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Education for All

Dr. Babasaheb Ambedkar
Open University
(Established by Government of Gujarat)

MA JMC 06
SEM-02

Digital Media, Social Media, Immersive Media

MASTER OF ARTS - JOURNALISM AND MASS COMMUNICATION

Message for the Students

Dr. Babasaheb Ambedkar Open University is the only state Open University, established by the Government of Gujarat by the Act No. 14 of 1994 passed by the Gujarat State Legislature; in the memory of the creator of Indian Constitution and Bharat Ratna Dr. Babasaheb Ambedkar. We stand at the seventh position in terms of establishment of the Open Universities in the country. The University provides as many as 81 courses including various Certificate, Diploma, UG, PG as well as Doctoral to strengthen Higher Education across the state.

On the occasion of the birth anniversary of Babasaheb Ambedkar, the Gujarat government secured a quiet place with the latest convenience for University, and created a building with all the modern amenities named 'Jyotirmay' Parisar. The Board of Management of the University has greatly contributed to the making of the University and will continue to this by all the means.

Education is the perceived capital investment. Education can contribute more to improving the quality of the people. Here I remember the educational philosophy laid down by Shri Swami Vivekananda:

"We want the education by which the character is formed, strength of mind is Increased, the intellect is expands and by which one can stand on one's own feet."

In order to provide students with qualitative, skill and life oriented education at their threshold. Dr. Babasaheb Ambedkar Open University is dedicated to this very manifestation of education. The university is incessantly working to provide higher education to the wider mass across the state of Gujarat and prepare them to face day to day challenges and lead their lives with all the capacity for the upliftment of the society in general and the nation in particular.

The university following the core motto 'स्वाध्यायः परमम् तपः' does believe in offering enriched curriculum to the student. The university has come up with lucid material for the better understanding of the students in their concerned subject. With this, the university has widened scope for those students who are not able to continue with their education in regular/conventional mode. In every subject a dedicated term for Self Learning Material comprising of Programme advisory committee members, content writers and content and language reviewers has been formed to cater the needs of the students. Matching with the pace of the digital world, the university has its own digital platform Omkar-e to provide education through ICT.

The University is offering MA in Journalism and Mass Communication course under the School of Humanities of Social Sciences, it aims to emerge its learners as excellent communicators in the global arena by developing skills in thinking, reading, writing, and editing, audio-video production and more.

With all these efforts, Dr. Babasaheb Ambedkar Open University is in the process of being core centre of Knowledge and Education and we invite you to join hands to this pious *Yajna* and bring the dreams of Dr. Babasaheb Ambedkar of Harmonious Society come true.

Prof. Ami Upadhyay
Vice Chancellor,
Dr. Babasaheb Ambedkar Open University,
Ahmedabad

Digital Media, Social Media, Immersive Media

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MJMC-06
Digital Media, Social Media, Immersive Media

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UNIT : 1 FOUNDATIONS OF DIGITAL MEDIUM

:: STRUCTURE::

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1.0 INTRODUCTION

Digital medium has come to influence human lives in more ways than one. It is the underlying life-current on which users depend upon to leave their digital footprints. All electronic devices – whether handheld, mobile phones, laptops, smartphones, etc. – influence and have been influenced by the design and architecture of digital medium. In order to properly leverage the power of digital content and marketing, it has become indispensable to get a deeper understanding of digital media's evolution over the years. This will help the reader appreciate the indispensability of the medium and understand how its evolution has coincided with different tools, techniques and methodology.

The explosion of digital media has impacted the media industry as well, forcing it to adopt digital journalism as an integral part of its business model. Through this, the media industry seeks to enhance audience reach by tapping the digitally connected audience. With evermore news content consumption moving online, the print media is slowly, but surely, moving out of vogue. In order to keep its core audience intact, as well as to have a

business strategy for a growing organic audience, digital journalism has emerged as an important vertical for many media houses, which have responded by making large investments in their online properties.

This unit discusses the foundation and concepts of digital media in order to gain an overall understanding of the digital ecosystem. The characteristics of this medium should be understood to truly appreciate the concept of digital journalism and why it occupies such an important place in today's world.

1.1 LEARNING OBJECTIVES

- Understand different types of digital media
- Appreciate difference between traditional media and digital media
- Study use cases of digital media worldwide
- Understand how businesses and consumers benefit from information explosion over the digital medium
- Know about the issues of ethics and privacy in digital media and journalism

On completion of this Unit, you will be able to

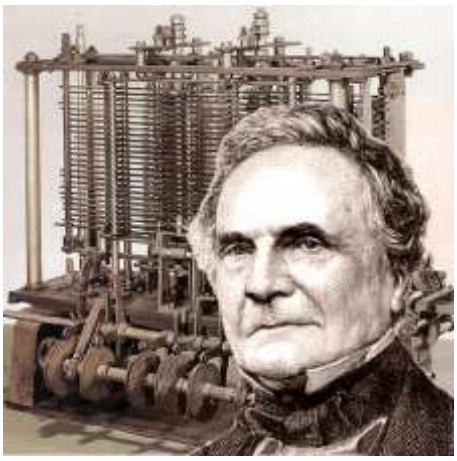
- Understand the evolution of digital medium and its position vis-a-vis traditional media
- Know how digital media is used worldwide to publish and consume information
- Understand characteristics of digital media
- Appreciate how digital journalism and social media are interdependent
- Understand why media ethics have become a big concern for concerned citizens

1.2 EVOLUTION OF DIGITAL MEDIUM

Be it an intelligent app on a smartphone tracking your daily schedule, GPS applications guiding you out of wilderness or educational videos you watch on video-streaming services, they are all forms of digital media. With human brains more attuned to consume and imbibe digital content much faster, especially those laden with images and videos, the digital revolution has been aided by the growth of technology and provisioning content through multiple devices. The contemporary world is being populated by a variety of digital media products, each enabling different level of user experiences, thus only proving advantageous for the tech-enabled industry to maintain an ever-increasing user base.

Digital media has come to occupy mainstream discussion, with its positive and negative impacts on humanity becoming hot topics of discussion and analysis. It is created, modified and distributed using electronic devices, like smartphones, tablets, desktops, laptops, etc. The evolution of digital media has brought about a technological revolution, which can be seen in the emergence of other parallel revolutions. Personal computing, emergence of the internet and digital media have provided a platform for humans to consume a large amount of content, customized according to their behaviour, preferences, habits and past content consumption patterns. No wonder that digital media has ushered in an age of information revolution, the much-awaited Fourth Industrial Revolution or Industry 4.0. Together with many opportunities, it has also presented challenges, issues and some negative impact on the society also. We are digitally evolving by the minute.

Humans have become digitally dependent via various types of devices, which gives them access to literally any type of information. Access to such a vast ocean of knowledge makes them smarter, intelligent, efficient and powerful, way beyond anybody would have ever imagined. To appreciate the process of how information has come to occupy such influence in our lives, it is important to understand the evolution of digital media, which is the medium of providing information to the humankind. Let us deep-dive into the evolution of digital media, and how each influenced the invention of other media.



Charles Babbage, as many of us know, is a key figure in the history of digital media invention. He was among the first to visualize machine readable codes right in the early 1800s. His inventions include ‘Difference Engine’ and ‘Analytical Engine’. The latter could perform mathematical calculations using punched cards, which delivered instructions to the engine. The numbers were stored in a memory unit. It had many features which resembled today’s computing systems, and hence Babbage is considered a key figure to have evolved the concept of computers that we all relish today.

Computing as a concept started with analogue devices, which used voltage to compute desired quantity through analogy. Since this involved large processing time and was inefficient and error prone, scientists in the 1940s began developing a continuous numeric-based digital system. The data involved a sequence of digits represented in a machine-encoded format, hence the name 'digital' systems. The word digital was first used in the late 1930s for a computing system which operated on data in the form of discrete digits. Ada Lovelace is believed to be the first who wrote a computer program for calculating numbers in Babbage engines.

In 1986, less than one per cent of the world's media storage capacity was digital, and by 2007 this figure reached 94 per cent,[1] showing the exponential rate of growth achieved by digital media and conversion of analog to digital media formats. The impending advantages of digital-only media was realised by many pioneering industries, and by 2002 more data was stored in digital medium than in analog media.

Digital media's advantage of it being created, preserved and shared on digital devices and storage devices, such as pen drives, flash drives, floppy disks, CD-ROMs, etc. helped it to occupy mainstream discussion in a manner that was not expected even a decade earlier. Digital media contrasts with the print media, which comprises of books, newspapers and magazines, and other analog media formats, such as images, videos, etc. With the emergence of the internet and personal computing, digital media has evolved to disrupt the traditional media spaces occupied by publishing industry and journalism. The ubiquitous nature of digital media and the power of information generated from its prevalence has led observers to declare the arrival of the next revolution in the form of the information revolution.

The rise of personal computers started the trigger of exponential growth of digital media. The use of binary code and boolean logic to store data and process information which allowed a machine to perform many tasks and calculations. The first modern programmable computers were Manchester Mark 1 and the EDSAC, which had their operations controlled by refined software. These operations were encoded in binary format. The 1s and 0s used in the digital media were the basis of such machines to store information in digital media, which could be read by other machines as well.

Rich multimedia came with its advantages as well as disadvantages. Richer the multimedia, more it carried content and served meaningfulness for the intended market. High memory storage and high bandwidth requirements for transfer of data over the internet were the biggest impediments for richer multimedia being employed at a large scale prior to the end of the 20th century. Advancements in data compression techniques made it possible for an economic and accessible digital media over various platforms.

The invention of discrete cosine transform (DCT) algorithm by Nasir Ahmad at the University of Texas in 1972 was a game-changing moment in enabling a shareable digital world. It was based on a lossy compression technique, which is a data encoding technique to compress images to store and transmit them over the internet quickly. Its success was replicated as the H-261 video coding format in 1988, which was then modified to include JPEG image format and MPEG video formats.

1.3 TRADITIONAL MEDIA VIS-A-VIS DIGITAL MEDIA

The advantageous proposition put forward by digital media created ripple effects: it led to disruption in various industries, like publishing, journalism, entertainment, medicine, etc. The digital medium has radically changed how humans consume and create content.

Data compression and evolution of data streaming facilitated by advancements in technology made it possible to create different digital media options. Video coding standards, like MPEG, and image formats, like JPEG, were introduced in 1990s based on compression algorithms, which led to development of further compression algorithms. Digital media opened a new source of revenue for businesses with the advent of the internet and personal computing.

The decentralisation of such a large repository of information made it possible for people to access, modify and share the digital content anywhere, anytime, through just a single click using their devices. With the advent of many electronic devices which use digital media, like drones and digital cameras, the lives of millions of people continue to be changed. People have changed from being digital amateurs to digital natives – they create, store and share digital content far more effectively than what they did during the times of analogue media and traditional media marketing.

Digital media's advantageous position meant the disadvantages of traditional media became glaring and necessitated adoption of digital media in time to ride the big wave. This trend was understood by some of the big players in different industries, and they made the necessary investments, which aided the transition. Small players, though, had to bear the brunt and suffered revenue losses or incurring the cost of digitisation. Through this change, the media industry saw the audience in a different way and also started engaging audience in newer ways.

Businesses still relying on traditional media for their advertising and marketing needs have come to realize that dependence on traditional media alone is slowly going to lead them on a downward spiral in their respective markets. Brand communication started to take on multiple forms, each having its own set of advantages. This required entrepreneurs to choose the best medium for their content by analysing their strengths and using one or multiple media in accordance with their business needs.

Social media has fundamentally changed the way marketing was visualised by businesses and heralded an era of two-way communication, wherein businesses started investing on the interactions between them and the audience. Traditional media depended upon broadcasting information through television, radio, newspapers, yellow pages, etc. to reach out to the target audience and waiting for the adequate response to happen. There was seldom a way to monitor and track influence and effectiveness of the information provided by the advertiser/business. Social media marketing over the internet caused a monumental shift in how consumers and businesses conducted their day-to-day affairs.

Through the usage of digital media and their marketing, businesses are able to target their buyer more effectively than selecting an entire market audience to bombard their message with. This way, there is an effective relationship building with powerful strategies that foster long-lasting trust and belief. This helps in building a transparent relationship between consumers and businesses, which is paramount in today's competitive arena. This way effective and strategic marketing can be conducted on a one-on-one basis, which can make investments in digital media marketing more valuable and far less expensive.

Sharing of information across digital medium involve the whole community's involvement and real-time collaboration, rather than informal communication pattern. This helps in the development of a structured digital ecosystem for the businesses and informed knowledge and decision making for end users through using the power of collaborative information dissemination and intelligent digital marketing strategies.

1.4 USAGE OF DIGITAL MEDIA WORLDWIDE

Digital media rules the roost across domains and industries. In fact, the production of digital media and their relevance to end users has become an important parameter to judge the business value of an enterprise. Peer recommendations and easy sharing of digital media have made it profitable for businesses to adopt it, as they amplify marketing efforts and motivate a larger audience to become part of the business' loyal customers.

The use of the internet has accelerated globally, with internet users growing at an average of just less than a million everyday in the year till October 2020. Roughly 5.2 billion people use mobile devices and smartphones, out of which 4.66 billion have access to the internet. Digital media's growth has gone hand in hand with internet penetration, which is further fuelling social media usage. About 60 per cent of the world's population is now connected to the internet. A user in 2020 spent on an average 6.5 hours online browsing through tons and tons of digital media content, ecommerce platforms, social media, etc. The growing seamless integration between different platforms and innovative technological solutions, like voice, AI assistants, etc., coming into play in the digital landscape, the next billion is truly going to experience a never-before information conundrum.

Asia-Pacific, Africa and the Middle East constitute the major chunk towards increase in audience consuming digital content, experiencing an annual growth of seven to 10 per cent. Digital landscape has never remained the same, and has evolved with time to define the way we consume digital content in contemporary times. This holds true for the future also, with disruptions and changes being the norm rather than the exception. Mobile devices have become the preferred medium for consuming digital media, accounting for 49 per cent of total time spent. Digital video viewing has doubled from an average of 13 minutes a day in 2012 to about 30 minutes in 2018. Voice-based multimedia search has become the preferred way for users to consume digital content.

Indian Scenario

According to the 'Global Media Intelligence Report 2019', both traditional and digital media are consumed by Indian audience, with one not overruling the other in terms of importance, though the latter is fast picking up the pace. This is due to a fast-growing smartphone market and internet penetration throughout the length and breadth of the country. Print media maintains a strong presence across different audience groups, with urban population consuming content through both the media forms. Consumers spend an average of 3.5 hours with traditional media or 70 per cent of their daily media time. Digital media constitute the remaining 30 per cent share, comprising the remaining 1.5 hours.

Video streaming has become more popular than watching live TV, according to the Global Web Index. A major chunk of polled users (95 per cent) utilised online video streaming services for an average 1 hour 31 minutes a day in 2019, as compared to 1 hour 36 minutes to broadcast TV. The same holds true for digital audio consumption as well, moving away from the traditional broadcast radio services. Simultaneous multi-media consumption is now the norm. Mobile phones are the clear device of choice to consume digital media.

Linear TV (traditional media) still holds a considerable chunk of daily media time, retaining a central role in daily media viewing habits across

regions, though this is more prominent in developing economies than in developed nations. Online TV viewing duration spans an hour per day, which reaches even higher among 25-34 year old internet users across economies. Globally, though it is still behind traditional broadcast TV, falling an hour behind in terms of viewing time. Though usage of digital media over the internet has increased by an average of 28 minutes year-on-year, usage of traditional media platforms has maintained its usage time, which brings us to a very interesting conclusion. Contrary to popular belief, traditional media continues to hold sway. Mobile internet and cheaper data is, though, a trend which transcends all markets and segments and is sure to take over the mantel from traditional media.

1.5 FORMS OF DIGITAL MEDIA

Since it is important to have knowledge of all types of digital media, let us have a look at different types of digital media to understand the entire spectrum and appreciate their relevance and usage in the contemporary world.

- *Audio:* it has been used for many years to reach out to a wide range of audience through radio. This is now being adopted by streaming services and podcasts. Available in lossy formats, like MP3, or lossless formats, like FLAC, having the same quality as that of the original file. The sound wave of the audio signal is encoded as numerical samples in continuous sequence. Conversion to a digital format prevents generation loss arising due to copying of data and minimises degradation of signal quality. Digital recording and mass distribution has been made possible due to audio being available as data files, received and consumed by end-user over their electronic devices.
- *Video:* an electronic representation of rapidly moving images in the form of encoded digital data, video is usually recorded, stored and transmitted in digital format nowadays as against analogue format. With the advent of ultra-HD and 4K video recording, large files have become the norm, whose smaller versions can be shared on social media and mobile apps.
- *Photos:* they are almost exclusively captured and stored in digital format these days. Images are rendered in one of the different image file formats, such as JPEG, PNG, TIFF, GIF, etc., each differing in compression level and image richness. Digital photos are displayed using image-viewing software, like web browsers and mobile apps. Digital photos may range from compressed images which are suitable for sharing on low bandwidth to huge files running into gigabytes, like scientific images, which can only be accessed online on high bandwidth. Image compression technologies, such as DCT, resulted in the JPEG format. This made it possible for quicker rendering and sharing of images and,

hence, became largely responsible for the wide proliferation of digital images and photos.

- *Websites:* it is a collection of web resources structured as web pages with rich multimedia content. A common domain name (website address to access the website) and hosted on a common platform called web/cloud server store and serve requests through browser are some of the common characteristics of a website. Modern websites have evolved into a collaborative platform to access, socialize and communicate information to end users for businesses to enhance their brand value.

- *Social media:* the concept of digital media has been truly exploited through the advent of collaborative social media platforms, enabling person-to-person communication using various digital media and share ideas, common interests and virtual communities and networks. User generated content (UGC), such as text posts, photos, videos and all data generated through the online interactions, is the propelling force of social media. Users engage with groups, communities and individuals using their profiles through their electronic devices, which act as the medium to share, discuss and post curated content online. Along with websites and mobile applications, corporates and advocacy groups use social media as an effective marketing tool to reach out to the end audience to communicate their message across.

- *Electronic books:* it is a book publication available in digital format consisting of text, images and, sometimes, videos which are readable in electronic devices, such as smartphones, tablets, desktops and laptops. Dedicated e-reader devices help consumers in leveraging the full power of reading books through bookmarks, annotations, embedded dictionaries and powerful text search facilities. All this coming in a competitive pricing model (often lower than print version, but it depends on the publisher and geographical market) and portability convinced publishing industry to adopt a parallel business model of e-books along with the print version.

- *Games:* the ubiquitous games in electronic devices comprise a major chunk of the digital media world, either through dedicated platforms like Xbox, PlayStation or through mobile games on smartphones and tablets. They have emerged as a robust vertical of entertainment industries behind broadcast and cable TV. This has evolved as a subculture in digital media and have had a profound influence on the popular culture. It has become an effective tool in marketing products and services effectively by capturing public essence. Multiplayer games with social capabilities have made it a rage, especially for the younger generation.

1.6 LIFE IN DIGITAL ECOSYSTEM

Internet-driven digital media is an increasingly important reality of our lives, without which it is hard to imagine the contemporary world. The transformation brought about by the emergence of digital media has brought about immense opportunities as well as risks. Advancement in technologies has brought digital media to the forefront, which has fundamentally impacted the way we work and communicate.

In addition to greater internet penetration, internet of things (IoT), big data analytics and artificial intelligence (AI) are becoming the norm, spreading its arms in virtually every sphere of human existence. This has started to dramatically change the way people interact and consume digital media content. Working in an innovative knowledge society, it has become indispensable to become versed in digital ways of life to leverage the advantages fully.

Corporates have come to understand the potential advantages of data analytics in order to serve better digital content and understand behavioural patterns of customers and aid businesses to take appropriate decisions at crucial junctures. This enables business to micro-target products to audiences and hone their marketing strategies to suit their business needs and user expectations better. Big data analytics analyses the trends – both broadly as well as at micro level – using a large amount of data arising due to content digitisation and tracking human behaviour in consuming and sharing such content with their peer groups.

According to the Organisation for Economic Co-operation and Development (OECD), digital transformation refers to the economic and societal effects of both digitisation and digitalisation. Digitisation is the conversion of analogue data to digital data, whereas digitalisation refers to the usage of digital technologies and data and their interconnections that result in new activities or cause a change in the existing ones. Though this was initiated by the internet during the late 1990s, which facilitated interconnections between computing devices, the emergence of multifarious digital media and their consumption by audience at large created a ripple effect, completely redefining the existence of human beings and how they interact with each other. Hence, digital transformation is in part the usage of digital media to bring about human transformation. In order to understand digital media, it is essential for businesses to deep dive into how its digital content – which consists of text, infographics, images, videos, websites, mobile apps, video games, etc. – is being received by their customer base.

Governments and civil society organisations the world over have used digital media components aggressively in order to reach out to a mass audience at once and get across powerful social messages intuitively. Through images and videos, governments have been successfully reaching out to the less educated and the downtrodden, and through the

powerful audio-visual sensory approach, concerted efforts have been made the world over to achieve a last-mile connectivity with people to empower them with necessary information. This, in turn, contributes towards building a healthier and prosperous human capital, a necessity to propel an economy to new heights. The positive impact of such methodology is not lost, especially among developing nations, and through intelligent planning and execution, social inclusion and education, the next billion have been put on priority.

All things said, the access and usage of digital media has not been uniform in any manner, showing variations across gender, geographies, class and educational boundaries. The International Telecommunication Union, a United Nations agency that collects and analyses data on information and communication technology, found that in 2019, around 48 per cent women in the world had access to the internet, while the corresponding figure for men was 55 per cent. The gap was the same in the Asia-Pacific regions, but women internet usage stood at 41 per cent and that of men at 448 per cent. This is far from being an ideal situation, and needs remedy. The range of activities for which the internet is being used also varies from region to region. For digital technologies, and by implication digital media to have any positive impact on human well-being, the inequalities in terms of digital skills, duration of usage, depth of usage in terms of range of activities needs to be bridged. This is the Achilles' heel between realising the power of digital economy, and punching below the weight.

1.7 DIGITAL JOURNALISM AND SOCIAL MEDIA

The field of digital journalism arose as a response to the disruptions caused by digital technologies so as to positively leverage the impact reinforced by digital media over a large audience group. The US academic Kevin Kawamoto defines digital journalism as the 'use of digital technologies to research, produce, and deliver (or make accessible) news and information to an increasingly computer-literate audience'. The media and publishing industry adopted digital journalism as websites, mobile applications and newsgames by using one or more of the following digital media text, audio, video, photos, animations, etc. No wonder that such digital assets cater to the online audience, whereas a parallel print version is often run to satisfy the traditional print-based audience.

The essence of digital journalism is the usage of multimedia-rich content presentation and interactivity with consumers using collaborative features taken from social media. To appeal to the end consumers, journalists and media businesses have to alter their content and business strategy in a manner which bodes well. Ubiquitous internet presence, news/information available in a single tap for quick consumption, personalised feed based on user preferences, along with low distribution

costs for media houses make digital journalism a winning proposition for all stakeholders.

History

Digital journalism is not a phenomenon which has emerged in the past few years. Teletext was invented in the UK in 1970, which allowed users to choose stories of their choice, and view them immediately. This was followed by production of videotex systems, which allowed the US media companies to deliver online news stories to adopt Viewtron, Keycom, Gateway, Bulletin Board Systems, etc. until the early 1990s. The emergence of the web browsers NetScape Navigator and Internet Explorer coincided with the booming of online journalism – the news content from traditional sources was repurposed without any change in the substance. News aggregators, such as AOL and Yahoo News, started capturing the market essence by acting as a single platform to access national and international news of different genre and interests, all at a single place. Today, there is hardly a media business without a dedicated digital asset, a fact which recognises the power of the internet, and the lure to reach out to the next billion has resulted in continued investment in digital journalism.

Characteristics

There are certain defining characteristics of digital journalism which sets it apart from the traditional print media. These include the following:

- Rich content intertwined with hypertextuality, which serves as the ready-made reference material and delves the user into content items related to current news. This interconnection between various digital content assets is the primary driving factor of digital journalism.
- Collaboration and interactivity aimed at two-way communication through user comments, shares, likes and emoticons along with bookmarking and setting personal preferences – all these actions are gathered and analysed, which provide websites intelligent inputs in the form of data analytics. This allows webmasters to serve consumers with the content most appropriate to them according to their taste. Journalists also source their information through social media trends on Facebook and Twitter and accordingly develop content for discussion. This type of customisation is hardly an option in the print media.
- Customised, personalised feed of information based on user preferences and behaviour is one of the biggest advantages of digital media, which makes it dynamic according to users' choices and does away with the idea of serving the same content to all consumers. This flexibility gives the power of choice to the end user on what and what not to read.

- Multimedia-rich content, such as audio, infographics, slide shows, video bytes and immersive content, enables users to spend more time on websites and mobile apps.
- Real-time news coverage enmeshed with social network platforms has become *sine qua non* of reaching out to a large audience, especially while covering local news in vernacular languages. This has been made possible by maintaining multiple versions of the same website, enabled by digital technologies.

Digital journalism, in short, has created a positive use case both for readers by enabling a never before news-reading experience and the media businesses which prefer to tap on the insatiable need for real-time information-seeking populace. Though there are disputes with regards to impact on traditional journalism due to this, the impacts of citizen journalism and user-generated content must be properly catered to and given due credence to ensure a positive experience for all.

1.8 ETHICS IN DIGITAL MEDIA

In the previous sections, we have seen how digital medium has transformed the way humans communicate and express themselves. Data analytics and consumer behaviour mapping have been employed extensively by corporate media houses to personalise their offerings and build brand value and reach. Uncontrolled proliferation of digital media has led to some deleterious consequences to the entire digital ecosystem – ranging from data privacy, copyright infringement, plagiarism, ethical behaviour and morality at large. Since digital journalism has brought about social networks into the picture, it becomes all the more necessary to see this aspect in entirety in order to preserve the freedom of expression but, at the same time, appreciate the dynamics of a digitally connected world. There is a need to respect and adhere to certain moral and legal standards so as to provide a level-playing field for all stakeholders involved.

The lure of digital journalism – the market size and avenue for business – has resulted in who's who taking a plunge in the digital ocean to make a mark of their own. Digital assets available over the internet have given people a sense of power, as it enables them to gain real-time information and enforce accountability through social media. Misinformation, fake news, rumour mongering – all are side effects of such an interconnected world. There have been numerous instances wherein fake news was given leverage, especially on social media, and before it was realised, the damage is already done to the social psyche. Enforcing a rule-based ethical framework is the need of the hour, so that the digital media space does not get cartelised and remains open to smaller players as well. A liberal regulatory regime to oversee digital media platforms and enforcing

a code of conduct for the media to self-abide by the rules are some of the recommended ways to handle this complex scenario.

Media ethics involve defending modern, progressive values, such as a universal respect for life and the rule of law and legality. Since crowdsourcing and user-generated content are at the heart of today's digital journalism, a robust check-and-balance system is essential to maintain objectivity, integrity and unbiased and balanced reporting from the media industry. The writer Robert Hauptman focussed on the issues of fair use, copyright and code of ethics in his acclaimed book *Ethics and Librarianship* and developed the concept of information ethics. News manipulation, censorship, conflict of journalism with rule of law, copyright issues, especially about multimedia content, have come to occupy the centrepiece of this debate. With the absence of a mutually agreed code of conduct available globally, the breaches often go unnoticed. In fact, the verifiability of news gathering techniques will very well be an indicator on the accuracy and credibility of news items.

Media integrity is the *sine qua non* of establishing a transparent media ecosystem, wherein public interest is given priority, and institutional corruption and clientelism are done away with. Such commitment to ethics and standards should be complemented by an ethical framework to streamline ethical issues arising from multimedia usage – the ease of capture, transmission and easy manipulation of the media have made it easier to transmit fake news, that too having immediate impact. With the Facebook-Cambridge Analytica episode that emerged in 2018, it is time to take a hard look at how to handle fake news and balance media usage goals, like profit and business need for corporates and upholding of freedom and privacy for individuals.

1.9 CONCLUSION

Digital medium is the underlying current which characterises the current human landscape experienced through a variety of electronic devices of different types and resolutions. Starting from analogue devices, the advantages offered by digital medium helped industries of various pursuits. Technological advancements in data compression and streaming and global internet penetration caused proliferation of different types of digital medium – from text to high-resolutions videos – and radically changed how humans consume and create content.

Social media became the propelling engine which provided the ground for user-generated content in a number of digital media formats, like text, images and videos, across geographies and audience segments. Identifying such advantageous propositions offered by social media, businesses unleash digital marketing campaigns targeted at their audience to gain extra advantage in an environment characterised by innovation disruption. The seamless integration between traditional digital media and next-generation technologies, like AI and big data analytics, offers great opportunities for individuals to experience best user experience and

businesses to enforce a better return on their investments. Governments and civil society are utilising digital media in provisioning public services and citizen rights. Though a lot still remains to be achieved, the progress towards digitalisation of society worldwide, and India in particular, has been positive and encouraging.

The first rush of digital journalism was the adaptation mechanism of the traditional print media to keep pace with the needs of tech-savvy population, providing multimedia-rich experience at minimal costs. Integration with social media, real-time personalised user feeds and interactivity distinguish themselves and are the future torchbearers in an increasingly digital society.

Though digital media has typically revolutionised the way humans communicate, there is a need to imbibe responsible and ethical behaviour while doing so. Copyright infringement arising from unmonitored resource sharing and issues of data privacy and leakage stand out as some issues needing attention and consideration to ensure a transparent and responsible digital society.

1.10 CHECK YOUR PROGRESS

1. What is DCT algorithm?

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2. What factors contributed to the shift from analogue media to digital media?

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3. What role does social media play in entire modicum of digital media usage?

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4. How do new-generation technologies, like AI and big data analytics, impact digital media?

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5. Explain the role of media ethics in a digital society.

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UNIT : 2 UNDERSTANDING DIGITAL AUDIENCE-1

:: STRUCTURE::

2.0 Introduction

2.1 Learning Objectives

2.2 Emergence of Digital Audience

2.3 Importance and Composition of Digital Audiences

2.4 Inside the Mind of Digital Audience

2.5 What is Audience Analysis?

2.6 Need for Audience Analysis

2.7 Conclusion

2.8 Check your progress

2.9 References

2.0 INTRODUCTION

Knowing the audience of a digital product, be it a website, app or social media page, is the key to success in today's networked world. Each such product has its own unique set of visitors, which may have peculiar likes and dislikes. These visitors are termed digital audience for the digital product. The more a brand owner or production house knows about its audience the better are its chances of succeeding in business.

The digitalisation of knowledge has reached such a stage that studying digital audience has become a branch of study in itself, which has acquired great relevance in the world of marketing and the media. The characteristics and preferences of digital audience have a direct bearing

on content strategies of major brands on their websites, social media pages and apps. Just as marketers and editors want to observe the changing preferences of their audience to take marketing and editorial decisions, a journalism student should study these trends to know how to engage with connected readers. In Part I of this unit, we will study the emergence of digital audience and the need for engaging with it using modern analytics tools.

2.1 LEARNING OBJECTIVES

- Understand the definition and concepts of digital audience
- Analyse characteristics of digital audience in its early phase
- Study factors responsible for the rise of digital audience
- Study the psyche of digital audience
- Understand user behaviour using communication theory

On the completion of this Unit, You will be able to:

- Differentiate between traditional audience and digital audience
- Study how concepts of psychology are used by UX designers
- Understand the importance of digital audience for communicators
- Grasp concepts of audience analysis

2.2 EMERGENCE OF DIGITAL AUDIENCE

The concept of audience has undergone a massive change with the arrival of digital technology. The change has been more acute ever since smart mobile devices became ubiquitous. Old definitions and classifications of audience and terms of engagement with it no longer operate in the networked world we live in today, even though the concept of audience continues to be at the forefront of mass communication. No longer can we perceive audiences to be passive consumer of the central messaging of mass communication strategies. It desires engagement today and offers to be active participant in messaging, which is enabled through technology. The rise of user-generated content and social media have ensured that the message is not relayed one way from the creator to the audience, while, at the same time, the boundary between the creator and the audience is blurred as both sides could be generating content at different points of time.

The enabling technology has a big role to play in changing the character and preferences of the *new* audience. Sonia Livingstone, a scholar of social psychology, describes the change thus:

> Adopting this rather inclusive conception of new media allows a wider view of what's new here for audiences. First, and most simply, we are seeing a significant *multiplication of personally owned media.* 'Old' media familiar to us all are being used in new arrangements of space and time as households come to possess multiple televisions, telephones, radios, etc. Facilitated by the reduction in price for media goods and by the growth of mobile media (e.g. mobile phone, walkman), what's new here is primarily to do with social contexts of use rather than the technologies themselves. These social contexts of use are themselves part of a wider reformulation of the relation between public and private.

The social context of technology, as mentioned by Livingstone, has led to coalescing of all things the new technology can do – that is, created 'convergent forms of information services' – into an almost uniform whole, thus giving a new identity to digital audience. For example, the same set of people consume news and entertainment, use digital services offered by governments, banks, non-governmental organisations, etc. and participate in economic activities, like digitally buying and selling services on ecommerce platforms. This uniformity in the character of the digital audience has, further, led to purely digital characteristics which could only have been acquired by this audience. For example, the two-way engagement with content, multi-player gaming, online collaborations on software development (open source projects) and content production (collaborative encyclopedias, like Wikipedia), virtual meetings for political and other types of mobilisations, social media, hook-up platforms, etc. can only be imagined in the context of digital audience.

Based on these observations, one could say that the critical difference between the old concept of audience and the digital concept of audience is that we have to discard the magic-bullet theory or hypodermic-needle model of mass communication, which means that the media must shoot the message at the audience or inject it with the message. The American theorist Wilbur Schramm applied David Berlo's technical model of

Sender-Message-Channel-Receiver to mass communication and equated traditional audience with the receiver in this chain, who could only receive a message issued by a sender in a linear equation.

Schramm's model held sway for a long time till the arrival of digital technologies and they becoming the preferred carriers of mass messaging. Anticipating this change even before digital technologies had started to unfold fully, the British theorist Denis McQuail announced the death of this model of audience as quaint consumer with his new definition of digital audience as 'seeker, consultant, browser, respondent, interlocutor and conversationalist' in his book *McQuail's Mass Communication Theory.*

Another important aspect of audience that changed with the arrival of digital technologies was the personalisation of content-consumption preferences. At the height of digital spread today, one could say that the audience does not really choose its content consumption patterns and rather is fed by advanced technologies. However, there was a perceptible change in the consumption pattern when the audience started becoming digital. The role of the state and dominant content producers in choosing programming reduced, and the consumer could directly negotiate with digital platforms on their consumption choices.

2.3 IMPORTANCE AND COMPOSITION OF DIGITAL AUDIENCES

The concept of digital audience is applied in the specific case of a brand, be it a business or media organisation, to mean all the visitors who visit the website, mobile app, social media pages and accounts, smart TVs or any other online service associated with that brand. This audience profile may overlap with the brand's traditional audience which accesses information about the brand from non-digital sources. For example, the audience of a newspaper may consume its news primarily in its print product but acquire the characteristic of digital audience for sharing it on social media. Similarly, the advertisements that appear in a newspaper lure its readers with prominent displays but then push them towards their digital entities, like ecommerce, government or product websites, using QR codes for further action. Even newspapers and magazines do so by assigning QR codes to news items, which once scanned through smartphones, take the reader to digital products of these media entities for further action, like watching associated videos, sharing news items, or using other interactive features.

Businesses and governments have come to rely heavily on digital audiences for lead conversions or taking their message to the right target group. The reason for this is obvious. The spread of the internet and digital devices has increased tremendously in the 21st century. In 1995, only 0.4 per cent of the world population (about 16 million people) was networked through the internet, which increased to 5.8 per cent or 361 million people by the end of 2000, increased further to 28.8 per cent or 1,971 million people after another decade in 2010 and stood at 58.7 per cent or 4,574 million people in January 2020. This data means that in two decades, more than half of traditional audience has converted into digital audience. This trend also indicates that the remaining conversion will take place in a much shorter span of time.

In different countries, there are different reasons for the spread of the internet and creation of digital audiences. But some features include the rise of social media, ecommerce and infotainment websites. According to digitalcommerce360.com, the US ecommerce industry grew to about USD 601 billion in 2019 from USD 453 billion in 2017. This is a sharp rise and other territories of the world have also reported a similar spike. However, to put this figure in perspective, in 2019, the ecommerce sales were still only about 16 per cent of the total retail sales in the country.

Similarly, the tremendous success story in the spread of the internet and digital devices is that of social media platforms. The enormity of the swift rise of social media, which has shaped the character of digital audiences the world over, can be summed up in the words of an American think tank: 'When Pew Research Center began tracking social media adoption in 2005, just 5% of American adults used at least one of these platforms. By 2011 that share had risen to half of all Americans, and today 72% of the public uses some type of social media.' As these figures show, the American adult audience on social media grew by a whopping 67 per cent in almost a decade and a half.

The composition of social media users also throws light on the character of digital audience. The Pew Research Center data shows that around 90 per cent of the 18-29 year olds in the USA used social media in February 2019. This is by and large the composition trend of digital audience in most regions of the world. Younger people usually outnumber older

segments in the composition of digital audiences. This fact alone defines how brands, media houses and social media channels position themselves, especially in a country like India whose median age stands at 28.4 years in 2020.

Though internet literacy is still low in India at about 36 per cent in 2019, but the growth of its internet users in absolute terms has outperformed many other geographical segments in the world. The Internet and Mobile Association of India (IAMAI) pegged monthly active internet users in the country at 451 million at the end of March 2019, which puts the figure second only to that of China. The next round of the IAMAI survey put the corresponding figure at 504 million in November 2019. A different report published by the market research company Kantar IMRB projected the number of internet users in Indian in 2019 at 627 million, which are not necessarily monthly active users. These figures show that India's digital audience is much larger in size in absolute terms than that of countries which have 60 to 80 per cent of their population connected through digital devices.

The IAMAI report shows an interesting trend about the composition of digital audience in India. It claims that India has a large component of very young digital audience. About 66 million children between the age group of five and 11 years are active on the internet every month on the digital devices of elders in their families, a number which strengthened to about 71 million in 2020. The growth of this segments shows that the Indian digital audience has come to acquire the same component of young children as TV audience had in 1980s and 1990s, when media houses and government-run TV channels dedicated programming slots for them on weekends.

On the other hand, the participation of women in the digital audience of India is rather ordinary. The same report finds all-India women participation in digital audience only at 33 per cent, which drops to 28 per cent in rural areas. The same division shows up in the urban-rural equation. However, on both these metrics, data shows that the division is evening out at a fast pace.

2.4 INSIDE THE MIND OF DIGITAL AUDIENCE

Sociologists and psychologists have always studied crowds, people's movements and audience preferences and behaviour from political and marketing points of view. In the networked world we live in, the psychology of digital users has gained prominence as a field of study. From political parties to businesses, everyone wants to know what digital users think about an idea or product with the aim that their decisions can be influenced favourably. News organisations and marketers want to understand the psychology of users to win them over to engage with their content. Social media algorithms are designed to after carefully studying the browsing habits of users so much so that social media psychology has

become a separate field of study within the larger digital psychology discipline.

