Digital Technology in News Reporting Practices

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Abstract: *With the inception of new technology, the media-landscape is constantly changing. The technological advancements in generation and dissemination of content and images have revolutionized the journalistic practices and redefined the relationship between digital media and the public. The emergence of interactive media has drastically changed the media environment both within and outside the newsroom. Digital media, a blend of technology and content, has turned media more engaging, interactive and easy-to-use. The digital technology has not only challenged the role of age-old practice of gate-keeping but has remodeled the entire journalism process.*

The latest new media technology has made newsgathering, production and distribution process easier, faster, interactive and cost-effective. New methods of generating content and visuals in real time have been devised. Almost all news publications, agencies and channels today use internet facilities to distribute and disseminate news and other related content. Adoption of technology has led to strong integration of audience with news generation process thus, allowing media to better represent the interests of the society.

Undoubtedly, media has benefited from the tremendous growth in information communication technologies that has not only eased their working procedures but enabled them to stay connected and updated. Instant notifications in terms of news alerts, live broadcasts and updates have further chiseled their news gathering techniques and real time information sharing has strengthened the news distribution network. Amidst all this, digital media is beset by an unprecedented range of challenges particularly the authenticity and credibility of news.

Key Words: *Digital Media, Technology, Journalism, Crowdsourcing, Authenticity.*

1. INTRODUCTION:

Digital Media and Journalism: An Overview

The digital media is fast changing the reporting practices and its influence has been exceptionally unique and diverse. It has largely transformed the journalistic practices right from the tools and techniques of news gathering to the process of news reporting/production to channels of distribution or dissemination of news.

The journalists today have to report in real-time situation. Prior to the advent of digital technology, news had its own deadline and news gathering was mainly confined to physically visiting the place of event or happening, conducting face-to-face interviews or holding discussions and then filing/compiling a story/report in the newsroom before it was finally sent for publication/broadcast. Today, it has evolved to a higher step wherein technology assisted news gathering tools be it smart phones, mobile or hi-speed wireless internet, online tools and apps, video conferencing etc. are used to gather information without actually visiting the place. The interviews for the news content are conducted and related discussions held through technology-assisted communication tools and networks. Journalists also use various social media spaces and other online networking platforms such as Facebook, Twitter, Instragam, You Tube, Google alerts, news feed etc. as newsgathering tools. Reports/dispatches are filed right from the field or place of occurrence (live coverage) without the need for a physical newsroom.

Owing to its easy accessibility and huge interactivity, the digital media offers the latest and best practices for engaging audience and promoting interactive and engaging content. With the emergence of interactive technology, audience started receiving news in real time particularly through various mobile and internet-supported devices. The media in the contemporary times is expected to be available round the clock to cover and report the events as and when they happen.

During pre-internet times, readers read the news the other day of the event and news bulletins were broadcast at a specific time (usually the prime time).

Speed, immediacy and real time factor have changed the entire narrative of journalism. While the physical newsroom has been taken over by virtual newsroom, news consumption today is not the same as it was earlier when people waited for their morning newspapers and switched on their TV/radio at a specific time for news. Now, people turn to various online media platforms for news and other information at any point in time.

In this context, journalists well-versed with the latest technology can easily adapt to the fast changes taking place in the contemporary digital world and enhance their chances of employability and sustainability. It is important that journalists acquire adequate knowledge of right and relevant tools to gather, generate, report and disseminate news and produce timely, interactive and engaging content. Production of interactive and engaging content has been one of the major attributes the digital technology has brought forth. Besides, convergence of different media forms (text, audio, visual etc.) has added another dimension to the growth and development of digital journalism.

Knowledge about online tools and mobile apps can help journalists with their professional practices, enhance their search for news (news gathering), develop story ideas, find credible and relevant sources, widen their network of resource persons/subject experts and create a source pool to attract diverse opinions and produce appealing and rich content. The adequate knowledge and proper use of digital technology can strengthen the nature and scope of digital journalism. There are many online tools and apps that journalists can use to produce appealing and enriching content but they ought to incorporate creativity and innovation into their storytelling while being deeply rooted in the basic principles and ethics of the profession.

2. LITERATURE REVIEW:

Several studies have been carried out to examine various perspectives of digital media in the context of journalism. The studies emphasize that the latest developments in technology, powered by internet, have transformed the media landscape at an unprecedented rate.

