) highlighted the use of drone robots by Cox Media Group (WSB-TV), which used the technology to cover the aftermath of Hurricane Florence in the Carolinas in 2018. The drone captured a rare aerial view of the coastline—imagery that would have been difficult or impossible to obtain without a drone. Likewise, drones were used to provide aerial views of one of the most devastating fires in California in January 2025, which led to the loss of properties worth billions of dollars, with footage widely shared across platforms such as Facebook (*Los Angeles Aviation News*) and X (formerly Twitter).

Drones are also highly effective for investigative journalism due to the undeniable power of visuals and pictures (Ejiga, 2019). Okocha et al. (2021, p. 9) stated: “The technology is relevant in investigative journalism, particularly for filming illegal activities, to which the value of whistle-blowing must also be added.” Simanje (2023, December 14, paras. 3–4) explained that drone footage allows journalists to gather images from otherwise inaccessible areas, which can be invaluable for fact-checking and combating misinformation. For instance, in 2017, analysis by *African Defence Review* and *Bellingcat* used satellite images and drone footage to expose the full extent of an al-Shabab attack on a Somali army base. The visuals revealed that, contrary to the army’s claims of minimal damage, the terrorists had actually overrun the base. Thus, drones have proven to be powerful investigative tools, enabling

journalists to uncover underreported issues that would otherwise be difficult to document using handheld camcorders.

The above illustrates how drones' mobility in the sky has overcome the physical limitations of traditional video coverage. Before the innovation of drones, effective aerial coverage was typically achieved using helicopters or static cranes. Today, the panoramic and three-dimensional quality of drone cameras has revolutionised television news coverage.

Ease of News Gathering through Drone Technology

Drones are particularly useful for covering dangerous assignments. For instance, during an earthquake, drone technology can help assess the magnitude of the disaster while keeping the reporter safe. Without the journalist's physical presence in the affected area, drones can provide visual footage from a safe distance. Cable News Network (CNN) made its debut in drone-based news coverage when it used a drone to locate villages hit by the 2016 Nepal earthquake, prompting local authorities to initiate rescue operations (Okocha et al., 2021). The use of drones has since eliminated the need for journalists to pan cameras manually from helicopters while struggling to get steady shots. With drone cameras, steady and wide aerial shots are now possible piloted remotely by journalists on the ground (Okocha et al., 2021).

Drones also ease flood coverage. Tilak (2020, p. 361) affirmed that “drone is very safe in difficult situations like floods, earthquakes, and fires.” The ease with which the Nigerian State House Media flew a drone to capture footage of recent flooding in Mokwa, Niger State, underscores the importance of this innovation. Several TV stations used the drone footage to inform the public about the community's plight. During the Israel–Hezbollah conflict, Odeba et al. (2022) observed that fixed-wing UAVs were used not as weapons but as high-resolution cameras with sensors that captured clear images of the war. Remarkably, Hezbollah's use of drones to document the conflict marked the first time a non-state entity employed drone technology for journalistic purposes during a crisis. Citing Barnawi et al. (2021), Nwanakwaugwu et al. (2023) stated that drones were used to locate survivors during natural disasters in Texas, Florida, and Puerto Rico. In these cases, drones equipped with thermal imaging helped pinpoint the locations of individuals in dire need of rescue.

Risks and Ethical Issues Associated with the Use of Drone Technology in TV News Gathering

Several factors hinder the successful operation of drones, including hazards, privacy concerns, and government regulations (Tilak, 2020; Ejiga, 2018). Operational hazards can be serious especially if a drone crashes into buildings or people. Tilak warned that drones could cause injuries or property damage, particularly if they fall due to battery failure, poor weather, or collisions with obstacles such as trees or high-voltage wires. However, these risks are arguably less severe than those posed by helicopters, which have caused fatalities. Allan (2018), cited in Nwanakwaugwu et al. (2023), recalled a tragic incident in February 2014 in which a photojournalist and pilot died in a helicopter crash while gathering news in Seattle. Duncan and Culver (2020, p. 105) revealed privacy concerns associated with drones. One interviewee remarked: “I worry (that) this new technology is a threat to privacy,” even though they acknowledged its effectiveness in improving broadcast journalism.

Regarding regulation, many countries have implemented strict drone laws. Finland's drone regulations came into effect in 2015 (Finnish Aviation Act, 2014), Sweden followed in 2017, and Nepal banned drone use after a viral video of the 2018 earthquake intended to protect the country's image and tourism industry (Gynnild & Uskali, 2018). In Nigeria, the Nigerian Civil Aviation Authority (NCAA) issued regulations in 2016 after a temporary federal ban on aerial devices. These rules were enacted due to “predictability, safety concerns, and security threats” (Ejiga, 2019, p. 61; citing Kazeem, 2016, p. 3). The directive stated: “No government agency, organisation or individual shall launch a Remote Piloted Aircraft (RPA) or Unmanned

Aerial Vehicle (UAV) in Nigerian airspace for any purpose whatsoever without obtaining the requisite permit from NCAA and the Office of the National Security Adviser (ONSA).” Adelabu et al. (2022) added that drone operators in Nigeria must obtain authorisation from the NCAA, submit flight plans, and register drones weighing over 250 grams. Pilots must be at least 16 years old and hold a Remotely Piloted Aircraft Systems Certificate. Additionally, drones are not to be flown near borders or airports or over high seas without proper approval. Violators risk facing legal consequences.

Conclusion

This study examined the application and relevance of drone technology in television news gathering in Nigeria, situating its discussion within the framework of the Technology Acceptance Model (TAM). The findings underscore that drone technology represents a transformative innovation that has the potential to significantly enhance the quality, safety, and efficiency of broadcast journalism in the country. The technology allows for aerial coverage of events that are difficult, dangerous, or even impossible to access through traditional means, such as floods, violent protests, wildfires, and other natural or man-made disasters. Evidence from both conceptual and empirical literature affirms that drones not only facilitate the collection of compelling visuals and real-time reportage but also reduce the physical risk to journalists, thus enhancing occupational safety. Moreover, the cost-effectiveness, versatility, and investigatory advantages of drones make them a valuable addition to modern journalism, especially in contexts where infrastructure and human security remain major challenges.

Despite these benefits, the study also highlights several challenges facing the adoption of drone technology in Nigeria. These include regulatory bottlenecks, privacy concerns, the risk of crashes due to technical or environmental factors, and the limited awareness or training among journalists. The current regulatory framework by the Nigerian Civil Aviation Authority (NCAA) places necessary, yet often stringent, conditions that must be navigated by media organisations. Therefore, the study concludes that drone technology, when appropriately regulated and professionally utilised, holds substantial promise for revolutionising television news gathering in Nigeria. It recommends that television stations invest in drone technology and prioritise capacity building for their journalists and technical staff. Additionally, there is a need for policy review and stakeholder engagement to develop clearer and more media-friendly regulations that still uphold safety and privacy standards. By aligning with global best practices, Nigerian television journalism can fully harness the benefits of drone technology in the digital age.

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