Digital psychology can be defined as a field of study which analyses user behaviour and their digital responses to their social or online surroundings and deduces psychological patterns in them. It can be called the psychological equivalent of behavioural economics in the digital space. With the development of artificial intelligence (AI) algorithms, sentiment analysis has become an advanced tactic for content generators and marketers to gauge the mood of digital audience. AI tools have greatly contributed to the rise and popularity of digital psychology.

Marketers and researchers study the behaviour of digital audience in multiple ways, with digital psychology being one of them. More traditional among researchers arrive at the same conclusions about digital audience from the behavioural side using data tools, like Google Analytics – which are described in detail in the subsequent sections. In fact, data analytics allows for drawing quick conclusions from the marketing point of view because of their ability to analyse user behaviour in real time. On the other hand, more sophisticated tools, like AI, try to study the psychological side of user behaviour and propose sentiment trends. At a time when AI algorithms have made huge strides in accuracy, it has also invited a criticism on the question of ethics. The precision with which AI and machine learning (ML) tools are predicting future trends in marketing and content consumption, or even political mood of a society, privacy advocates want to put a rein it in. In 2018, the European Union implemented the General Data Protection Regulation, which restricts the use of invasive AI tools to collect user data at the cost of their privacy.

Though there are many ways analyst apply the principles of digital psychology on new media audience, let us describe some of them below:

- *Emotional response:* marketers and content producers are keen to know what digital audience feels about a certain product, campaign or piece of content. This sentiment analysis dictates their future course of action. Tech teams of analytics organisations run AI tools on texts generated by users in the form of comments on web pages, social media posts, blog posts, survey responses, etc. to classify content according to moods, like ‘positive’, ‘negative’ or ‘neutral’. The sentiment analysis has become so popular that political campaigners run AI algorithms to fine-tune the messaging of their campaigns. Governments and analysts use AI and ML tools to study the response to state policies and expectations of citizens.
- *Lexical analysis:* AI and ML tools run through vast amount of text in the digital space to find words which correspond with emotions, decision making and opinion. Coders parse dictionary-like classifications collected from sources which offer collections of emotion- or mood-specific words and then run code to match

them with user text collected from, say, social media posts.

- *Hick-Hyman Law:* this law calculates the time a user takes to decide their choice in the face of a certain number of choices. The psychologist William Hick, along with his colleague Ray Hyman, proposed that as the number of choices of visual stimulus and their complexity increase, it takes longer for the user to make the decision. In digital psychology, with a focus on user experience in web designing – sometimes called UX psychology – user interaction with digital products becomes a function the Hick-Hyman principle.
- *Fitts' Law:* a related concept of information theory, which UX designers incorporate in their philosophy, is Fitts' Law. Developed by the psychologist Paul Fitts, it means that the time taken by a person to move a pointer (for example, cursor or finger) accurately to a target is a function of the distance between the pointer divided by the size of the target. Fitts developed this theory in a non-digital context in 1954, but it has come to be applied on desktop and smart screens. Fitts argued that the rate of error in hitting the right target increased if either the distance was too long or the size of the target was too small. In UX design, when a designer proposes large buttons, but an aesthetically inclined client insists on smaller sizes and fonts, the designer is intuitively applying the Fitts' Law. (However, the law has its limitation, since the benefits accrued from a larger target and shorter distance occur in a non-linear fashion and beyond a point, the user refuses to respond psychologically to the size or distance metrics.)
- *Information foraging:* this is an information theory about how digital audience browses the web. This theory was developed by the AI scientists Peter Pirolli and Stuart Card at the US research and development company Palo Alto Research Center in the 1990s. Pirolli and Card equated the digital user's quest to find information online to animal behaviour to forage for food. They argued that digital users apply the same type of logic in locating information as animals do when they assess the possibility of finding food in a particular patch of land. The researchers argued that a user wants to maximize their chances of locating information by incurring the least amount of cost. They define the user's 'rate of gain' as 'information value' divided by the 'cost associated with obtaining that information', where the cost can be measured in terms of efforts applied and not necessarily as money, though, in the case of paid content, even that becomes a factor. This is similar to the animal behaviour where an animal wants to obtain more calories in a foraging operation than it burns in executing the operation. When this theory is applied to study

the mind of digital audience, it can answer UX-related questions, like why users do not prefer long web pages or want to keep scrolling; why they do not engage with all the ads that are embedded within stories (since they want to maximize the rate of gain of information); or, why users do not return to certain websites often enough (as they may have taken too much time finding the right content in the last attempt).

- *Information scent:* as part of the information foraging concept, information scent draws upon the animal food foraging imagery further. Just as the animal decides to scout a patch of land for food after assessing its smell, which differs from species to species, different types of users seek different types of information scents before they decide to become loyal audience of a website. Information scent means the visual appeal and the content positioning of the website. It could include just UX elements, like layout, fonts, colour scheme, etc., but it could also mean the type of content, its ideological positioning on social media (where the user 'smells' the content) or the format of content (for example, a user could 'smell' excess focus on videos to get attracted to a web page).

2.5 WHAT IS AUDIENCE ANALYSIS?

Every communicator wants to analyse their audience scientifically to understand ways to reach out to them in an effective and organised way. It is much easier to study the behaviour of digital audience, since all online activity is recorded in one way or the other. Using metrics built with the best programming languages, big corporates, governments, researchers and marketers continuously analyse digital audiences. However, tracking offline behaviour of digital audience involves conducting surveys and making deductions based on its online behaviour, which is similar to how traditional audience engagements are measured.

Largely, audience analysis involves identifying the users of websites or online services, which help communicators update the features of their products according to the interests and preferences analysed in their browsing habits. An audience-focused approach helps businesses become more effective and able to communicate effectively with their target audience. The steps involved in audience analysis include finding out the current trends of consumer behaviour, knowing if consumers chose similar activities in the past and what consumers prefer while using competing brands.

Before a business decides to gather data about the behaviour of a digital audience, it needs to perform the more difficult task of audience identification, which requires extensive research. A business needs to ask, for example, who its primary audience is, what age group it wants to target and in which geographic location and across what devices should the audience be tacked. At the same time, it is important for a business to analyse the audience of its competitors and compare it with its own to see how the competition identifies and engages its digital audience.

Audience analysis can be divided into branded or unbranded analysis. Branded audience analysis means that a business wants to study the audience which has a specific likeness to a brand, for example the customers who prefer Apple phones over Samsung or Huawei devices. On the other hand, unbranded audience analysis means that communicators prefer to identify an audience by its generic interests, like the furniture, technology, service, etc. it prefers to use. A good audience analysis helps businesses and media houses identify what provokes users to buy a product, initiate an engagement online or consume a news item.

Businesses need to know that analysing the demographics of an audience is not enough. They must analyse all aspects of consumer behaviours to get a better picture of consumer preferences. A good example to consider is a coffee chain which has opened a new outlet and wants to attract customers. Knowing the demographics is one aspect of finding new customers, but some other things they should worry about are customers' preferences for different types of coffee, amount they wish to spend on each cup and the ambience of coffee shops they prefer. Knowing such things helps the brand make informed decisions on improving services and marketing strategies, and there is no better way to gather data about a target group than track it in an online space. This type of coffee chain will look to analyse social media behaviour around keywords, like 'types of coffee', 'coffee-shop interiors' and 'cafe music' the target group prefers to supplement its on-ground survey findings.

In the pre-internet era, knowing precise consumer behaviour of a target audience was a difficult task and could consume a lot of time. Big businesses usually accomplished this by hiring market research agencies, but smaller businesses could not afford to take this route. However,

thanks to the availability of modern digital and social media analytics tools, this process has become far more efficient and cost effective.

Analytics tools offer a wide range of data reports and collect a significant amount of information about user behaviour. The process which used to take months can now be accomplished with a few clicks and useful reports can be generated each day. These tools not only allow brands and media houses to keep track of their audience but are also helpful in tracking a competitor's performance.

While these tools offer great promise, they do not put the market research agencies out of business. Market research agencies offer useful insights about competitors and gather data primarily in the field in specific sectors. Since they work with a large number of clients, it helps them accumulate meaningful insights in those sectors.

Unfortunately emerging companies do not have the luxury to hire such agencies, as they are limited by budget. On the other hand, these companies also have a challenge in depending fully on digital tools to analyse their current or potential audience, since modern-day users do not limit themselves to one website. If the content, product or service they want is not available on one website, they move to the competitor immediately. Therefore, the chances of a small business surviving without a proper audience analysis are low.

In such a scenario, a combination of traditional and digital approaches has become the best way to collect valuable information about consumer behaviour, especially when the product under consideration has both offline and online presence.

2.6 NEED FOR AUDIENCE ANALYSIS

Once a business or media house has identified the digital audience it wants to engage, the next big question to ask is why its web properties need audience analysis and how this understanding can impact its marketing strategy. Businesses and other communicators can use the concept of marketing funnel to answer this question.

Starting from top, the marketing funnel concept includes steps where the marketing team creates awareness about a brand or product and finds out what the general public/target audience is interested in in the sector that the brand or product belongs to. The next part of the funnel focuses on audience consideration. In this stage, the marketer sends prospects to the user through emails and ad campaigns on social media and increases brand awareness in order to get a conversion. If these prospects are not to the liking of the user, the marketing funnel model may fail.

The bottom part of the funnel is where the actual purchase or engagement with a digital product takes place. This is also an important part to help webmasters understand the likings of previous buyers or consumers, identifying things which have worked well in the past.

Each of these steps requires a separate content and marketing strategy and an understanding of scheduling audience engagement, but what is common among them is the understanding of the digital audience. Who the audience is; how it can be reached; what platforms it is present on; if it can be reached through social media sites or emails; and how much money or time it is willing to spend online are some of the questions a communicator needs to address when a brand wants to attract a new audience segment.

Audience analysis can help brands accomplish their business objectives. Apart from this, some of the other benefits of audience analysis are discussed below.

- *Targeting the right group:* marketing is a cost-intensive activity, but knowing the right target group and its preferences is highly beneficial. A good example can be that of a company looking to sell luxury cars. While a large number of people wish to own luxury cars, but not everyone has the money to do so. To find the target audience the company should first focus on major cities rather than running a blanket campaign across an entire country or a state, since most buyers of luxury cars live in a cities like Beijing, New York, London, Mumbai, etc. The company should then identify the likes and dislikes of the previous luxury car owners in these cities, which can best be done through running analytics on social media, search engines, data from industry research companies and digital ad networks, like Google AdSense, using the competitor analysis model. Some of the questions they should seek could be comfort, colour, security, cost, etc. This approach can help in creating a low-cost marketing strategy for the brand whose ultimate aim is to ensure a high conversion rate.

- *Product Promotion:* audience analysis reduces the target audience from being vaguely large to a small, focused group, which has a high probability of making a purchase or engaging a digital product. This helps the marketing team in getting better results. When the marketing team has access to the likes of users, it can create content either for a campaign or for the product itself, if it is a content-centric digital product, which resonates with the target audience. To take the example of luxury car sales forward, the brand can now highlight key features the product offers and showcase it on its website, social media pages or printed pamphlets to attract customers. This could highlight traditional features like comfort, speed, interior space and looks. Or, the brand could create a purely digital experience for the potential buyer, like an interactive 3D model on the website, in which the buyer can test the promising features of the car sitting in the comfort of their home. The success of adding virtual experience to

audience engagement has started being reflected in sectoral studies. The 2018 *Deloitte Global Automotive Consumer Study* found that the websites of brands and dealers play a crucial role in buyers' purchasing decisions.

- *Precise Reach:* communication modes have drastically changed in the last decade with the rise of social media, while emails and telemarketing have taken a back seat. Every brand wants to focus on digital audience now. Big brands like Coca-Cola, Apple, Google, etc. have massive online presence, especially on social media sites like Facebook, Twitter and YouTube. Each day, they churn petabytes of data and analyse it to give a better user experience. They analyse even minor bits of information, like web history, income group, user interest, user demographics, last visits etc.

  A user's interest in any product or service is what mainly drives sales or content engagements. Facebook and Google ads are quite effective in their performance, as they know which ad is to be served to which user. They monitor user behaviour over a period of time with their machine-learning- and artificial-intelligence-enabled algorithms to provide best results. While other organizations may not have access to such effective programmes, Google and several other website-tracking tools, like Adobe Analytics and Crazy Egg, provide in-depth information about audience for a fee. By adapting to the user preferences, brands can have a higher chance of user engagement.

- *Quick analysis:* an advantage of digital audience analysis over traditional market research is that traditional marketing efforts are time consuming and could easily take months to provide an incomplete picture about the audience. What if the user who was interviewed for their interest did not provide the right information or changes location every few months. These obstructions are handled well by the advanced online audience tracking tools, which provide real-time accurate information about the audience. They also eliminate the lengthy processes of traditional market research, which provide no assurance that those trends remain intact after the research is completed. Long survey forms and data entry tasks are the days of the past. Modern tools provide website owners and brands meaningful insights in little time.

- *Analysis-based strategy:* traffic on a website comes through various means. While new users are good, faithful and returning visitors are equally important for a website or brand. Consider a visitor to a website who does not comment, share or buy anything. This user does not help the business directly but still forms part of the digital audience that is important for the brand. However, the visitors who interact are more important. The ones who share stories on social media spread awareness about the brand and help

it grow. These are faithful visitors. To garner the support of such users, the key is to understand their interests, like whether they like reading long articles. If yes, creating more such content frequently brings them back.

One can consider the examples of Facebook and Orkut to see how audience analysis and engagement decided the outcome of the once-famous competition. Orkut.com was once the market leader in the social media space. But, it consistently lost users due to slow site speed, privacy issues, slow upgrade cycles and being a non-business friendly platform. It failed to retain visitors and had to finally shut down. On the other hand, Facebook gave users several new features and understood its audience needs. Its audience measurement tools, especially the ones which are meant for serving targeted advertising, have made it an enviable entity in the social media space. Facebook is now the biggest social media platform with over 2.6 billion monthly active users as of April 2020.

- *Loyal audience:* how often do we find that users repeatedly visit their favourite online stores, like Amazon, Walmart or eBay, despite the fact they do not wish to buy anything immediately? Users tend to revisit these sites in order to find new deals, offers or services. These brands can be said to have created a group of loyal customers through their understanding of audience over a period of time. According to a study by Clarabridge, these loyal customers are willing to pay more and are five times more likely to repurchase, seven times more like to try a new offer and four times more likely to refer to a friend than new customers. The reason for this user behaviour could be that the brand may have provided optimum service to them or connected with their interests.

- *Bouncing audience:* brands want users to keep returning to their websites for a regular engagement. But, one of the biggest problems for a brand is the bouncing audience it encounters. Bounce rate of a website is the percentage of times users view only one page of the website and leaves. Communicators always want to develop tools and content to increase user engagement on the website, so that they visit at least more than one page. Unless they use modern analytics tools to analyse the past traffic of the website to know what kind of users prefer to stay and which ones leave and on what pages, communicators may not be able to devise effective strategies to increase the bounce rate. Once the website recognizes the audience interests and delivers it the content it wants, the time spent on each page increases per session. This is an important bit of statistics which the Google search algorithm takes into consideration to rank websites. Apart

from this, the longer the user stays on the website, the higher are the chances of a lead conversion in the case of product-based websites and engagement with news item in the case of media websites. The more the audience engages with a brand, the higher are the chances of users becoming a loyal audience. Communicators understand that this class of users is less expensive to acquire in comparison to running expensive ads.

2.7 CONCLUSION

As we have seen above, the definition and character of audience have undergone a sea change in the digital era. Digital audience is an active participant in the modern-day communication process, and its behaviour brings insights into marketing discussions and newsrooms. Marketers and communicators want to study ever-changing trends in user behaviour with the help of AI-enabled analytics tools to get an accurate picture of audience satisfaction rates. Studying the audience remains a mix of psychological and analytics-driven process, for which brands and media houses are obtaining the service of trained professionals from both fields. Their performance in understanding digital audience and predicting its behaviour could decide who dominates the digital space in coming years.

2.8 CHECK YOUR PROGRESS

1. What is magic-bullet theory of mass communication and how does it apply to digital audience?

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2. What role has social media played in the development of digital audience?

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3. Define Hick-Hyman Law.

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4. Define information foraging.

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5. Differentiate between branded and unbranded audience analyses.

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UNIT : 3 UNDERSTANDING DIGITAL AUDIENCE-2

:: STRUCTURE::

3.0 Introduction

3.1 Learning Objectives

3.2 Mobile Audience

3.3 Audience Engagement Strategies in Newsrooms

3.4 Division of Digital News Audience

3.5 Profiling Digital Audience

3.6 Tools for Analysing Digital Audience

3.7 Analysing Competitors' Audience

3.8 Conclusion

3.9 Check your progress

3.10 References

3.0 INTRODUCTION

Digital audience is synonymous with mobile audience now, especially in India where there are more mobile devices than desktops. This fact alone has allowed digital audience to develop unique characteristics further. A high mobile density means that content producers are beginning to adopt mobile first approach, both in terms of technology and content selection. The rise of digital news media is also attributed to the high consumption this content on mobile devices. This has led to marketers and editors spending a great deal of efforts on studying user behaviour on social media and news and aggregator apps.

The news space is crowded now. On the one hand, news producers want to attract digital audience using free and paid content and, on the other, social media channels and news aggregators are taking away advertisement revenue due to their immense popularity among the youth. In Part II of this unit, we will study how mobile audience has come to dominate the digital audience space and challenges it throws for media houses. We will also analyse analytics tools newsrooms use to study user behaviour.

3.1 LEARNING OBJECTIVES

- Understand the characteristics of mobile audience
- Study how newsrooms use special analytics tools
- Understand how user behaviour impacts editorial decision
- Analyse the difference between the audience of single-brand apps and news aggregators

On the Completion of This Unit, You Will be Able to:

- Understand why media houses want to know their digital audience
- Identify the editorial analytics tools
- Know about popular metrics used to identify digital audience
- Analyse why a brand needs to identify competitors' concerns and audience

3.2 MOBILE AUDIENCE

The world is mobile now. The character of digital audience is such that it has shifted on mobile devices in a way that many social media sites and news organisations report a majority of users accessing their content through mobile apps and browsers. These facts are borne out by the following facts:

- The GSMA, the global body of mobile operators, estimated in 2019 that there were 3.5 billion mobile subscribers worldwide.
- McKinsey Gobal Institute calculated that India alone had 1.2 billion mobile phone subscriptions, on which users downloaded more than 12 billion apps in 2018. It also found that India is one of the fastest growing digital economies in the world.
- A Government of India report claimed in February 2019 that India had 354 million smartphones, and each user consumed about 8.3 GB of data per month, most of which took place on mobile devices. And, each spends about 17 hours per week on social media.

The American venture capitalist and internet trends watcher Mary Meekar announced in 2008 'Mobile to overtake fixed Internet access by 2014' in her annual internet trends report. We are long past this claim now. In 2019, the analytics firm comScore claimed that India, Mexico and Indonesia had four times higher smartphone consumption than on desktops. Building on the comScore report, which studies major economies, including India, for digital trends, the insights portal Smart Insights highlights the following characteristics of mobile audience:

- The use of mobile devices surges in mornings and late evenings, while desktops rule in the daytime. It shows that the work audience prefers to access the internet on desktops, while the use of mobile devices peaks after 8 pm.
- Mobile only social platforms are steadily gaining audience. The social network Snapchat and hook-up portals operate only on mobile devices. Their popularity has led to the increased time of users on the internet, especially where it involves a young audience. Almost 70 per cent of Snapchat audience belongs to under 34 years age bracket.
- A large number of users are multi-platform users, switching between mobile devices and desktops multiples times in a day. However, India is an exception, as a vast majority of users stick to mobile devices.
- While mobile-first approach works in certain content segments, like news browsing, social media, messaging, etc., a multi-channel approach for device diversity cannot be ignored, as more meticulous users stick to larger screen of tablets and desktops for engagement.
- Users consume content in a big way on mobile devices, but the same digital audience chooses desktops for making purchases online. The lead conversion on mobile devices is half of the similar data on desktops.
- Mobile users prefer spending mobile time on apps rather than on mobile sites of the same brands. In India, the usage of mobile browsers within this audience is as low as 11 per cent, the remaining choosing mobile apps to browse products or content. In 2019, global mobile users spent as much as 90 per cent of their mobile time on apps.

These characteristics imply that marketers need to decide which screens to show their ads on at what time of the day. The dominance of mobile devices during the latter half of the day also shows that for news and leisure-related content, ignoring mobile displays can come at a huge cost.

These observations further show that multi-platform users expect a seamless UX approach from web developers and content producers in terms of design and content placement. Many analytics tool allow marketers to analyse audience overlaps across devices, something that has become a necessity while planning content presentation.

An important characteristic of the Indian mobile audience is that it prefers heavy app consumption and spends way more time on them than the global average. A large number of them used up to 10 apps everyday in 2018, while many of them just download apps without using them. The mobile audience in India prefers to use their devices primarily for accessing social media (76%), followed by mobile gaming (70%), mobile finance (47%) and over-the-top content (40%). Though the news media does not figure in this list, but the large-scale use of social media spurs demand for news content on mobile devices.

3.3 AUDIENCE ENGAGEMENT STRATEGIES IN NEWSROOMS

Just as big businesses have woken to the importance of digital audience, newsrooms all over the world are also finding newer ways to understand and influence it. Audience engagement has started to shape journalism in the digital age. Publishers focus on readers and their preferences, which understand with the help of modern digital tools, and try to alter their newsroom strategies when they detect a shift in user preference.

In the USA, newspaper circulations are dropping, but the revenue generated from digital subscriptions has spiked. The future of news organizations relies heavily on advertisements and subscriptions, which are governed by paywalls. A paywall restricts the content of a website to anonymous users. To read a full article, a user has to buy a subscription plan. Starting mid-2010, newspapers in the US started experimenting with paywalls on their websites to supplement their revenue from advertisements. Most digital newspapers tried to convince users to pay for online content by arguing that they would hassle-free access to content, with no or limited advertisements. The New York Times was the first major newspaper which implemented the paywall on a large scale.

News organizations are now taking informed decisions about their digital audiences and finding ways to keep them engaged. Editors focus not only on trending topics but aspects like the best time to post a story, type of content preferred by a demographic, etc. They measure audience analysis metrics on the parameters of page views, unique visitors, referrals, engagement time, social shares, returning visitors and stories which are read after the current story using analytics tools that differ from generic analytics tools and tailor-made for the newsroom. This form of understanding digital audience has come to be called editorial analytics.

Audience analysis in the media space is an established form of understanding user behaviour, even if different newsrooms incorporate this analysis into account in different degrees. Understandably, the new entrants in the digital media space found the urgent need to study

audience patterns. Thus, the pioneers of editorial analytics were digital start-ups like Huffington Post, Quartz, Buzzfeed, Gawker, etc., while legacy media brands took time to adopt this feature even if they bet big on digital audiences. A 2016 Reuters Institute report on digital publications notes that the arrival of editorial analytics as a factor in deciding editorial strategy of a news product led to the creation of new newsroom designations, like 'audience editor', 'growth editor', 'audience engagement editor', etc. As these titles suggest, newsrooms are concerned about engaging the reader actively, rather taking the legacy approach of treating audience as a passive entity. Not just that, newsrooms now actively use social media to anticipate news trends and audience preferences. Certain platforms, like Twitter, offer a peep into the mind of digital audience from the newsroom perspective. The Reuters Institute found a multichannel connection between the preferences of digital audience on different types of digital platforms and the newsroom:

- Nearly half the editors the organisation surveyed in 26 countries in Europe and the USA claimed that they relied on social media to understand what users wanted to read, with Facebook being the primary source of feeling the pulse. Hence, editors not only use social media to get more traffic on their important stories, they use it to get story ideas too, as this space reflects the preferences of digital audience.
- The survey found that female digital audience behaved differently than men in the news space. Women readers, like the younger audience, chose social media as their primary source of news, thus making it the ultimate space for pushing news and content around women's issues and understanding their response.
- In the 2019 survey, the organisation found that the younger audience had a different mind altogether, so much so that it could only be catered through algorithms on social media and aggregation platforms. Owning to this segment's dependence on smartphones and aggregation platforms, this audience is most difficult to catch by single brands. This difficulty is even more acute in the case of Generation Z (people born in the 1990s) as they are digital natives and have not had any occasion to grow up on print or TV media exclusively. This survey found that as many as 45 per cent of 18-24 year olds accessed news first on smartphones. The corresponding number for 25-34 year olds was 39 per cent. Only four per cent of both these age brackets obtained first access to news through print media.
- In terms of device usage, the news audience behaves almost the same way as other segments of digital audience. The survey found that as the TV news audience declined, more users shifted to consuming news on mobile devices, especially smartphones.

While the tablet usage had flattened, the desktop consumption of news also declined.

- It found that paywalls worked better for non-English markets, while the English-speaking world still looked for options to access free news.
- An important feature that the survey found that people still relied on text for news consumption rather than videos, which they found more time consuming and invasive with advertisements. This contrasts with the overall pattern of video content consumption noticed on social media. If content is divided into news and non-news types, then video seemed to work more for non-news or feature content than news.

3.4 DIVISION OF DIGITAL NEWS AUDIENCE

Apart from analysing user preferences through surveys like the one mentioned above, newsrooms rely on general and specific analytics tools for making audience assessments. Some of these tools include Google Analytics, Chartbeat, Parse.ly, NewsWhip, Adobe Omniture, Statcounter, Chartbeat, Kissmetrics, etc.

While tools serve a part of the purpose of analysing audience, for a complete understanding of its behaviour, editors need to step in. Newsrooms employ several strategies to serve different demographics, which are zeroed in on using analytics tools.

Metrics are units of measurement which define elements of audience behaviour, for example the number of pages viewed by a user. Analytics covers the analysis of audience data which measures the performance and then editors intervene to create action sets on this data. Below we discuss how tools help read the audience's mind and possible actions editors take to build on patterns discovered by the tools:

- *Story placement:* a metric like page views measures the audience response to fresh content in real time and allows newsrooms to decide further action on it. If a certain news item is generating high number of page views, editors decide to place it on a prominent position on their website and promote it vigorously on social media. It is a given in digital newsrooms now that news blocks are placed on the home page of websites on the basis of interest certain stories generate among audiences. Editors watch the trend in popular stories and plan content ahead. The page views metric, combined with the regional popularity metric, further allows editors to decide if they need to highlight a certain type of stories in region-specific content blocks. Most websites use IP-based filtering to allocate certain news blocks for certain territories, which editors use to their advantage.
- *Publishing time:* editors study content patterns over a period of time and decide the scheduling structure of their news posts.

Studying the time metric allows editors to make editorial decisions like the best time of the day to post new story, which social media platform is best for specific stories, which age group to target at what time of the day, etc.

- *Chronological order of news:* newsrooms now know that digital audience does not care as much for the breaking stories the way TV audience did. Unless a breaking story is of great national importance or relates to a big live event, like a cricket match, election result or cinema awards, digital audience prefers to get updates about the subjects it prefers. Editors across digital newsrooms, thus, choose to break news on the relevant preference to audience segments, rather than hunting for a universal breaking news the way TV broadcasters do. This also means that the trend of putting the most recent story on the home page of a website has made way for stories that have a longer shelf life. So, editors now strike a balance between the chronology of news items uploaded on a website and session length of readers' engagement of important stories. Editors ask reporters or desk writers to keep doing follow-up stories, explainers or opinion pieces on a story that is drawing a large number of users on their websites or social media. This decision is promptly made based on the analysis of real-time data churned out by editorial analytics tools.

- *Number of stories:* audience analysis has a direct impact on the reporter-editor engagement. With the arrival of digital newsrooms, media house owners and editors feel that they need to meet the criteria of search-engine and social media algorithms in pushing freshest news items as quickly as possible to users. A survey report from the International Centre for Journalists notes that journalists produce up to 10 stories a day to keep the digital audience satiated. However, analytics tool can be pressed into action to reduce this load and cut out meaningless stories which get little engagement from audience and are used only to attract bot traffic from search engines and other apps.

News audience is a much sought after commodity in cyberspace. Its suitors include big and established media houses, which were forced to seek digital audience after their print and TV businesses showed slowdown, news start-ups, bookmarking sites, feed readers, social media and news aggregators. The big media feels that digital audience belongs to it since it gathers and produces news that no one else does. News start-ups operate in the same space, but with a reduced editorial footprint. Every other entity is the secondary source of news. However, the competition is tough among these entities and content producers feel that secondary sources get digital audience on a platter without spending any money or efforts in gathering and producing news.

Around 2010, the tide starting turning in favour of social media channels and news aggregators when social media platforms got huge spike in their user base. In 2016, the tech content platform Gizmodo reported that Facebook employees suppressed results of its 'trending' section – which listed brief headlines and summaries of trending news topics – against right-wing organisations. The report also quoted former Facebook 'news curators' as saying that they included news items in this section even if they were not popular enough to merit inclusion. Around that time, Facebook was estimated to have 1.7 billion monthly active users. (A little before that the Facebook founder Mark Zuckerberg had announced that his platform had clocked one billion daily users.) Though Facebook denied these allegations, such stories made news producers claim that social media giants were unduly affecting the reading preferences of digital users and not being political party-agnostic aggregators.

Many traditional media houses keep petitioning their governments from time to time to force internet giants to share revenue with them. The rationale behind this demand is that the internet giants, like Facebook and Google, reuse parts of the content produced by media houses to garner bulk of digital advertising, hence they must share their revenues. In April 2020, Australia showed intent to accept this demand and develop a mechanism for revenue sharing. Soon after, *The Times of India* also demanded that the likes of Google and Facebook be forced to share revenue with news producers. France has also made a similar order to Google. In 2014, Spain passed a law requiring news aggregators, like Google, to pay a licence fee to news producers if they wanted to link their content on search results. Google responded by shutting Google News in Spain in December 2014.

While traditional media houses and social media giants find new ways to challenge each other in order to win the attention of digital audience, both these players have another competitor to worry about. The traditional players include the giants like Google News, Yahoo News and MSN news, but it is the younger players – like Flipboard, Pocket, SmartNews, Feedly, etc. – which are causing concern to media houses by winning the trust of young digital audience. The leading player in India is Dailyhunt, which aggregates content from over 1,000 content providers. It had 190 million monthly active users in July 2019. There are multiple reasons why young digital audience gets attracted to these aggregators, some of which are listed below:

- *Better packaging:* if one looks at legacy media websites, they notice that they are flooded with scores of stories on the home page, where the user gets confused and loses focus. On the other hand, aggregator apps and websites ask users about their preference and try to show more stories related to the user's likes. They show stories with minimal design congestion. If a user likes a story on the day's cricket match, they will be shown more stories on it from various news sites. This keeps the user glued on

the app for a longer duration. The preference-based algorithm is built into such aggregator apps, while single-brand websites are still divided on the issue of employing this logic.

- *Intuitive social sharing:* aggregator apps are better at social media sharing. Most of them have inbuilt and intuitive sharing functions which allow users to share the news from the app directly to their social media handles. Since they primarily operate in mobile devices, users are already logged in on social media channels, making it easier for them to post. Browser-based legacy websites make it difficult for users to post on social media channels as most users are not logged into their accounts in browsers. Moreover, aggregators apply the logic of algorithm on social media sharing options too, prominently displaying sharing buttons of platforms that a user prefers over scores of others. Many a times, traditional media houses ignore incorporating this UX feature into their websites and apps.
- *Diverse views:* aggregator apps try to be ideology agnostic and it is in their business interest to bring users of differing backgrounds on their platforms. It is common to find both liberal and conservatives on such platforms, even if they accuse each other of trying to influence platform algorithms. This diversity draws in users who want to hear more than one view on political issues.
- *Calibrated ads:* while news websites are filled with banner and pop-up ads coming from all directions of a browser or app window, many of the aggregator apps and sites do not serve the same ads. They use ads in such a way that user is not distracted and stays on the app for a longer duration. Since these apps are not directly served from news websites, the revenue goes to these aggregators.

While media houses do want loyal readers, aggregators and social media channels also want their share of digital audience. Hence, the digital space has become competitive. Media houses can neither ignore competition and not be part of it, nor can they allow these platforms to run away with the attention of digital audience and revenue.

3.5 PROFILING DIGITAL AUDIENCE

Audience profiling is the process of defining the audience which forms part of the target customer or engagement group visiting a brand's website or app. This is done by analysing the user behaviour across platforms. Not all users have similar interests, and each business has a unique digital audience set, profiling which on its interests becomes a key part of the marketing and advertising process.

Audience profiling is important to understand where and how much money should be spent in the marketing process to yield maximum returns and how content-based organisations can capitalise on the user behaviour to earn ad and subscription revenue. Segmentation and profiling audience into smaller groups showing common interests helps to move the marketing and user engagement campaigns in the right direction.

Audience profiling is crucial for every business, whether it sells physical products, services or content. Without the knowledge of its user base, a brand can only shoot in the dark. Knowing the audience reduces the workload of the marketing team, which can communicate tailored messages to different audience segments based on their preferences.

Audience profiling involves four key principles:

1. **Segmentation:** audience segmentation is the initial point of every brand's audience analysis activity. Under this process, a marketing or analytics team divides users into groups based on their demographic data, such as location, age, gender, interests, income, etc., to understand user preferences and create a messaging strategy for each segment. Today the segmentation process has become more insightful with the help of online tracking and analysis tools, since data consumption has increased tremendously and user behaviour is being tracked on a massive scale. Modern tools quickly allow marketing and analytics teams to create custom audience sets within a large group of users and build profile reports with minimal errors. Modern segmentation tools can also provide details of users' emotions on social media sites, like Facebook and Twitter.

   Some questions which the segmentation process can answer are what users do during the day; what factors influence their buying behaviour; and the amount of time they spend on a website. Once these questions are answered, marketers can move to create a custom marketing message for each user and expect content or sales engagement.

   Audience segmentation can be done in various ways depending on these key pointers:

(a) *Audience location:* audience location is one of the easiest insights to gain about a user; this has been made easy with the help of tools like Google Analytics and mobile apps. Apps track user location after asking them to enable their global position systems on their mobile devices. This gives businesses the exact location of their customers. This information is helpful for ecommerce companies in deciding the shipping charges for delivering a product at the customer's doorstep; on the other hand food delivery companies use this to locate the customer home for quicker service. Media organisations use this feature to serve city-specific news to users.

(b) *Gender identification:* gender identification is another key feature which is available in modern audience analysis tools. Not all audiences are alike. Women have different experience than that of men from the same culture. This dictates their content or product consumption behaviour. Women, on the one hand, may be inclined to buying clothing and health care products while men may be inclined towards buying gadgets and gizmos. Similarly, a website which has more female visitors may decide to choose a specific colour pattern in comparison to those which have high male visitors. According to a study by thedigital.com, men and women have different opinions when it comes to colour selection.

(c) *Income group:* income level decides whether the audience visiting a brand or content website is the right audience or not. While brands look for buyers in their audience, content-centric websites offer the bouquet of users to their advertisers. If a news website is attracting most users from the low-income group, it may not be able to win over advertisers selling branded products and may go for more generic products. While the offline marketing had little control over such segmentations, online marketing, like on Facebook and through Google Ads, does allow such flexibility in targeting the right audience.

(d) *Users interests:* tools like Google Analytics provides detailed demographic information about user interests to help website managers ensure that users stay longer on the website. Brands should generate messages and media houses should generate the content which is to the liking of their users. If a user has shown high interest in video content, generating more videos to reach them will a good move.

2. **Messaging:** audience segmentation provides brands and media companies the basic structure of messaging or content strategy which needs to be sent out to reach the right group. This attracts

reluctant users to the website. When a brand is aware of its public perception, which may appeal to one or the other set of users, it can take action to bring in the less enthusiastic groups by connecting with them through the right content reach out, which can take place through social media ads, email newsletters or ads placed around keywords on search engines.

For example, if users have a perception that an ecommerce website does not offer free shipping, and this is preventing it from acquiring new users, sending out messages about offering free shipping on orders above a certain amount can bring customers in. Similarly, if a news website wants to attract audience from a certain region but is known as a news entity from a different region, it can issue specific ads and posts on social media at users from the target regions only.

Audience analysis tools can also suggest the best time to send out emails or run ads, depending on the time when the targeted users are most active on the website or a brand's social media page.

Sending custom mailers during these peak hours can improve the sales numbers. Alibaba.com, which is one of the key ecommerce companies in China, sends out cookie-based weekly newsletters custom designed for each user. So, if a user has been searching for a wrist watch on its website or app during their last visit, the ecommerce company will send a mailer to them suggesting various types of wrist watches under the budget budget estimated by cookies. This encourages users to revisit the website and complete the purchase.

3. **Engagement:** once understanding is established between the brand and the audience, the brand's messaging resonates with the needs of the consumer. The next step is to identify where to engage the user. Brands and media houses should identify which platforms work best for them. The answer to this question may be simple. With the increase in the number of mobile devices, users accessing the internet through mobile phones are increasing in number each day. According to statista.com, the number of users accessing internet through mobile phones grew to almost 52 per cent in April 2019. This is a great opportunity for brands and media houses to develop mobile apps and mobile friendly websites to connect with their audience. Mobile devices are also quite popular among the younger generation which dominates social media sites. The audience profiling data elevates the voice of brands and brings traffic back to news websites.
4. **Measurement:** measuring the reach and engagement of each marketing campaign helps in deciding whether the marketing strategy is going in the right direction or not. The goals of every campaign should be well defined and the campaigns should be

measured on set benchmarks. If the campaigns are costing too much and the return on investment is too less, the campaign is going in the wrong direction. Measurement can be a challenging task, especially if the data to be tracked is collected from different marketing platforms. It is, hence, essential that the tools used for data management should be well selected and kept under the budget.

3.6 TOOLS FOR ANALYSING DIGITAL AUDIENCE

In the digital age, media houses have the luxury of having a huge number of digital consumers at their disposal. They can reach any corner of the world sitting at their desk. However, some editors and marketers find it difficult to identify their audience and struggle to know what their content consumers seek. Failure in analysing digital audience results in poor reach and the news brand struggling to survive.

Most online users leave a trail of information behind them on social media sites, search engines, browsers and apps. This data is valuable for brands which seek to understand user behaviour. While there are plenty of free and paid tools available to give customer analytics data, the ones which stand out include Google Analytics, YouTube Analytics, Crazy Egg, Yandex, Google Trends and Facebook Audience Insights. Let us take a detailed look at some of them:

- *Google Analytics:* it is by far the most used analytics software on the web today. In 2015, over 52.9 per cent of all websites on the internet used Google Analytics to track their user behaviour, making it 10 times more popular than its closest competitor Yandex. BuiltWith, a website profiling and competitive analysis portal, claims that in May 2020, around 68 per cent of top one million sites used Google Analytics for analysing user data.

Implementing and using Google Analytics is simple, with a short learning curve. It helps in finding out where the user comes from, how long they stay on a website, their age, location and device type and several other key insights. Apart from this, the best feature of Google Analytics is to set up goals and track conversions if a brand is running ads on Google Ads.

Google Analytics offers tracking codes for nearly every type of website designed in any language or built on any content management system. It uses a short JavaScript code, which is light on the website and hidden from the front end.

- *YouTube Analytics:* YouTube is the second largest search engine on the web and also the second most visited website, according to Alexa. It has held this position for a long time and is second only to Google.com, which has the same parent company. With a large user base, it provides brands the exposure they need to reach the target audience. Users post more than 300 hours of video on YouTube every minute, and the analytics tools inside the YouTube Studio provide in-depth information to brands and content producers. From keywords used to find a video to traffic source, there are many insightful bits of information which can be gathered from the 'Analytics' panel inside YouTube.