The technology has improved the processes of identifying stories that are newsworthy. Feeds from social networking services such as Facebook and Twitter provide a snapshot of events happening around the world from the viewpoint of firsthand witnesses and blogs and citizen news sources offer analytical perspectives from the ground faster than print or television can provide (Krotoski, 2011)[1]

Alejandro (2010)[2] observed 'journalism is not dead but merely evolving and the journalists of the future need to reinvent themselves too.' She studied how new social media like Twitter, Facebook, MySpace and LinkedIn have affected the way news organizations and journalists operate. The study surveyed the usage of social media in news operations among selected chief editors from different parts of the world. Five out of the six editors surveyed said speed or immediacy was the aspect of social media that helped them best in receiving news. The main ways their newsrooms used social media networks were branding and making a presence in the social media sphere, driving traffic to the company's news website and breaking news. Concerns regarding accuracy, need for verification and loss of control over the information were the main risks identified by the study.

Bosah (2018)[3] observed that the rise of digital media has significantly changed the roles, practices and structures of the journalistic profession in Nigeria. These changes require a practice-centred approach to explore changes in perceptions of identity and journalistic labour; attitude towards multi-skilling, working conditions of journalists and the commercialization of news that has the potential to compromise journalistic performance and the news they produce. The study draws the empirical evidence from five media organizations in Nigeria that is, Guardian newspapers, This Day, Vanguard, Channels TV and Nigeria Television Authority.

In today's fast-changing media landscape, it is critical for journalists to have right tools to report, produce and promote news. Even employers in the digital media world need journalists well-versed in technology and who can easily adapt to consistent changes (Wilson et al, 2017)[4]. Obayi et al (2018)[5] recommended that media houses should expend resources in ICT gadgets, in order to enhance and sustain ICT complaint journalism profession.

Catal (2017)[6] suggest that the education on internet technology should be spread across different layers of the society. While the development of digital communication technology has introduced new functionality into human lives such as multimedia, interactivity and connectivity, the advanced technology has also created new journalistic opportunities by

developing new structures within the media industry. As the new features generated by internet technology have transformed the process of news gathering, writing and distribution, the necessity to adapt journalism education to the changing requirements has also increased.

The future of journalism is largely digital and journalism's digital transition has in many cases lowered barriers of entry and seemingly increased user choice (for those with internet access). It has also enabled price discrimination, click-bait, fake news, mass corporate and state surveillance and many other potential hazards (Pickard, 2018) [7].

The studies indicated that the technological advancements have altered media in a way or other and there is a need for upgrading skills related to digital technology among the journalists to ensure their sustainability and enhance their chances of employability. The studies also highlighted new opportunities and challenges brought forth by adaptation of digital media in the journalistic practice.

3. RESEARCH OBJECTIVES :
The research article aimed to:
- Identify the changes in newsgathering techniques and news production and dissemination processes.
- Examine influence of digital media on news production and reporting practices.
- Explore impact of digital media technology on newsroom practices and news production.

4. RESEARCH METHODOLOGY:
Research Design
The purpose of the article was to explore the changing nature of journalism/media landscape and to examine the current trends in news reporting practices especially in the context of emerging digital media technologies. The implication of the digital technology on reporting practices be it news gathering, news production or news dissemination was explored and analyzed. The research methodology adopted was entirely qualitative in nature. It was based on analysis and interpretation of secondary data gathered from research papers, articles, reports, books and online publications.

5. DISCUSSION AND ANALYSIS:
Digital media has transformed journalism in number of ways. Being interactive, instant and engaging, digital media has brought about significant developments in the journalistic work and culture. News gathering techniques, reporting and production skills, content generation, delivery, treatment and presentation of news has been greatly influenced by the latest technology. Digital possibilities have reduced the barriers between society, media and technology. If used effectively, present day media offers tremendous scope for transformation of societies.

i) Digital Technology and Journalism: Interactivity, Engagement and Multimedia approach
With emergence of new technology in the form of interactive tools, mobile apps and other forms of online media, different dynamics have been added to the domain of journalism and new frontiers of media have been drawn to enrich and redesign the profession. While the digital media has enabled journalists to have easier access to information in the form of facts and statistics to develop their story, it has also thrown the gates of misinformation, propaganda and fake news, wide open. Thus, making the job of journalists more challenging.

There was a time when journalists used the typewriter, the telegraph service, the telephone etc. for composing/producing and transmitting the information or entire news stories. The latest technology powered by hi-speed wireless connectivity and smart phones enable journalists to capture and transmit news to publics in real time, thus, making it instant. Apart from words (spoken or written), sound, background music, photographs and graphics, simulations, holograms, live footage, live programming, live streaming, crowdsourcing etc. have added to the long list of technology-driven digital media.

The journalists too are fast adapting to the changes brought in by new technology. Newspapers and magazines have switched over to online editions and electronic and online media have become more instant and interactive. Media organizations are dependent on computer-based and network-centered technologies to gather, file, edit and disseminate news and information. Hi-speed internet connectivity has taken over in a big way. It has not only replaced obsolete means of gathering/collecting information but has overshadowed some latest technological methods such as Outside Broadcasting (OB) vans etc. Today the situation is such that a reporter/journalist can operate from anywhere in the world provided he/she has internet connectivity and a smartphone. His/her smartphone together with apps in it can act as his/her newsroom and he/she can instantly file, edit and disseminate news from any corner of the world to 'n' number

of media-consumers. Various apps also provide real time integration with audience that allows audience to connect with news generation process.

ii) Digital Media: Newsgathering and Reporting in Real time

Newsgathering refers to the ways journalists collect the information required to produce a news story. The gathering of information by the journalists has drastically changed over the years especially after emergence of digital technology. The speed at which information can be accessed and reported has increased manifold and the element of immediacy and interactivity in reporting has considerably amplified. Information, videos and images from different parts of the world are available within minutes of their release or happening. From being deadline-specific news reporting has switched over to real time reporting.

The basic tools of journalistic work have changed from notebook to notepad, pen/pencil and recorder to desktop/laptop/tablet, smartphones, apps, memory cards, battery bank, Google drive etc. The widespread use of hi-speed internet connectivity and mobile communication helps journalists to contact sources and experts in near and far-away locations at any point in time without actually visiting them in person that could otherwise incur hefty amount and consume lot of time. The new technology has facilitated media professionals to conduct interviews for their news stories in real time and simultaneously stay in constant touch with their newsroom and audiences.

Various social media platforms such as Facebook, Instragam, WhatsApp, etc. and microblogging site Twitter, act as source of multiple connectivity and information transfer with the audience.
The newsmakers be it politicians, police, government officials, security agencies, subject experts, sportsperson etc. take to various online media platforms such as Twitter handle, Facebook page, WhatsApp group, YouTube channel etc. to issue written and audio/video statements/comments, video-messages, pictures etc. Even options like Facebook Live are explored to hold a press conference or an interaction thus, providing an opportunity for journalists to record and report. Journalists can use these online spaces not only for collecting information but sharing stories and reaching out to a wider audience and exploring the unknown or little known areas.

Automated Google news alerts, Newsfeeds, RSS, etc. are also used by journalists as a source for collecting information/updates. Whenever there is news that a reporter is interested, he/she would immediately receive an email, if subscribed, and accordingly follow-it up. Knowledge and usage of these tools is imperative for journalists to stay informed and updated about the events and happenings around. Journalists also join various social media groups to remain updated. It is however, their responsibility to use the information circulated on various social media networks with utmost care, caution and proper attribution. They ought to verify the information gathered from various online sources before using it. They can take a clue from these online sources, verify and investigate the details before actually developing it into a story.

iii) Digital Media and Audience: Participation, Engagement and Feedback

For any communication process to be successful, active and meaningful participation of audience is of paramount importance. While mass media usually had delayed feedback from audience, feedback from users in case of digital media is direct, instant, multiway and interactive. As of today, level of audience participation in the news process has enhanced in terms of sharing their viewpoint, commenting on the stories/issues concerning them, making extensive use of online tools and apps, social media platforms, photo/video sharing platforms, blogging etc. for their active participation and meaningful engagement.

The digital media promotes audience engagement and interactivity. Instead of sitting back, listening or watching/reading, audience today can interact with each other, reporters or editors and share instant feedback with them and make the entire process interactive, immediate and meaningful. The digital technology has not only changed the way journalists gather and transmit news, but it has also provided ample opportunities for audiences to participate in news gathering and production.