  Some of the key metrics include the time when the viewers are most active on YouTube, their gender, age group and location, most watched videos and more. Identifying the topics which are performing well ensures that the content producer can add similar content to its YouTube channel. Brands can use these signals to leverage their marketing goals.

  Thus, YouTube not only provides brands and media houses with channels to market their products and earn from the content, it also helps them identify consumer or audience demographics.

- *Crazy Egg:* it is an online analytics application, which provides several features which are missing in popular audience analytics tools. It generates heatmaps based on user click behaviour on a website. It can record mouse movement and entire sessions of individual users on a website in video format. This gives the marketing auditors a bird's eye view of how an end user is interacting with a website. Some of the ways in which Crazy Egg offers insights are:

  (a) Heatmaps: it gives the picture of the entire webpage based on the places which are most and least clicked or read. This helps designers identify if there are some loopholes in the design. It also lets editors decide which part of a story is getting better traction with the target audience.

(b) Scrollmaps: this feature provides information about how far users scroll on a webpage. If users do not read the entire content on a webpage, the reason could be that they are not interested or the webpage is too long for them. Hence, content analysts suggest placing the key content on the first half of the page.

(c) Overlay tool: it provides an overlay report, that is the number of clicks which have happened on each element of the webpage as well as its percentage. This can help in narrowing down on page elements which are most valuable.

(d) Confetti: it provides details about how users reach elements of a webpage. For example, whether they come from Google Search pages or referral sites. It also gives details about new and returning visitors, location, device type, etc.

- *Google Trends:* this tool from Google gives information about historical and current search trends. If a brand wishes to enter a market, it can find the historical trend based on keywords in a certain location over a duration of time. If there is a high search volume for the content type or services it offer, it is a good sign for is business. Google Trends also shows popular searches which are currently being made in various parts of the world. If there is something which relates a brand or story, digital marketers can start pushing the related content on social media to capitalise on it.

- *Facebook Audience Insights:* Facebook is one of the most visited websites in the world. With a monthly active user base of 2.6 billion by the end of March 2020, it is another popular platform where businesses share their messages and connect with the target audience. Most big brands in the media space already have their presence on Facebook. It is used as a promotional platform as well as a medium to connect with users in case of any concern. The audience insights provided by Facebook gives several key metrics about user behaviour. They include gender, relationship, education level, job, lifestyle, relationship status, location, etc. These metrics can be used to create custom messaging for the audience and see if it can lead to conversions or content consumption on the main media website. Brands can share social media updates which link directly to their website's content pages, helping them gain visitors.

3.7 ANALYSING COMPETITORS' AUDIENCE

Knowing a competitor's strengths and weaknesses is the key to succeeding in business. Be they top brands with online presence or media houses, identifying a competitor's growth formula can help them reach

their own goals with minimal efforts. It is like a secret formula which is already working for the competitor and others wish to emulate it. Though one should understand that what works well for one brand or news operation may not work for another. So, they should be thoughtful before copying a tactic from the competitor.

In the digital age, there are a large number of players with overlapping audience sets in nearly every market segment, be it the ecommerce space, news media, software development sector, or social media. Each segment has a dedicated audience base which keeps its dominant players ahead. When news players want to challenge their hegemony, they rely on popular tools for competitor analysis, which offer audience insights relevant to a niche.

Before starting with competitor analysis, brands should identify their top competitors irrespective of their size. This can be done by running a Google search for the keywords which the brand wants to show up in. See the websites which closely match the criteria and provide similar services, products, or content. Note down those competitors and run them through the popular competitor analysis tools. Some of them are:

- *Pi Datametrics:* it allows users to measure the impact of a brand, its product lines, and performance in comparison to a competitor's assets. Brand search intelligence can suggest the impact of a campaign in comparison to those of the competitors.
- *SimilarWeb:* it serves two purposes – it provides a list of competitors which operate in the similar niche plus the detailed information about their search traffic, referral traffic, and keyword analysis and how they rank in Google search algorithms. It also pulls social media details of competitors for easy comparisons.
- *Spyfu:* it is a tool to analyse backlinks and keyword rankings on which a competitor ranks well. It tells the user how much of those keywords overlap with the user's brand.
- *Ahrefs:* it is a great competitor analysis tool, which provides keyword research option and details about a competitor's backlinks. This can help in finding where the entire competitor's information has been published in recent times, what keywords it is ranked high on in search results, and how the user's brand or product can benefit from the competitor's dominant position. It allows users to compare several domains at once to see the content gaps and how much a competitor is spending on paid ads. The tool also allows keyword data tracking on sites like YouTube, Baidu, and Amazon.

Although competitor analysis helps in staying ahead of the competition, it is important to note that if a brand does not show up high in search rankings or paid ads and the audience is not able to find it easily, the marketing plans may fail. Similarly, creating a positive image on social

media platforms and connecting with the audience are equally essential even for big brands. They should resonate with their users' choices. If a brand fails to deliver on these points, there is always someone else which can do it better.

3.8 CONCLUSION

In the digital era of cut-throat competition, understanding the character and preferences of digital audience is a bare necessity for every brand and production house. Identifying the audience and engaging with the right people ensures that the brand stays successful. The task of media houses is difficult in a changing scenario, but they also employ the latest tools available to study audiences. News market is mature enough to get its own customised analytics tools which help established and new players to study audience sets in real time. Audience analysis is firmly a part of editorial workflow now. As newsroom-specific AI tools develop further, we will see a further synergy shaping up between audience segments and editorial decisions.

3.9 CHECK YOUR PROGRESS

1. Describe the characteristics of mobile audience.

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   _____
   _____
   _____
   _____

2. How has engaging digital audience led to change in newsroom designations?

   _____
   _____
   _____
   _____
   _____

3. What competition do legacy media houses face in wooing digital audience?

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   _____
   _____
   _____
   _____

4. Why do news aggregators score over legacy media houses?

_____
_____
_____
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UNIT : 4 LEGACY MEDIA VS DIGITAL JOURNALISM

:: STRUCTURE::

4.0 Introduction

4.1 Learning Objectives

4.2 Basic Concepts

4.3 TV Newscasts and Impact on Newspapers

4.4 The Crisis in Print Media

4.5 Key Components of Legacy and Digital Media

4.6 Modern Journalism in Digital Age

4.7 The Journalist in Digital Age

4.8 Strengths of Legacy Media

4.9 Finding the Balance

4.10 Conclusion

4.11 Check your progress

4.12 References

4.0 INTRODUCTION

Legacy media comprises of print, television and, to a lesser extent, radio platforms. It has a long history starting in many inchoate forms from the 15th century when the invention of the printing press made it possible to create print media. Since then, it has been shaped by multiple products, like newspapers, magazines, periodical essays, wall magazines and circulars. In the 20th century, radio waves were successfully harnessed to carry audio broadcasts, which added another exciting dimension to legacy media. Soon, television broadcasts followed and completed the triad of legacy media. The media stayed dominated by these three forms for the much of the 20th century and learnt to coexist without any one of them decisively threatening the existence of the other two till the digital age unleashed towards the end of the century.

Since then, things have not been the same in the media space, and massive disruptions have changed the definition of the media as well as

the behaviour of the audience. In this unit, we will study the essential features of legacy media and digital journalism, observe how each them impact the other and how digital journalism is overshadowing legacy media.

4.1 LEARNING OBJECTIVES

- Understand the circumstances in which legacy media emerged
- Analyse the impact of TV news on print media and reasons for its decline
- Understand how digital media has redefined journalism
- Learn the challenges digital platforms pose to legacy media products

On the completion of this Unit, you will be able to:

- Differentiate between legacy media and digital journalism
- Understand funding patterns in legacy and digital media
- Learn the importance of technology in modern journalism
- Understand what is data journalism

4.2 BASIC CONCEPTS

Legacy media, also referred to as traditional or old media, encompasses television, radio and print media, like newspapers and magazines. Collectively they are termed legacy media after digital media started winning the reader's attention, hence the older forms acquired a comparative description. Though it has been losing viewership to digital media, its fall is not as steep as some observers had anticipated. In many developing countries, legacy media continues to hold sway and decides public discourse. However, one cannot say when or how soon the tipping point will come for legacy media.

On the other hand, news websites, apps, news aggregators and social media sites comprise the digital media. Every day more users are accessing the internet than ever before. According to Statista.com, 59 per cent of the global population was active on the internet in April 2020, which is nearly 4.57 billion users. China, the USA and India ranked among the leading countries. This vast spread of the digital media has created a corresponding rise in the digital consumption of news. This has led to a proliferation of news outlets, many of which are exclusively available on the internet, which challenge the monopoly of legacy news outlets.

Evolution is the key to surviving in any business. History is filled with examples where companies have become bankrupt or have been lost in

the annuls of history because they did not evolve. Polaroid is one such example. It was a brand well known for cameras that generated instant photo prints. Though it was quite popular in the early days, it did not evolve in the digital era. When digital cameras entered the market, consumers found no use for instant printed photographs and Polaroid could not foresee the complete decimation of its market, resulting in its first bankruptcy in 2001, when it practically folded up.

Researchers predict a similar future for legacy media, since the internet has changed the way consumers access news. Now, they prefer to read news on mobile devices while being on the move. It gives them the ease of use at their convenience. Though traditional media still exists and remains an integral part of our everyday lives, the impact it had on its subscribers is declining. This is happening primarily because the young generation is consuming news on mobile devices. They do not even use multiple platforms, like older people do. According to the US-based research organisation Pew Research Center, the US saw a drop of up to 13 per cent in the print circulation between 2017 and 2018. The readership for legacy media has not declined so drastically in India, but its rate of growth has reduced over the years.

Media historians point out that legacy media is qualitatively different from digital media. The reason for this difference lies in the origin and popularity of legacy media in Europe. Though newspapers in rudimentary form had started appearing from the 15th century onwards, the popularity of printing press and the rise of literacy in the 16th century helped this medium grow. However, its first moments of glory came in the late 18th and early 19th century with the industrial advancements and a rise in modern consciousness, which challenged the European clergy and feudal structures of governance. *The Spectator,* founded by the writers Joseph Addison and Richard Steele, is considered the most important and impactful of early periodicals in the English-speaking world, which, historians believe, helped the English middle class attain a class consciousness. These periodical essays made way for weekly and daily newspapers all around the world, including in India, where the development of print media can be seen as partly the cause of creating an anti-colonial sentiment in the aid of nationalist leaders. Apart from anti-colonial struggles, print media aided social and political movements on the issues of anti-fascist struggles, women's rights, labour rights, universal suffrage, environmentalism, anti-apartheid struggle, democracy, etc. This three-century-old rich history of print media in unparalleled to any other forms of the media, even when digital media is said to have contributed to the rise of anti-regime movements in different parts of the world, the notable example being the Arab Spring in 2010s.

4.3 TV NEWSCASTS AND IMPACT ON NEWSPAPERS

After decades of dominance by the print media, the first serious challenge for the newspaper industry came when 24-hour news format on TV became popular with the arrival of cable TV in 1990s. It changed the

way audience consumed news. The production and delivery of news became fastpaced, and audiences sought updates on political developments and criminal proceedings in sensational cases. In fact, the famous O P Simpson murder case in the US is seen as the beginning of 24x7 news format. The football player, broadcaster and actor Simpson was accused of killing his former wife and her friend. In June 1994, the police chased and arrested him in a televised event, which was viewed by approximately around 95 million people. During the trial that lasted 16 months, TV programmes covered every aspect of the case, including profiles of attorneys, witnesses and police officials. The *Time* magazine estimated that the verdict of the ensuing trial was watched on TV by 57 per cent of the US population.

Since then, TV news never looked back till the arrival of digital news, particularly after social media and smartphones became widespread. This episode defined the 24-news cycle, which became the new norm for covering news events all over the world, taking audiences away from daily evening bulletins and weekly interview-based formats.

The impact of 24-hour news cycles was so significant in public life that public figures started to shape their messaging to fit in this format. The American journalist Mickey Kaus described this trend as the Feiler faster thesis, named after his friend and writer-broadcaster Bruce Feiler, which means that there is a direct coorealation between the faster pace at which society or public life operates and the media's ability to report on these events. It argues that public actors suit their actions to fit into the pace of 24-hour news cycles, for which they may have to offer updates to journlaists many times in a day, as against the leisurly newspaper cycles, where once-in-a-day or even longer press releases were the norm. (Kaus defined this thesis in an article in *Slate.*)

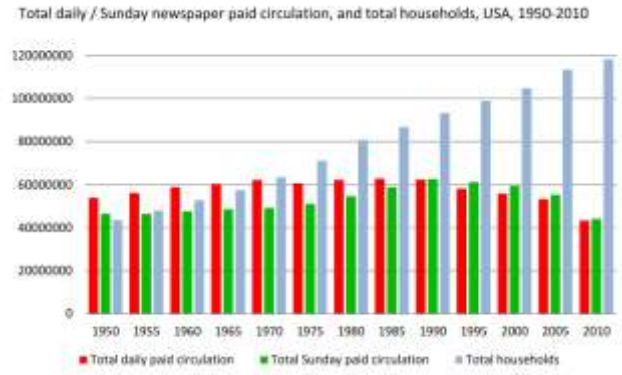
The print media took note of TV broadcasting well before the 24-hour newscycle became popular. TV broadcasting developed in 1940s and 1950s in the USA, followed by other countries in Europe. However, news was still not a robust broadcasting format and did not cover the events of the day as comprehensively as newspapers did. The first newscasts lasted about 15 minutes and repackaged news, rather than breaking it. The news production houses depended largely on correspondents in major cities, camera persons and stringers to fill these 15-minute slots. Not many journalists were impressed with how the early newscasts handled news. In 195, Sig Mickelson of CBS News described it as 'a hybrid monstrosity derived from newspapers, radio news, and newsreels, which inherited none of the merits of its ancestors'. Despite such opinion among journalists, TV news was seen as a promising bet. In 1947, the US had 15 television station broadcasting, out of which newspaper companies owned six.

Newspapers withstood the challenge from radio quite well and emerged victorious. In fact, the early TV broadcasts were seen to impact radio

news bulletins more than the newspapers. However, things started changing with advancement of communication technologies when sporting and music events, election coverage and wars started getting televised. The next filip came in the form of color TVs, that made TV broadcasts more entertaining and closer to real life. These factors, combined with the spread of cable TV, finally contributed to the fall of newspapers as the dominant medium of news in the 1990s.

4.4 THE CRISIS IN PRINT MEDIA

The first impact of the popularity of TV news on the print media was that its readership growth started dropping. In absolute terms, newspapers



were still adding more readers post the arrival of 24x7 TV news, but it was obvious to media watchers that TV news was setting the news agenda of the day. With the arrival of the internet, however, things changed rather drastically for the newspaper industry. In 2005, the influential media baron Rupert Murdoch had claimed that he knew of no one under 30 who looked at a print classified advertisement. Just a few years earlier, he had described his advertisement revenue stream from newspapers as 'rivers of gold', which he followed with 'Sometimes rivers dry up' in 2005.

(Source: http://media-cmi.com/downloads/Sixty_Years_Daily_Newspaper_Circulation_Trends_050611.pdf)

The crisis of the newspaper industry in the US market can be seen in the figure above. Canada and the UK showed similar trends in 1990s and later. Newspaper audiences showed a similar behaviour in other Western markets.

In India too, the print media had seen a steady decline both in the growth rate of its subscribers and proportionally in its revenue. The Indian Readership Survey at the end of the first quarter of 2019 showed that the readership of Indian newspapers grew from 407 million in 2017 to 425 million in 2019. This is seen as a marginal increase, since the overall media landscape expanded in the country.

For the legacy media, this means that despite its faithful audience still hanging on to it, the rise in the new subscriber base is low. The reduced subscriptions have led to less interest from the advertisers as well, leading to layoffs and job cuts for employees. According to the US Bureau of Labor Statistics, there has been a steep decline in the newspaper-related jobs from 1990 to 2016. The print industry employed nearly 458,000 people in 1990, which has been reduced to 183,000 in 2016, which is a drop of nearly 60 per cent. The employment in the internet publishing and online broadcasting, on the other hand, increased from 30,000 to about 198,000 in the same period, the best push coming after 2008.

There are several reasons for the decline of print media, some of which are listed below:

- *One-way communication:* print media provides a one-way communication to readers, where users accept the information provided in newspapers but cannot share their opinions on them or question the authority of the report directly. While newspapers do publish readers' opinions in the form of letters to the editor, they are carefully selected to align with the brand image of the newspaper. On the contrary, digital media allows users to communicate with publishers directly through social media and comment section of news websites.
- *Long format:* newspapers are traditionally 20 to 30 pages long and are filled with hundreds of stories. Finding specific news items is a time-consuming and difficult task for readers, whose attention span is reducing due to busy lifestyle. Younger audiences have moved away from print media due to digital medium customising news products for them, where they spend lesser time to locate a news item of their interest.
- *Obsolete print cycle:* newspapers are circulated once in 24 hours. During this time, thousands of events occur around the world which may require immediate attention of the reader. For example, a fire or curfew in a locality is one such news instance which requires immediate broadcasting to the audience. Print media loses out in such circumstances due to its inability to address the immediacy of the situation. This space is filled efficiently by TV news and digital medium, especially social media.
- *No news breaks:* users missing out on important news is also a reason for the constant decline in the popularity of the legacy media. Some newspapers are now changing the composition of their front pages. They focus less on breaking news stories, which has shifted to the internet, and concentrate more on analysis or publishing local content. Print editions feature longer stories, which tend to stay on the minds of users for more time, while the

websites of the same brands are updated throughout the day with stories in shorter formats.

- *Imprecise audience targeting:* print media fails to fulfil specific audience targeting as efficiently as digital media does. Imagine a veterinary doctor's advertisement on the front page of a newspaper, where the cost of placing advertisement is high. But, despite having the prominent space, it does not guarantee that it will reach every animal lover among the newspaper's audience base. Tracking how many users exactly see an advertisement is a difficult and cost-intensive task. After the arrival of digital medium, advertisers have become more demanding and want to know the audience engagement rate precisely. Print media loses out to digital medium on this count. As the interest of advertisers shifts mediums, print media loses in the process.
- *Subscription:* price is a key factor for the decline of print media. While the reader has to shell out a decent sum for reading newspapers, and more so magazines, the internet provides them with free access to the latest news. Although some digital news platforms have started putting up paywalls, where users have to pay to read full news, there are several news providers which offer free access to an entire story or make a certain number of articles free of cost every month. As digital news platforms explore newer avenues to maximise their revenue and ward off competition for advertisement from social media giants, like Facebook, the free-access model may change. However, this model has certainly allowed digital media to win over audiences from print media and retain them for a long period of time.
- *Distribution cost:* the success of print news products depends on a viable distribution network across cities, which is human resource intensive and, therefore, expensive. In contrast with how digital news travels, print media is slow to reach newer set of audiences in different regions. Due to this region, prevalence of regional leaders is more pronounced in print media than in digital media.
- *Inclusivity:* print media is considered less inclusive for readers with special needs. For example, a visually impaired reader needs help from other people to read a newspaper. The option of print products in Braille is available, but most mainstream newspapers are not available in this format. However, digital media has overcome this problem to a large extent by creating apps to help news audience with special needs.

4.5 KEY COMPONENTS OF LEGACY AND DIGITAL MEDIA

Digital media has established itself as a dominant form of the media, especially after the internet penetration in urban areas has become deep

enough to cover most of the population due to the spread of smartphones. While legacy media continues to retain a tenuous hold over its readers, digital media has developed its own peculiar characteristics. It is not just the nature of digital platforms that differentiates them from legacy media; instead, it differs in the way it approaches journalism and content production. Some characteristics that define digital media and legacy media are listed below:

- *Funding:* the funding patterns of legacy media and digital media are very different, so much so that they could decide whether legacy media survives or not. Legacy media is mostly owner driven. Media houses where individuals or families control stakes own the bulk of newspaper and TV channels, especially in India. Historically, wealthy Indian and British individuals and families owned newspapers in India. For example, *The Times of India* is considered the oldest newspaper in India, which first published in 1838 under the title *The Bombay Times and Journal of Commerce.* It changed many hands till it came under the ownership of Bennett, Coleman & Co. Ltd. and stabilized. The second oldest newspaper in India is *The Pioneer*, which was founded by the tea tycoon George Allen in 1865. Legacy media continued to have this ownership trend across languages and regions in India even when radio and TV broadcasts started and developed into independent channels.

  However, digital media came with ownership of a different kind in a different economic environment. The ownership in digital media mirrored the ownership pattern of tech companies and the start-up world, where global angel investors and venture capitalist and private equity firms pushed the growth of digital media even in the news space. Though, legacy media houses also ventured into digital space successfully, the defining feature and future of digital media ownership is investments from professional funders, and not from wealthy individuals and families.

  One reason why newer forms of funding the media are here to stay is because newcomers in the digital space can exit quickly once their investment cycle gets over without they becoming viable products. This practice keeps the burden away from the founders and allows them to experiment more, something legacy media cannot do, since a lot of family money and reputation rides on these products. Digital media products – like Flipboard, which received more than USD 200 million in funding up to Series D, Vox Media, which received USD 307 million up to Series F, and BuzzFeed, which received USD 496 million up to Series G – survive a competitive environment in multiple rounds of investment and bring with this a culture of accountability and professionalism and an ability to win audiences in newer markets

and languages. On the other hand, the limitation of scalability and owners' intransigence to allow professionals to take business and editorial decisions limit the growth of legacy media products.

- *Audience interaction:* the one-way format of communication from the legacy media increases the time duration for it to create any type of relationship with readers. Though most legacy media journalists are active on digital platforms, like websites of their legacy products or social media, it is still perceived as non-interactive medium, where there is little scope for reporters and editors to engage with the views of readers, the exception being the letters-to-the-editor column, which also offers a slow and selective medium of engagement. In fact, the bigger the newspaper brand is, the longer it takes for the reader to reach the editor.

  On the other hand, digital media extensively uses and promotes audience interaction through social media or its apps and encourages them to engage with individual news items, even if it means inviting harsh criticism.

  Legacy media houses find themselves outdated when it comes to reader engagement and satisfaction on issues ranging from subscription handling to cycles of acquisition-engagement-retention of readers. Digital platforms set reader-acquisition target in absolute terms for a set period, which they can track in real time. A hint of slack demand and they can tweak their reader-acquisition strategies immediately, something that legacy media takes weeks or even months to do due to slow pace at which it collects its distribution figures.

- *Pace:* news on online media sites is updated every minute. This means that users are fed with more information than what a legacy product can offer, thus increasing their engagement level. News content in print media takes a long time to reach readers, which can take up to a week or a fortnight in the case of magazines. Faster news cycles have, thus, greatly impacted the circulation of legacy news products. This pace has impacted print magazines more than newspapers. Many prominent magazines have either reduced their circulation or have become fully digital on the back of paywalls. For example, the print edition of *Time Out,* a popular arts and entertainment magazine, shut down in 2014 after a successful 10-year run. The Delhi city magazine *First City* shut down in 2013 after claiming a readership of over 2.5 lakh at the height of its popularity. The tech magazine *Computerworld,* which had built up a distribution network in 36 countries in the 47 years of its print life, ended up being a digital-only magazine in 2014.

- *Web-first publishing:* to ensure that the print media reaches out to the largest number of readers and not leave space vacant for new, digital-only entrants, most newspaper brands have accepted the web-first approach. This means that reporters and editors have to create stories for the web edition of their newspaper first before writing story for the print edition. Editors tend to differentiate between the two formats by making print stories more in-depth, whereas the web and social media stories are created with an aim to be dispersed quickly and succinctly. This approach means that legacy publications have to undergo a major shuffle to ensure that the team is ready to handle the technology of web first. The editorial staff, which used to spend a good time reviewing stories, now has lesser time to do an analysis and focus on churning the stories as quickly as possible.

4.6 MODERN JOURNALISM IN DIGITAL AGE

Modern journalism is very different from legacy journalism. Earlier readers would come to know about any event in their local newspapers or through evening news bulletins on television. But, the arrival of the internet has changed how people consume news. It has become the main source for every event around us. However, the digital media has not completely replaced newspapers. Newspapers still serve a purpose: they offer in-depth news, which is backed by professional editors, to faithful subscribers. Newspapers are not like pagers or old film cameras which went out of use because something better replace them. Legacy media performs a different purpose. While digital media serves the purpose of sharing breaking news, newspapers offer more localised news and analysis of national and international events. This distinction holds true in a majority of cases, though as the reach of digital media increases, even localised portals have emerged to serve local audiences.

The rise of digital journalism has also led to certain problems as well. Since the flow of news has increased due to availability of multiple sources, there is a flood of information, leading to modern journalists facing a hard time to decide which news is more important. Journalism as a whole has changed to meet the needs of today's readers. Focus is now on news which may swirl around the web and become viral. There is a competition among media houses to be the first to break a story. In the process, fact checks and in-depth analysis usually take a back seat. Misinformation, fake news and incomplete stories often lead to confusion and problems for the media houses.

Another important aspect of digital journalism is the rise of data journalism. In the era of the internet, data matters the most to users. They wish to gain new and latest information in real time or as fast as possible. This has given rise to data journalism, which is the use of data and numbers to uncover, explain and provide new interpretations to news stories. Though even legacy media had its share of data journalism,

especially during major political economic or political events, like budget presentation in Parliament or when the result of the General Election was announced, the digital medium has made data interactive and more accessible to common users. This has led to more readers engaging with data journalism.

Data analysis is a tool which gives a new dimension to a story. It uses statistics, graphs, charts and infographics to lure users and improve their engagement time on websites or mobile devices. At the same time, it has changed the way we perceive journalists. No more does one require a degree or years of experience in journalism. All one needs is a smartphone and social media account to become a journalist. These journalists use social media sites, like Twitter, Facebook and YouTube, and their blogs to break news and often use aspects of data journalism to stand out in the crowd. A good example in this category is YouTuber Dhruv Rathee, who had over 3.9 million subscribers on YouTube in July 2020. He shares his opinions on various topics, including politics, science, economics and sports, and uses data and infographics to convey his argument. He may not be an expert journalist, but looking at the number of followers he has, one can understand the power of digital journalism.

4.7 THE JOURNALIST IN DIGITAL AGE

In the first decade of the 21st century when social media and blogging took the internet by storm with sites like Facebook, Twitter and Blogger, people thought the web would entirely consume the legacy media. This has not happened fully, while the print and television media did lose a lot of its former glory.

Social media dealt a surprising blow to legacy media, since the rationale for its origin was networking amongst peers and not to serve as competition to legacy media. Having a social media profile page was tempting for users and allowed them to share their views and photos on various topics with their friends and the world. In some countries since the media was under the control of the government, the true stories never came to light. Blogs and social media websites gave users in these countries opportunity to express their views or even share news which was otherwise censored. For example, an IT consultant from Abbottabad in Pakistan Sohaib Athar first reported on Twitter the American raid that killed the terrorist Osama bin Laden way before any mainstream media outlet, digital or legacy, got wind of the operation. This new environment created a rival for the mainstream media unwittingly, where everyone had opportunity to share information. Users feel like they are journalists even if they do not see it as their primary occupation.

Apart from traditional competition journalists face, they now have unusual rivalry due to the rise of social media and digital platforms. Slowly, artificial intelligence (AI) is making its presence felt in the news space as well. A case in point is social bots, which are beginning to

influence news flow. Social bots are AI tools that can create, manage and proliferate profiles and tasks on social media channels on their own with limited human intervention. Though many platforms keep acting against such bots from time to time, but by that time the bots are usually done with their assigned tasks, which could include spreading a certain type of tweets or posts, attract followers, improve content engagement, interpret data, influence debate sentiment on social debates, etc. Once the intervention of social bots attains a noticeable level, it gets into the news cycle, which invariably draws on social media activity and debates these days.

Bots do not always impact journalism negatively. Their positive uses also abound and empower the modern—day journalist. For example, there is a big opportunity for journalists to work with open data, but this data needs to be analysed, examined and audited before it can be republished as news stories. Bots make this job easier for journalists when big data is involved and which is not humanly possible to be analysed. Bots can translate the machine language into human language and provide analysis for human consumption. Modern journalists tend to ignore the importance of such AI tools in developing news stories, but it will become an essential part of a journalist's portfolio in times to come.

4.8 STRENGTHS OF LEGACY MEDIA

How is social media connected to legacy media? Is legacy media falling prey to chaotic information overload on social media? How can one distinguish between reliable, fact-based news and the misinformation being circulated on social media? There are several such questions which linger in our minds about the continued relevance of legacy media. Let us address them below:

- *Trust:* legacy media is driven by freedom of expression and a faithful subscriber base, which trusts newspapers and television for the accuracy they bring in news presentation, which contrasts with the news shared by random users over the internet. Television has been delivering some of the most factual stories for years. People are, therefore, more likely to trust reporters on news channels and journalists write stories in newspapers. These journalists are known for putting efforts in gathering evidence and facts before sharing news with their audience.

  In a survey conducted in 2017, a majority of American consumers who were surveyed felt that print and paper were safer than digital media. Seventy-eight per cent consumers felt that keeping the hard copy of important documents at home was safer than keeping it on the web. Similarly, 74 per cent respondent felt that fake news was a worry for them. Fifty-six per cent of the respondents said that they trusted stories they read in newspapers, while 35 per cent trusted the stories they read on social media sites. Moreover, 64

per cent survey takers said that they would be concerned if the printed newspapers were to disappear one day. These trends show that despite the current situation and the rise of social media, legacy media still holds ground, and readers continue to have strong faith in it.

- *Television and radio:* the world was never been as connected as it is today, and users have so many options to access information about happenings around them. In a very short time, social media has increased its reach and become a dominant player in the media space.

  Many people think that social media and the internet have entirely engulfed the television and radio media, which is not completely true. According a 2018 Nielsen report, around 88 per cent of media users in the US watched television on weekly basis even if their time spent had progressively decreased. Similarly, 92 per cent of media users accessed radio broadcasts every week. This is a big percentage of users, and the two traditional media sources do not show any sign of diminishing significantly.

- *Safety and comfort:* social media platforms and internet has become an addiction for the young generation in many countries. Research suggests that people suffer from health and mental issues on account of excessive use of the internet, particularly social media. Researches suggest that the social media has affected women and girls more than men and boys due to the undue pressure it puts on the former group to look in a certain way. These health issues were not related to legacy media, which the audience saw as something positive and driven by knowledge.

- *Investigation:* audience still associates value in news stories that are in-depth and conduct investigation. It, of course, requires time and resources, but have a longer shelf life. These aspects ensure that investigative, in-depth work is more suited to legacy media, where audience has a culture of anticipating and patronising such journalism. Digital media, on the other hand, prefers stories that move faster and have a shorter shelf life.

4.9 FINDING THE BALANCE

Is there a way to balance the interests of legacy media and the digital journalism without letting the ethics of journalism be compromised? This question has troubled many media watchers and consumers. Many people want to keep the legacy media relevant for the romance of old times, while others think that the ethos of journalism stand compromised in the new media. The truth, however, may lie somewhere between these two positions.

The cost of holding on to legacy media is rising, as it is a well established fact that digital media is less cost intensive. Many traditional businesses,

therefore, are betting high on digital media. However, as noted above, digital media has also realised that the revenue streams in the digital space are restricted. To accrue benefits of limited revenue streams, digital media needs to achieve a certain scale. Thus, digital media, despite having a lower input cost in comparison to legacy media, becomes a viable option only for big companies that leverage modern tech and marketing tools to target the right audience with content as well as the advertisers' message. In the process, smaller digital players are left with no choice but to depend on social media and news aggregators to boost viewership. This process allows social media giants and aggregators to keep bulk of digital revenue.

For legacy players, the incentives to continue with are twofold. First, if the player is big, they want to supplement their legacy revenue with digital revenue as it feels to offer a bundled product both to the reader as well as the advertiser and has the confidence to obtain a share of the online advertising. For the smaller player, the reason to continue with the legacy product is that it does not have the financial and technological muscle to expand in the digital space in a meaningful way. Its digital impulse is driven more by the visibility and sharing potential of its news items rather than digital revenue. In both cases, thus, the a hybrid approach between legacy media and digital media becomes the norm, even if the purpose of doing it is different.

On the other hand, newer entrants in the media are mostly tech driven and see media products as tech products as well. They do not want to incur huge costs that goes into disrupting a saturated legacy space and instead concentrate on winning audiences in the digital space.

4.10 CONCLUSION

The internet has democratised news. With it, it has also made news a fluid, malleable medium where old principles of producing news have been compromised while newer avenues have opened up to accommodate interactive formats. The checks and balances which were the hallmark of legacy media are gone in favour of speed and sometimes deliberate manipulation of facts. The average reader is unable to differentiate between news and fake news which is spread through WhatsApp and social media. Probably the biggest enemy of digital media is the fact that there is no one to audit and verify the authenticity of the news being shared on such mediums.

Legacy media has changed over the years to suit the needs of modern readers, focusing less on breaking news, which works better on the web and social media, and more on stories which tend to stay longer in people's mind.

With both formats fighting to survive and test new business models, the jury is out on which way the debate will settle.

4.11 CHECK YOUR PROGRESS

1. Explain the difference in funding patterns of legacy and digital media.

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2. Explain how legacy and digital media approach the concept of audience targeting.

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3. What is the role of data journalism in digital media?

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4. How has the use of social media as news platform impacted legacy media?

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UNIT : 5 SOCIAL MEDIA, BLOGGING AND JOURNALISM

:: STRUCTURE::

5.0 Introduction

5.1 Learning Objectives

5.2 Evolution of Social Media through BBS

5.3 The First Social Journalism Conundrum

5.4 Emergence of Blogging

5.5 Blogging and Journalism

5.6 Social News, Slashdot and Produsage

5.7 Emergence of Other Types of Social Media

5.8 Journalism and Social Media

5.9 Journalists and Social Media

5.10 Conclusion

5.11 Check your progress

5.12 References

5.0 INTRODUCTION

The world stands at a moment in history where not only the internet but also the media is dominated by social media. A sizeable number of internet users now have not known any other interaction with the media but through social media. Increased literacy levels, affordable internet, spread of smartphones and maturity in the app ecosystem have made Google, Apple and Facebook some of the richest companies in the world, which have displaced old economy companies from the list.

But, the world has not reached this point without hiccups and trying out different conceptual and revenue models. The 'social' of social media took roots early, right at the beginning of the internet when the tech community in the US and Europe started expanding its closed groups to invite broad-based discussions from around the world. The journey of social media included large and small online communities, blogging, content management systems and finally social media as we know it today through platforms like Facebook, Twitter and TikTok.

Users' initial curiosity for social media soon became a habit with millions of people around the world. Advertisements and brand engagements became the order of the day. The media also joined the bandwagon, considerably altering the practice of journalism in the process. In this unit, we will explore this journey and study how the paths of social media and journalism intersect to create exciting opportunities for journalists, media companies and audiences.

5.1 LEARNING OBJECTIVES

- Trace the origin of social media in its most inchoate form through bulletin board systems
- Understand the phenomenon of blogging and its relevance to journalism
- Discuss the role of technology communities in creating social news
- Study how Facebook redefined the reader engagement with legacy and new media products

On completion of this Unit, you will be able to

- Understand the differences and similarities between blogging and reporting
- Learn about the role played by early bloggers in turning the internet into a social, networked entity
- Analyse approaches adopted by legacy media houses to become relevant on social media
- Study the role of journalists on social platforms

5.2 EVOLUTION OF SOCIAL MEDIA THROUGH BBS

Many media historians feel that the term 'social media' is a tautology, since the media is meant to be social. John Hartley, a professor who specialises in cultural studies and media, says, 'All media are social. All sociality is mediate.' However, what distinguishes digital social media from print and broadcast media and social networks from physical ones becomes the context in which discussions on social media take place today.

The most defining feature of the internet-centric social media is the change in approach to communication that it offers: while the era of mass media saw a spurt in print publications, TV channels and radio stations from the 1960s onwards, they were seen, retrospectively, as examples of one-to-many mass communication. The social media, on the other hand, saw its roots in what is popularly called the BBS, or the bulletin board

systems. It was a simple computing system or application on a network where users could exchange messages or files with each on a network. This became immensely popular in the 1980s onwards till the arrival of the internet. An archive of BBS files lists the total number till 2001 at around 93,000.

The web-based BBS is a technical possibility, but for all practical purposes, it is a website. The BBS purists preferred a text-based interface, rather than a graphical-user interface, and discussed subjects that were of interest to a burgeoning digital community. Most BBSes were, thus, single-subject discussion boards, which included issues like activism, entrepreneurship, carnal gratification, sports, technology, etc.

Many scholars argue that there is an overlap between the definitions of BBS and social media, and the internet could be the only defining difference between them. The writers Caleb Carr and Rebecca Hayes define social media in the following manner:

> *Internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others.*

The media theorist Aaron Delwiche argues that '[i]f not for the requirement that social media channels be Internet based, Carr and Haye's definition is an apt description of the bulletin board systems that flourished from 1977 through 1997'.

Media historians agree that the first public computer-based BBS was created by a group of tech enthusiasts at Leopold's Records, Berkeley, California, USA, in 1973 by the name of the Community Memory. The BBS terminal was placed next to a traditional bulletin board in the student-run records store, on which local musicians, songwriters and other people connected with the music industry pasted their flyers, cards, other advertisement material, humorous quotes, details about meetings, etc.

(The Community Memory terminal at Leopold's Records, Berkeley, California in 1975.Artifact details: https://www.computerhistory.org/collections/catalog/102703229)

Soon, this BBS became popular not just in the musician community but with the general public as well. A part of the reason for this could be that at that time personal and public computers were a rarity, and most computers were owned and used by government agencies, top corporates or researchers. The founders of the Community Memory project were involved in the Free Speech Movement at the University of California, Berkeley, who also participated in anti-war and anti-establishment movements. No wonder, then, that this project is credited to have contributed to the democratisation of technology and anticipated web-based social media even before the internet became a reality.

The first set of BBSes were used on one telephone connection each, which did not allow for synchronous communication between users. It took further improvement in operating systems and computing and introduction of graphical interfaces and faster modems for users to be able to chat with each other, share files and play games in real time.

The media coverage of BBSes stressed upon the interactivity feature. Reportage around these systems drew parallels with traditional media, something that has stayed relevant in the subsequent comparative studies on traditional media and social media. The journalist Jon Katz, writing in *Rolling Stone*, describes the media disruption potential of BBS, and in a way of social media, thus:

> *This kind of news isn't passive; it consumes back. Newcomers are welcomed, introduced, often queried, corrected or challenged. Imagine a newspaper reading you, asking you what you know, how you feel about the stories in it.*
>
> *For journalists, such interaction means surrendering control and sharing power, things that journalists are trained not to do. ... [Journalism's] institutional structure is hostile to people who want to communicate with its practitioners or argue about its content*

As Katz explained, the success of BBS, and by extension of social media, lay in the fact that the erstwhile passive consumer of news could argue with the practitioners of journalism about their content. The two-way communication became the foundation of social media, and from this instant feedback emerged its influence on journalism.

By the late 1980s, companies were experimenting with commercial BBSes. Some of the popular commercial services included Prodigy, CompuServe and GEnie. While major players of the time IBM and CBS were involved in Prodigy, the third one was backed by General Electric. When social media took roots in early 2000s through more recognisable names like Facebook, YouTube, Orkut, Wikipedia, etc., one could see the

continuum from this phase of BBSes, which either included subscription fee or advertising between bulletin posts. Thus, it is not just concept of interactivity and technology that establishes the context of the emergence of social media, even its business models has coherent roots in the pre-internet era of digital evolution.

5.3 THE FIRST SOCIAL JOURNALISM CONUNDRUM

By the 1990s, technological inventions and the creation of World Wide Web by the English scientist Tim Berners-Lee had made digital content an exciting reality beyond the BBSes, and it eventually came in direct conflict with the content produced by legacy media companies. In the beginning, media companies sought to find ways to make their existing content available online, and many thought that this reproduction was the essential feature of the internet content. However, many tech entrepreneurs and journalists felt that it was a matter of time that a digital-native content strategy would evolve.

Between these two approaches emerged the first commercial digital journalism product, which carried the legacy of both BBSes and the legacy media, though not in an harmonious fashion. In 1994, the tech magazine *Wired*, which had proclaimed that the internet had the potential to revolutionise the media industry, launched its website HotWired, the first online media product that sought to have a revenue model. Its editor-in-chief Louis Rossetto hired the tech journalist and writer Howard Rheingold to head it. Rheingold had made a name for himself for writing on technology of the future and BBSes, especially the Whole Earth Lectronic Link (or the WELL). The WELL was influential among the technology enthusiasts in the San Francisco Bay Area and had many members which in today's parlance could be called influencers, for example the cyberlibertarian and poet John Perry Barlow, the entrepreneur Mitch Kapor, and Rheingold himself. Rossetto knew that he was making a digital intervention like never before. He wrote: 'Because the Digital Revolution is whipping through our lives like a Bengali typhoon—while the mainstream media is still groping for the snooze button.' He even told *The New York Times* that the site would 'not be a magazine with buttons' and rather explore new 'context, community and interactivity'.

However, it soon ran into trouble with Rheingold and the business head Jonathan Steuer wanting to turn into a social platform with BBS-like discussion features along side the content of the magazine and Rossetto expecting the site to reflect the larger *Wired* brand of journalism. Rossetto supported interactivity only to the extent where readers could chat with celebrities featured in the magazine. He wanted social features on the site to be secondary to the content of the magazine in importance and, in this attitude, reflected the preferences of legacy media editors who wanted to go digital but only to the extent of retaining the supremacy of the legacy content and editorial practices. Thus, user-generated content did not

acquire legitimacy till Web 2.0 social models started giving the primary importance to this type of content over everything else.

The patchy history of the HotWired experiment shows a cycle of preferences among stakeholders that defines each phase of digital journalism and its interaction with social media. The Rheingold-Rossetto duality shows how the social BBS phase led to a phase of digital media where legacy media rejected the social nature of the web while going digital, and even digital-native media products saw the digital platform only as a delivery vehicle to passive readers. The HotWired debate was finally settled in favour of Rossetto when Rheingold and Steuer resigned even before the website was launched in 1994.

5.4 EMERGENCE OF BLOGGING

While legacy media houses rushed to create their digital versions throughout the 1990s and even some web-only publications evolved, another animal appeared in the digital landscape towards the late 1990s. Blogging emerged as the first developed manifestation of social media, which also impacted journalism. Unlike the middle ground that established media houses were attempting to create online, which could accommodate the elements of the legacy media in the digital space, blogging was a digital native concept. The two crucial elements of the weblog which separated it from the legacy media and defined its core were the individual expression that it allowed to writers and the blogging community it created within which bloggers interacted, shared links and broke stories.

This feeling of belonging to a digital community gave it the shape of social media and turned many early bloggers into celebrities, which in today's terms would be called influencers. The essential character of blogs was to give space to individual voice of writers, and this quality put it in contrast with mass media. From the late 1990s till the closing of the first decade of the 21st century, single-author blogs dominated the scene. As blogging software developed and the genre matured, multi-author blogs also started competing with other digital media products. Typically, blogging communities included columnists, tech groups, policy hawks, think tanks, academics, political dissenters, etc.

Technology historians differ on who was the first blogger, but three names are often cited in different contexts. They are Justin Hall, Dave Winer and Jorn Barger, whose ideas crafted the trajectory of blogging in its initial phase in different measures. For example, as a pioneer blogger who had closely participated in BBSes, Hall stressed upon the need to have a personal voice in blogs. Starting in 1994, when he was still a student, he started published his thoughts on his blog titled 'Justin's Links from the Underground'. He published links from other websites and explicit details about his life. He also wrote about his employment at HotWired – which established his link with developments about journalism and digital space – including the debates that were discussed in the earlier section. Transparency was the core principle on which Hall operated his website and was not averse to discussing his personal life, sexual preferences and even drugs. He captured his 20-year journey as a pioneering blogger in a film *Overshare: The Links.net Story*, in which he contextualises his intervention with the following words: 'In 2004 the *New York Times* referred to me as "perhaps the founding father of personal weblogging." I hope this documentary reveals that I was a privileged white male with access to technology who worked to invite as many people as possible to join him in co-creating an internet where we have a chance to honestly share of our humanity.' The white male privilege notwithstanding, the film describes the role early bloggers played in developing online communities.

While Hall pioneered the more personal type of blogging, the early blogger who delved into the relationship journalism would have with social media and blogging was Winer, who was an entrepreneur and software developer. Though Winer had an early weblog Scripting News, his main contribution to the blogging was the scripting language Frontier. Winer automated the process of web publishing for striking journalists during the San Francisco newspaper strike in 1994. Strikers used his web-publishing tools to publish news online about their strike. In 1997, he launched Frontier's based NewsPage Suite, which, apart from powering his website Scripting News, also allowed non-technical bloggers launch their websites the way modern-day content management systems, like WordPress and Drupal, allow. More importantly, NewsPage envisaged blogging as a networked practice, which contained tools to share links, posts, comments, etc., thus giving it the hue of social media. Winer's Frontier suite also introduced the concept of reverse chronology in presenting content, which allowed the latest posts to be list first, something that Winer credited HotWired for. Winer's web publishing suite, thus, anticipated the latter-day CMSes. (In 1999, Pyra Labs launched a web publishing tool which later gained popularity with the brand name Blogger and was ultimately sold to Google.)

The third early blogger was Barger who is credited with coining the term 'weblog' on 17 December 1997 on his website Robot Wisdom. He built this website using Winer's Frontier suite. Like the other two pioneers, Barger also stressed on the need for transparency, openness and cross-

linking to create the best content for readers. In fact, the term 'weblog' was meant to convey the idea of 'logging' the web as a collection of links, which aimed to create a collaborative community through social bookmarking. Barger started the practice by posting links on his interests, which included artificial intelligence, internet culture, technology trends and literature, particularly the works of the Irish novelist James Joyce. Barger created a portal Net.literate in 1998, which was essentially a web directly that categorised web links in 10 categories, including news. Through this approach, he wanted to break the top-down power structure of the mainstream media organisations in disseminating information. Though Robot Wisdom posts and Net.literate directories were collated though human efforts, they could be seen as a precursor to algorithm-created news aggregators or even social media platforms, where links could be shared within communities of 'friends'. Barger's work was clearly influenced by the philosophy of Berners-Lee, who envisaged the web as collaborative, hypertextual and transparent.

Mainstream media organisations and publications dedicated to technology almost immediately started recognising Barger's work as path-breaking. Writing in *Wired,* Paul Boutin said, 'Barger gave a name to the fledgling phenomenon and set the tone for a million blogs to come.' The Register acclaimed the 'The Greatness of Robot Wisdom' and wrote, '*Robot Wisdom* is completely compulsive reading. The first Blog remains peerless. Treat yourself.'

5.5 BLOGGING AND JOURNALISM

Barger saw himself as a journalist in a limited sense. While answering questions about the weblog phenomenon, he answered the question 'Are webloggers journalists?' as 'Yes, but they're editors, not reporters, and so far they're amateurs, not professionals.' Though many theorists and practitioners of blogging imagined blogging to be fully networked and pose a challenge to mass media, the trajectory it followed proves Barger's observation right, where bloggers remained either editors or amateur reporters. At best, it could be said that bloggers had web-publishing tools available to them, but their writing remained rooted in self-expression and, thus, as an extension of the opinion section of newspapers, even when as a genre as Rebecca Blood said – it 'is arguably the first form native to the Web'.

Even when weblogs have been run by former and present journalists, observers do not consider them to be a clear expression of journalism since the tools and resources that bloggers have at their disposal to report live events or break news stories are limited. Though many bloggers like to go out in the field where an event is taking place or a story is breaking, their share in the overall blogosphere remains limited, where a majority are content writing their opinions, explaining the hyperlinks they post and engaging with their readers in comment sections. Blood sums up the role of bloggers as journalists thus: 'Credible journalists make a point of

speaking directly to witnesses and experts, an activity so rare among bloggers as to be, for all practical purposes, non-existent.' She feels that 'participatory media' is a more appropriate description of blogging than 'journalism', since the majority of blogs did not provide original reportage but only secondary analysis. The participatory quality is also what makes blogging social media as we know it today, since even Twitter and Facebook are essentially platforms to hyperlink web content and create communities of people with similar interests.

Theorists and journalists have reflected upon why bloggers do not practice active journalism when many of them have immense reach – this was particularly true in the first decade of the 21st century – and could significantly impact policy decisions or contribute to making social issues popular. The tech blogger and journalist Paul Andrews attributed the gap between blogging and journalism to a lack of training among bloggers to verify information, say, from legislatures or police departments. He writes, 'Bloggers, in general, know little about independent verification of information and data. They lack the tools and experience for in-depth research. They don't know how to fact-check. Assigned to do an investigative report on, say, police corruption, a typical blogger would not know where to begin.' It also raises the issue of access. Journalism, by virtue of its historical development and proximity with power centres, has had unbridled access to policymakers and government officials, something that bloggers cannot claim to have. Cultivating sources to gain information and break news stories is a quality almost exclusively possessed by journalists.

However, journalism is not always defined by access to power centres. When historic events are taking place, the presence of ordinary, but informed, people at the site of action becomes the most crucial aspect of writing that emerges in such situations. There are many celebrated examples of bloggers being in the thick of action or ordinary people becoming bloggers to report on events that are unfolding in front of them. One of the most powerful examples of bloggers' journalism is the 9/11 attacks in the US. Not only the victims of the 2001 attacks became bloggers, people from other walks of life, including journalism, sought to fill blog sites with stories of courage and information about the tragedy. Others changed their existing blogs into information sites about the 9/11 tragedy. Winer's Scripting News is an example of a technology-centric website becoming a resource point of information on the tragedy. The then director of the Center for Citizen Media, an organisation that supported grassroots and citizen media, Dan Gillmor explained the role of bloggers thus: "We had this explosion of personal, public testimony and some of it was quite powerful. ... I remembered that old cliche that journalists write the first rough draft of history. Well now bloggers were writing the first draft." Many established and new resources acknowledged this spurt in blogging activity from the site of the tragedy and about it by collecting links to major blogs, the two most prominent of the included NYC Bloggers and The September 11 Digital Archive.

Even when blogging has been seen as an example of journalism only intermittently, it has impacted journalism in multiple, and mostly positive, ways. Any popular media operates with the logic of amplifying 'stories' that unfold in society and matter to various interest groups. Social media, including blogging, is no exception to this rule. Consumption trends on social media tend to amplify issues and topics that interest its user communities and hold public authorities and corporations accountable. Even when bloggers only hyperlink news reports and data with their commentary, they force traditional media to go out of their comfort zones of set government and corporate sources and seek a more widespread information stream. Blogging as social media, thus, democratises news production and raises the bar of accountability in society.

5.6 SOCIAL NEWS, SLASHDOT AND PRODUSAGE

The late 1990s were the period when the term 'social' was creating new products everyday in the internet world. While blogging was making its presence felt, the phenomenon of social news developed simultaneously. A 21-year-old developer Rob Malda developed Slashdot.org in 1997 to publish 'news for nerds', which later came to be called one of the first social news websites. It lived up to the tradition of digital native activity of the day being manoeuvred by the technology crowd. Malda, being a programmer, kept adding new features on the website as its popularity grew, the most important of these was a robust moderation system that allowed website's editors and special users to vet, approve and curate content submitted by other users, which could be in the form of original write-ups, links to other websites or comments. This and other features made Slashdot a successful social news website. It was one of the first social websites to sort user comments on criteria other than chronological order. This feature factored in recommendations by other users and allowed readers to change the order in which comments appeared. Modern-day users of social media can easily identify this feature in the comments of their news feeds. Malda also wrote code for customising what users saw on their home page and profile pages, something that came to be called news feeds or page feeds as social media developed further. Other popular examples of social news websites include Fark, Digg, Reddit and Newsvine.

The popularity and technical maturity of Slashdot made people see it as a pioneer in the social news process, and theorists called it open-source news. Its impact also gave rise to another term called the 'Slashdot effect' or 'slashdotting'. It describes a concept where a large website, like Slashdot, links web pages from smaller websites, resulting in increased traffic to those websites with the large user base of the big website starts interacting with the posted links. This principle became the basis of social news websites. Many web administrators attached negative connotations with slashdotting, as in earlier days the servers offered limited bandwidth,

which was fixed and caused websites to crash if excessive traffic hit its server, unlike the current times when most cloud service providers offer elastic bandwidth usage plans. In this sense, it is similar to distributed denial-of-service attacks, popularly known as DDoS attacks.

Social news websites collect links submitted by users along with their comments. The participatory nature of their model set them apart from feed aggregators or news aggregators, which on the face of it look social. Aggregators collect links of news websites either by using web crawlers or parsing RSS feeds provided by news sources themselves. In both cases, the gathering of news content does not involve participation of users either as content generators or as networked entities. Therefore, they are not social media in the strict sense of the term.

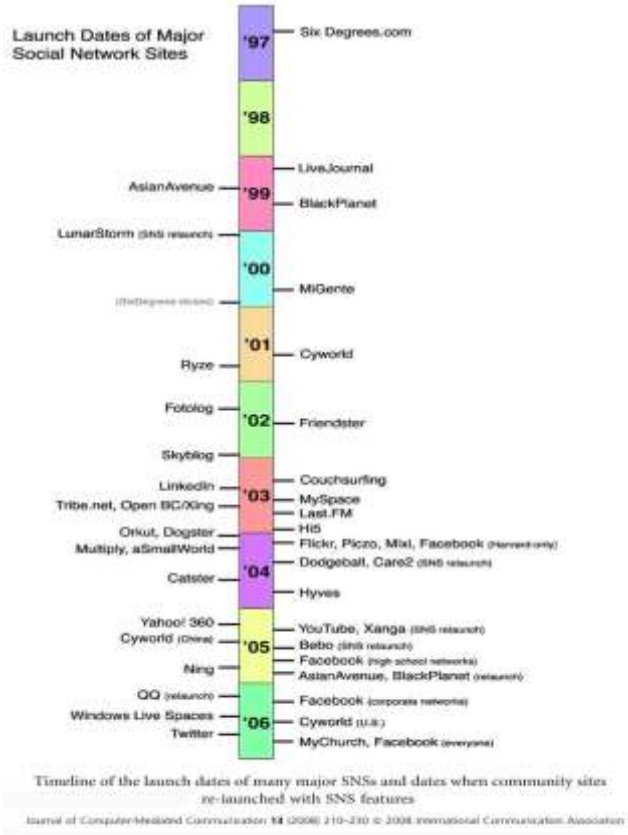
There is another close match to social news websites in the form of citizen journalism though, which comes under the definition of social media. However, unlike Slashdot and similar websites, citizen journalism portals expect concerned citizens to report from the ground in their areas of expertise. The American journalism and expert on Middle East and digital activism Courtney C Radsch defines citizen journalism as 'an alternative and activist form of news-gathering and reporting that leverages networked social media and functions outside but in relation to mainstream media institutions, often as a response to shortcomings in the professional journalistic field, and which tends to be driven by different objectives and ideals and relies on alternative sources of legitimacy than mainstream journalism'. As is evident from Radsch' definition, citizen journalism is seen as an alternative form of the media, which stands in contrast to the big media and its concerns for established power centres. At the peak of their popularity in the first decade of the 21st century, the established players in this genre included the Canadian NowPublic, the South Korean OhmyNews, the Indian Merinews and the US based GroundReport among others. A majority of them stopped operations due to the lack of a revenue model and investments and the immense popularity of social media platforms, like Facebook and Twitter, which took away all social space available for journalists.

The Australian academic Axel Bruns has developed the theory of produsage around the phenomenon of social news in its multiple forms which are described above. 'Produsage', for Bruns, combines the values of 'production' and 'usage' of user-generated content. It puts users at the centre of both production of content as well as its consumption, as against the hierarchical dissemination of knowledge in the traditional media. Bruns emphasised on the collaborative character of social projects within this concept. He also envisaged open and non-hierarchical participation of common users in creating content, thus giving them a sense of communal ownership. The collaborative ownership of social news and content projects were the hallmark of social activity in the media till the rise of modern social media platforms, like Facebook, which were owned or backed by large corporates. It changed the character of both social

media as well as the participation of journalism in it, which we discuss below.

5.7 EMERGENCE OF OTHER TYPES OF SOCIAL MEDIA

Social media has been defined in multiple ways by media scholars. They consider social space on the internet to be a constantly evolving phenomenon, even when there is a certain unanimity amongst them that the platforms that started emerging in the 2000s and came to dominate the internet in the 2010s have unique features, which set them apart from earlier platforms and ideas. The scholars Danah Boyd and Nicole Ellison define social media, or social network sites (SNSs), as 'web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system'. This and similar definitions of social media capture the essence of social media platforms like Facebook, Twitter, YouTube, etc. and many of those that started in the 2000s but could not sustain themselves. Boyd and Ellison's chart below captures the crowded activity of social media before clear winners emerged.



Timeline of the launch dates of many major SNSs and dates when community sites re-launched with SNS features

(Source: https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1083-6101.2007.00393.x)

Many of these social media platforms attained considerable success before winding up. For example, Friendster had around 115 million users around 2009, while News Corps' MySpace had around 100 million users in 2006. But, it is Facebook that stood out in the long run. It started in 2004, and by 2008, it had already stamped its authority in the world of social network sites by overtaking MySpace in the number of unique worldwide visitors. Nine years later, on 27 June 2017, its co-founder Mark Zuckerberg declared that the social media giant had hit a figure of two billion monthly active users – 'As of this morning, the Facebook community is now officially 2 billion people!' – thus asserting its total dominance in the world of social media. This figure reached 2.45 billion in the third quarter of 2019.

Facebook changed how users perceived social media around September 2006 when it launched its now-famous News Feed, which put all activity from everyone in a user's network on the social media platform in a centralised stream of updates. Predictably, it raised privacy concerns and caused outrage among users. By the time the debate around it settled, News Feed was seen as the most important feature of Facebook, which was soon adopted by its competitors. The next important features were launched next year in the form of Facebook Ads and Pages, which were targeted at brands and marketers.

5.8 JOURNALISM AND SOCIAL MEDIA

Together these two features and the large, ever-increasing user base of Facebook lured established and new journalism brands to its platform, allowing them to win newer audiences and add to the existing traffic on their websites. In 2019, as many as 23 per cent of Facebook users in the US claimed that they logged into the social media site for obtaining news. This figure varies according to the survey methodology and markets in which surveys are done for example, the Pew Research Centre found in 2016 that as many as 62 per cent of US adults obtained their news form social media, with 66 per cent getting it on Facebook and 59 per cent on Twitter but an obvious finding of all these exercises is that a large number of people use social media as a source for obtaining news, and Facebook leads in this category. India is no exception to this trend, which reflects in a study conducted by the Reuters Institute for the Study of Journalism in 2019 which found around 52 per cent of Indians using Facebook as a source of news.

The widespread adoption of social media as a source of news for users in most matured media markets put pressure on the traditional media to realign its marketing strategies. As web journalism became an indispensable part of all TV channels and print media, they were compelled to engage with platforms where internet audience lived. Since not all audience could be built organically, it forced even media houses to create their own brand pages on social media sites and seek audience attention the way other brands did. In 2019, a study by the brand intelligence platform BrandTotal confirmed that legacy media in the US spent heavily on social media sites, particularly Facebook and Twitter, to increase engagement with its content. It showed the behemoths *The New York Times, USA Today* and *Wall Street Journal* splitting its social spend almost evenly between Facebook and Twitter, while *The Washington Post* spent as much 96 per cent of its social budget on Facebook. Interestingly, the study noted that digital native news platforms, like BuzzFeed, drove more engagements on social media but spent less money, thus showing that digital native brands have mastered the art of organic promotions better than legacy media outlets.

Media houses are caught between two contradictory approaches of engaging with social media. One approach is that media houses should use social media to drive traffic towards their web properties by sharing links, uploading teasers and posting trivia about their content. This approach worked well as long as social media had not become the primary space for user to spend their internet time on. With time, social media came to dominate the internet, and users showed reluctance to step out of it. The tremendous increase in video consumption and the willingness of platforms like YouTube to share a part of their advertising revenue with publishers accentuated this trend further. Media houses started using social media to retain audience on their brand pages within

social media platforms and earn revenue. For example, in the news category on YouTube, Aaj Tak's page became the most popular not just in India but in the entire world. The social media-tracking website Social Blade estimated Aaj Tak to be earning up to USD 111,000 per month on YouTube with a CPM (cost per mille or 1,000 views) of up to USD 4 on its subscriber base of 43.7 million subscribers in January 2021. The estimated revenue of its closest rival CNN stood at USD 935,000 on a subscriber base of 11.8 million.

The second approach of engagement involves media entities like *The Economist* and *The New York Times*, which have traditionally banked on the uniqueness of their content to attract paid subscribers. They use social media to drive traffic to their websites so that users could subscribe to read the content. They traditionally bank less on video content and practise long-form journalism. The head of social at The Economist Kevin Young proclaimed in November 2019, 'The goal has been to better showcase our journalism on social media by bringing together content and talent from across the newsroom and move towards a more fully integrated digital strategy.' He said that one-third of *The Economist* traffic came from social media platforms and caused a subscription surge. It shows that social media promotions are still an indispensable part of the outreach strategy for media houses even when they want to take people away from their social media brand pages towards their web properties.

5.9 JOURNALISTS AND SOCIAL MEDIA

Social media has redefined the relationship between journalists and their audiences beyond what media organisations anticipated or planned. While organisations expect their journalists to create social media profiles and drive traffic to their web properties, many mid-career and senior journalists have become social media celebrities in their own right. Media scholars have commented on how social media platforms have created a rapport between journalists and the audience as an increasing number of them adapt to the logic of social media platforms. Twitter is an apt example in this category, but journalists' audience engagement is not restricted to this one platform. Twitter has long been a platform of choice for opinion makers, be they politicians, sportspersons or public figures, which includes journalists.

However, the Twitter trend belong to around 2010. The easy access to the internet on cheap smartphones has caused emergence of new social media platforms. For example, short-video platforms, like TikTok, has taken the world by storm. TikTok was the fastest going social media platform in India till its access was prohibited due to geopolitical reason. In its initial days, it appeared as a platform for entertainment, but its spectacular rise prompted journalists and media houses to adopt it. Many journalists use it to show behind-the-scenes recordings of their studios to a younger audience, while others customise their video content to suit the short format.

Media theorists have also pointed out that the nature of social media puts journalists in conflict with their organisations. Social media is premised on strong personal opinions while legacy media organisations issue codes of ethics to journalists from time to time, in which they emphasise the importance of objectivity. Consider, for example, the guidelines issued by the American non-profit media house National Public Radio to its journalists:

> *Our standards of impartiality also apply to social media. ... Refrain from advocating for political or other polarizing issues online. This extends to joining online groups or using social media in any form (including your Facebook page or a personal blog). Don't express personal views on a political or other controversial issue that you could not write for the air or post on NPR.org*

Social media has become an essential part of the journalistic toolkit of media professionals. Journalists, like other influencers on social media, face constant pressure to attract audiences and drive user engagement by endorsing the practices that are in vogue. Since the nature of social media is provocative and discourages hierarchy of institutional authority of media organisations, the conflict with journalistic objectivity that defines the purpose of legacy journalism becomes inevitable.

5.10 CONCLUSION

No media in the past has succeeded like social media. Even in the days dominance of state broadcasters in the 1960s and 1970s, their reach was constricted by national and linguistic boundaries and only a limited number of users owning TV sets. All three of these limitations were bridged by the time the internet became ready to host social media platforms like Facebook and Twitter. The end of the Cold War gave unprecedented reach to Western companies and allowed the emerging technology companies to explore users and revenues outside the rich Western markets. The language issue was resolved through availability of fonts and content on open operating systems – like many distributions of Linux – where developers from around the world collaborated and adapted world-class codes for local usage. The arrival of the smartphone not just reduced the size of the media-access device from a bulky TV set and even a large laptop, its advanced processing power made computing faster and cheaper. Social media was just the right concept for this scenario, and people's hunger for news had not died down since the days of the World Wars.

It is said that a new technology disrupts the world every decade. Social media is no exception to this rule, as it evolved from its rudimentary, but powerful, expression like the BBS before entering into the more organised phase of blogging. In all its phases, social media also engaged with, impacted and got impacted by journalism. We have seen above the

changing technology of social media has compelled legacy and digital-native media products to innovate. This process may not end any time soon, especially since social media players and media companies are owned by different entities and serve different interests.

5.11 CHECK YOUR PROGRESS

1. Describe how the Community Memory BBS anticipated social media.

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2. Explain how the HotWired debate captures journalism's multiple approaches to social media.

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3. How is blogging different from journalism?

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4. How do establish media houses engage with social media to expand their reach?

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   _____
   _____
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UNIT : 6 DIGITAL MEDIUM AND LOCAL JOURNALISM

:: STRUTURE::

6.0 Introduction

6.1 Learning Objectives

6.2 Understanding the term 'Local' - Its origin, why, when, how

6.3 What is 'Local Journalism'?

6.4 Local Journalism in a 'geo-social' context

6.5 Citizen Journalism

6.6 Customised News

6.7 Customised News and Advertisers

6.8 Economics of Local Journalism

6.9 Case Studies of Local Digital Portals

6.10 Conclusion

6.11 Keywords

6.12 Check your progress

6.13 References

6.0 INTRODUCTION

Local journalism has always been holding our communities together. Functioning as the representative of local communities, they have been bringing to us vital information about our day to day life. However, as the newspaper industry is facing the biggest crisis of its time and is on the decline, digital medium has become the mainstay of journalism. The biggest question is can local journalism sustain this crisis and can it have a smooth transition to digital medium?

Journalism in the 21st-century has changed drastically with extensive use of digital technology. News is easily accessible with a click of the mouse. With Internet, information can reach any corner of the world within seconds. This has made the industry competitive as news can be updated every minute. There are various channels for news dissemination – online

portals, TV, social media platforms like Twitter and Facebook etc. Print media comes somewhere lower in the order.

6.1 LEARNING OBJECTIVES

- To understand the concept of local journalism
- -To know how local journalists bring communities together
- To know what is citizen journalism

On completion of this unit, you will know-

- How local journalists can raise issues concerning communities
- The reason behind decline of local journalism
- Social media has a clear advantage over local news outlets

6.2 UNDERSTANDING THE TERM 'LOCAL' - ITS ORIGIN, WHY, WHEN, HOW

Local journalism traces its origin in the US where an editor who earlier worked as a professor in the 1950s, founded a course titled Editing the Country Weekly. The term suited the weekly publications as well as small daily newspapers being published those days.

Local or community journalism has always been a debatable issue since it came into being. While some vouch for it, many experts question its principles and its practice. They are of the view that local journalism may result in conflict of interest. Since most journalists are part of a community group or have their own political ideologies, it is difficult for them to remain non-partisan.

While this may hold true to a certain extent, there is no denying the fact that nobody connects with the community better than a local journalist. His coverage of local events can bring out issues that are closer to home.

While it is true that a journalist must always remain independent of any influence, he or she also must be totally committed to local community while raising their issues. However, they must ensure any sort of involvement while covering the news.

Though local journalism evolved over time since broadsheets came into being across the world, the term gained prominence during the advent of the 20^{th} century. Local journalism came into prominence as people started becoming aware of their social responsibility. Journalists started reporting issues of local importance, issues that concerned local communities.

Since immediacy and proximity are two cardinal principles of journalism, newspapers made sure they covered items and events of importance to the communities. They also raised civic issues and offered solutions through participative interaction.

Journalists are typically seen as someone who can keep the people in power accountable and keep people informed about what is happening

around them and about public affairs. Considered fourth pillar of the society, they are seen as a watchdog, who does investigative reporting and exposes wrongdoings and corruption.

A local journalist does all this and more. Local journalists also keep communities connected through their reporting and this helps us in connecting with each other. Through local journalism we can address important issues like crime, corruption, injustice, inequality etc.

The role of local media becomes more complex in the digital era as they are deeply conditioned by the community and social structure, influenced by the local politicians and resources. There is lot of pressure on them to acclimatize themselves to changing market dynamics so that they can draw more and more readers, and more importantly, advertisers.

6.3 WHAT IS 'LOCAL JOURNALISM'?

Coverage of news or events happening at the local level is called local journalism. Simply put, it is information that comes from your locality – your district, town, village, a particular region. This means that these incidents or events will be of interest largely to local communities and may not find audience at the national or international level. Local journalism focuses mainly on local or regional communities and things that are of interest to them. This may include local or regional politics, crime, sports, education, business, weather, art and culture or human interest story.

The biggest problem that local journalism faces is that it does not have global appeal. And with digital media strengthening its grip over the youth, local journalism has witnessed a rapid decline in the recent years. Local news section of any newspaper has very few readers left. The reason for this can be attributed to youngsters losing interest in traditional news sources. Similarly, TV channels that are heavily market driven, also have stopped focusing on local news as it does not suit their business model. Youngsters who form the largest chunk of their audience, mostly rely on news in digital format which is easily accessible on their mobile phone. Local news is no more relevant now as most news sources have started using social media platform like Twitter for newsbreak. They Newsbreak and engagement with their audiences happens almost simultaneously on Twitter. Local news has been left far behind in this race to break the news first.

As digital format has a larger and extensive reach, even local news agencies have to depend on the internet for news. Many local news agencies understand the power of digital format and have started their own websites. Websites help them create content that is interactive and hence engagement with the audience becomes easier for them.

In this digital era Twitter has become one of the most popular tools to engage with the youngsters. Almost every newspaper has its Twitter

handle, its reporters are heavily active on Twitter to break a some news. Newspapers encourage their reporters to interact with their readers as this brings them more readership.

Those newspapers and TV stations who are not able to use social media platforms extensively in their everyday routine have been left behind.

They also have to change their business models to remain relevant. While earlier newspapers/magazines made profits from subscriptions, today they have to earn revenue from online advertising.

Local journalism is changing drastically today as is media industry. This change has put a big question mark on the future of local journalism. With readership decreasing, most newspapers losing their print circulation and suffering revenue losses, local journalism is no more on their priority.

Mumbai Mirror, once Mumbai's largest selling tabloid, popular for its local news coverage, closed down its print edition in December 2020. Earlier in 2019, two more city newspapers Afternoon Despatch and courier and DNA, fell out of the race and stopped printing after suffering losses.

For loyal Mumbai Mirror readers, it was not only a newspaper. It was an activist. It raised issues, led campaigns that left a positive impact on the local communities. Its hyper local reporting kept its readers aware of what was happening on the ground.

It is believed that hyper local reporting is a crucial first-step for reporters who have just begun their career. It helps them understand issues at the grassroots level. And later when they start reporting about civic or government policies, they have a better grip on the issue as they know how to connect with the local community.

6.4 LOCAL JOURNALISM IN A 'GEO-SOCIAL' CONTEXT

The evolving nature of people's perception of local, what matters to them in the evolving landscape driven by technology. Internet is bringing people closer. But the physical space matter as much still.

Local journalism focuses on a specific area and gives the reader a rich insight into issues concerning a particular community. It helps people in the community by bringing out the issues of social and public importance. In an effort to give voice to the voiceless, journalists and community leaders work out their differences and come together when its needed.

Local journalism brings communities together and highlights their issues that may not otherwise gain significance as it's of not much relevance to a larger population. It gives these issues a narrative by giving them a voice and this in turn empowers the community.

Once the issues are highlighted, other communities may also benefit by reading about them. This helps different communities to come together in order to raise awareness towards their specific cause.

Local journalists played an important role in spreading awareness about controlling Japanese encephalitis in Uttar Pradesh.

In 2005 JE killed hundreds of people in eastern Uttar Pradesh and Bihar. Local journalists of the region extensively covered the killer disease which helped in raising awareness among local communities and also about steps that were taken to control JE. Ultimately India won the battle against the disease and even WHO went to the extent of recommending to the world the strategy employed by India in its fight against JE.

Similarly, local journalism again played a crucial role in Covid containment – raising awareness on local/hyper local level on track/trace/test/treat method. While there has been abundance of news to be reported on Covid-19 pandemic across the world, the crisis brought to the fore the critical role that local media plays in covering its impact on local communities. Even though most local news outlets were hit hard by the raging global public health crisis, local journalists worked tirelessly round the clock to bring out quality reports on how communities were affected in different parts of the world. Hundreds of journalists lost their lives in the process but became immortal by their coverage of the pandemic.

However, though technology has brought people together in the digital era, it has also extensively damaged the business model of most local news outlets. Most of them are struggling to survive while many have become extinct.

With most online portals focusing on densely-populated communities, local newspapers are finding it hard to report on original content. This has rendered their traditional business model obsolete, especially as they have failed to evolve in the face of adversity and technology. Many newspapers have been forced to depend on third-party content for reporting on local issues. All this has raised speculation if the local news ecosystem is on the verge of collapse.

Local journalists' main job is to inform their community about issues concerning them and shaping community's views. In absence of local news sources, community members are forced to rely on social media to gather information. This often leads to misinformation, fake news and polarisation.

Social media platforms have a clear advantage of local news outlets. They have detailed user data which they freely use with advertisers. Technology helps them use algorithms which is used to disseminate content in a way that often results in extreme reaction from users, resulting in polarisation. And as users too are free to select content of

their choice, homogenous clusters are created which polarises communities.

There are areas where communities have no local newspapers to rely on for local news. They depend on the internet for local news. And as social media platforms have no professional commitment to give credible information, communities often get incomplete or misleading information.

To keep communities together, people must understand the extent of damage associated with the collapse of local news outlets.

6.5 CITIZEN JOURNALISM

When common people start reporting news events with the help of Internet, it's called citizen journalism. Even a single piece of news that has remained unreported by traditional news outlets, can be reported by a member of public on any social media platform or a blog or website. Citizen journalism can give a fresh perspective to the news event by analysing it from an angle that has been ignored by large media companies.

A citizen journalist is not a professional journalist but disseminates information with the help of Internet which can be accessed in any corner of the digitally wired world. When tragedy struck in Uttarakhand in 2015, many travellers and tourists present in the disaster zone came out with vivid and heart wrenching visual reporting of the incident that they caught in their mobile phones.

The concept of citizen journalism was born in South Korea in 2000 when online entrepreneur Oh Yeon-ho said that every citizen is a reporter. Unhappy with the traditional media in his country, Oh and his friends started an online daily and appealed to the citizens to contribute content for his website. They started with 727 citizens from South Korea as citizen reporters which grew to more than 50,000 volunteers by 2007 from over 100 countries.

Since then the power of Internet gave birth to millions of websites and bloggers. Even media houses now encourage citizens to contribute news from their community to their outlets and citizen journalists today have become a force to reckon with. This resulted in hyperlocal journalism where people started reporting events happening in the neighbourhoods and on subjects that were of no interest to larger media houses.

In the current political set up, citizen journalists play a very important role across the world. In 2009 during Iranian presidential elections, Twitter started disseminating information like a news organisation with the help of citizen journalists. While traditional media houses became paralysed by censorship, common people rose to occasion and started dissemination information on Twitter. Amateur citizens became journalists and reported events that were ignored by the mainstream

media. As they grew in number, soon mainstream media was forced to use citizens' service in their outlets.

Citizen journalists can be defined as –

-Not professional but can still disseminate news

-Not part of mainstream media

-They are also 'audience' when not producing news

-Have their personal perspective to the news that they produce

In the past decade citizen journalists have done some commendable job. They have covered disasters, political uprisings in different corners of the world, corruption, crime and other such incidents. Their contribution in reporting health stories as Covid-19 cannot be forgotten. They came out with some very interesting human interest stories that mainstream media did not cover.

However, citizen journalisms is also fraught with some pitfalls that cannot be ignored. And while they may be very few but can't be ignored as the impact of news coverage by citizen journalists is immense.

Citizen journalists are not always honest. They can be unethical which can trigger tension among readers. Some of them also indulge in fake news which can polarize communities.

Since every citizen can become a reporter, they may send conflicting reports. The audience becomes confused as to who to believe.

Such journalists can have their own personal opinions and biases while reporting some incident. One must verify such reports.

Ultimately, the onus falls on the target audience to decide whether the information sent by a citizen journalist is right or wrong. However, there is no denying the fact that technology will only help in strengthening the role of citizen journalism in information dissemination.

6.6 CUSTOMISED NEWS

AI enables digital portals to deliver customised news to audiences. What does it mean for the reader, and how it contrasts with legacy media like Newspapers and TV that only give generalised news.

News aggregators use pattern recognition technology of news users to serve them customized news. The format of news dissemination has evolved tremendously in the past two decades. For most people news is no more served with the morning cup of tea. It can be accessed anywhere anytime, even when one is travelling, on vacation or in the middle of office hours. What began with digitization can now be controlled with artificial intelligence and one can access news of one's preference with the help of social media, search engines and content aggregators.

Media houses don't define what is real news, nor what is trustworthy. News dissemination has gone out of their hands. Once mobile technology became dominant, social media took control of the kind of content people want and also what is created.

According to a recent study, India is witnessing an Internet boom. The number of active internet users is expected to rise over 45 percent. By 2025, the country will have 900 million Internet users as against 600 million in 2020. The number of digital users in rural India is rapidly rising, much more than urban areas and this will bring in a massive digital revolution in the country.

With exponential growth of the internet and easily accessible information, traditional media organisations started relying on social networking for breaking news. In the process they lost their core businesses to social media platforms like Twitter and Facebook, Google, Yahoo and other such algorithmic internet giants. These have completely changed how news is disseminated and consumed. Technology has given the consumer the choice of what and how to read through customized sources like AI. Mass media sources like newspapers and TV channels are no more the gatekeepers of content creation and curation. AI enabled services have created highly personalized gates for information seekers.

Google updated its personalised 'Feed' feature in its app in India. A look at the updated Feed which is available in both Hindi and English, reveals that it has many features including top news as well as music that can be used as per one's choice.

Most media organisations use algorithms to track consumers' reading history to recommend stories and also hide what they have read. Be it BBC, Facebook, Instagram, every news player is using news customization. Algorithm helps them track a person's individual search history, geographic location, and other demographic information. By doing so they can cater to their readers in a better manner and offer them content that is of interest to them. While readers benefit by reading what they want, these media companies earn financial benefits by monetizing with increased clicks on their pages.

AI-enabled devices and platforms can know what their users' interests are and offer them highly personalized news products. On the other side, Google Home and Amazon Echo are voice-activated AI enabled devices that can dictate the relationship between news consumers and the news.