The switch over of the newspapers and television to the web has been simultaneously followed with that of its readership and viewership, respectively. Shifting to online mode has enabled its audience to access the content from anywhere in the world on any trending issue or any other event and respond instantaneously in the form of feedback (comment, suggestion, likes, share or any other response). Even the stories/features are designed in such a manner that there is a space reserved for the responses from the audience at the end of every story/feature. Besides, audience upload reports of happenings in their vicinity (in the form of text, videos, pictures etc.) to share it with the outside world. Thus, digital

media not only engages audience but empowers them as well. It creates space for unheard voices and unexplored issues and provides access to a sea of information.

iv) Digital Media: More scope for Citizen Journalism
The digital technology has opened up more space for citizen journalism and blogging that enhances the potential of these forums in terms of visibility, news gathering and production. News organizations and journalists however, ought to be careful in terms of accuracy and credibility while using the content, pictures, videos and audios provided by these forums.

Citizen journalism came to international prominence during times of crisis: the attacks on New York City and the Pentagon on 11 September 2001 were the first time that people looked to the web for eye-witness reports, some of which were also incorporated by mainstream news. During the 2004 Asian tsunami, the term "Citizen Journalism" was used for the first time as photos and videos which tourists had uploaded on their personal blogs were used on television and in print (Barlow, 2010) [8]. During the 2008 U.S. presidential election campaign, a citizen journalism TV channel called Current TV partnered with Twitter during the candidates' debates so that viewers could tweet their comments, which were shown live on screen (Keen, 2008) [9].

The audience however, needs to be particularly careful when evaluating content from citizen journalists. Anonymity in citizen journalism is one of its pitfalls, making it difficult and at times impossible to ensure that information is correct and that the author takes responsibility for the posting (R., Agbaji & Banke, 2017) [10].

Thus, it can be inferred that if channelized properly citizen journalism can generate the news right at the source of origin and can have greater role in social transformation. There is a strong case for citizen journalism to evolve within the broader parameters of professionalism and legal and ethical standards of journalism, in general.

v) Digital Media: Crowdsourcing in News Reporting Practices
With the advent of new technology, an entirely different type of sourcing has emerged. Technology that connects people in different ways not only ensures easy accessibility of journalists to gather, verify, produce and distribute news but also ensures integration of audience with journalistic work. Crowdsourcing is one such online platform that has recently originated and is picking up and making it convenient for journalists to identify and cultivate new news sources, organize data and follow real-time and developing stories.

Crowdsourcing allows newsrooms to build entry points for audience at various stages of the journalistic process be it news gathering, news analysis, news production etc. In crowdsourcing, a group of people is invited to participate in the reporting process through a targeted open call for input, personal experiences and other contributions. Crowdsourcing takes place in a structured or unstructured manner. While structured call-out applies targeted outreach approach and asks people to respond to a specific request though email, SMS (Short Message Service), Google form etc., unstructured call-out is an open invitation to vote, email or contact a reporter with information.

Crowdsourcing has a potential to transform newsgathering and news production processes by attracting sources from diverse backgrounds, voices and information and exploring the unknown or little known areas and getting closer to audience in an interactive and meaningful manner. Crowdsourcing offers possibilities leading to richer, authentic and credible content with more proximity and relevance to audience. Exploring different crowdsourcing possibilities can transform the journalistic practices.

Crowdsourcing investigations bring a collaborative dimension into journalism. It has the potential to offer journalists more insight and information as they can ask for help directly from people who are in a position to know about the topic. In breaking-news situations, crowdsourcing can be used to find out what is happening at the scene directly from eye witnesses. There are however, certain limitations to the use of crowd intelligence. Surowiecki (2004) [11] noted that not all crowds are wise and lists four key criteria for a wise crowd: Diversity of Opinion (each person should have private information even if it is just an eccentric interpretation of the known facts), Independence (people's opinions are not determined by the opinions of those around them), Decentralization (people are able to specialize and draw on local knowledge) and Aggregation (some mechanism exists for turning private judgments into a collective decision).

Crowdsourcing is one way of harnessing the very phenomenon that undermines journalists' position as the gatekeepers and disseminators of news. Journalists have to adopt a new role wherein they facilitate discussion and filter out the best

and most trustworthy sources in the chaotic information ecosystem that is the internet. The future of the profession depends on whether or not journalists can become the reliable, go-to conveyors of news and analysis in the new environment (Vehkoo, 2013) [12].