However, rising interest in personalised or customized news is not always good. It raises questions about role of media in the rapidly changing society, especially in the context of technology, as well as the role of those use customized news. Aren't they encouraging polarisation? What is their relationship with the media? Why should they accept what is served to them? Can user trust someone with algorithm rights? What happens to values and ethics of the traditional media? Can public's trust remain intact as the role of media changes?

Users of personalized news run the risk of creating and living in their echo chambers where any dissenting voice is just not acceptable. It narrows the users' perspective and results in extreme political polarisation.

6.7 CUSTOMISED NEWS AND ADVERTISERS

For advertiser customized news has become a powerful tool. They can track users' individual reading history and customize their ads which could be of interest to them. This helps them improve their advertising relevance and hence better revenue.

Also known as target advertising or interest-based advertising, personalized ads target their campaigns according to users' interests based on their previous search. This improves experience for both, users and advertisers. Ads are selected as per historical and demographic data besides the users' location.

For example, just imagine you are shopping online for your favourite dress. You browse a few brands and then open a news article to read. To your utter shock, you find ads of the brands appearing on the page. Then you click on another article to read and you find more ads of the brands that you had surfed earlier appearing there. This is the magic of personalised or customized advertising.

Customized ads also boost engagement. According to a study users may click on an ad even though it features an unknown brand. The advertiser must ensure that the ad is tailored to the users' preferences.

If advertisers want to target users for their campaigns, they need to have their personal information. Through users' reading history, they collect their search data, purchase data and profile data. To keep a track of their purchase data, advertisers use cookies and also user's registration data. This helps them personalise the user's shopping experience.

However, concerns have been raised about advertisers' tactics of collecting users' personal information. Many have called it infringement of one's privacy. Marketing companies collect data of millions of users from across the world. It seems as if somebody is keeping a watch on what you are doing online. It is feared that personal information like name, address, phone numbers can be traded and used by unscrupulous elements.

Some points raised against use of customized ads are –

-Customized advertising infringes on your privacy and is growing.

-Consumers are wary of how advertisers access their personal information. They are also suspect of what is being done with their data.

However, advertisers may argue that use of cookies is harmless and is in fact a small price to pay for the unlimited shopping experience that they offer you in return.

Consumers too are not complaining and are open to personalized marketing. According to a study by Adobe, 78% users 'like them'. Yahoo concurs that 54% users find them more engaging while 52% feel they are educational. They also find them less time consuming and more memorable than traditional ads. Experts believe that most companies working in the field are transparent about how and what they do with users' data their methods and will not engage in dishonest methods.

Marketing companies are not limiting to the users' behavioural data collected from their purchase habits. They go beyond this and track their interaction on social media. If you post something with a hashtag, advertisers can track it and if relevant, can target you in their campaigns.

And this is not all. if you are not careful about how you use your phone, advertisers can use it to eavesdrop and pick up conversations that are of relevance to them. As every phone has a microphone, some apps installed on your phone can hear to what you are saying. If you want that to happen, you may disable the app when not in use.

Advertisers rarely need to do that. Once you register on Google by sharing your information like name, age, phone number, gender etc, its stored permanently somewhere. Once registered, Google also knows your location. And companies sell and share users' data between them. Advertisers find it easy to use this data and target their users.

6.8 ECONOMICS OF LOCAL JOURNALISM

Faced with major challenges, local journalism is facing the biggest crisis in the 21st century. Traditionally, newspapers were the most important source of local news. Local news that was of interest to people residing in a specific area/neighbourhood or community, and hence not covered by the audio visual media, could be found in the local pages of newspapers printed from that area. However, technology spurred by digital media, and more specifically Covid-19 pandemic has broken the bone of local journalism.

Local newspapers lost businesses and most of them had to shut down. And while newspapers still play an important role in the media ecosystem, it is finding it hard to sustain itself in face of technology transformation.

Newspapers are facing the same crisis that other information services are facing. With internet doing away with middlemen, consumers can access news directly. News is no longer the sole domain of traditional service providers like newspapers, TV and radio.

It is a fact that any periodical including newspapers and magazines – daily, weekly fortnightly or monthly – all depend on advertising for revenue. Their circulation is governed by readership and advertising. They earn maximum revenue from the ads released by the Government of India and GOI gives ads in newspapers based on their the circulation figures.

According to a study, "On an average newspapers are left with around one third of their circulation revenue after costs are deducted. But subscription rates of newspapers are astonishingly low compared with those in western countries.

While newspapers earn 70% of their revenue by selling advertising space, subscription and daily sales contribute only 20 per cent. And with a dip in their circulation, their major source of revenue is drying up. This trend is more prominent in local newspapers that don't attract national advertisers because of their limited readership.

Now many newspapers have come out with their own websites where they upload the day's edition. Some of them have even their own radio station or a TV channel. Most of the major media houses like The Times of India, India today, The Hindu etc have now got their own TV channel.

However, most TV channels focus on news that is of interest to larger section of viewers as it attracts more advertisers. The biggest casualty in this process is local journalism which is of not much interest on national channels.

Newspapers too are not willing to spend much on journalism to cut costs. Targeting young readers, they have shifted their focus to youth oriented entertainment and lifestyle stories besides national and international stories. Local journalism finds little space in their pages. They have now started looking for other options to earn revenue. Organising conclaves and conferences which are socially more relevant, is one of them.

6.9 CASE STUDIES OF LOCAL DIGITAL PORTALS

Local journalism may not evoke much interest beyond a specific area, it has done some amazing through digital portals.

PARI

People's Archive of Rural India (PARI) is the biggest example of good local journalism by a digital portal. Covering stories from rural India, it has become the voice of the voiceless. Brainchild of well-known journalist cum activist P Sainath, PARI raises issues facing people in villages.

https://ruralindiaonline.org/

Gaon Connection

One of the strongest rural media platform, Gaon Connection customizes news for rural India. They not only bring to us stories from the villages, they also associate with the government and take their message to the rural folk.

Working in key areas of UP, Bihar and Jharkhand, Gaon Connection has won several prestigious awards.

https://www.gaonconnection.com/

The Better India

This portal focuses on positive stories from different parts of India. Led by Bengaluru based husband and wife entrepreneurs Dhimant Parekh and Anuradha Parekh, The Better India shares stories with about 30 million people from across the world. They cover issues on women, education, innovation, environment, inspirational etc.

https://www.thebetterindia.com/

Knocksense

A local content and recommendations platform, Knocksense is based in Lucknow and brings hyper local stories besides content from other parts of the country. Co-founder Varul Mayank says, "Our aim is to create a truly local channel, which brings the unorganised local ad market from offline to online, and the pandemic has certainly helped the cause."

It's a local content network that is available nationally and also offers a brand-building platform for the neighbourhood store and also to a global brand.

www.knocksense.com

INext

The digital wing of Jagran Prakashan Limited, inextlive.com brings to its users news and current affairs. Besides it also offers useful information which

It offers a mix of serious and fun content besides lively photographs and engaging features. With its focus on the youth, it has managed to carve a niche for itself and has evolved over the years by keeping pace with the changing times.

inext.com

rajdhanidelhi.com

This portal offer everything that is happening in the national capital. On its website it says, "Delhi is the capital of India and thus one of the most important cities of the nation. Many of the happenings and decisions that shape the course of the country are taken here and that is why the complete nation is always interested in knowing the Delhi news."

Though it focus on national and internal affairs, its major section is dedicated to local Delhi news. From weather news to fire in some hospital, water shortage, electricity supply, traffic woes, everything is covered in this section.

Millennium Post

Millennium post is one of the most emerging news portals in the country. Supported by its print edition, this portal brings to your local news from Delhi, NCR, Gurugram, Noida and nearby areas.

http://www.millenniumpost.in/delhi

Mid-day

The 41-year old newspaper is considered Mumbai`s most popular tabloid. Some years back its launched own digital portal which is as popular as it solely focuses on Mumbai and its residents. Call it the last word in local news, Mid-day brings in-depth coverage of issues concerning Mumbaikars besides entertainment and sports stories.

The portal is interactive and keeps the residents abreast with what's happening around the city. Its mobile app is highly popular among the young generation who can stay updated with whatever is happening in the city anytime, anywhere.

https://www.mid-day.com/

Hello Mumbai

Hello Mumbai is Mumbai's first 24 hours live online portal to provide its readers latest happenings across the world within minutes with special focus on Mumbai. Hello Mumbai is one of the international news portal in the state of Maharashtra having latest breaking news around the world.

Besides local news coverage it also offers national, entertainment, women issues and events happening around the city.

https://www.hellomumbainews.com/

NYOOOZ

It's a city specific platform that brings news from over 62 city editions. A video first platform, NYOOZ has a young team that focuses on Tier 2 – Tier 3 cities. Well aware that people want to be aware of what is happening in their city of choice. It brings news stories from smaller cities and covers subjects like politics, health, sports and lifestyle.

https://www.nyoooz.com/

Like Dainik Jagran and Mid-day, almost every newspaper has launched its own portal to offer local news. The Times of India, The Pioneer, Hindustan Times, Dainik Bhaskar, Indian Express, all reputed newspapers have their websites today. They have dedicate section to cover local news.

6.10 CONCLUSION

- Coverage of local news can bring out issues that are closer to home
- By covering local news, journalists can bring communities together
- Local journalism does not have global appeal
- Twitter has become one of the most popular tools to engage with youngsters
- Advertiser can track users' individual reading history and customize their ads which could be of interest to them

6.11 KEYWORDS

- Local journalism: Coverage of news or events happening at the local level
- Citizen journalism: Common people start reporting news events with the help of Internet
- Customised News: Powerful tool for advertised
- A-I: Artificial intelligence
- Digital portals: Websites

6.12 CHECK YOUR PROGRESS

Q1- With newspaper industry facing the biggest crisis, digital medium has become the mainstay of journalism. True or false?

Q2- Nobody connects with the community better than a local journalist. True or false?

Q3- . Local journalists keep communities connected through their reporting. True or false?

Q4- What is local journalism? Choose the correct option

a- Reporting any news or event happening in a community
b- Reporting any news or event happening in a country
c- Reporting any news or event happening anywhere on the world

Q5- Local journalism does not have global appeal. True or false?

Q6- Extensive coverage of JE by local journalists helped in raising awareness among local communities about the disease. True or false?

Q7- Citizen journalists are common people reporting news events with the help of Internet. True or false?

Q8- The concept of citizen journalism began in ...

a-South Korea?

b-North Korea

c-United States

Q9- Citizen journalists are trained professionals. True or false?

Q10- customized news is a powerful tool in the hands of

a-Advertisers b-Reporters c-Media house owners

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UNIT : 7 VIDEO FOR THE WEB, NOT THE SAME AS TV

:: STRUCTURE::

7.0 Introduction

7.1 Learning Objectives

7.2 Evolution of Videos on the Internet

7.3 Types of News Videos on the Web

7.4 Tools and Resources

7.5 Selecting and Scripting Video Stories for the Web

7.6 Building Engagement via Video Stories

7.7 Conclusion

7.8 Check your progress

7.9 References

7.0 INTRODUCTION

Aided by the advent of the smartphone, the internet has assumed centrality in our lives. It now informs our consumption and behaviour patterns, while social media has shaped modern communication. In this process of digitisation, visual content, especially video, has found a unique place on the internet. It is an easy, engaging way to hook an audience and has gone on to revolutionise the way digital journalism is consumed. Video for the web makes the viewer an active participant in the process of journalism as its format is more relatable than legacy broadcasting. Moreover, social media has also given viewers the chance to create their own content and publish it on the web, clearing the gulf between the audience and the journalist.

While the media environment comes to terms with this reality, it is also by its very nature ever evolving and creates space for innovation in content and technology daily. It is important for journalists to understand the creative and technological processes behind the production and distribution of video journalism on the web, including learning how to keep an audience engaged. In this unit, we will trace the evolution of video on the web, understand the varied ways in which it is created and disseminated and contrast these processes with TV news.

7.1 LEARNING OBJECTIVES

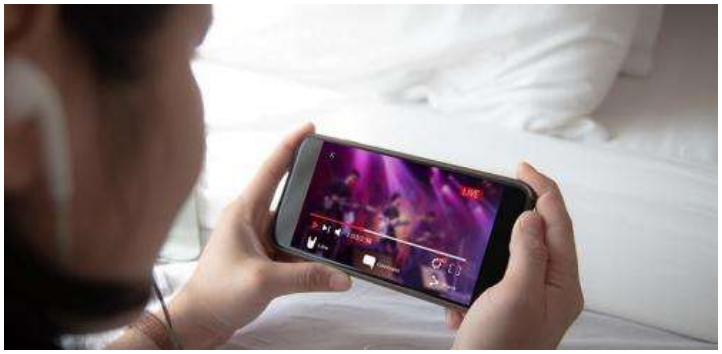
- Understand the impact of social media on video journalism
- Analyse how different web platforms accommodate different video stories
- Study the process behind creating a video story
- Understand how the audience responds to and engages with video
- Underline the difference between video production for the web and TV

On the completion of this Unit, you will be able to:

- Differentiate between the varied potentials and uses of different social media platforms
- Understand the need for data analytics in mapping audience engagement
- Grasp the importance of the smartphone vis-a-vis digital journalism
- Understand different aspects of video production for the web

7.2 EVOLUTION OF VIDEOS ON THE INTERNET

As the personal computer with the CD-ROM, which was called multimedia computers, became mainstream in the 1990s, a digital revolution was born. These devices, along with other supporting technology, compressed analog imagery to enable formats (like JPEG and AVI) that supported digital pictures and videos. Still, in the beginning, video distribution was far from centralised. Personal websites were still predominant, and content producers simply hosted videos on their own web servers.



This trend was upended as social networking sites were launched. And ever since, the growth of online video has been exponential. A new phase

was also marked by the launch of YouTube in 2005. It was one of the first instances of shared hosting of video and paved the way for social media as video repositories. By 2015, it became the world's third most-visited website. Another landmark was the launch of the smartphone. Now, smartphones and an active data connection enable consumption of video at practically all times and at all places. There are virtually limitless possibilities in the realm as technologically has led content creators to innovate and publish new formats. There is, thus, a marked difference from the legacy media corporations in the social media environment.

In India, Reliance Jio successfully built on the robust user base and network set up through a decade of telecom revolution built on the back of the public-sector BSNL and private companies when it launched services and introduced large swaths of the population especially in Tier II and Tier III cities – to a large amount of data connectivity. Post-Jio, there was a spike in data usage and a reduction in costs in India. A study suggests that 'data volumes rose 4160 per cent to 20.3 billion GB in the July-September 2019 period. This is in comparison to the April-June 2016 quarter, or just before Jio's launch. On a per customer basis, data usage rose from merely 500 MB per month in 2016 to 10.6 GB [in 2019].'This accelerated growth is best manifested in the media and entertainment consumption patterns, especially with respect to video. By 2019, digital video consumption increased from 11 minutes per day in 2017 to 24 minutes per day. Another study further goes on to predict that by 2023, India's online video audience will cross 440 million. In countries like the UK, the USA and France, the rise of online video has coincided with a fall in TV viewership (news or otherwise), especially among youth. Sites like Facebook or Twitter are the platforms where people are more likely to find breaking news. Whereas YouTube is popular for live streaming and long-form videos. As the field diversifies, post the acquisition by Facebook, WhatsApp has also stood out as a key distribution platform for news and increasingly becoming a top news source for people. Another big source of online views has been the rise of video streaming or OTT (over the top) platforms, like Netflix, Amazon Prime, Hulu, etc. Though OTT platforms have largely been centred in entertainment production and not news, they are slowly turning aggregators for existing TV channels in the news segment.

Social media sites have come to capitalise on these trends by launching their own distribution platforms and offering innovation in the variety of distribution mediums they offer. While legacy media has responded to these trends, the bigger beneficiary as well as a reason behind the rise has been the growth of the independent creators – which then lead to launches of several disruptive online media platforms. Among them, platforms like BuzzFeed, Vox and NowThisNews stand out. Stemming from a culture of experimentation, BuzzFeed's short-form viral videos and NowThisNews's long-form viral videos paved the way for several new organisations to follow a new blueprint. NowThis creates a strategy to understand the specifics of the audience on each varied platform. As a

result, it makes customised stories for each platform, most of which are optimised for mobile consumption – which is its audience's most referred to device. Data analytics is one of the most essential parts of digitisation and the pivot of organisations to online video. These tools give a renewed understanding of the audience and thus help in maximising engagement quickly. This is starkly opposed to legacy media videos, which still follow a TV broadcast polish, with older formats and limited innovation. Online media platforms have also collaborated with OTT platforms to create unique genre-bending news productions. For example, in 2018, BuzzFeed collaborated with Netflix to present 'Follow This', which was a 20-episode documentary series which had BuzzFeed News journalists examining issues like the opioid epidemic, fake news, sex trafficking, etc.

Online video projects towards the need for more short form and 'snackable content', which is seen as the primary driver of growth in consumption, especially of news. Further innovation in formatting as well as content presentation is key for its spread, so is innovation in technology and further proliferation of the smartphone in an otherwise untapped sectors. To that end, video news also has to be more specifically optimised for mobile devices. Observers expect the sector to expand by localisation or personalisation of news and the assimilation of regional organisations and creators into larger online networks. Additionally, even as digitisation makes the journalistic method more accessible and cost effective, there is a need to build capacity and inculcate a technology-forward culture that can help journalists adapt to the evolving media environment.

7.3 TYPES OF NEWS VIDEOS ON THE WEB

Most surveys establish the fact that videos dominate the internet in general and social media in particular, even when legacy media is giving a tough fight to digital news, including news videos. This dominance of digital video has appeared at the back of innovations in its formats and types. Below we discuss a few types and formats that are gaining popularity:

- *Live streams:* several platforms on the web now cater to live coverage of either breaking news events or scheduled news events (political speeches, technology launches, sports events, etc.). The latter is popular with legacy media with online presence, as they have more established network channels with broader access and is broadcast in livestream platforms, like YouTube or Facebook, or on news organisations' own web servers. On the other hand, the former is utilised by citizen journalists, influencers and local news channels popular on social media apart from the legacy media. These newer entities provide user-generated content or content crated by mobile journalists who are in the field and directly stream from their smartphones using their social media channels and pages or by tying up with news media sites that

aggregate on-field sources to present an ongoing narrative. Streaming content on Facebook and YouTube has given content creators a unique advantage, as both websites have the potential to reach huge audiences, something broadcast media lacks. In 2019, Facebook alone recorded 1.62 billion daily active users. However, this popularity and quick access to audience also has a downside. The algorithms of these sites have been noted as hindrances by creators, as they claim that these algorithms either favour established pages or work in echo chambers as newer posts are hidden. Still, Facebook Live has increasingly shown far greater engagement than normal posts on the website. There is, thus, still scope for innovation to make these live streams truly accessible.

- *Long-form feature videos:* a longer video format is generally more suited to detailed, feature storytelling and is used by news outlets to spotlight elaborate stories on specific topics. YouTube is generally the go-to format for long-form content. A success story in this format is Vice Media. Vice launched as an online magazine in 1994 but found success as a new media digital news platform. Though now expanded to other (offline) platforms, Vice won audiences with its long-form documentary style videos which usually covered unusual or controversial subjects. Examples include 'World's Scariest Drug', which carries first-hand testimonies of users and other stakeholders around the use of a new drug in the Colombian market which robbed the user of their free will. Another such example is 'The Islamic State', which showed the inner workings of the terrorist group ISIS.

- *Short-form social video:* these are short-form videos – usually just as short as 10-15 seconds, though the duration varies by platform – which are catered especially for mobile devices and quick platforms like Snapchat, Instagram and TikTok. The challenge for the creators of this format is to be distinctive and catch attention in the first seven seconds, so that the viewer does not swipe away. This format is also more likely to be data driven or employ other visual, called catch-formats, as information has to be condensed to only a few key data points which data visualisation can help with. These also have the highest potential for accidental exposure and virality. Social videos are increasingly user generated, as the short form, along with the innovative and easy templates of platforms like Instagram Reels and TikTok, makes it more participative and accessible.

- *Experimentation:* by the very nature of its medium, video content invites creativity in several forms. This has lead to experiments with the format. An interesting example is the introduction of the 360° video format, which renders 3D environments into 2D video and is interactive in nature. In 2017, *The New York Times* partnered with Samsung for a video series called 'Daily 360' on

YouTube, which told feature stories in the immersive format. Subjects included a profile of a blind Syrian refugee in New York, a story of a mass shooting survivor and tours of influential homes. Another such experience-based experiment is media which uses virtual reality. In 2016, *The Guardian* launched a virtual-reality project through specialised apps to virtually place the viewer inside a US solitary confinement, so as to illustrate the psychological damage the small space and isolation cause. While these projects push the boundaries on how technology can inform media, they are also extremely expensive endeavours which can be hard to implement on scale.

Unlike legacy organisations and broadcast media/newspaper networks, online media does not accommodate easily for a single individual or organisation to produce a variety of content. This is because each kind of story and each kind of social media platform require vastly different treatment. It is, thus, recommended for a journalist to effectively manage these challenges by limiting themselves to either certain kind of stories or certain kinds of formats. This helps in building specific skills and also managing the production process more effectively. New news organisations, however, can employ more people and have a broader reach, though this also increases the costs, as apart from a team of producers that focuses on content management these organisations also require impact teams to effectively understand analytics and utilise them for growth. Thus, it becomes crucial to have clear and focused strategies regarding production as well as an investment in human and technological capital.

While there is constant innovation in this space, consumers still overwhelmingly prefer text or broadcast to online news, especially in countries like India where regional news organisations dominate. This is because the former category offers a wider convenience and flexibility (especially of the offline, data-saving nature), while video also has a high barrier to entry vis-a-vis catching people's attention. People also point out problems regarding the small screen size of phones which for a prolonged reading of news via video can be taxing. The attention problem is especially relevant as social media gets flooded with several videos every minute.

7.4 TOOLS AND RESOURCES

Video stories on the web have evolved to accommodate several forms of content, which include the use of professional as well as amateur tools. Stories can either be created on the go on a mobile device – with smartphones and tablets acting as one-stop, multi-purpose recording, editing and publishing devices – or on more technically sound digital devices with longer turnover periods. While choosing the tools to tell a story, it is useful to keep in mind the type of story and the platform on which the story is to be published – journalists can choose to be involved

with a variety but also choose to specialise in one. As the nature of the story or platform, as well as the general competency level of the reporter, changes, so does the kind of tools required. Ultimately though, this is the organisation and the reporter's choice, as stories can be made with fewer tools as well. What is significant is to keep in mind the quality and cost-saving factors of these tools.

Equipment that should be used (though not each is essential) include:

- *Smartphone:* modern technology has made it possible for multiple techniques and steps to be condensed in a single device, which is why the most vital tool in a digital journalist's repertoire is the smartphone. When choosing a mobile phone, keep in mind the camera quality, operating system, RAM and storage. If the phone does not have a 3.5 mm input jack, make sure you have an adapter.
- *Camera:* for more specialised applications, it can be useful to invest in digital cameras. Nikon, Canon and Sony are the bigger brands in this section, and for good reason. Each provides several kinds of devices in varying price points. While choosing a camera, prioritise features like whether it has an audio input (otherwise you would need additional adapters), video quality, built-in Wi-Fi, portability, large storage, etc. It is advisable to use a mix of such cameras and smartphones, so that there is greater flexibility available to choose right frames at the time of editing.
- *Microphone:* a professional quality video output needs a professional quality audio component too. It is, thus, a good idea to invest in a microphone or several, depending on the kind of content to be produced. The three most common kinds of microphone include the following types: a lavalier microphone, or a body mic, is a small clip device which is hands-free and good for recording interviews; a shotgun microphone, which is an interference-type line microphone which is long, flexible and used to pick up directed sound from a source which is farther away; and, a stick microphone which is popularly used by broadcast journalists to create 'person-on-the-street' style reporting.
- *Tripod:* this device is vital for those producers who want to exclusively make videos as it instantaneously elevates video production by providing stability and helping in framing and setting angles. While choosing a tripod, make sure to factor in the mobility that is afforded in the story. Video stories that are done in studio or do not require much movement can have bugger tripods, whereas on-the-street reporting requires a portable tripod.
- *Computer:* for those who want to practice visual journalism on the web beyond mobile journalism, they can support their videos with more nuanced, comprehensive and technical editing on a high-end computer. In choosing a computer, its processor and graphics

memory and processing power are the crucial factors. One can opt to use a gaming computer, as it usually has better specifications than an average desktop. For example, the gaming computer will have more RAM available as well as a specialised mouse, which aid video editing.

- *External storage:* it is also necessary to keep portable hard drives and memory cards while shooting videos. This will help unclog your phone or computer memory, especially since video tends to be of larger data size.
- *Cloud storage:* this is becoming the alternative to locally storing large video files due to the ease of use it offers alongside the backup option, which ensures that the production team never loses its valuable footage. Though its pricing can get prohibitive for small teams and individual producers, the trend shows a decline over the years. For large teams, this option is a must.

Relevant resources include:

- *Editing:* video editing is the most vital and expansive step in content creation. This is because not only does it include rudimentary editing that is cutting video into usable bits, but also in transforming it from data to information. The process includes a wide variety of steps, including, but not limited to, cutting frames, building transitions, adding audio, captioning, adding infographic, etc. Video editing software range from paid to unpaid resources. The most powerful and popular among them is Adobe Premiere Pro, which helps fine-tune a number of technical aspects with an easy interface. Though it is a paid app, it also has a free companion app, Adobe Premiere Rush, catered to mobile journalists who wish to directly work with video captured on a mobile device. It is also helpful to subscribe to the wider Adobe Creative Cloud service as apps like After Effects, Audition, Animate, Photoshop, InDesign, Illustrator, etc. can additionally help in several visual aspects of editing. Other paid software which provide a quality work experience include: Corel VideoStudio Ultimate, Filmofacra9, Pinnacle Studio, etc. Free software which also have high specs include KineMaster, Lightworks, Kdnlive, OpenShot, etc. Users should also inlcude cloud options, many of which are either free or offer free plans up to a certain number of features with their watermarks. They include Movie Maker Online, Adobe Spark, ClipChamp, FlexClip, WeVideo, Kizoa, etc.
- *Specialised editing:* Some apps help simplify certain kinds of social media videos, like short-form Snapchat videos. They have pre-existing templates that can help those who feel creatively challenged with traditional video editing. The creation then

requires simple drag and drop processes only, as opposed to advanced designing. They include include Moovly, a good resource to create videos that are graphic heavy and need data visualisation tools, and Legend, another app that helps animate text for videos and can help elevate certain parts of a narrative interview type video or even in breaking news videos.

- *Organisation:* to maximise efficiency and also to keep an accessible archive of sources, it is helpful to sort all the data and information. Apps of cloud services like Google Drive, Dropbox, OneDrive and FileHub are good resources for cloud-based file sharing and organisation. This helps create an effective workflow which you can personalise to fit into whatever productivity system that you are comfortable with.

- *Other:* specialised apps can help traverse the social media space and mount the video for easier consumption. There are several resources which cater to those with no prior coding experience to streamline their process. There are also available for a wide variety of tasks. For example, if one is interested in multiplatform hosting and sharing, apps like YT2FB help convert videos originally uploaded on YouTube to native Facebook videos. This helps in platform videos better as there is no need to hyperlink or embed (which can be hindrances to engagement). Analytics tools are also important to understand engagement and revenue streams. Apps like Social Blade are good resources to track broader social media trends and to get an understanding of how they operate so they can be capitalised upon.

7.5 SELECTING AND SCRIPTING VIDEO STORIES FOR THE WEB

It is important to remember that the use of video on the web is just another narrative choice in the method of producing a journalistic story. Thus, the narration is just as important as the tools and technology used. It becomes especially helpful to distinguish the type of story to be told and to script it prior to start filming. This way, filming becomes easier, as there are more certain steps involved in what to get and how to use it. Below we discus basic steps involved in selecting and scripting a video story for the web and what clicks for web videos and what does not:

Selecting a Story

1. Types of Stories

   There are several kinds of stories that each require different treatment in the video format for the web. They include:

i. Data stories. Stemming from data journalism, these are stories about and including datasets and numbers. They include statistic heavy fields like economic stories about debt, GDP and unemployment. Video tools can be used here to humanise the story and thus increase

the impact while supporting the analysis and conclusions. For example, economic stories that include unemployment figures can be complemented with a video story about out of college youth facing difficulty in the job market. Most of these data stories are also complex and video can help simplify the message and concept, making it accessible.

However, depicting data in a video story is a challenge that even TV broadcasts face. There is a key difference between data-centric video story on a TV screen and the web. The TV screen is typically bigger in size and can accommodate visual representation of data and text alongside. On the web, there are dual challenges with PC resolution and mobile resolution. While a PC monitor can be as big as a TV screen, few users play video stories in full-screen mode. A typical embedded video on a browser is not likely to take more than 40 per cent of the width of the browser. The problem is even more acute on smaller devices like smartphones and tabs, where full-screen videos may be the norm but the total width of the device is way to small in comparison to a TV screen.

Web designers and producers solve the problem by recommending altering the principle of representation on the web. They prefer running data visualisations on full width with multiple frames forming a single data point representation. Once can expect a web video producer to launch more frames per graph than they would use in a video meant for TV. The resolution debate gets even more complicated when producers with a large audience on smartphones present their case. They prefer a square or portrait resolution as against the landscape mode preferred by PC users. However, most websites do not support multiple resolutions per video, forcing producers to make a choice between portrait or landscape modes.

Data visualisation also has to adapt to the outcome of this debate. Producers with large audience on mobile devices typically add graph descriptions and legends below the graph to give it a portrait look, while producers that prefer landscape modes tend to add data descriptions on the right of the screen the way it is done in TV graphics.

Apart from this, the new concept of interactive video aids storytelling in general and data stories in particular. Though interactive videos have many features that linear videos do not, the data input feature brings data stories alive. It allows users to interact with data points the way it can be done on a web page. Since this video format has the usual video features, it can be seen as a combination of a TV broadcast with interactive data visualisation.

ii. Anecdotal stories. They include extraordinary anecdotal tales from sources with singular, unique voices that need amplification that can best be provided by video. The stories can be unique in a variety of ways and here video becomes a purely creative medium. These stories tend to get popular on the web, especially on social media, on account

of social media being a more individual-centric medium, unlike TV broadcasts, which are seen more as family affairs. Anecdotal stories are often presented in first person, a format that is more popular on the web than TV. The crisp treatment such stories get from producers also explains the reason of their popularity on social media, since this medium values short, crisp, first-person videos over large documentary-style narrative style.

iii. Chronological stories. Here, more urgent stories that tell a linear, often complex, narratives are included. This can include a broad range of topics, like natural disasters and their fallouts or civil riots, etc. Such videos do very well on the web, as they have the potential to go viral. Such timeline videos draw in younger audiences that are new to the topics under consideration by introducing them to the whole life cycle of an event. Irrespective of the nature of the events they cover, be they negative or positive, these videos engage audiences for the duration of these events. An example in this category will be a video contextualising the phases of a campaign if a major court judgements brings a closure to it.

iv. Breaking news. These stories are rooted in immediacy and are told more urgently than the other. Consequently, the scripting process in this category of videos is perhaps not as pronounced as with others. These stories are also more likely to be constantly updated as events unfold. They are, thus, more suited to shorter videos and on platforms that focus on the fast spread of news, like Twitter, Facebook, etc. or platforms that support livestreaming. The reader should note that the nature of breaking news stories in video format on TV and the web is similar in the case of big players, but smaller companies and groups and individuals use the social media platforms to break stories that are exclusively available to them. They often do not compete with bigger players on break news stories in national political or business stories. Instead, smaller players concentrate on their areas of specialisation, like small towns, natural disasters, civic issues, social activism, etc.

v. Explainer videos, with a liberal dose of animation. This type of video stories tend to go viral on the web. They generally have a longer life on the web than on TV. One can compare such videos to the descriptive and analytical stories in newspapers which contextualise an issue. In fact, explainer videos are so popular on the web, particularly social media, that there are companies that are fully devoted to using this format or set up departments within existing organisations that exploit this format. One such successful example is AJ+ from the Al Jazeera group. Its videos go viral on YouTube, Facebook and Twitter. Vice Media is another popular example in this genre.

2. After the kind of story is decided, the next set of choices are to be made regarding the kind of audio and visual narrative decisions to be taken. This includes decisions like who the narrator in the story is. Is

it the reporter? Is it the source itself? Or, is it a voice over/ text block? These are creative choices that differ from story to story and depend on the journalist and their intent.

3. Other creative decisions involve setting limits to the scope of what the selected story is trying to convey. One video is by no means the be all and end all of a topic. Additionally, it is important to keep in mind the website where it will eventually be published. Algorithms evolve and need to be consulted, however, generally, YouTube is better for longer videos while Facebook for shorter videos. Websites like Instagram and Twitter prioritize fleeting under-a-minute videos, while Snapchat videos clock under 15 seconds. Thus, after choosing the platform, key in on the essential, impactful points in a story and build around it.

Planning a Story

After the essential storytelling decisions are made, it is important to stay organised and thus plan for the logistics involved in the story. Essentially, the producer should estimate how long it will take to shoot vis-a-vis how much time is available for the shoot. The producer should also keep in mind the time needed to research and gather sources. They should create a larger timeline also, including the process of scripting, filming an editing. This will help keep the larger goal in perspective while also bettering efficiency and productivity.

Typically, the producers of fast-moving videos on the web have less time and resources at hand due to the pace of the medium they operate in and the revenue returns available on such videos. This reason explains the preferences for certain formats, as noted above, by web producers.

Scripting a Story

It is in scripting the video story that the difference between the web and TV comes out as most pronounced. On the web, producers tend to experiment with formats and keep changing them from platform to platform. Social media has largely defined these formats. Producers add emotional elements in scripts to win the short span of attention available on the web. It is a known fact that the time available on social media channels to catch the audience attention is really short due to the abundance of information available and the timeline feature, where the page scroll feature ensures endless loading of content. (However, it is worth noting that Facebook allows the maximum video duration of 240 minutes and a size of 4 GB. Hence, the duration is short not on account of technological restrictions but due to audience preference.) The producers who are more likely to earn through social media channels should brace themselves for the binge watching habits of their audience and make duration and scripting strategy accordingly.

Below we discuss the elements that go into scripting an effective video story for the web:

1. Create first an outline of the story. This should include a step-by-step list of scenes, which should then concurrently hold space for audio

and visual requirements. A basic overview as well as the general established flow can help in structuring the script and simplifying the process.

2. Right at the beginning of a web video is the ‘hook’ that is the part that catches the audience interest. Narrative hooks do not have formulas and instead depend on the story, but this could include either a startling data point, a compelling audio story or even stark visuals with no sounds. This has to serve as an introduction for the story and establish larger questions that you will later answer – what has happened? Why has it happened? How am I as an audience involved?
3. Keep sentences short. Social media videos are characterised by crisp scripts containing powerful lines the way they appear in TV ads. This strategy works with younger audiences with short attention span. Unless the subject demands elaborate contextualising and research, maintain this rule.
4. Write for visuals. This rule holds true for TV stories as well, but is all the more essential on the web. The audience does not like a single anchor speaking for long durations, even if it is a celebrity anchor. The main ingredient of a video story is the visual footage. The producer with the most impactful visuals wins the eyeballs. Even if the production team is low on budget, it should find ways to interject with visual elements, like graphs, animation, text on screen, etc., to break the monotony of the narration. Make sure that the scriptwriter decides about these elements, so that they are not casually thrown in, but are introduced at the right places in the narration with factually correct pieces of information.
5. After interest is caught with the ‘hook’, it is vital to sustain it. Create a balanced flow and build suspense with your story to keep the viewer engaged. However, it is important to maintain clarity right till the story ends.
6. Conclude powerfully. The last image that the audience sees is more likely the one that sticks. Thus, let the video reach a crescendo right at the end, with all their former questions answered.

Needless to say, these steps not only refer to textual storytelling devices but also visual. Each step, again depending on the story, should have a corresponding visual cue to the textual cue. These visual cues should describe technical things such as – what kind of lighting is required in this situation? What kind of camera angle will be best suited? Which lens should be used? Are there supporting audio or photo messages? To gauge these elements successfully, and if the producer has more time to plan, they could also storyboard the visual elements. This can help make the shooting sequential and map out the details of the video. Storyboarding also lets one make a general list of all the visual cues to be employed, including the depth of the field, framing and composition, contrast, exposure, colouring (that is balancing the temperature of the light), as well as the kind of shots taken – for example, wide shots of the location,

close-up of an interviewee, extreme close-up of textural elements, medium shots to be employed, etc. As a general rule, the producer should be aware of the surroundings as they shoot and frame the video and attempt to pull focus on the subject at hand while avoiding distractions. Flow has to be managed for each multimedia element to ensure a successful video story for the web.

7.6 BUILDING ENGAGEMENT VIA VIDEO STORIES

For video content to actually break ground on the web and the journalist to continue making stories, it is important to build engagement with the audience. The journalists and researchers Elizabeth Hansen and Emily Goligoski describe audience engagement as 'a set of audience-focused tasks that include identifying and interacting with people who use your site, as well as prospective audiences. Functions include online and offline event hosting, comment moderation, social media management (both on native platforms which don't link to your site and networked platforms like Twitter that refer visitors directly), search engine marketing, and more.' Keeping in mind these aspects which centre around social media and other web elements, there are several formal and informal avenues for an independent journalist or a journalist working with an organisation to build engagement with their audience. Here are some of the ways:

- *Audience behaviour:* research is now done on various patterns of media consumption. This research can lead to interesting insights that can be applied practically to production and dissemination of content. For example, it suggests that on different websites, people are more engaged at different time periods. One can use this information to post video stories at a time when most people are logged in so that the engagement can be maximised. Identifying key metrics is vital to monitor video engagement.
- *Audience segmentation:* data, especially site analytics, can also be used to draw a distinction between different kinds of users. Identifying the kind of demographic that your content engages and can further help in refining the content that you produce. For example, if your views are made up of those below the age of 25, it will make more sense to make video content that contains newer references and is more geared to that age group as it is then more likely to be shared and seen by them.
- *Tags and hashtags:* to increase visibility, the producers should take a cue from marketing experts and optimise the content for social media and search engines. They can do it by adding as many relevant hashtags to the caption as possible. This is especially important if the story is urgent and topical in nature. Needless to say that the producer should watch trending topics on social media and search engines to align their tagging with them.

- *Social media channels and tools:* it is important to have a specialised understanding not just of the different kinds of social media sites but also of what each of these sites offers and how these features differ. For example, Instagram, which is known primarily as an image-sharing app, is increasingly being used to share infographics and video stories. For Instagram, it is essential to note that different features like posts, stories, reels and IGTV, can all be used for different purposes. Stories are usually longer in dimension and also allow a quick way to share updates. Breaking news type of coverage can be shared with stories. After that, if the report is long, it can be presented in a traditional video format on IGTV. Otherwise, if the report is short and can be summed in under one minute, it can also be posted as a usual post. In this way, all features serve different roles and engage the audience in different ways. Another example is that of Twitter threads, which can help similar stories sorted together. It is helpful to understand the distinction between the kind of effort each of these features requires. For example, stories on Instagram and Snapchat are better shot and presented in portrait mode, as the apps are predominantly better in a vertical set-up. Similarly, for platforms like YouTube and Facebook, vertical video can be distracting and/or a burden as it requires additional effort to open on a maximised screen. Thus, horizontal videos on landscape mode serve a better purpose on these platforms. These considerations should be kept in mind when choosing to shoot a story and later when presenting in either one or different platforms.
- *Hosting and embedding videos:* if the producer chooses to set up an independent website, another factor towards engagement and even creative control is whether the video is hosted on own platform or embedded from a streaming site like YouTube, Dailymotion or Vimeo. The former requires a few additional resources and comes with bandwidth constraints, but there is a complete control on the content. However, video hosting, especially for a professional set-up that has the potential to scale up, can be expensive. It would also require either more specific technical knowledge or the need for external support for it. On the other hands, hosting videos on social sites, like YouTube, and then embedding in web pages brings the ease of use and the extra benefit of earning through revenue-sharing arrangement on social sites.
- *Professional profile:* to build an audience that trusts you for news and content, it is essential that the audience views you as professional and not mistakes you as just another voice in a crowded space. Therefore, it is important to pay keen attention to your profile. Here, you should ideally set your display picture to a professional headshot. Further, tag (@) the organisations that you have previously reported for in your bio. You could also add your email address for easy contact and for generating leads. These steps add credibility to the public profile you want to maintain.

- *Collaboration:* lean on the social aspect of social media and use these platforms to network. This means building relationships with like-minded journalists and other organisations. This can start with simple encouragement of content that you find interesting – by amplifying via reposting and sharing. You could, then, also leverage these networks to collaborate with people so as to expand your audience and sources. A simple share by a more established person or organisation can help amplify your work.
- *Aesthetics:* social media engagement is largely based upon looks and how it can attract the audience to click on a story. If working independently or establishing a brand, it is essential to build a distinct aesthetic and to stick to it. This is important necessarily if the website you primarily report on is more visually driven than others, including Instagram and YouTube.
- *Additional content:* in between news posts, also publish videos of behind the scenes production. This helps keep the viewer engaged, as it makes the process of journalism more relatable and entertaining, keeping the viewer engaged. Getting creative with the videos beyond news helps build a following that stays in the long run.
- *Feedback:* another way to grow engagement is through the comment and forum tools. Encourage viewers to comment on videos. This can provide both social and editorial engagement. Replying to these comments can also be helpful, as it leads to active participation and a natural growth in interest of viewers. If the journalist makes themselves accessible to viewers, it demonstrates that communication between the journalist and the audience is possible. This communication will eventually lead to more nuanced reporting as well.
- *Ethical reporting:* As journalism evolves on social media, there is an increase in the mistrust of news which has stemmed from the swathes of misinformation on these sites. Given this misunderstanding, journalists on the web have an increased pressure to effectively vet their reports before publishing them. Verification of sources and fact-checking should remain a priority, especially if the news has been entirely sourced online. Further, it is important to not entirely chase shallow engagement metrics like ‘views’ or let them (and the consequent advertising) shape editorial decisions. While optimisation and engagement is vital, it is also necessary to uphold central tenets of journalism and keeping a clear, independent voice.

7.7 CONCLUSION

Online news video has grown to become a lucrative, arresting medium that journalists can specialise in to build a strong connection with their audience. In this regard, it scores over TV news, where the medium is more centralised and offers less scope for producers to interact

with audiences. However, the production of online videos requires the simultaneous knowledge of a number of skills and processes, including creative and technical abilities. Thus, it becomes imperative for journalists to build capability so as to meet the demand for quality content. This consideration is especially important because the medium, through its accessibility, gives platform to millions of amateur users to generate their own content, which can create misinformation and lead to a lowering of trust in the media.

7.8 CHECK YOUR PROGRESS

1. What led to the rise of video journalism on the web?

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   _____

2. Why is social video projected to be the future of video journalism?

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3. How can one select which story to tell while reporting?

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4. Highlight the importance of ethics in social media video stories.

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UNIT : 8 CONVERGENCE

::STRUCTURE::

8.0 Introduction

8.1 Learning Objectives

8.2 Emergence and Essential Traits of Media Convergence

8.3 Technological Convergence

8.4 Many Convergences

8.5 Polymedia, or the Media Logic of Convergence

8.6 Limitations of Convergence

8.7 The Journalist in a Converged Newsroom

8.8 Media Convergence in India

8.9 Conclusion

8.10 Check your progress

8.11 References

8.0 INTRODUCTION

The digitalisation of the media has created multiple possibilities for media practitioners and organisations. It has created a new kind of participatory audience that consumes, produces and distributes media products at the same time. Technological innovations in hardware and software have created an enabling scenario for media products of the pre-internet era to enter into the digital space and create new ideas. Media convergence is a concept that captures these new realities, which not only explain the adaptive character of legacy media but also how the technologically advanced space attracts new audience. Thus, media convergence is the coming together various media forms into a single internet-driven platform which merges not only content but devices on which earlier content delivery was built.

In this unit, we will study how the idea of media convergence developed and it exhibits itself in various forms. The culture of media convergence has its own operative logic, which goes beyond the logic of legacy media.

We will differentiate between these two concepts and reflect on the newer possibilities.

8.1 LEARNING OBJECTIVES

- Understand how media convergence is an outcome of digitalisation
- Learn about the culture of convergence and audience participation
- Study different types of media convergences
- Analyse the role of the journalist in the era of media convergence

On the completion of this Unit, you will be able to:

- Understand the role of the smartphone in media convergence
- Learn how technology has changed audience participation in content consumption
- Understand the concept of polymedia
- Learn about the new role journalists are expected to play in the age of media convergence
- Learn the tools journalists need to navigate media convergence

8.2 EMERGENCE AND ESSENTIAL TRAITS OF MEDIA CONVERGENCE

Convergence is a general term, by which most people understand merging of disparate things or qualities to create a unified whole. Media convergence emerges from this definition to mean certain peculiar things in the media space which we will discuss below.

The concept of media convergence has emerged from the technological advancements of the internet age. Popularly, it is considered the coming together of three Cs: computing, communication and content. Therefore, the most critical factor in the concept of media convergence is digitalisation of the media space. Media convergence is often contrasted with the products of legacy media which are distributed in physical forms – newspapers, magazines, etc. – or as signals – TV and radio broadcasts. Today, every component of the legacy media is digitised and merged on the single distribution platform of the internet, even if its forms and formats take different shapes online. Since all forms of legacy media were distributed through well-defined and separate networks, the coming together of digital content online is called convergence.

The American media scholar Henry Jenkins, who has profound influence on media convergence studies, especially through his book *Convergence Culture: Where Old and New Media Collide*, has added the dimension of

audience to the convergence theory. He believes that due to emergence of a convergence culture, consumers of news are at the centre of a new business paradigm which is participatory in nature. He claims that when various media channels merge to create online products, the fans or consumers of these products develop their own agency and start influencing the media. In precise terms, Jenkins says that media convergence is 'the flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behaviour of media audiences'. He calls the audiences of media convergence 'fan communities' on account of the common features they develop while consuming online media products. Therefore, Jenkins feels, media convergence is not just digital technologies pooling in their content, it is a cultural process.

The ubiquitousness of the media in today's age, be it as social media, mobile apps, podcasts or single-brand websites, explains another feature of media convergence. The fragmentary and participatory nature of the audience – taking from Jenkins' idea of audience groups as communities – necessitates the need for an increasing number of media products. Economic and content convergence of media properties ensures that new apps catering to newer audience communities can be launched with minimal of costs, and smart algorithms, especially used by news aggregators, create participatory audience communities with precision.

The popularity of online news products made some media scholars argue that media convergence is a threat to legacy media products. The constant reduction in the number of readers for newspapers, especially among younger audiences, seemed to confirm this belief. This is a fact that in the first two decades of the 21st century, legacy media has lost momentum to online journalism. The fascinating realities that the 24x7 social media paradigm introduced to younger audiences have certainly created a crisis of relevance for newspapers and TV channels. However, media scholar find a very different trend in the media now, especially due to the emergence of media convergence. The researchers Bernd Wirtz, Oliver Schilke and Sebastian Ullrich have argued that media convergence leads to a complex interaction between old and new media, which may not be detrimental to the interests of the old media. Jenkins also argues on similar lines when he says that media convergence does not replace old media; instead, it is an interaction between the two forms. The American media professor Jane Singer shows how this complex interaction takes place. She argues that a newspaper story, which was considered a closed, finished product, acquires a new life online as open text, which has a continuous existence.

Amidst the many positives observes see in the concept of media convergence, many are worried that the popularity and unlimited supply contained in this situation lowers the standards of journalism and content production. To add to this concern is the real fear that the global scale of media convergence, especially through social media, can alter users'

choices in real-life situations, especially in political arena. These factors have contributed to the resilience shown by legacy media products, which has led to their continued relevance. The audience trust has emerged as a major factor in the interaction legacy media has with new media in the age of media convergence.

8.3 TECHNOLOGICAL CONVERGENCE

As the term suggests, technological convergence signifies a concept where related technologies which had hitherto existed in silos merge on account of common usage or technological logic. In the context of the smartphone and the media, technological convergence means the merging of technologies, like photography, video, media processing, computing, word processing, cloud storage, etc., into a single device which aids both media production and consumption through a new technology and experience. The digital industry has worked hard to standardise technology for storage, compression and playback, without which convergence could not have taken place. Corporate consortiums publish industry standards in coding regularly to keep the publishing platform compatible across devices and operating systems.

The concept of technological convergence includes not just digital tasks a user can do on a smartphone but also the infrastructure that enables them to perform these tasks. Therefore, the information technology infrastructure, data processing and digitalisation process also form the backbone of this concept. The media theorist Siddhartha Menon sums up this concept succinctly as integration and digitalisation.

Technological convergence has peculiar features for each sector in which it is applied. In the media, technology convergence has two distinct features. The first feature, as explained above, is hardware driven, which allows the consumption of digital content through the smartphone and IT infrastructure. The second centres around software developments, without which convergence seems unimaginable as a concept. The application of virtual reality, augmented reality and mixed reality in journalism is the new face of convergence, apart from more popular examples like publishing news items simultaneously on multiple platforms, which falls under the second category.

The second category can be further divided into two approaches: integration and convergence. Developers which drive coordination among technologies either take the application program integration (API) route or create convergence in the true sense of the word, which also means that in a strict sense integration cannot be called technological convergence even if its goal is the same as that of convergence. In the API approach, developers pull data from various sources and ‘converge’ it into a unified interface. Sprout Social and Buffer apps are two of its most used examples, which allow users to coordinate social media management across accounts and platforms. On the other hand,

convergence creates a single technological product which is built on the same database even if its entries are pulled in from different sources. An example in this category could be the content management system (CMS) of a media house, in which its web, print, radio and TV arms could feed in data/content which could be presented as a single or multiple websites and apps to users.

For a long time, product designers and scientists have been trying to find that ultimate device which can converge all electronic tasks. Conceptually they called it 'black box'. However, this talk could never come out of the conceptual framework till digitalisation became a viable option on the back of the innovation of microprocessor chip. Starting in the 1990s, when the process of digitalisation gathered pace, computing devices underwent rapid changes covering personal computers, CD and DVDs, flash drives, SSDs, laptops and, significantly, smartphones. The viability of high-speed internet, especially mobile internet, running through its technological generational developments, like Edge, 2G, 3G and 4G, aided convergence that caused a spike in content consumption. Now, with 5G internet promising even faster and more reliable internet, one can expect convergence to include even more developed forms, like virtual reality journalism.

Technological convergence comes with several social advantages and disadvantages. On the one hand, it has simplified content production. Anyone can now become a content creator with just a smartphone and a fast internet connection. This has accelerated the distribution of information as well as reduced the cost involved in it. For example, picture-sharing sites and apps source pictures from users, many of which become celebrities by just telling powerful picture stories. Such a convergence creates an ease which was unheard of earlier. On the other hand, its major drawback is that it divides the world into digital haves and have-nots and digital literates and illiterates. The same trends shows up in the gender gap of smartphone adoption, particularly in low- and middle-income countries (LMICs). A study by GSM Association, an industry lobby group of network providers, claims, 'Across LMICs, women are still eight per cent less likely than men to own a mobile phone, and 20 per cent less likely to use the internet on a mobile. This means that in these markets 300 million fewer women than men use mobile internet. A key barrier is smartphone ownership, which is also 20 per cent lower for women than for men.'

Such concerns and issues around privacy, dominance of a few global players, deliberate and unintentional data breaches and corporate and governmental self-interests manipulating algorithms on which convergence runs will continue to challenge the emerging instances of convergence.

8.4 MANY CONVERGENCES

Once the idea of media convergence started taking roots and more and more media houses started thinking in terms of merging their various content and business arms into a unified business, media theorists started proposing different models on which such convergences could take place. One such model, which came early in the development of convergence life cycle and became popular, was proposed by the academic Rich Gordon, who divided the concept of media convergence into the following five components:

1. *Ownership convergence:* Gordon used this term to mean that media organisations with a clear convergence strategy wants to own 'multiple content or distribution channels'. When Time Warner and AOL merged in 2000, the world took note and saw it as the first big example of media convergence, which tell then was only a buzzword. *The Financial Times* called it 'much anticipated coming together of programming of all kinds'. However, this is not as straightforward as it sounds, since many countries have laws that restrict cross-ownership of media properties in the same markets. But, the internet properties, by the very nature of the internet, defy the logic of segregated markets, hence create a problem for regulators.

2. *Tactical convergence:* this term indicated a tactical alliance between companies owning different media properties which think that they can benefit from each other's audience base, content and technology. It brings the same advantage to the tactical allies as ownership convergence does but without being the same business entity. Tactical convergence was common in the heydays of broadcast media as well, where it was common to see a newspaper and a TV channel tying up to benefit from each other's content and branding. Sometimes, legal restrictions on foreign media ownership drove tactical convergences even in the same segment, like print media. For example, India does not permit publications of foreign newspapers and magazines independently, so a lot of them either entered India as a minority stakeholder in media entities or preferred content syndication where a few pages of an Indian newspaper exclusively carried content of foreign publications.

3. *Structural convergence:* in the initial phase of convergence, organisations had a limited set of expectations from alliances they struck over media properties. It allowed journalists to continue practising the same kind of journalism that they had done for years. Even if a newspaper and a TV channel entered into content alliance, the reporters at each entity stuck their primary roles while leaving the fine details of convergence to either the marketing teams or alliance desk created for this

purpose. But, as the model developed further, convergence started making clearer demands on journalists and their output, which resulted in organisations making structural changes to alter the roles of journalists. Gordon called it structural convergence.

4. *Information-gathering convergence:* this type of convergence expects journalists to acquire skills that are suitable for each of the platform converged. In the age of the smartphone, it appears natural to young journalists that they have to shoot videos as well as write their stories. However, when the idea of convergence first emerged, this was seen as an affront by old-school journalists to file stories for multiple platforms. Times have changed now. After the arrival of the smartphone, it became a given that a journalist will not only file stories for multiple platforms but also take part in its production, which may involve editing videos, adding voice overs, manipulating images, creating surveys, etc. This type of convergence popularised the term 'backpack journalism' when it first arrived since such a journalist carried equipment on their back which was necessary to shoot videos and pictures and record audio.
5. *Storytelling convergence:* writers and journalists consider storytelling an important aspect of their output. It changes with time and medium. In the era of convergence, journalists and content managers grapple with newer ways of presenting their stories and learn on the way. For example, when digital journalist started getting popular, the web administrators and digital editors preferred shorter stories than their print counterpart. The consensus was that readers on the web did not want to read a lot. However, with time this perception changed and even long-form journalism became popular online. Now, web journalism is the space to carry all the presentation forms of the print and broadcast media as well as for experimentations of virtual reality and mixing of formats, thus becoming the convergent space for storytelling.

8.5 POLYMEDIA, OR THE MEDIA LOGIC OF CONVERGENCE

In 1979, the media theorists David Altheide and Robert Snow developed the theory of media logic to describe the interrelation among communication delivery platform, audience and the message of the content. It allowed students of communication theory to analyse the role media platforms play in impacting social institutions and knowledge politics. With digitalisation and media convergence, the increase in user participation has added another layer to the idea of media logic. The concept of media logic in an interconnected world can be explained in the words of the communications scholar Stig Hjarvard: 'The term "media logic" refers to the institutional and technological modus operandi of the media, including the ways in which media distribute material and

symbolic resources and operate with the help of formal and informal rules.'

In the age of media convergence, media logic is a combination of factors that are in control of users and the ones which control user behaviour. The biggest factor among them is algorithms that define the way in which information is processed and presented to the audience. The logic of algorithms is directly controlled by corporations and, to a lesser extent, governments. The user behaviour is confined by the customisations allowed within this logic. A user's decision to obtain information from the internet, connect with peers, engage with the content and add their own layer of interpretation to this content, thus, takes place within the confines of the algorithm of the platform the user engages with. This shows that the rules of engagements for users to define their own role in the larger media landscape is rather restricted. Witliam Uricchioa, a professor at the Massachusetts Institute of Technology, has famously called this scenario 'the algorithmic turn'. He says, 'My argument in a nutshell is that over the past decade or so we have had increased access to new ways of representing and seeing the world, ways dependent on algorithmic interventions between the viewing subject and the object viewed.'

The algorithmic turn is at the heart of media convergence. The media logic of the algorithmic turn not only allows users to access information in an easier, aggregated fashion, it ends up creating a new communication culture with a logic of its own. The new communication culture of convergence has been described as polymedia, a term coined by the anthropologists Mirca Madianou and Daniel Miller in 2012. The authors describe it as:

> an emerging environment of communicative opportunities that functions as an 'integrated structure' within which each individual medium is defined in relational terms in the context of all other media. In conditions of polymedia the emphasis shifts from a focus on the qualities of each particular medium as a discrete technology, to an understanding of new media as an environment of affordances of interconnected media.

Nothing is this concept exemplified more clearly than on social media platforms, which are seen as an example of media convergence. The German media scholar Caja Thimm describes how the culture of convergence on social media platforms is polymedial in character. She says:

> Most of the social media, which nowadays are the base for participatory online cultures, relate to other media platforms or the traditional media by cross-referencing in one way or the other: some by links, others by embedding media content automatically. Hence, they are based on techniques of convergent user cultures, or, as

Madianou & Miller[...] described it more appropriately, are polymedial by nature.

Thimm claims that social media is polymedia because, unlike TV or print, it does not treat each channel independently but puts all media-related activities, be they textual, visual or moving images, on one platform on a single user interface. One can look at the way users add posts on social media to understand this principle. The same post allows the user to add text, photos and videos, insert links, which fetch metatags, polls, etc., and most of these features can interact with each other if the user so desires.

A polymedia platform defines its character at the outset. For example, Twitter uses tools like @, #, https:// and RT to invoke interactions within its platform and with web pages outside its system. Facebook accomplishes the same tasks with more or less the same signifiers. At the same time, polymedia itself is not a free pass to users to interact with users outside its system. This decision made at the level of algorithms by the businesses that own polymedia programs. For example, WhatsApp allows users to share links of Facebook and YouTube videos which can be played within the app, while it treats the link of a Twitter video as just another hyperlink to be opened in a browser or external app.

Thimm proposes that such a difference between the user's ability to influence a discourse on polymedia and the algorithm's ability to define the boundaries beyond which the user cannot go can be explained through the concept of media grammar. She divides media grammar into surface grammar and property grammar, the first being user centric, where the user can negotiate with the intra-property tools – for example, creating a hashtag family around an event – and the latter being algorithm centric, where the polymedia property sets limits for user interaction.

8.6 LIMITATIONS OF CONVERGENCE

Media convergence can be seen as an extension of the trend that started with the emergence of online journalism. The onset of web journalism brought with it promise and hope of democratic changes in the world. For example, as early as 1999, the media observer and academic Mark Deuze claimed in an influential essay that the technological changes were fuelling the creation of new ways of production, presentation, distribution and consumption of news that could create community journalism which was more democratic and ethical in nature.

Such utopian ideas did create certain products in the area of participatory journalism that remained popular for many years. Citizen journalism was also seen as this type of experiment where citizens collaborated to produce news reports and opinions along with videos and photo essays. In the initial phase, even social media was considered as an example of community journalism.

Media analysts identified certain features this democratic turn towards online community journalism, some of which are:

- an increase in access to news sources;
- the user's ability to consume news at their chosen time;
- interactivity, where the use could communicate directly with the content producer;
- community formation with producers and users, which became more pronounced in the age of social media;
- emergence of new players which had no background in legacy media;
- convergence of media formats; and
- diversity of subjects.

However, as trends started becoming clear with the passage of time, it became obvious that online journalism did not entirely live up to the promise of accountability, inclusiveness and social justice. Instead, it started replicating the biases of centralised processes of legacy media.

Since media convergence is an extension of online journalism, one can say that the age of media convergence and consolidation of trends in online journalism overlap to a large extent, or it can be said that this consolidation of trends if media convergence. Spyridou and Veglis note, 'The end of the advertising revenue model, the industry operating in a state of hyper-competition and the urgency to adapt to the new portable, personalized and participatory news culture have accelerated the process of convergence pointing to new modes of production (integrated production), novel delivery of news and information (multiplatform delivery) and participatory models of journalism (active consumption of news).' With the success of technological convergence that allows organisations to integrate platforms and media entities across markets, new demands arose on the skills of journalists, which made a large number of old-school journalists redundant. At the same time, convergence impinges upon the decision making in the independent newsrooms and tries to replace it with an integrated policy that fits all platforms where news is to be delivered in an integrated manner, thus taking away the innovation and peculiarities that define editorial leadership. The technological changes that drive media convergence makes excessive demands on the journalist, with a reduced strength in newsrooms per media property, a 24x7 news cycle, a requirement for learning new skills and keeping a track on multiple social media platforms all making life busier for them.

One of the rationales for promoting media alliances is economic convergence, where converged media entities find an mutually beneficial business logic. Even advertisers prefer to deal with organisations that

offer them integrated advertising options across media properties. The cost-effective way of producing and distributing news, though, takes a toll on journalists and the quality of news served to audiences. One major drawback of content convergence is that the user is forced to consume similar content across platforms. The immediacy that defines converged news also ensures that across online properties and social media channels, the user is offered the same news items in almost the same formats. This result also changes the character of journalists. Instead of relying on fact-based, reflective copies, they start relying heavily on newswires and social media to produce news stories, something that can significantly lower the quality apart from creating identical products.

The definition of journalist has undergone a change with the emergence of online journalism, particularly due to media convergence, since participatory journalism is on the rise. Social media platforms, which allow content convergence easily with the help of a smartphone and internet connection, have facilitated the emergence of online news pages which compete with big media organisations. If earlier journalists of legacy media drove legitimacy from the fact that they were rigorous and had exclusive access to sources, this authority stands compromised. The pace at which social media moves creates room for unauthentic stories to have a long life on the web. These factors have lowered the perception of journalism in the eye of the general public. These factors will continue to pose challenge to journalistic ethics in the age of media convergence.

8.7 THE JOURNALIST IN A CONVERGED NEWSROOM

As noted above, media convergence has created a new newsroom culture and redefined the role of the journalist in it. The journalist of the media convergence age needs to combine the skills acquired from the era of traditional journalism, which are based on the ethics of accountability, accuracy and field reporting, with information technology tools. The end result is that the old-school principles are presented with new-age tools to capture the imagination of an audience that is dependent on the smartphone and social media for news consumption.

To be effective in the converged news scenario, the journalist needs to master internet tools of information gathering, production and dissemination. While the old methods of cultivating sources and accessing reliable data venues continue to remain relevant, the journalist today uses multiple ways to gather information on which their stories take shape. For example, using RSS readers, following social media handles, using open data and government data portals, following news makers on social media using third-party apps, like Tweetbot, etc. allow the journalist to cater to the fast pace of the converged news scenario.

It is at the stage of news production in a converged newsroom that the journalist needs to update their knowledge. This field sets them apart from the age of legacy media. New-age production skills require the journalist to learn, for example, using offline and cloud-based video-

editing software, audio-editing software, image manipulation tools, like GIMP, etc. Journalists should know that the a lot of tasks which were accomplished by individuals earlier are becoming collaborative, including contributions made to textual stories, and for this purpose newsrooms increasingly bank on cloud-based tools, as collaboration is the basic feature on the cloud. The journalist who wants to thrive in the age of media convergence will do well to master cloud based tools even when their offline variants are easily available.

The journalist needs to develop an acute understanding of resolutions used by multiple devices. The convergence model streamlines the information gathering process into one journalist, but it expects them to optimise the output of their stories for devices of multiple resolutions. For example, a landscape video resolution that may work on desktops may not hold the interest of users on smaller devices. Fortunately, the journalist can reflect on this aspect by looking at social media analytics which clearly tell the content producer about the audience preferences about resolutions and other metrics.

The journalist can assume that once production is over, there will not be another team in the newsroom to publish the stories, be they on the web properties of the organisation or its social media channels. Therefore, it becomes incumbent upon them to understand and master web technologies. The modern-day journalist cannot manage the production and publishing process without obtaining basic knowledge of HTML, cascading style sheets (CSS) and CMS. Many developers upload video tutorials on YouTube or their personal websites to impart the basic knowledge of HTML and CSS to the general user. While English tutorials abound, user can also access vernacular tutorials to understand HTML and CSS. For advanced users who want to learn all the HTML tags and how websites are styled through CSS, the most authoritative source is w3schools.com. At the same time, the journalist should have a working understanding of CMS. The popular CMSes in India include WordPress, Drupal and Joomla. Though there are literally hundreds of CMSes available, most of which are open source, these three are most popular. A familiarity with these CMSes also allows the journalist to mount their own websites, if need be. However, they should remember that large organisations either tend to use and adapt these CMSes – for example, indiatoday.in runs on Drupal and indianexpress.com runs on WordPress – or make their own CMSes. (An easy way to find out which CMS, platform or plugins a website uses is to search this information in the BuiltWith database.) Many organisations also integrate social media APIs into their CMSes, so that uploading links and comments to social media channels can be managed from within the CMS by the same journalist who uploads stories. The other way to manage multiple social media accounts is use third-party apps which create a unified interface for managing multiple accounts and pages across channels. The journalist who has exposure to publicly available CMSes or understands how a

content is uploaded and circulated through a CMS, including its social media plugins, tends to be at ease in a converged newsroom.

The demands of a converged media world do not end here. It continuously pushes the boundaries and involves the journalist in the whole entrepreneurial project. The more evolved journalist is expected to learn coding, especially for data interpretation and understanding big data and artificial intelligence. Organisations expect business journalists to delve deep into the phenomenon of big data and interpret it to generate stories. An accomplished user of this genre is expected to understand Python and R languages. Similarly, virtual reality journalism is upon us. The same stories are being told on multiple platforms with virtual reality tools. The converged media is forever pushing frontiers of journalism, and the journalist is expected to keep pace with these changes.

8.8 MEDIA CONVERGENCE IN INDIA

The Indian media market is considered one of the biggest in the world. This holds true of legacy media as well as the online media. By the end of 2019, India had the second largest number of internet users after China at around 504 million which was almost evenly divided between rural and urban areas. Just to place this figure in context, the comparative figure for China is 850 million and the US around 300 million.

Such a large market that India has is ripe for all kinds of media experiments and trends, including media convergence. However, unlike the West, the Indian internet economy is staggered and dominated by social media. The internet user in India still wants to access the content for free and avoids subscription model, even though more and more media organisations are going behind the paywall. The dominance of social media, especially on the smartphone, has created the rise of a new type of class of content creators. Individuals, influencers, small groups and organisations that are totally focussed on social media channels for their viewership and revenue has set up a successful challenge to established media houses. This class of social media content creators does not have roots in legacy media and, therefore, does not converge traditional storytelling methods with new technology. Instead, it converges strategies of content creation and dissemination that accommodates only different social media channels. Armed with smartphone or DSLR cameras and inexpensive lights and microphones, Indian YouTubers create content that suits social media channels.

The immense popularity of social media on the smartphone in India has forced established media organisations to adopt the storytelling style of independent social media creators with snappy and clickbait headlines, shorter content and crisp video editing. One reason for the established media houses' dependence on social media convergence in the Indian market is that it is the biggest source of online advertisement revenue. Social media's share of online advertising is way higher in the Indian

market than in the West. For this reason, social media convergence for established players is an economic decision.

8.9 CONCLUSION

Convergence is the outcome of technological advances in the field of information technology, particularly the ones that occurred in the 1990s and the first decade of the 21st century. The origin and spread of the internet is an obvious outcome of these changes. Web 2.0 technologies, which also led to the rise of social media, have further created exciting opportunities for content creators. At the same time, the segregation between content creators and audience has disappeared or been redefined, which has also challenged the definition of journalist. The result of these developments is a converged space which has its own dynamics and studied as media convergence. It is a situation where the news mediums which had existed separately hitherto for years has come together and created a 24-hour news cycle. To make sense of this new, fast-paced reality, media scholars have identified trends and behaviours of all stakeholders. An understanding of these trends will help the reader decide their role in this changing environment.

8.10 CHECK YOUR PROGRESS

1. How has legacy media responded to media convergence?

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2. Explain how social media is an example of polymedia.

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3. Describe the pressures faced by old-school journalists and on editorial policies due to convergence.

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4. Which web-publishing tools should a journalist master to master convergence practices?

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UNIT : 9 NEW REALITIES OF JOURNALISM – VR, AR, & MR

:: STRUCTURE::

9.0 Introduction

9.1 Learning Objectives

9.2 Aspects of Virtuality

9.3 The Rise of Virtual Reality

9.4 Virtual Reality as Journalism

9.5 Challenges in Implementing Virtual Reality Journalism

9.6 Augmenting Social Media and Mobile Apps

9.7 Newsgaming

9.8 Ethics of Virtual Reality Journalism

9.9 Conclusion

9.10 Check your progress

9.11 References

9.0 INTRODUCTION

In 2018, when the jury of the prestigious Pulitzer Prize announced an award in the explanatory reporting category to the combined team of *The Arizona Republic* and the *USA Today*, it broke convention and acknowledged an emerging trend. The convention it broke was that the prize did not go to an investigating long read. The trend it acknowledged was that of immersion and interactivity in a news piece. It brought worldwide attention back to virtual reality journalism.

Virtual reality offers fascinating opportunities in different sectors, like health, tourism, military, academia, etc. Though virtual reality experiments had started maturing at the turn of the millennium, its news products started emerging a few years later. In this unit, we will explore the concepts of virtual reality, augmented reality and mixed reality and how first news products in these categories started emerging. We will also explore how virtual reality journalism offers a radically different experience to its participants while maintaining a conceptual continuity with the ethos of legacy media.

9.1 LEARNING OBJECTIVES

- Explore the rise of virtual reality journalism
- Understand how technology plays an important part in executing virtual news products
- Explore the relationship between users of virtual reality journalism with its creators
- Learn how newsgames developed at the intersection of gaming and news

On the completion of this Unit, you will be able to:

- Study the concepts of virtual reality, augmented reality and mixed reality
- Understand how virtual reality journalism is different from interactivity offered by legacy media
- Learn how immersive participation of users raises ethical questions
- Study examples of virtual reality journalism

9.2 ASPECTS OF VIRTUALITY

The concept of virtual reality has an imprecise beginning, since imagined reality it lends itself to philosophical queries and fictional explorations. As a scientific principle, its origin could be traced to the European Renaissance, when scientific temper was taking shape. The rise of science fiction further led to the exploration of this concept in theory. Before we study how virtual reality rode the success of information technology and eventually merged with journalism to create a new entity called virtual reality journalism, let us take a look at the stratification of virtuality.

Virtual Reality

Virtual reality is a three-dimensional computer-simulated environment which replicates a real world scenario. The participant is placed inside this simulated environment rather than making them experience a simulated model on a screen. This immersion defines virtual reality. Another fundamental feature of virtual reality is the participant's ability to manipulate the mechanisms presented in a virtual reality model. Depending upon the use the maker wants to put a virtual reality model to, it can imagine a real-world instance to the minutest detail or create a completely imaginary world the way a fantasy novelist imagines their locales while retaining immersive interactivity as its guiding principle. Thus, virtual reality is a computer-generated environment whose inherent logic lies in sensorial stimulation of participants it is targeted at.

The success of a virtual reality model lies in how well it mediates the sensory experience of its participants. The technical logic of a virtual reality model seeks to achieve sensorial synchronicity the way it exists for a healthy human being in the real world. For example, the average view span of human eyes is 180 degrees, even if the peripheral vision is blurred. For any virtual reality model to offer a human-like experience, it should offer this type of vision, not just a clear focussed area. Similarly, a lack of synchronicity between eyes and vestibular system of ears causes motion sickness, which can get replicated in a virtual reality system as well.

The entertainment industry is chiefly the reason why virtual reality is popular today. Immersive films and internet-based video games are its foremost examples. However, other fields are fast catching up in developing use cases for this technology. In fact, many of them have assumed strategic importance, and governments and corporates are investing large amount of money to fund research in it. For instance, military establishments in developed countries use virtual reality models for training soldiers in near combat environments. Some such models include flight simulation, battlefield simulation and vehicle simulation. They help militaries keep cost of training low and injuries at zero level. Similarly, health sector has started making extensive use of virtual reality. Its practitioners use virtual reality for surgery simulation and conducting robotic surgery. Virtual reality in the health sector can train doctors in newer methods of surgery in a simulated environment while reducing the potential harm to patients to null.

Augmented Reality

Augmented reality is what this term stands for. It *augments* the real-world experience with a virtual layer. An object that exists in the real world becomes the centre of an augmented reality environment where virtual elements interact with the real object to enhance the participant's experience. For example, drivers can manoeuvre modern vehicles, especially in the reverse mode, with the help of cameras and screens that tell them how far they are from touching another surface. These screens augment reality of distance in usable formats with lines and grids.

Since augmented reality is a virtual layer on a real object, it is different from virtual reality, which is fully a simulated world. While virtual reality may resemble a real-world scenario, its objects are all simulated. In augmented reality, the participant get a different layer of understanding of reality with the help of a computer-generated graphics or data representation.

While augmented reality is still developing for large-scale strategic uses, in many ways it is already a part of our lives. The most common way access augmented reality is through apps on smartphones. Some examples include Snapchat lenses, apps that let users try haircuts, clothes or spectacles on a face similar to the user's face cut or chat apps that

allow customisation of emoticons according to the user's facial features. The popular game Pokemon Go is another example of augmented reality, since it allows Pokemon characters to emerge in real world settings, like city locales, architectural landmarks or inside a user's house.

Mixed Reality

Many people think that like virtual reality and augmented reality, mixed reality is also a separate branch of simulated computer-generated environment. However, the best way to understand this branch is to see it as a more refined and developed version of augmented reality, where hybrid virtual objects are precisely mapped to objects in a physical environment. Since the precision of mapping could be a subjective criterion, people could interchangeably call the same environment mixed reality or augmented reality. In practice though, users tend to differentiate between augmented reality and mixed reality by the hardware technology used. The hybrid environments which become accessible through headsets are termed as examples of mixed reality, while augmented reality environments are accessed through flat screens, notably on smartphones, vehicle displays and TV screens.

9.3 THE RISE OF VIRTUAL REALITY

Virtual reality has been around for a long time, although recent technological advances have helped it become available for mainstream adoption. Many popular brands have introduced virtual reality headsets in recent years, which highlights the increasing importance of this technology. The advances in hardware along with the growth in video technology, better screen resolution and the rise of cloud services have gathered media attention and developers and investors' interest, as they are also able to generate revenue from these virtual reality technologies. Media and technology researchers have long been using bulky prototypes of headsets to experiment with virtual environments. This has long been a part of research initiatives where researchers have focussed on how humans respond to virtual stimuli and their minds perceive this digital scenario. They ask: does one learn from this reality, show emotions the way they do in real life or wish to use the new experience as purely transactional exercise? It is from answers to these questions that virtual reality has learnt, grown and reached our hands with the help of smartphones and lighter, affordable headsets.

Apart from headsets, advancements in camera technology have added to the virtual reality experience. Users can now capture live motions, make 360-degree videos and create stereoscopic virtual reality footage with cameras that have embedded software to enhance moving images. These 360-degree videos can often be seen online on websites like Facebook and Google Maps, which users explore either through tilting the mobile device, pinch-dragging the image or using a headset. Apart from 360-degree videos, virtual reality practitioners also use VR video and VR180 formats. In the 360-video format, the videographer needs to capture 360

degree around and 180 degrees up and down. The whole set-up involves a minimum of two cameras, while the upward limit can exceed 10. The output of these cameras is then used to stitch a 360-degree panorama. The VR format can be defined as double the output of a 360-degree video, one of which serves the left eye and the other to the right eye in a 3D environment accessed through a headset. VR180 format uses the output of two cameras, each one of which capture one half of the image sphere for either eye. It differs from the 360-degree and VR formats in the sense that it only captures the front part or 180 degrees of the scene panorama. Facebook and YouTube support VR180 format on their platforms. Maturing and standardisation of these formats has ensured the commercial viability of virtual reality, just as it has been enabled by the growth of headset technology.

Although 360-degree cameras have also been around for years, its new-generation variants also have stereoscopic features, which add depth perception to the already existing technology. This added dimension, along with spatial and temporal resolution of virtual reality headset displays, helps users get a realistic feel of the captured locale. When using this technology, users feel immersed in the digital reality.

Virtual reality breaks from the past and presents a new form of storytelling which puts focus on the user's immersed experience with the story rather than making them feel like the passive reader of a newspaper. The new physical and cloud infrastructure, like cameras, new levels of interactivity and the presence of large-scale distributed networks, will help the immersed technology reach more users in coming days. Virtual reality technology gives more control to the end user about what they want to pay more attention to in a story. This mode of storytelling is different from what we have known till now, because here audience decides how to experience a story. This will also change the way how journalists build their stories and their own presence in them. This could bring audience in the stories in an experimental manner, which was not possible earlier in other mediums.

Virtuality can create a feeling of social presence and being among other users, the feeling that a real person is there on the opposite side. This co-presence can be explored to bridge the gap between those at the lower end of social ladder and those in position to assist them. This is a bridge that journalist can create using virtual reality. In future, the concept of co-presence can also lead to social media kind of networks in virtual environments where users can participate in virtual reality as a community rather than as individuals. The networked reality of a virtual environment can throw up possibilities of collaborative understanding of issues and news events, which could have a far-reaching impact on social and political movements. For journalists, virtual reality stories can provide a better factual understanding of events and background information on any topic. Users can gather more information from

journalistic virtual reality environments than what they acquire when they read a newspaper story or watch traditional TV news.

Tomorrow's journalists may need to produce content for the virtual reality medium to keep up with the demands of the modern audience. The generation which has grown up in a wired world using interactive platforms will expect news to be immersive and offer an experience beyond the cognitive space. Many surveys and anecdotal evidence suggests while older people prefer to stick to legacy media, younger audiences are more involved in gaming and use mobile apps that offer interactive features. The new storytelling method, therefore, have to accommodate this trend away from conventional media and towards more interactive platforms.

So, one can say that the technologies of virtuality are gaining popularity due to scientific advancements and the readiness of audience to accept its immersive nature. It was not until now that the internet technology was so robust and high screen resolutions and IT infrastructure so effective so as to facilitate the leap in to the future of virtual reality technology. It is the new relevance for journalism, which needs to keep innovating to engage the young audience.