Crowdsourcing has a great potential to accelerate knowledge sharing, widen journalist's perspectives and create a strong relationship and pool of sources and experts but it also comes with many challenges, especially verifying, analyzing and evaluating crowdsourced inputs.

vi) Digital Media: Live Streaming and Other Online Tools

Availability and applicability of various online tools and apps such as Google Alerts, NewsWhip, Digital Audio Recorders, Digital cameras, Zoom App, Slack App, Evernote and Asana App, Microsoft team etc. have a potential to bring tremendous changes in newsgathering and news production. To begin with, the area of operation (beat) for journalists can show a tremendous shift from small local area to a global village and the contact list (sources) can be updated from a miniscule population to a galaxy of experts. The viewership (audience/readers) can also go up with geographical boundaries being no barrier. The digital technology could help in connecting people at long distances by bringing in new and different perspectives to the journalistic piece of work and keeping everyone informed and updated without putting in use big and heavy equipment.

Say for example, Google Alerts allow a subscriber to specify a keyword or phrase and then he/she receives an email every time a new webpage or news story includes that word. NewsWhip, on the other hand, is a tool that allows a journalist to monitor and filter news shared across social networks in one platform and helps to find out what is trending in different parts of the world. Digital Audio Recorders enables journalists to go wherever they wish with a tiny recording studio in their pockets and making it convenient for them to conduct interviews, file stories, respond to queries etc. Digital cameras too have opened doors of opportunities for photojournalists and allowed them to send photos to the newsroom within minutes. While Zoom App offers video conferencing, online meetings, group messaging and so on; Microsoft team is a cloud-based team collaboration software that provides a workspace for real-time collaboration and communication, meetings and file and app sharing and the list goes on... Journalists can make use of these tools and apps in their daily reportage to make it more effective, immediate and purposeful.

Technology is fast changing the future of journalism. Hi-speed internet in different forms such as live-streaming platforms, social media space, online tools and techniques hold a great potential for open access to information but it can also lead to disasters in absence of genuine checks and balances in the form of some regulatory mechanisms or likewise. At the same time, governments across the globe can exercise more control and stringent restrictions over the generation and distribution of content, videos and images by various online media platforms.

vii) Digital Media: Enriching News Features

Digital technology allows media professionals to get more and enriching quotes from experts across the world thus, adding more visibility and credibility to their stories/features. News features can be made richer and impactful by adding live streaming and including real time details using digital technology and making it more lively, interactive and meaningful. Investigative and interpretative stories can be made more vibrant and forceful by adding relevant and other inspirational details from other stories (may be related incident, interview of some subject expert or some graphical representation or adding links/hyperlinks of previous or any related stories etc.).

The journalistic sphere has not only undergone drastic technological changes and transformations but emerging digital media environment and live streaming space together with other interactive new media tools are redefining journalism at a fast pace.

6. CONCLUSIONS:

Digital technology especially the internet and subsequent rise of online tools and apps and social media networks have completely restructured the media industry. The unique attributes of internet especially interactivity, immediacy and multimedia, lead to significant developments in the field of journalism. The digital technology has fast gained momentum over the years and the web technologies have changed the overall nature of journalistic work and culture. The digital technology has influenced sea changes in the media industry as it has added real time dimension to newsgathering and reporting. Thus, making it more real-time based.

The digital technology has undoubtedly revolutionized the way information is gathered, produced and disseminated. The interactivity in digital media has been redefining journalism with journalists adapting to new technology to tell a story and engaging audience and audience getting more interactive. Integration of audience with journalistic work has been further strengthened by the extensive use of web-based networking platforms, online tools and apps, crowdsourcing etc. brought forth by the digital technology. The digital media not only engages audience but empowers them as well. The easy access and availability of latest technology has provided various opportunities for citizens to speak up and generate content. The digital technologies have created a platform for free flow of content generation and information dissemination.

Amidst all this, the impact of digital technology on journalism is beset with a plethora of challenges. The question of journalistic values stands atop in this era of journalism also. Accuracy, authenticity and credibility that form the basic and fundamental cornerstone in news reporting have become more important than ever before. Plagiarism, fake news, hoax and inaccurate reporting are the biggest challenges faced by the journalists. This will lead to more interference, control and restrictions from governments across the globe over media content generation and distribution.

While the digital media has, on one hand, made the job of reporters easier and convenient in terms of gathering information (speed, immediacy and interactivity), news production and dissemination processes. Many tools, techniques and apps are used by the journalists to produce engaging content. Journalists, on the other hand, are required to be available round the clock to report any breaking news events. The emergence of digital media demands the journalist to be multi-skilled. Easy availability and accessibility of digital technology has, however, thrown the gates of misinformation, propaganda and fake news wide open making the role of a journalist even more indispensable. The concept of physical newsrooms is fast paving way for virtual digital news spaces.

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