9.4 VIRTUAL REALITY AS JOURNALISM

Virtual reality has a long history in the innovation divisions of IT companies, universities and popular imagination, which is shown through films, games and scholarly papers. From these fields, it has emerged to include newer forms of the media, including journalism. Major practitioners of virtual media journalism include *The New York Times*, the BBC and ABC News, which routinely produce 360-degree videos. Virtual reality journalism differs from traditional forms of journalism in a way that it offers users more than visual and audio aspects for consumption. It hits many sensory impulses of the human body at once.

Among the early practitioners of virtual reality journalism is the American journalist and entrepreneur Nonny de la Pena, who is the founder of the Emblematic Group, which specialises in virtual reality journalism. Her works 'Hunger in Los Angeles', considered the first virtual reality documentary, and 'Project Syria' have received accolades for pioneering the genre. In a 2010 paper, she, along with her co-authors, described immersive journalism and how the participant interacts with the virtual world thus:

The fundamental idea of immersive journalism is to allow the participant to actually enter a virtually recreated scenario representing the news story. The participant will be typically represented in the form of a digital avatar—an animated 3D digital representation of the participant, and see the world from the first-person perspective of that avatar.

Clearly, the participant's immersion in the virtual news environment is an important aspect of de la Pena's definition of virtual reality journalism.

She goes on to describe ‘deep immersive journalism’ in this paper, where she proposes that the virtual world that a media enterprise evokes should seek an increasing degree of participation of the user.

Her concept and practice is in line with what the American professor Frank Biocca and the editor Ben Delaney proposed in their 1995 paper, which is considered the conceptual foundation of immersive journalism. They argue:

[Virtual reality immersion is the] degree to which a virtual environment submerges the perceptual system of the user in computer-generated stimuli. The more the system captivates the sense and blocks out stimuli from the physical world, the more the system is considered immersive.

These examples should not make the reader think that virtuality in journalism defends a case for implausibility of events in which the user participates. The immersion, as practised by de la Pena and theorised by Biocca and Delaney, does become effective when the user is cut off from the external stimuli. However, the plausibility of a virtual environment to create the illusion of realness in telling stories is what creates a successful virtual news environment. The principle that de la Pena and her co-authors propose for a virtual reality production is what they call RAIR, or ‘response-as-if-real’, in which users show the emotions as if they were the real characters of these productions, and not just passive observers the way readers of news reports are. The first-person experience offered by immersive journalism to its users becomes the differentiating factor from the third-person experience offered by conventional forms of journalism.

Based on these observations, we can describe the phenomenon of immersion of users in a virtual environment in the words of the researchers Bob Witmer and Michael Singer, who sum up a virtual sensation in the following four essential elements: ‘(1) the isolation in the physical environment; (2) the perception of feeling included in the virtual environment; (3) the state of ‘natural’ interactions and of control perception; (4) the perception of moving within the virtual environment’. Among these, the second element is the most essential feature of virtual reality journalism and called the concept of presence.

9.5 CHALLENGES IN IMPLEMENTING VIRTUAL REALITY JOURNALISM

At the level of technology, the advances which have helped journalism to open the doors for the future include cameras which can record a scene in a 360 degree expanse, stereoscopic videos and the next generation of headsets. These technological innovations enhance the mode of storytelling from still photography to advanced, better-quality videos. They help audience immerse in the rich visual experience and live the live of subjects covered in virtual news.

The current state of technological development of virtual reality journalism can have a great reach and impression on users, though it needs a highly skilled production team and high budget to complete the time-consuming process. Unfortunately if the cost of production is lowered, the quality gets reduced, though the other advantage is that it reduces the turnaround time. On the other hand, if producers include extensive interactivity in their content with highest quality of video and technical features, they will end up limiting the audience size, as not everyone will have high end devices to access and interact with this type of content.

Journalists making virtual reality pieces are aware of the fact that storytelling is a powerful medium and the temptation, when faced with a new medium, is to master the technology, often at the expense of conveying message to the end user. In the context of virtual reality journalism, there appear to be two strategies for crafting the narrative. The first is where direct action takes place in front of the surround camera, much like a first-person video game where the player sees the world around them from their perspective. The second strategy is to adulterate the immersive video with extra elements, like computer-generated graphics and additional video layers. The content is greatly altered in such a way that it is hard to recognize the original footage. Third-person video games are a good example of this type of implementation where a character is shown on the screen and the user controls it.

The production team needs to understand the process of collection of raw data and how the finished work will look before the production process starts. In the case of virtual reality journalism, a lack of raw data that is needed to tell a story can make the project implementation difficult, time consuming and costly affair. For example, if a field crew goes to a certain country and records high-quality 360-degree footage, it may miss the right characterisation, content and detailed spatial elements which complete a story required by the end journalist to narrate an instance to the end user. The journalists who intend to use immersive, live-action videos as a part of their narrative will need the relevant footage. It is hard to imagine this task being completed without the field crew understanding the needs of journalists and the limitations and characteristics of the medium. Therefore, in the newsroom, the editor needs to create a robust theoretical framework for executing the virtual reality project in which the roles of journalists, the tech team and the shooting crew are carefully defined.

9.6 AUGMENTING SOCIAL MEDIA AND MOBILE APPS

Trends in the media and technological innovations suggest that in future, news will be consumed through mobile devices, headsets or other virtual reality equipments, where users read text, see photos or watch videos all in an interactive manner which will provide them options to explore a story further. They will point a camera towards a newspaper

report, use some form of augmented reality marker, like QR code, and all its content will come alive through augmented reality feature built in the app. The photos can become interactive with layers of information that are not or cannot be contained in the same newspaper report. This could aid accessing multiple perspectives of the same story, allowing users to get a new form of understanding which the journalist may not have covered in the textual or primary narrative of the story. The two-dimensional aspect of news will become three dimensional and hand over the power to dig deep to the reader.

Certain parts of augmented reality are already in place and can be seen in medical research, defence sector and automobiles. The infrastructure requirement of a world full of augmented reality has been established with widespread access to the internet and smartphones. Social media websites like Twitter, Facebook and YouTube have been the primary drivers of this technology. Features like 360-degree videos on Facebook and Google Maps allow users to view any place on the map in with a 360-degree perspective. The days are not far when users could see the interiors of a restaurant pinned on Google Maps and check out its seating arrangement or even view the hygiene standards in its kitchen before they decide to book a table. Given the immense reach of social media, especially on mobile devices, it is natural that the first set of augmented reality features are being added on these platforms. Social media and journalism are fellow travellers, as everyone stays connected and informed about latest happenings around the world through the intersection of these two forms of the media. Despite notable failures, like Google Glass, augmented reality on social media stands to expand its reach. For example, in 2016, the fast-food chain Taco Bell created taco-shaped filters on Snapchat that became popular with younger audience. In 2019, the company CEO Evan Spiegel said that on an average, an active Snapchat user uses its augmented-reality feature 30 times a day, showing how important the feature is for younger audiences that use the app. Since brands have adopted augmented reality on social media, news organisations cannot remain far behind.

In another example, Snapchat has been used to deliver augmented news as well. In 2016, the journalist Yusuf Omar interviewed young survivors of sexual assault for *Hindustan Times* using Snapchat filters to hide their identity. The survivors used animal-faced filters to appear in person for the visual interview, which allowed them to show their emotions while allowing them to hide their identities. This novel way of storytelling helped the journalist convey his message to users without compromising on the principles of reportage.

In 2018, the fashion magazine *W* created a sensation with its Beyond the Page app that turned a photo shoot of the singer Katy Perry, which was published in the print magazine, into an interactive story on her and allowed the reader to access videos whose codes were embedded in the

printed pages of the magazine. Analysts believe that in a declining market for print products, especially magazines, such examples of augmented reality can revive the genre.

Media majors have started exploring augmented reality in their mobile apps. The BBC has launched the Civilisations AR app, which allows the user to art-and-culture-related stories from around the world with an augmented layer of information and videos in three-dimensional mode. Another example of an established media company using augmented reality in its app is Quartz. It added the augmented layer to its reportage in its app in 2017, in which it offered extra information and interaction on historical artefacts, images and a three-dimensional model of the *Cassini–Huygens* spacecraft that was recently crashed into Saturn at the end of its life.

9.7 NEWSGAMING

Ever since the beginning of the legacy media, editors have explored the option of engaging their audience in ways other simple news reading. Puzzles, quizzes and other games have been part of the legacy media forever where editors expect the audience to lower their guards and establish a playful relationship with the media asset. Thus, it is no surprise that with the advent of virtual reality and the popularity of online gaming, a new space has emerged that combines these two elements with news in the form of newsgaming. In simple terms, a newsgame can be defined as virtual reality meeting the gaming world with a storyline around a newsy event or issue. In this sense, it can be seen as an extension of all three of its constituents, viz. virtual reality, gaming and journalism.

Since the purpose of a newsgame is to inform the participant about a news event or issue of public concern, its most dominant practitioners are large media organisations. One of the most popular examples of newsgaming is *The Uber Game* produced by the *Financial Times* in 2017, which is 'based on real reporting, including interviews with dozens of Uber drivers'. It allows the participant to play an Uber driver and earn a certain amount of money. It tallies the earnings of the mock driver to surge pricing, peak-hour traffic, etc. to mimic the reality. The purpose of launching this game was to let users understand the life and perspectives of an Uber driver, which also helps them understand the logic and pressures of gig economy.

The Uber Game team comprised journalists, coders and graphic artists among others. Robin Kwong, who worked with the *Financial Times* and was part of the team, explains how the game was a fine example of intersection between journalism and technology:

We focused on collecting the stories, anecdotes and strategies that form the events and incidents the player encounters throughout the game. We also made sure to record the structured data needed for the game's

simulation: Average fares per hour, average number of rides per hour, car rental costs, fuel costs, etc.

The success of this game convinced many practitioners of newsgaming that it has resurrected as a form of journalism after interest in it waned after the concept was first developed in 2001. In 2017, the year in which the game was launched, its page on the *Financial Times* website received over 360,000 visits and was the third most-visited page of the year. Its success prompted the newspaper to launch another game in 2019, called *Dodging Trump's Tariffs,* which allowed the user to pose a Hong Kong-based trade consultant to understand the US-China trade war in the context of the US president Donald Trump's proposed trade sanctions against China. The newsgame claimed to process data from the US government departments to present real-life scenarios to users.

The buzz around newsgaming brought in other media houses in the game. Within years, Vox produced *Scholarship Tycoon,* ABC launched *The Amazon Race* and Bloomberg created *American Mall Game.* The most obvious purpose of creating newsgames by existing media houses is to increase user engagement time on their websites. Alongside, this genre helps them attract new, especially younger, audiences. Kwong claimed in 2018 that *The Uber Game* helped the *Financial Times* win new audience.

Apart from the media houses, independent gaming designers, documentary makers and production houses have also created works to this genre right from its inception. Contributions from different categories of people have also created sub-genres in the field of newsgaming. One notable example is *JFK Reloaded*, which comes under the sub-genre of full-length documentary newsgame. It recreated the assassination of the former US president John F Kennedy. Created in 2004, it was based on the sequence of events provided by the Warren Commission that had investigated the assassination. The game became controversial for it put the participant in the role of Kennedy's assassin Lee Harvey Oswald and was rated on how closely the player as assassin followed the findings of the Warren Commission.

In 2016, the game designer Susana Ruiz created *Darfur is Dying.* Based on the armed conflict in Sudan in 2003, it falls into the sub-genre of simulated game which recreates a real-world situation. It allowed the player to don the role of a member of a displaced Darfur family.

9.8 ETHICS OF VIRTUAL REALITY JOURNALISM

Virtual reality media faces the same challenge of trust that other forms, like social media and user-generated content, do. The rapid rise of social media platforms and almost unbridled sharing of content that they promote creates a situation where checking correctness of facts and data presented becomes a huge challenge. At the top of it, there are dedicated groups with vested political, business and cultural interests which exploit all possible loopholes on the internet to push fake news. Virtual reality

journalism faces the same challenge. In fact, this challenge is far more acute in this case, since, by definition, this form recreates reality in a computer-generated form. At theoretical level, it allows for adding and manipulating narratives and, at a more practical level, lets vested interests to create simulations that mislead deliberately.

The credibility of virtual reality journalism will also depend on the changing relationship of the journalist with their audience. The non-linearity of narratives presented in virtual environments can give an impression to the journalist that they are losing command over their point of view and, in the process, breaking the bond with the audience that is the mainstay of journalism. A journalist trained in presenting unitary and straight narratives in their stories is bound to feel disoriented with this innovation. The solution to this conundrum may lie in being unbiased and careful about presenting the point of view of all stakeholders involved. Journalists should uphold the long-standing reporting ethics of objectivity and factual correctness while presenting a virtual story.

With improvement in graphics and technology of representing real characters in virtual environment in the coming days, this form of journalism could make users identify with the characters of a news story closely, sometimes even emotionally so. A former Associated Press journalist Tom Kent asked ethical questions about virtual news in 2015:

How real is virtual reality intended to be? Where's the line between actual event and the producer's artistic license? Is VR journalism supposed to be the event itself, an artist's conception of the event or something akin to a historical novel, 'based on a true story'?

Kent argues that nothing less than full disclosures about the producer's suppositions and real events will win the audience's trust.

Virtual reality journalism also grapples with issues that dog legacy media as well. The issue of showing disturbing imagery – like blood and death – to the reader becomes particularly acute in this stream of journalism since its ability to recreate a real gory event can become spectacular. In such a scenario, each organisation may have to set their own ethics code to help the journalist.

9.9 CONCLUSION

Virtual reality has a great potential to turn journalism into a more powerful and attractive medium, allowing users to immerse themselves in news stories and enhance the level of their empathy with the subjects covered in them. At the same time, we should be aware of the dangers it presents. For example, on the one hand, users of virtual reality journalism can enjoy the sports victory of the team they support as if they are at the venue and, on the other, if used inappropriately, it can lower public discourse through the hyperreality layer of unlimited imagination it creates. The media industry should rethink the ethical standards of journalism and adapt them to its virtual variants.

The next generation of virtual reality and augmented reality applications will rely heavily on robust network infrastructure which is capable of transferring high amounts of data from server to the end user. This infrastructure will play a crucial role in meeting the challenges of the future, thus making journalism a more exciting field for users as well as practitioners. The success of virtual reality journalism may lie in the affordability and easy access of news pieces it creates while maintaining the highest ethical standards of public good.

9.10 CHECK YOUR PROGRESS

1. What is virtual reality journalism?

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2. Explain the difference between different formats of virtual reality.

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3. What is the difference between augmented reality and mixed reality?

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4. Explain the concept of newsgaming through *The Uber Game.*

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5. How useful is virtual reality in professions other than journalism?

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   _____
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UNIT : 10 DATA JOURNALISM

:: STRUCTURE::

10.0 Introduction

10.1 Learning Objectives

10.2 Foundations of Data Journalism

10.3 Opportunities and Challenges

10.4 Making of a Data Story

10.5 Tools for Data Journalism

10.6 Data Reporting Skills

10.7 Conclusion

10.8 Check your progress

10.9 References

10.0 INTRODUCTION

In a digitalised world, data is ubiquitous. Its universality means that anyone with an active internet connection has access to data. However, availability is not synonymous with comprehension. A case could be made that the avalanche of information that the public is subjected to has led to increasing uncertainty and a need for effective communication. Consequently, used as a source for as long as reporting has existed, journalists have found a way to use data as an active tool for disseminating information. Using technological innovations has meant that the role of data in journalism has increased. The result is a form of largely visual storytelling that blends traditional narrative language with evidence-based statistical analysis. Data journalism seeks to be the reporter's modern response to the internet boom and the need for more scientific, interactive and user oriented ways to present news.

As data journalists refine their investigative skills, the field has also become a means to amplify and practice the more sweeping conversations of transparency and accountability. Consequently, data journalism has become an indispensable part of the larger media conversation. In this unit, we will study the rise of data journalism as well

as the opportunities and challenges it brings forth. We will also seek relevant ways in which a data story can be built.

10.1 LEARNING OBJECTIVES

- Understand the evolution and subsequent importance of data in the media
- Learn about challenges involved in practising data journalism
- Analyse the importance of a quantitative approach to reporting
- Understand the impact of innovation in communication

On the completion of this Unit, you will be able to:

- Understand the relevance of and need for using data
- Navigate through the varied ways of mapping data
- Gather, analyse and present data using relevant tools
- Decide in which situations to use data
- Learn about interactive ways of presenting data

10.2 FOUNDATIONS OF DATA JOURNALISM

In its most fundamental form, data journalism began as an intersection of statistics and reporting. The journalist Simon Rogers, in his book *Facts are Sacred,* identified the first example of data journalism in *The Guardian* (then called the *Manchester Guardian*) dating from 1821. In a report about the state of the education system in two cities in England, it published a table of schools, the number of pupils and the average spending. The table helped the newspaper to relay information succinctly and also establish an evidence-based approach. Further, Roger provides another example, that of Florence Nightingale who, in 1858, published a report ('Notes on Matters Affecting the Health, Efficiency, and Hospital Administration of the British Army') to highlight the importance of hygiene in hospitals. In this report, she worked with the data available on hospital conditions and mortality rates in the British Army to indicate the significance of sterilised spaces. She sorted data into graphical devices to present evidence and further her arguments. Most famously, she used a coxcomb (a disc-like diagram) to illustrate how soldiers were more likely to die from preventable illnesses than in combat.

Apart from simple statistics, the first major use of 'computer-assisted reporting' (CAR) is dated to 1967 in the United States, when the journalist Philip Meyer used data in *The Detroit Free Press* to map the racial alienation in Detroit, which had led to aggressions and eventually a major riot. CAR was the first organised attempt to use computers to analyse data for efficient news reporting. Its usage spread as microcomputers started to become common in Western newsrooms.

Digitisation could now replace the arduous process of making physical databases, which were obtained by investigative journalists. The use of CAR later spread to other regional news organisations in the United States, and eventually to other parts of the world. Subsequently, in 1989, a Pulitzer Prize was awarded to *The Atlanta Journal-Constitution,* a major US newspaper, for its coverage of 'racial disparities in home loan practices', which was done using CAR. Thus, CAR was the first direct predecessor of modern data journalism.

In the years since these instances, with technological innovations happening at an unprecedented pace, data in and of itself has taken the centre stage. From 2005 to 2014, the size of the total digital universe grown 33 times (where digital universe is defined as digital information created in a single year), a phenomenon that is referred to as 'big data'. Stemming from a revolution in mobile computing, this has caused a technological boom and made computer operating systems ubiquitous, which, in turn, has made data management more effective, with a wider scope of creative presentation and visualisation. More importantly, there has also been an expansion in the availability and accessibility of varied kinds of datasets, especially since the late 2000s, with the expansion of the internet. This availability is rooted in the Open Data Movement, which was first made popular in the United States, with the launch of various open-source sites hosting public data (for example, Wikipedia) and then formalised by the Barack Obama government with the launch of 'data.gov', which published government data sets. This initiative towards data transparency has since been adopted by several countries as well as organisations. The consequent digitalisation now spans across industries and has impacted every sector.

In the current understanding then, data takes several forms. The researcher Gavin Freeguard explains three ways to perceive data. First is 'data as data', which refers to raw data – numbers in tables or otherwise – that present an opportunity for reuse. Second is 'data as information', which suggests that raw data, with the use of analytical tools, can be used to produce conclusions. Finally, it is 'data as evidence', which implies that it can be used as proof of an action or of the functioning of an institution. It is here that data becomes a device for accountability and, therefore, relevant to journalism. Based on this argument one can say that though data in journalism was historically perceived as a mere source for reporting, it has now evolved into a tool through which reporting can happen (especially through data analysis and visualisation). However, as a source, data still requires the same level of vetting as would be the procedure, even if it, as a tool, provides a wider variety in the way a story is told.

Further, innovation in analytical tools and the universalisation of programming resources led to a lower barrier for journalists who were

interested in harnessing the use of data for their work. This lead to the rise of the data journalist as an independent category.

Data journalism, hence, is described as a process via which information is mined from data and sorted into articles based on the information. Usually, these articles also embed visualisations to facilitate understanding and enhance the reading experience. Importantly, the data is statistical and quantitative in nature, even as the analysis can be via a qualitative lens. Data journalism has subsequently managed to be disruptive to the way we traditionally produce and consume news. It is, thus, defeating to lens it definitively, as it is an ever-evolving field. Contemporary stories that use this approach vary widely vis-a-vis theme and topic. Its examples can include commentary on music tastes of specific age groups based on data from music streaming sites, reports on real-life social impact created by government schemes using surveys and forecasting local or national elections.

10.3 OPPORTUNITIES AND CHALLENGES

Data in the 21st century can be disorienting because of its sheer enormity and wide presence. There then arises a need to effectively sort it to solve the 'problem of scale' or information asymmetry. Data journalists can act as 'intermediaries' between data and audience by simplifying the former to inform the latter. This role makes them, as Rogers points out, a bridge between those in power who produce and hold the data (government and other independent institutions) and the public. It can be concluded then that data adds value to traditional journalism and complements it, instead of competing with it. This entire process, especially in a time where data multiplies at a fast rate, creates immense opportunities in the field of data journalism.

Along with a change in role, data journalism has an opportunity to make news more collaborative. This is because digital technology provides unprecedented access of the audience to the journalist and vice versa. Data journalism provides the avenues for more interactive stories and visualisations which help the audience to explore content on their own and engage with the information. An example in this category is Gap Minder, a not-for-profit organisation. It uses interactive maps and graphs so that the reader can track, by themselves, the gap between countries regarding indicators like average income (GDP per capita), child mortality, etc.

As the role of a journalist and the nature of interaction with the audience changes, data journalism can also enhance the accountability that journalists are responsible for. A journalist's primary role is to inform their audience about the state of their shared world. Data journalism can channel the same sentiment and be used as a tool for the public interest, especially with the rise of online news and social media, which further foregrounds the need for context and clarity. Journalists then have the opportunity and responsibility to verify and curate unstructured, raw data.

The instinct here is to spread mass data literacy. As public awareness multiplies, they also are more willing to hold those in power accountable. Thus, data journalism becomes a way to boost transparency, not only in the upper echelons of power but also in journalism itself. This is because, as data is made readily available, the audiences can easily fact-check a story by corroborating with the dataset. Among the biggest stories filed under this phenomenon has been 'The Panama Papers'. Coordinated by the International Consortium of Investigative Journalists (ICIJ), it exposed the secret offshore finance industry via the study of leaked documents from the firm Mossack Fonseca. It was the largest collaborative data journalism project in history. It triggered judicial proceedings in more than 82 countries and over USD 1.2 billion has been recouped in 22 countries.

Though just as data journalism provides opportunities, it also faces several challenges that could potentially hinder its efficacy. The biggest issue, especially in developing or authoritarian countries, is the lack of open data. Even in some countries that on paper profess support of data transparency, there is a huge delay in the actual publication of datasets by governments and other organisations. Journalists, thus, have to deal with bureaucratic lags and additional corruption on the road to publishing a successful story, thus increasing the costs for the news organisation. Even at local levels, authorities do not usually update databases in a timely fashion, thus leading to additional lags. Eventually, many stories are either dropped or come out after public discourse over it has already subsided. The last resort under these circumstances, in the countries which have open data laws, is to file a legal petition to release data. For example, in India the recourse is a Right to Information (RTI) petition; in the UK, journalists and activists use the Freedom of Information Act. However, filing a legal petition does not guarantee the release of data. A 2014 report, published by the RTI Assessment and Analysis Group (RAAG), showed that there is staggering mismanagement and inefficiency in the implementation of the RTI Act, even after 10 years since it had passed. However, the report noted that even as waiting periods surmounted, the number of requests filed per year increased at pace, thus showing the concern that citizens, including activists and journalists, had about accountability.

Further, as journalists refer to open data for keeping a check and building accountability, it is equally important to question the data set that is being analysed. Data, like a traditional source, needs to be interrogated. This is because even as governments have begun sharing their databases, they share final performance numbers or plans for budgeting. The numbers, however, do not reflect how they came to those allocations or their decisions were shaped. Simply put, data is not synonymous with fact. Journalists still have an ethical duty to keep investigating. A 2012 paper by Harlan Yu and David F Robinson states: 'Open technologies involve sharing data over the Internet, and all kinds of governments can use them,

for all kinds of reasons. Recent public policies have stretched the label "open government" to reach any public sector use of these technologies. Thus, "open government data" might refer to data that makes the government as a whole more open (that is, more transparent), but might equally well refer to politically neutral public sector disclosures that are easy to reuse, but that may have nothing to do with public accountability. Today a regime can call itself "open" if it builds the right kind of website—even if it does not become more accountable or transparent. This shift in vocabulary makes it harder for policymakers and activists to articulate clear priorities and make cogent demands.' It is, thus, healthy to have a certain level of scepticism when dealing with open data.

An additional problem is that though STEM education has seen an increase in interest among students, the benefits have not necessarily been reaped by all sectors equally. Journalism schools, by and large, still lack analytical or programming courses. On the flip side, engineering students do not flock to journalism. This has also led to a low supply of professionals skilled specifically in data journalism, which can lead to sloppy, ineffective final reporting. Hence, hinting towards a technical obstacle for data journalism. Studies also suggest that there have been conflicts between traditional ideas of journalism and technologically driven practices.

However, by and large, data journalism is projected to become the norm. This is because along with the public, more organisations and governments are showing an increasing affinity in the continued struggle for open data. Along with interest, the pace of technological progress and the ever-evolving nature of online media will introduce to the field more tools for analysis and visualisation. A growing trend also suggests that as news starts to get divorced from the traditional notions of legacy media, new players will enter the market. This freedom of entry and exit has largely been facilitated by the internet, which has, to a large extent, democratised content creation. Since these new entrants are bolstered by the internet, they, more often than not, rely on digital tools, and this trend is likely to increase. It is yet to be seen though whether these new entrants, which stem either from personal endeavours or through non-government organisations, would supplement mainstream media or just challenge it.

10.4 MAKING OF A DATA STORY

As discussed above, the role of the data journalist vis-a-vis the traditional journalist has undergone quite a change. The sheer power of data brings forth both opportunities and challenges, but the industry has managed to hold an overall positive outlook. Reflecting this sentiment in 2010, Tim Berners-Lee, the founder of the World Wide Web, presciently said, 'Journalists need to be data-savvy. It used to be that you would get stories by chatting to people in bars, and it still might be that you'll do it that way some times.

‘But now it’s also going to be about poring over data and equipping yourself with the tools to analyse it and picking out what’s interesting. And keeping it in perspective, helping people out by really seeing where it all fits together, and what’s going on in the country.’

This leads us to the next essential part of data journalism – the story itself.

The making of the story, though varying widely depending on the topic involved, follows a few general principles. Firstly, one has to choose where to use data as a tool and why to use data as a tool. The most convenient approach towards choosing to tell a data story is to select an area of interest where data is readily available. This could include stories pertaining to economics or finance, healthcare, census, socio-economic surveys, etc. While the accessibility of data leads to a more streamlined reporting, data as a tool is also necessary here as the numbers by themselves paint a larger picture of systemic issues. However, the data journalist Kuang Keng Kuek Ser urges identification of some common goals that the story aims to achieve, so as to warrant the use of data. These are:

- There is a question or hypothesis that requires data as proof or otherwise. For example, a story that wants to chart whether police brutality has gone up or down in subsequent years.
- There is a dataset that needs investigation. For example, if a news organisation receives leaked documents and needs to run a story after verification.
- There is a complex dataset that can be made succinct and useful for the public. For example, the government releases census data and a story can be done to review literacy levels across states.
- A topic will benefit from data as evidence. For example, a story that explains the effects of climate change with a study of the rise in sea levels.

After a topic is decided, it is time to gather sources that offer reliable data. Common sources include government open data projects, international data portals, research papers or journals, reports from civil society organisations, databases from professional boards/councils/associations, data from online services in the form of application programming interface (API), crowdsourced data, etc. The next section lists the tools that can be used to access data. As mentioned in the section on challenges, an ethical review of data is an important step. Kuang Keng Kuek Ser recommends creating a ‘data biography’ which contains a list of questions that can *prima facie* help evaluate data. These include, but are not limited to, questions like:

- Is the data accurate?
- Does it reflect the real-world objects?
- Did you get the data for the relevant time period?
- What is the most recent data?
- If newer data is not available, why not?
- Did the collection method change over time?
- Are all data values clearly defined by the data provider?
- Is there another source that collects similar or parallel data which is more reliable?
- Why are parallel datasets different?
- Why, when and how was the data collected?

After a dataset is accepted for use, what follows are technical steps, the tools to which are listed in the next section. These steps include processing the dataset by either manual logging or with software and then sorting it.

The next step is analysis. It helps find patterns in data. The goal is to find clear insight from the vast volume of data that is being processed. In data journalism, analysis includes statistical and mathematical procedures to extrapolate information and find insights. The goal is to find trends (how variables interact), contrast (differences among variables that can be compared) and outliers (data that deviates from average behaviour). These steps let the data journalist establish correlation and/or causation.

Post data analysis, the consequent aspects of storytelling needs to be informed by a traditional understanding of journalism, that is, with a focus on effective and impactful presentation. Technology, in this step, provides the potential for using visual tools. Increasingly, audiences prefer visual content because the brain processes visuals faster than text. An argument can be made that the current increase in the popularity of data journalism stems from the widespread embrace of data visualisation as a tool. However, as visualisation has become important for distribution, it cannot be looked as a replacement for narrative journalism. As Cynthia O'Murchu of the *Financial Times* puts it, 'I think it's important to stress the "journalism" or reporting aspect of "data journalism". The exercise should not be about just analysing or visualizing data for the sake of it, but to use it as a tool to get closer to the truth of what is going on in the world. I see the ability to be able to analyse and interpret data as an essential part of today's journalists' toolkit, rather than a separate discipline. Ultimately, it is all about good reporting, and telling stories in the most appropriate way. (…) Ideally, you use the data to pinpoint outliers, areas of interest, or things that are surprising. In this sense, data can act as a lead or a tip off. While numbers

can be interesting, just writing about the data is not enough. You still need to do the reporting to explain what it means.'

In the current landscape, most media houses have independent technical departments where journalists have singular assignments to work on data driven news. Pioneered by *The Guardian* and its Data Blog, other influential departments include those at Reuters, *The Washington Post*, Bloomberg, *The New York Times*, etc. Economics based outlets especially use the tools as numbers are freely available and simplification is both required and easily achievable. An example of the same is the 'Bloomberg Billionaire Index', which is a dynamic ranking of the world's richest people with sub stories on their companies, their returns and losses as well as net worth analysis. News outlets have also started to use graphic data stories, especially on their social media channels in an attempt to cater to the fast paced and mobile nature of the medium as well as to generate interest for their traditional content. A popular example of the same is of *The Economist's* 'World's Most Dangerous Cities' infographics, which went viral on social media and eventually led readers to the publication's stories on Latin America's drug and trafficking issues.

These stories also highlight the change in the way readers interact with media stories and the change in the length of news cycles, as 'virality' has become a factor to consider in online news. However, not all data stories are necessarily succinct or meant for consumption on social media. Many reporters use data to map an overarching narrative of interest that may span several years and topics. An example is of *The Telegraph's* data story on Africa and the opportunities and challenges that it is probable to face in the next 100 years, with the data of the last 100 years. Designed especially for long-form reading, it included multiple forms of data visualisation that blended coherently with its narrative and hence showed how data journalism can also work in tandem with and complementary to traditional journalism. Data stories can also be used as a tool for investigative journalism especially vis-a-vis those who hold power. Its example includes the *Wall Street Journal* story which distilled the US president Donald Trump's multiple potential political and financial conflicts of interest that implicated his family. It showed his web of business holdings and relationships with a literal visual web, which gave the reader an instant takeaway and was, thus, effective.

10.5 TOOLS FOR DATA JOURNALISM

Data analysis and creative visualisation is rooted in reporting and research, but it is enabled by software. The following is a list of technology products that enable data journalism:

- *Acquiring data:* sourcing data is a research exercise where the source varies depending on the context of the story. Datasets

which are a bundle of statistics are usually provided by a single data provider, which could be organisations or governments. Government data can be one of the most important sources, as apart from the data itself, inquiries into the way it has been collected and recorded by the government can be very useful in unearthing the larger ways of government policy. Government data is usually available on either specific ministry websites or published through exercises like the census. For India, many datasets are made available on the website data.gov.in in compliance with the country's open data policy. Some organisations that freely provide wide-ranging datasets include UNData, World Bank, IMF, Eurostat, etc. Public Data Explorer, a Google tool, can also help in finding varied data sets that are in the public domain. Other open-source catalogues include DocumentCloud and GitHub.

- *Data biography:* after gathering sources, it is important to vet data. For practising responsible journalism, every kind of source needs to be held accountable including data source. It is essential to question data vis-a-vis where it is originally gathered from, how it was gathered and what it signifies with respect to the story. Specifically, data should also be contextualised in terms of which time period it is from and whether all individual data units work in tandem (are in the same numerical unit, etc.) This step is essential to address any bias that the data source reflects and further eliminate misinformation. It is also helpful in case any aspect is overlooked in the first step of acquisition. Also, data enquiry changes situation to situation and does not follow a specific example. However, the information design expert Heather Krause has open-sourced her data biography template online.

- *Sorting data:* the primary step while working with data is to arrange it in a meaningful order, so it can be ready for extrapolation of information. The most basic tool to do that is via spreadsheets – the most widely available resource in the category being Excel but cloud-based spreadsheets, like Google Sheets, are fast catching up. LibreOffice Calc is a popular open-source and free alternative to Exel. However, if the reader is working with code, they can make use of the libraries or packaging of the relevant programming languages. Popular languages like Python and R have libraries that help gather data from the internet via web scraping. Its open-source libraries include Scrapy and Rvest. Data can also be extracted from PDFs, either manually with Excel or via web scraping with Tabula.

- *Cleaning data:* before analysis, data can require manipulation. Packages are available for coding languages to wrangle data. These include, for Python, the NumPy or Pandas and for R, dplyr and tidyr. Other open-source tools include DataWrangler and

OpenRefine.

- *Analysing data:* again, Excel is the most basic tool for analysis, but advanced statistical applications can also be used. SPSS and Stata are paid software generally used for statistical analysis, but programming languages like Python and R can be used for data modelling, with tools like Statsmodels and Statmod.
- *Visualising data:* presentation is a key step for data journalism, and there are many open-source resources available for creative presentation. For those working with Python or R, you can use Plotly or Ggplot. Visualisation can also be done with other tools like Tableau, TileMill, ArcGIS, etc.
- *Reporting:* for visual reports, data visualisation tools (as mentioned above) can be used or the reader can additionally refine their resulting infographics in applications like Adobe Photoshop, Adobe Indesign, Adobe Illustrator or web-bases services like Canva.

The next frontier in the data-driven storytelling, as mobile devices guide media consumption patterns, is the news application and newsroom analytics. In the case of a news app, different from its preceding versions, an application now derives popularity from the personalisation it offers. Further, data needs to be manipulated into shorter bites, as they do not, in their short format, accommodate huge infographics, charts or maps. There, thus, comes a third aspect of design, which is related to both technology and journalism. Since these are personalised variants of information, there needs to be access to simple graphics and simpler databases. The process here is the same as with normal data stories but the tool is design heavy, as the formatting becomes the most important aspect. As far as newsroom analytics is concerned, it needs further coding expertise, that is specific to web development, search engine analytics and optimisation.

Though seemingly overwhelming, the technical aspects of data journalism can be mastered with persistence and practice. There are many portals online, targeted towards the training of data journalists, that can be useful for both learning and referencing. Online courses are offered by independent institutes as well as established universities. Some free sites like Coursera and SkillShare, also host these courses. Additionally, as media narrative methods change, it is also helpful to keep updated regarding new tools and mediums.

10.6 DATA REPORTING SKILLS

For effective communication in the field of data journalism, it is increasingly necessary to be technologically proficient. This is because reporters have to procure, clean and study digital archives. The goal then is to find a synergy between a technological and a journalistic viewpoint.

Skills attached to it include a keen interest in news and the social sciences along with basic programming acumen. It can, thus, be said that data journalism is interdisciplinary in nature. A basic plan regarding the skills required for effective reporting can be described as follows:

- *Expanding knowledge base:* since working with data revolves around analytics, it usually bridges information gaps between various sectors. Thus, a wider knowledge base is a requirement for more aware and accurate reporting. The key here is to keep up to date vis-a-vis current affairs and the usual state of the world. The best way to ensure that is to read as much as possible. Reading theory is important, so coherent and objective arguments can be made. But, especially important is to read other people's reports. This can give updates on the news but also keep one updated on contemporary ways of storytelling. Statistical knowledge is also important, as it builds capability for effective analysis, so it is important to track new data published especially by government sources. Finally, a foundational understanding of creative aesthetics is also useful.

- *Practising writing:* even as the method of investigation in the field is data driven, it is equally important to be able to convey the information in a succinct and simple manner. To achieve that, it is important to reference traditional methods of storytelling and hence practice writing and experiment with different forms of writing.

- *Introduction to programming languages:* though basic data journalism can be achieved with simpler tools like Excel, learning coding is increasingly becoming essential for data journalism. Coding helps in finding better methods to present information. Moreover, with the constant digitalisation of media, web developing can be an important asset. While technical aspects of working with data can eventually be outsourced or delegated, it is helpful to have a larger understanding of the tools employed in analysis. This also helps keep the tools itself free of additional bias and ensures effective innovation.

- *Building toolbox:* based on the nature/context of your specific work, it is helpful to have for yourself an arsenal of software that you can use for analysis and presentation. You would then be required to build proficiency in your chosen tools. However, most importantly, you also have the capability to pick up skills – owing to the fast-paced nature of technological innovation as well as a willingness to learn.

10.7 CONCLUSION

As described above, data has become both an essential source to draw from as well as a powerful means to tell a story. Data journalism

has become a crucial convergence of quantitative evidence, narrative storytelling and interactive visualisation. A good data story is one that effectively uses data to either simplify a complex record or one that uses data to demand accountability. Both these functions have been transformative in the contemporary media landscape, as it has made both journalism and the journalist accessible to the general public. Given this importance, it has now become a field unto itself with researchers studying its consequences as well as reporters pioneering ways for its betterment. Media houses have managed to address the growth of the field by hiring more people on the beat and commissioning more data driven pieces. However, the challenge now is to critically engage with the vast amount of data available while continuing to call for more openness and transparency in data sharing.

10.8 CHECK YOUR PROGRESS

1. How has data journalism evolved and what led to its rise?

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   _____
   _____

2. Comment on the ethics of data journalism.

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   _____

3. What are the steps needed to creating a data story?

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   _____
   _____
   _____

4. What are the challenges faced by the open-data movement?

   _____
   _____
   _____
   _____
   _____

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UNIT : 11 INTERNET RADIO AND PODCASTS

:: STRUCTURE::

11.0 Introduction

11.1 Learning Objectives

11.2 Basic Concepts

11.3 History of Web Radio

11.4 History of Podcasting

11.5 Podcasts on the Cloud

11.6 DRM on Cloud Platforms

11.7 Popularity of Internet Radio and Podcasts

11.8 Content Writing, Production and Distribution of Podcasts

11.9 Conclusion

11.10 Check your progress

11.11 References

11.0 INTRODUCTION

Internet radio and podcasts are slowly becoming a powerful medium. The digital audio landscape has undergone a significant change since the days of iPod and other MP3 players after the internet became more widespread and affordable. While mobile phones have killed MP3 players, digital audience for audio content has continued to grow. Both internet radio and podcasts are old formats which have acquired new meaning in the days of broadband connectivity. Now streaming is new norm even for podcasts, which till recently could be played only after they were downloaded on local devices, like desktops or iPods. In this unit, we will study how internet radio and podcasts developed and changed their essential character over the years, technology used in

producing podcasts, the development of audio streaming platforms and the role of podcast-hosting services.

11.1 LEARNING OBJECTIVES

- Understand the origin and spread of internet radio and podcasts
- Learn the contribution of Apple in popularity of podcasts
- Understand why podcasts directories matter
- Learn aspects of podcast production

On the completion of this Unit, you will be able to:

- Differentiate between internet radio and podcasts
- Understand the role of early technologists in the development of online audio programming
- Learn how RSS feeds work and are a fundamental feature of podcasting
- Learn aspects of creating, editing and distributing podcasts

11.2 BASIC CONCEPTS

Before we start a discussion on web radio, podcasts and other audio instances stored in or communicated through digital medium, it is important to understand how basic concepts and definitions are applied in this domain. Web radio has come to mean the streaming of digital audio using a web server where the receiver can be any device connected to the internet. It is variously described as internet radio, IP radio, streaming radio, online radio, etc. An important ingredient of web radio is that it is streamed live, as against a digital platform letting listeners download and play audio files on demand. What sets it apart from radio waves broadcasts is that a web radio programme can be accessed by users all around the world and on multiple platforms at a small cost.

On the other hand, podcasts are digital audio files, which are mostly downloadable and can be played either in an offline environment in a computer or mobile device or in a browser or app, depending on the delivery platform chosen by the creator or the distributor.

Podcasters create episodes of their programmes in a studio environment and edit it comprehensively before releasing it on digital platforms. Web radio shows, on the other hand, are streamed live, unedited, just as a news bulletin on a TV channel is broadcast. However, a web radio show can have a combination of podcasts plugged into the timeline of a live bulletin. Due to the nature of live shows, web radio stations generally do not allow downloads of their streams, and, therefore, if the listener is not present during the streaming of the show, they will miss it. A podcast, in

contrast, is available on demand and, therefore, does not require the live presence of its audience.

The term 'podcast' is a combination of 'pod' from Apple's successful audio player iPod and 'cast' from 'broadcast'. Apple launched the first iPod in 2001, which soon dominated the MP3 player market. In this period, downloading and possessing a large number of songs in digital format, in contrast with audio tapes, was a rage. Apple chose the name 'iPod' after careful consideration to mean the device as a 'pod', or smaller ship, to the larger mother ship, which metaphorically meant Apple. This imagery was inspired from science fiction cinema, particularly *2001: A Space Odyssey*. Taking the metaphor further, *The Guardian* writer Ben Hammersley is said to have first used the term 'podcasting' in an article on the popularity of online radio in 2004. Soon after, the term became popular in the podcasting community of content producers as well as software developers. Many users reject this term because of its association with the Apple brand and, instead, prefer a brand-neutral term 'netcast', but it continues to be widely used. In 2005, 'podcast' was declared the word of the year by the New American Oxford dictionary.

A related and confusing term to podcast is live podcast. Many people confuse it with live web radio shows which have recorded segments. However, the correct meaning of the term is a live programme recorded and produced as a podcast for the digital audience. It may or may not be streamed live while the event is taking place, but it is distinct from a live radio show, since it is not produced regularly with a set format.

As podcasts became popular and even big organisations started offering their shows as podcasts, another related concept emerged with video element in it. It came to be called video podcasts or videocasts. Since podcasts are generally episodic in nature – though the term can be correctly applied to stand-alone programmes as well – even video podcasts retained this quality. Both podcasts and video podcasts are published periodically, usually through web feeds, like the RSS (really simple syndication) feeds, which users read through third-party feed aggregators. Most media players allow fetching data offered by the publisher's RSS feeds. Apple's iTunes and Spotify lead the chart of media players/websites preferred for accessing podcasts.

Since an RSS feed is integral to the definition of podcast, many people argue that any file that can be delivered to the user episodically via an RSS feed is a podcast. Thus, even PDFs and epub files become podcasts if a publisher decides to deliver books or textual material episodically to readers via a periodically updated RSS feed.

11.3 HISTORY OF WEB RADIO

Historians of technology more or less agree that the history of internet radio begins with the efforts of the American technologist and

writer Carl Malamud, who launched an internet radio station called Internet Talk Radio in 1993, in which he interviewed computer experts and other public figures every week. This show, called 'Geek of the Week', was an audio programme which was distributed through the internet. It was not streamed online. Listeners were required to download these talk show files. After initial experiments, Malamud started multicasting, which included live audio feeds in the form of news shows. He used a network of academic and industry websites in different parts of the world to simultaneously host and stream his shows.

This network was built on a virtual network called the Mbone, short for multicast backbone. In fact, the history of internet radio runs parallel with the technical development of the Mbone. In the early days of the internet, concerns about bandwidth consumption abounded. Most ISPs would disable multicasting in routers to save bandwidth. The Mbone developed to circumvent this restriction and reduce data consumption while communicating audio and video files. The idea was developed in March 1992 on the suggestion of the researcher Allison Mankin, who could not make it to an official event due to her advanced pregnancy and wanted to hear the event proceedings as audio feed. Researchers paid heed to her suggestions and created a network that came to be called the Mbone. Malamud's station could become a reality only because the Mbone had developed enough to host his shows.

An important aspect of the Mbone was that it needed a powerful computer and a high-speed internet line to operate, both of which were rare in those early. This restricted the use of the Mbone-based programming to universities, government departments and big companies.

Around the time of Malamud's initiative, many other individuals and organisations were experimenting with the same format. In On 24 June 1993, a California-based rock band Severe Tire Damage broadcast a concert, which became the first concert to go online. The Rolling Stones was the first mainstream band to broadcast live on the internet in 1994. The legendary singer Mick Jagger said at the opening of the live concert, 'I want to say a special welcome to everyone that's climbed into the Internet tonight, and has got into the Mbone, and I hope it doesn't all collapse!' Apart from the live audience, Stones concert was watched live on 200 computers, where it lasted for about 20 minutes.

Soon, the music industry adopted this format and many channels devoted exclusively to music appeared on the internet. Even Malamud and his group of academics and technologists started a rock music station in January 1994.

Early 1990s were an exciting time for internet radio. This space soon started mimicking conventional radio in terms of genre differentiation and the nature of programming. Ireland's national public broadcaster Raidio Teilifis Eireann (RTE) became the first conventional radio station

to take its bulletins online as internet radio under its RTE To Everywhere project in early 1994. Termed as an experimental project, which lasted till 1998, it allowed Irish-speaking people to access selected news programming of RTE Radio 1 in different parts of the world. It also included an English bulletin 'Morning Ireland', so this was also the first English news bulletin on internet radio.

Soon, major conventional radio stations started experimenting with internet radio. They would put parts of their programming online and some of them also experimented with putting live streams online. The next big intervention in this space came with NetRadio.com. Its importance lay in the fact that it was the first internet-only radio network without having any presence on airwaves. It was started by the one-time radio broadcaster Scott Bourne. At the height of its popularity, it offered 125 channels.

In 1996, things turned around for internet radio when Virgin Radio made its FM feed live on the internet so that both its FM and online listeners heard the same programme at the same time. This was a major development and could be called the first complete online live radio moment in the history of internet radio. Its importance also lay in the fact that Virgin Radio was the first commercial radio to go online. Earlier attempts were more experimental than commercial enterprises. The streaming radio pioneer Gavin Starks, who worked with Virgin Radio in 1995 took up the challenge to take the FM radio feed online. He said in an interview: '… I bought a £30 FM radio, tuned it in to Virgin Radio, plugged the headphone jack into my desktop PC, and streamed it out onto the web.'

11.4 HISTORY OF PODCASTING

As noted above, podcasting, though sounds similar to web radio, is different in the sense of it being periodic in nature which users can listen to on demand rather than on the schedule set by the broadcaster. The process of delivery of audio files to the user, thus, becomes the difference between web radio and podcasts even when the content in both of them can be the same. The episodic nature of podcasting sets it apart from web radio as well. The episodic nature was made possible through the concept of the RSS feeds, whose first set of specifications, called RSS 0.9, were published by two Netscape employees Dan Libby and Ramanathan V Guha in 1999. This sets apart the availability of the building block for podcasting from web radio by at least six years. However, RSS 0.9 was still not ready to include media files. In 2000, the work of the French entrepreneur Tristan Louis and the American developer Dave Winer enriched the RSS standard further to include audio and video files, which was published as RSS 0.92. This set the stage for the development of podcasting. Within a year, by October 2001, we had the first iPod, which took the music world by storm and by 2004 we had the term 'podcast', as noted above.

The podcast sector developed in close integration with technological advancements in publishing podcast feeds on different platforms. In June 2003, the Canadian designer Stephen Downes created a platform to pull podcast feeds from different websites to create an online radio station Ed Radio dealing with learning and educational technologies. This station aggregated web links to audio files in MP3 format through RSS feeds and present it to listeners as a single file. However, Winer's first RSS feed created a few months later in September 2003 is considered the first podcast. It contained interviews conducted by Christopher Lydon, the former host of the National Public Radio, an American non-profit media organisation.

However, it was not until late 2003 or early 2004 that podcasts could be sent to iPods for offline listening in a portable device. The American media personality Adam Curry released an AppleScript library RRS2iPod in October 2003 that allowed content creators to send MP3 files to iPods using iTunes. It came to be called a 'podcatcher' script on which a graphical user interface (GUI) could be added to make the process of sending files to iPods easier for non-developers. The first such podcatcher with a GUI was iPodderX, which was developed by August Trometer and Ray Slakinski in September 2004. Curry also became a famous podcaster and started a podcast-promotion company PodShow. For these efforts, he was called 'podfather', a pun on 'godfather'.

When Apple added a podcast directory to iTunes Store in June 2005 to allow podcasters to add their individual RSS feeds, it became an instant hit. iPod and other users started downloading podcasts in big numbers from the iTunes website. Podcasting became even more popular with the launch of the Apple directory service so much so that even the White House, the seat of power of US presidents, started an RSS feed of its podcasts in the same year, making George W Bush the first head of a state as podcaster.

The next set of development in the podcasting world came in the form of cloud platforms, which we will discuss in the next section.

11.5 PODCASTS ON THE CLOUD

Since Apple played such a big role in the development of podcasting sector, its behaviour towards streaming music and radio shows explains how the thinking within the industry has changed over the years. The iconic Apple co-founder and CEO Steve Jobs did not believe in subscription music and podcasts. He famously remarked in an interview to the *Rolling Stone* magazine in 2003:

We told [record labels] that the music subscription services they were pushing were going to fail. MusicNet was gonna fail. Pressplay was gonna fail. Here's why: People don't want to buy their music as a subscription. They bought 45s, then they bought LPs, they bought cassettes, they bought 8-tracks, then they bought CDs. They're going to want to buy downloads.

Jobs consistently held this view, and so did Apple in the process till his death in 2011. This was the time when Netflix-style streaming models had gained enough traction with users, and the digital content model was decisively shifting towards streaming or subscription rather than downloading individual files. Eventually, Apple conceded the argument in favour of streaming music and launched Apple Music in 2015.

A large part of this push towards streaming platforms was enabled by the easy and affordable access of the internet and the popularity of mobile devices. The pioneers of taking podcasts and music to the cloud, from where they streamed directly to user devices included SoundCloud and Spotify, both of which were launched in 2008 and both in Sweden. Soon many news and established players followed, the latter category included Google and Apple. An important difference between the earlier model of using an RSS reader or aggregator to hear podcasts and the cloud player was that many of the cloud players created paywalls and sold subscriptions, while the earlier podcasts could be heard using the open feed model in any third-party player or feed reader. Thus, the term 'podcast' underwent a change with the emergence of audio-distribution platforms, like SoundCloud and Spotify. Many people argue that cloud platforms only loosely use the term 'podcast' to mean streaming audio files, which may or may not be episodic in nature. Their objection to the use of this term by these platforms is that (a) they do not offer RSS feeds for open and free listening to be used by any third-party app and (b) their own subscription options are platform specific and cannot be exported at feeds.

It means that the only way to listen to podcasts on Spotify, for example, is either to create a user account on its website or use its app. This also means that podcasters' work increases as they now have to publish individual episodes of their podcasts on individual platforms to gain attention of the loyal audience of that platform. In this aspect, audio-distribution platforms are in the nature of YouTube and Facebook, since the content stays on individual portals. (Though this feature is slowly changing. For example, Spotify allows podcasters to add their RSS feeds to their accounts, so that it can automatically pull new podcast episodes on the Spotify network from the podcaster's feed.) Also, like YouTube and Facebook, the podcasts or audio shows on audio-distribution platforms can be easily embedded on websites. Most popular content management systems, like Drupal, WordPress, Joomla, etc. have plugins that allow embedding podcasts from Spotify and SoundCloud directly into a web page simply by adding podcast URLs in the designated fields of the input form of the web page.

Such platforms do not want to operate on the philosophy of open-source software, since they are heavily funded commercial entities and have immense pressure to convert their large user base into revenue. This explains their propensity towards rejecting an RSS-style distribution. One

can see a similar approach by large aggregators or social media players as well, like Facebook. Instead, these cloud-based platforms prefer the application programming interface (API) approach to share data with the developer community. Most large aggregators, social media platforms, ecommerce sites and audio-distribution platforms take the API route to have a controlled interaction with developers, who can make third-party apps to use and distribute the limited content that these platform allow them to share. For example, in March 2020, Spotify launched a new API to allow external developers to access its catalogue of podcasts and music. This was a leap of faith for Spotify, as till then it believed in restricting all usage to within its platform. Even with this API, it did not allow developers to access its library of podcasts.

There is another class of podcasting platform that the reader should carefully look at. They are called podcast-hosting service, which includes popular players like Podbean, BuzzSprout, Blubrry, etc. These platforms act like any other web-hosting service with a focus on podcasting and audio streaming. One can also see them as a content delivery network (CDN), like the popular AWS, which allows web administrators to host media files separately from the regular web content for a faster delivery. Unlike a CDN, the podcast-hosting services also have features similar to audio-distribution platforms, where a user can directly search for the most relevant podcast on, say, the Podbean website, rather than on the website of the podcaster who would have uploaded that podcast on Podbean. Despite this feature, the primary task of a podcast-hosting service is to allow the podcaster to upload, store and distribute their podcasts for a fee. Unlike audio-distribution platforms, where the listener pays to have unbridled access to podcasts, on a podcast-hosting service, the podcaster pays for server space and bandwidth. The podcaster then easily embeds these podcasts on their website. Another feature that distinguishes a podcast-hosting service from the audio-distribution platform is that it allows publishing RSS feeds for podcasts, thus letting listeners use their favourite feed readers or players, even when nothing is getting downloaded on their devices.

11.6 DRM ON CLOUD PLATFORMS

With the emergence of cloud platforms for streaming podcasts and music has emerged the concept of digital rights management (DRM). Many individual and corporate content producers want to ensure that their content becomes available to listeners and viewers for a subscription fee. The success of platforms like Spotify, Netflix, Amazon Prime, etc. depends to a large extent on how they manage the piracy issues and control user rights on their platforms. DRM technology allows them to check illegal playing of premium video and audio content, stop mobile devices and desktops from using screen-capture software for piracy and manage the number of users per subscription account.

There is hardly any major streaming platform which does not protect its content through DRM technology. The popularity of streaming media has ensured that big tech companies have started offering DRM licenses. Google's Widevine, Microsoft's PlayReady and Apple's FairPlay are the leaders in this category. It is worthwhile to note that streaming platforms do not bank on just one type of DRM technology. The user will rarely find a major streaming platform using, say, only Widevine even if most of its content is viewed on either Android devices or Chrome web browser, both of which are Google properties, just as Widevine is. Content producers, which may include celebrity journalists or big media houses which offer premium content, want to secure their content on all devices – be they mobile phones, smart TVs, personal computers or gaming consoles – and across operating systems – including Android and iOS. This has given rise to a multi-DRM approach, in which third-party content packagers encrypt content using DRM licenses offered by companies mentioned above, which are then decrypted in the user device after authenticating user credentials from the servers of DRM license providers. This approach decrypts only bits of media files at a given point of time, thus not giving a chance to users to perform any illegal functions, like copying media files or running concurrent streams in a larger number than allowed under the subscription plan.

The reader should also keep in mind that the multi-DRM approach to protecting content works best with the cloud option, like in the case of Spotify and Netflix. For this reason, it is also referred as multi-DRM SaaS (software as a service). A multi-DRM SaaS is a third-party service offered in the cloud where the content produces simply buys a subscription plan and starts encrypting their content with DRM licenses offered by Google, Microsoft and Apple. The encrypted media files are moved to an industry-grade content delivery network (CDN), like the one offered by AWS. Most content producers or over-the-top platforms store their encrypted media files in CDNs from where their apps play these files when users make requests from their devices.

At the same time, DRM technology can protect offline content. Both Spotify and YouTube offer offline play options to their users, through which they can play downloaded podcasts/videos even when their devices are not connected to the internet. Spotify offers this option to paid users, while YouTube lets content producers decide if they want to allow downloading of their content for offline use. However, such streaming platforms manage to protect their offline content with DRM technology quite effectively. Many users tend to think that because they have downloaded an episode, they can access its file and transfer it to any device they wish. In reality, these files are downloaded in encrypted forms to users' devices in the folders of the apps. For example, the YouTube files are downloaded in the YouTube folder of the SD card of a mobile device. These files cannot be accessed by users even if they have root access to the device. Even if they manage to access the files, they

cannot be played because they are encrypted using DRM technology. In the case of Spotify, where the offline mode is enabled only for premium subscribers, all offline files are locked as unusable once the premium subscription expires.

11.7 POPULARITY OF INTERNET RADIO AND PODCASTS

The audience size of internet radio and podcasts is steadily becoming larger across the world, including in India. Intelligence- and data-gathering agencies have started creating a special segment for measuring audience engagement for internet radio and podcasts. On the one hand, it shows that this audience segment has become large enough to be studied and, on the other, that advertisers have shown faith in this segment. Though trends indicate that this is not as popular as online video segment, it is large enough to attract widespread attention.

The US-based research agencies Edison Research and Triton Digital have concluded that there has been a steady rise of audience of internet radio in the US since 2007 and about 67 per cent of all Americans over the age of 12 had accessed online radio at least once by 2019. An analytics company ReportLinker estimated the size of the internet radio market at USD 2 billion in 2020 and project its size at USD 6.3 billion by 2027, with China alone hitting the value of USD 1.1 billion. According to this report, the largest markets for internet radio segment by 2027 will be the US, China, Japan, Canada and Germany.

The podcasting business has also shown a steady growth all over the world. Advertisers and researchers measure the popularity of podcast aggregators and cloud platforms by the number of downloads their apps get on Android and iOS operating systems and the number of visitors the platform websites have. Over the years, Apple has ruled the world of podcast aggregators. However, the rise of Spotify has challenged Apple's pre-eminent position. MIDiA, a market research firm, claimed that in the last quarter of 2019, the Spotify app ran neck and neck with Apple Podcast app in the four markets – the US, the UK, Canada and Australia – it studied. The Spotify platform is a combined platform for streaming music and podcasts, while Apple has two different apps for the two categories. Market watchers expect Spotify to challenge the combined popularity numbers of Apple Music and Apple Podcasts in future. An important finding of this survey is that when national broadcasters go online, they become a serious challenge for internet-only players, like Spotify and Apple Podcasts. The survey notes that national broadcasters do better in the podcast segment than in music because of their expertise in producing programming in current affairs, business, social issues, etc., which are also covered by podcasters.

Ofcom, the communication business regulator in the UK, claimed in a report published in September 2018 that the UK had become a booming market for podcasts with nearly six million people accessing podcasts

once in a week. It claimed that this number had doubled in the five years preceding the time of the publication of the report. Most interestingly, it made the following observations about content consumption, which the reader may find useful to study:

- comedy emerged as the most popular genre of podcasts, followed by other entertainment-related genres, like music, TV and cinema;
- expectedly, young listeners (under 35) formed half of the audience of podcasts, whose share in the traditional radio segment was only 29 per cent;
- most listeners accessed both online radio as well as traditional radio; and
- podcasts from traditional broadcasters, like BBC, were popular in online medium as well.

Though this is a study of only one market, it shows trends which can be identified in other markets as well. Chartable, an organisation that studies podcast analytics from around the world, claims that from 2016 onwards, the content production on podcasting platforms has increased manifolds, with 2018 being an exception year. Out of the large number of podcasts it tracked, it noticed the launch of an average of 575 new podcasts every day in 2018. Though this is an insignificant number in comparison to how much content producers create for video-streaming platforms – for example, YouTube alone has 35 million channels in 2019 – but for a sector that bloomed late, it shows a large push upwards.

The Ofcom survey quoted above shows that slowly organised podcasting is gaining a foothold and traditional broadcasters are finding their way online successfully. Podcasting is generally considered a space where individual content producers can connect directly with audience and build a following for themselves, but as this space gets more organised, we can expect big money influencing the choices of audience just as it does on social media and video-streaming platforms. Podcasters episodically publish their podcasts through RSS feeds, but they rarely produce daily podcasts. In fact, the first daily podcast was started by a traditional media entity *USA Today* as late as in October 2016. *The New York Times* followed it with 'The Daily' in February 2017. It continues to one of the most popular podcasts on all charts. Soon, NPR, *The Guardian, The Washington Post* and *The Economist* followed and now almost all major media houses are in the podcast business even if they do not run live internet radio channels.

11.8 CONTENT WRITING, PRODUCTION AND DISTRIBUTION OF PODCASTS

Internet radio and podcasting requires content planning in the same way as it happens in any other newsroom. Its content has the same genres that

a traditional TV or terrestrial radio channel may have. However, the audience preference keeps changing and may not reflect the same trends that a TV audience does. For example, a Nielson survey in the US market found the following popular genres in podcasts: music (61.1 million US households having at least one member preferring such podcasts), TV and movies (60.5 million households), comedy (59.9 million), technology (58.9 million) and kids and family (58.7 million). This list shows how audience and podcasters are creating content in matured markets.

Podcasters and radio content producers need to study this aspect of the internet radio and podcast market when they decide to start a career in this field. Of course, podcasters are driven by their interest, but they should also keep an eye on the listener preference. Below we discuss what aspects go into creating successful and engaging podcasts:

- *Research:* a podcast is generally a whole episode devoted to a topic divided into segments within a broad theme. For example, a technology podcaster has the mandate to cover aspects of the technology theme and can choose topics per episode. One week, the podcaster may cover five segments on mobile phone security and in the next week, they may discuss privacy concerns on social media. The podcaster should research all aspects of the topic they want to cover thoroughly and then divide the show into packages.
- *Topicality:* while podcasts fall into many genres and appeal to audience the way, say, a YouTube channel does, the podcaster should try to be as topical as possible. Needless to say that there are evergreen genres – for example, history-based shows, travel, food, culture, etc. – topicality makes podcasts search-engine friendly and social media ready. Shows created around current events are likely to become popular faster than the generic ones.
- *Data presentation:* if the podcaster uses data in their podcasts, they should be extra careful in communicating the right set to the audience. Depicting data in the audio format is a challenge which radio broadcasters have faced for a long time. An effective way to present data is by creating a short script around it in clear, full sentences as an argument and then reading it out. The podcaster can also record the data script separately and then add it to the main voice over in the timeline of the editing software.
- *Quotes:* the podcaster should try to have another narrator to present quotes of people mentioned in the podcast if they are not recorded in the voice of the person quoted or are in a different language than the language of the podcast. It is usual for podcasts to have quotes from the field which may be in a different language and need voice over. Separating the podcaster's voice from that of the voice over narrator who reads out quotes gives a clear indication to the audience that the second voice is being quoted.

- *Scripting:* podcasts can contain packages, interviews, extempore narrations, voice over around live events or historical recordings. In each case, the podcaster should script accordingly. For example, in news-based podcasts which has packages, the treatment becomes similar to that of a TV news bulletins, in which a package is a stand-alone story with its own script and quotes, and all such stories are joined by the anchor text which is read out by the podcaster. Interview-based podcasts can be straightforward question-and-answer sessions, but the podcaster should pay special attention to the opening and concluding remarks, which can be scripted. Many podcasters prefer the extempore route, especially in the comedy genre, something that has lighter content or in studio discussions. In such cases, the podcaster should have broad arguments and discussion points ready, after which the podcast takes shape depending on the responses generated by studio guests or co-podcasters.

Podcasters need two types of technology to create programmes. The first type is hardware, which includes recording equipment, multiple microphones, a simple computer and a good internet connection. In the software category, there is an option galore. A rule of thumb for choosing the right editing software is something that the podcaster is comfortable with. The choices include PC software and cloud-based software. In comparison to video editing, sound editing is much cheaper and has a rather flat learning curve. Its software are either free to use or are cheap. The popular open-source software Audacity is one such professional software. It takes care of most needs of podcasters and is free to use even for commercial purpose. Given that it is available for Linux, Windows and macOS and create output in common free and proprietary audio formats, it has become a sought-after piece of software.

As the internet becomes cheaper, there is a clear movement of users towards software-as-a-service (SaaS) model from the offline approach. Podcast production, particularly audio editing, is no exception to this trend. Popular podcast-hosting servers contain their own audio editors in the cloud, just as users can edit videos online. Anchor.fm is one of the most popular podcast-creation SaaS with a powerful audio editor. This Spotify-owned tool is an advanced platform that allows podcasters to create, edit and distribute podcasts. It even allows publishers to automatically add their episodes on different podcasting directories. Anchor.fm performs more tasks than just be an audio editor, but if the reader prefers to use only audio editors, there are many free options available in the cloud as well as desktop versions.

Once a podcast is ready, the next challenge for the podcaster is to ensure that it reaches the right audience. Podcasting market is fragmented, with no one player completely dominating the scene the way YouTube does for videos. This diversity is both good and bad for podcasters. On the

good side, it allows them to exploit varied audience sets and choose platforms that suit them the most. On the downside, they need to support multiple accounts on different platforms and keep publishing their podcasts regularly. An effortless way to tackle this problem is to always use RSS feed on the podcaster's website or any podcasting-hosting service. Adding the RSS feed URL to each podcasting platform is a one-time task. Once done, every time the podcaster publishes a new podcast, it will be made available on all these platforms simultaneously, be it Apple Podcasts, Spotify, Google Podcasts, Stitcher, Tune In or any other aggregator. The podcaster should keep reading latest podcasting trends to see which directories (a podcasting platform is also called a directory) are most relevant to their genre of podcasts.

11.9 CONCLUSION

We have seen above that both web radio and podcasts have a richer and older history than that of video streams. While the omnipresence of YouTube and Facebook videos can suggest a different narrative, the reality of web radio and podcasts is understated, though it is immensely significant. From individual podcasters, educational institutions, traditional media houses to even heads of states, everyone loves to podcast. The rebranding of iTunes and Apple Podcasts and emergence of Spotify as the most dominant player in this segment shows that this domain will give video streams a run for their money.

11.10 CHECK YOUR PROGRESS

1. Describe the role of RSS in the popularity of podcasts.

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   _____
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2. Explain the contribution of Ireland's RTE in the development of online radio.

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   _____
   _____
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3. How did podcast streaming start? Describe the difference between podcasts delivered through cloud platforms and RSS feeds.

   _____
   _____
   _____

4. How do podcast-streaming platforms protect their audio content against illegal download?

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_____
_____
_____
_____

11.11 REFERENCES

Web Pages

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Videos

- 'Should I Start a YouTube Channel or Podcast? (Pro & Cons)': https://www.youtube.com/watch?v=FoKatmgXcYw
- 'How to Record and Edit a Podcast in Audacity (Complete Tutorial)': https://www.youtube.com/watch?v=xl-WDjWrTtk
- 'What Makes a Great Podcast?': https://www.youtube.com/watch?v=OFfR-7cCmdc
- 'How To Make Money Podcasting': https://www.youtube.com/watch?v=xGF_Jqtq4c0

- ‘How To Set Up An Internet Radio Station For Free - A SAM Broadcaster Tutorial’: https://www.youtube.com/watch?v=K_rMNo4tkJc

Books

- *Beyond Powerful Radio: A Communicator's Guide to the Internet Age* by Valerie Geller
- *Podcasting For Dummies* by Tee Morris and Chuck Tomasi
- *Introduction to Podcast Technology: Discover the Essential Tools and Techniques You Need to Record, Produce, and Launch Your Podcast* by David Power

Essay

- 'The Lost Critical History of Radio' by Michele Hilmes

UNIT : 12 MONETISING CONTENT: HOW CONTENT GENERATES REVENUE

::STRUCTURE::

12.0 Introduction

12.1 Learning Objectives

12.2 Rise of Digital Revenue Systems

12.3 Revenue for User-Generated Content

12.4 Digital News and Social Media

12.5 Digital Revenue on Native Media Properties

12.6 Aspects of Advertisement Revenue

12.7 Challenges and Mechanics of Digital Advertising Ecosystem

12.8 Content Paywalls in Subscription Economy

12.9 Donations

12.10 Conclusion

12.11 Check your progress

12.12 References

12.0 INTRODUCTION

Digital content is one of the most consumed 'goods' in the online marketplace. Over the years, publishers have tried multiple ways of monetising their content. They have sold their content utilising a direct-to-consumer model. They have also made content freely available online, depending upon digital advertising to achieve returns. Many publishers also took a hybrid-model approach, which is popularly called the freemium model, in which some content is available for free consumption and some of it is put behind a paywall. Yet others have banked on consumers' good self and raised donations.

All these models have seen fast evolution in terms of technology, measurement, packaging and delivery. While advertising has become more targeted, premium content has become more lucrative for large publishers which offer great content quality and other subscription benefits to their users.

Content models in digital space, especially in the news segments, are fast changing, as publishers and advertisers find newer ways to target the news consumer. In this unit, we will study how digital publishing has created opportunities and challenges for legacy publishers as well as those that depend on social media's revenue-sharing models to survive.

12.1 LEARNING OBJECTIVES

- Study the revenue potential of digital content for publishers and advertisers
- Understand how social media platforms distribute revenue with content creators
- Understand how digital news performs on social media and generates revenue for news producers
- Analyse the revenue tussle between legacy media companies and social media companies
- Study the advertising modules prepared by Google and Facebook for advertisers and content creators

On the completion of this Unit, you will be able to:

- Understand options content creators have to monetise digital content
- Study challenges faced by media organisations in attracting advertisers to their native web properties
- Learn about different types of content paywalls
- Understand terminologies used in digital advertising

12.2 RISE OF DIGITAL REVENUE SYSTEMS

The decline of legacy media and the simultaneous emergence of digital media started in the first decade of the 21st century with momentum shifting towards the latter slowly. The low availability of reliable internet and high access cost to personal IT infrastructure meant that the legacy media could continue to hold sway with audiences and advertisers for far longer despite industry watchers being convinced that the future lay in digital formats. According to the US think tank Pew Research Center, between 1991 and 2007, the average weekday circulation of US dailies declined by about 10 million from 60,687,000 in 1991 to 50,742,000 in 2007. And, since then, it has been going down further. These number exemplify global trends, especially in the developed world. In India, however, the growth of newspapers lasted for much longer.

Just like newspaper executives, the advertising world also remained optimistic on the relevance of legacy media for far longer than the potential of digital media permitted. In 2015, the researcher Rick Edmonds of the Poynter Institute studied the revenue potential of US newspapers and their online products and claimed that only three per cent of the total revenue of an average US newspaper came from digital sources. He also expected the digital revenue to match the print revenue in 2018 at a little over USD 160 million.

In the study quoted above, the Pew Research Center measured that by 2018, the US dailies earned around 35 per cent of their revenue from digital advertising, which more than doubled from 17 per cent in 2011.

An important tipping point in audience preference occurred in 2010s when the impact of social media became visible in the news industry

Percent of newspaper companies' advertising revenue coming from digital advertising

Year	Advertising revenue coming from digital advertising
2011	17%
2012	19%
2013	20%
2014	21%
2015	25%
2016	29%
2017	31%
2018	35%

Source: Pew Research Center analysis of year-end SEC filings for publicly traded newspaper companies that break out digital advertising revenue for each year.

PEW RESEARCH CENTER

around the world. The audience preference started shifting away from legacy media and, even newspaper websites, towards social media. For example, in 2018, around 20 per cent of the US adults claimed that they received news via social media, while the corresponding figure for the print was around 16 per cent. Social media is a new entrant in digital media space which upset the revenue potential of digital news websites even before they could fully dislodge the legacy media from the advertiser's preference list. Facebook and YouTube emerged as biggest gainer in the digital advertising segment. The advertiser's proclivity towards social media cuts across industry segments, trend in which news media lost out on patronage both from the advertiser and the audience. This trend of the advertiser's interest in the digital media also tallies with the immense rise of social media usage across age groups in both developed and developing economies.

Towards the end of the second decade of the 21st century, global and Indian trends in advertising media indicate that TV broadcasts continue to lead in revenue generation for media companies – this includes both news and non-news categories – while digital advertising has the best growth rate across segments and has outstripped print advertising. GroupM, a media strategy and advertising company, estimated the total advertising segment in India in 2020 to touch Rs 91,641 crore, out of which around 30 per cent (Rs 27,803 crore) was the share of digital advertising. It gave the largest share to of about 42 per cent (Rs 38,081 crore) to television

broadcasts and a modest 20 per cent (Rs 18,140 crore) to the print medium. Significantly, the reported noted, the duopoly of Google and Facebook would obtain 70 per cent of the digital advertising pie since the marketers spend on videos, social media and search result advertising. Facebook is the biggest beneficiary of the spurt in social media usage by consumers and advertisers. In the third quarter of 2019, Facebook had seven million advertisers on its platform from which it earned around USD 17.65 billion, a majority of which was came from advertising. Facebook retained the first preference among marketers for years until 2020, when at least 59 per cent of them chose it over other social media platforms in a survey conducted by Social Media Examiner, a resource on social media marketing trends.

These trends indicate that while digital advertisement has overtaken print advertisement in volume, the real winner is social media. Unlike news websites, social media platforms do not produce their own content and are either listing platforms for content generated on other websites or video-hosting providers where users, both corporate and individual, upload their content and share revenue. The revenue-sharing aspect of social media takes us to the next section in which we discuss the revenue dynamics between content producers and platform-owning companies.

12.3 REVENUE FOR USER-GENERATED CONTENT

YouTube popularised the concept of revenue sharing with content creators in the social media space. This trend became so popular that content creators came to be called YouTubers, many of whom professionally started identifying themselves as YouTubers. In many territories, YouTube leads the pack of social media platforms in revenue sharing with creators, though Facebook has also become a significant player in this regard. Facebook started sharing revenue with content creators in 2015, while YouTube launched its YouTube Partner Program to share advertisement revenue with creators in December 2007.

While YouTube and Facebook remain leaders in this space, other popular social media apps and platforms also started enticing creators with revenue sharing. For example, Instagram and Medium also creating revenue-sharing features within their portals. Many of these platforms are late entrants in this category – Instagram, for instance, announced advertisement revenue sharing with creators as late as in February 2020 on popular IGTV, and the short-video app Byte also announced it in the same period – but with an increasing number of social media platforms joining this trend proves that user-generated content has great revenue potential on social media.

Creators need to know that different social media platforms offer different ways of earning money, and it is not entirely dependent on advertisement revenue. For instance, YouTube allows creators to earn through a share in advertisements, raising subscriptions, inviting donations and becoming part of YouTube Premium partner. It has also

created analytics tools to let creators measure and analyse the revenue YouTube shares with them. One such tool is revenue per *mille*, or RPM, as it is popularly known, which shows creators the revenue earned through all possible revenue streams offered by the platform after taking its cut. Another such metric is CPM, which stands for cost per mille and refers to cost an advertiser pays for 1,000 impressions of its advertisement. These metrics vary from region to region, as advertisers may be willing to pay a higher cost for an advertisement in one country and a much lower cost on in a different country. The creator's ability to earn revenue depends on CPM being incurred by the advertiser. In 2019, CPM varied from as low as USD 0.02 in Jordan to as high as USD 15.47 in Maldives, with the US standing at USD 5.33 and India at USD 2.02.

YouTube claims that it shares its revenue liberally with content creators. In February 2020, its parent company Alphabet announced that it shared as much as USD 8 billion with content creators in 2019 on advertisement revenues of USD 15.1 billion and paid subscriptions of USD 3 billion. YouTube claims that it keeps a 45 per cent share in its revenue and offers the rest to content creators. Facebook claims to share an equal percentage with its video creators.

Facebook also lets users sell subscriptions to their fan pages – it added this feature in early 2018 when it allowed influencers and creators to charge USD 4.99 per month to subscribers/fans – and keeps around 30 per cent of the subscription amount as its share. The division of subscription revenue among stakeholders can get complicated at times. For example, a majority of social media traffic originates on mobile devices, where it is consumed through apps, and not necessarily through browsers. This brings in the operating system – Android and iOS in most cases – as a stakeholder, since both Android and iOS charge handsomely for hosting official apps on their app stores. When the same subscribed content is accessed through desktop browsers, the calculation of revenue division changes, since there is no operating system to pay to. Therefore, it is possible that a creator gets paid different amount on the content consumed on desktops and mobile apps per impression. Social media networks also allow the use of virtual currency which the creator can gather and encash at some points. Facebook has Facebook Stars programme that lets subscribers or general users to tip creators for the quality of their content, which creators can encash later.

12.4 DIGITAL NEWS AND SOCIAL MEDIA

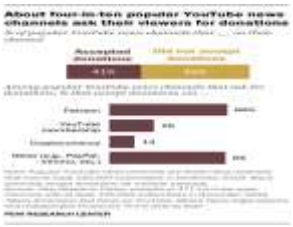
Social media has become a lucrative place for both established organisations and independent content creators to get revenue, and this applies to content across genres, like gaming, entertainment, travel, gadgets, etc. News is also a prominent genre which wins audience and revenue. In fact, social media has become one of the principal sources of generating traffic for media websites through links shared on, say,

Facebook and Twitter and revenue when news creators upload their video content directly on social media sites.

Social media, thus, has emerged as a new news landscape where both established organisations and independent content creators are competing for audience attention and revenue. The logic of winning audience attention on social media is different from how it takes place on other platforms, like traditional websites and search engine results. Social media giants use powerful artificial intelligence (AI) algorithms to recommend content to its users. Most of the times, content creators have no control over how these AI programs behave unless they choose to advertise their content within the platform. According to a claim made by the YouTube product head Neal Mohan in 2018, 70 per cent of times users watch videos which are being recommended by the platform's AI-driven algorithm.

Over the years, social media has become a significant source of obtaining news for people. This has created curiosity among advertisers and analysts as to which type of channels/pages get more eyeballs when both independent creators and established news organisations compete on the same platform. In a survey conducted on YouTube ecosystem in January 2020, the Pew Research Center concluded that the '377 most popular YouTube news channels are largely a mix of established news organizations (49%) and independent channels (42%), with the rest associated with other types of organizations (9%)'. In a different study which covers YouTube channels across genres, the Pew Research Center observed that among channels with more than 2,50,000 subscribers, the most popular 10 per cent channels were responsible for 79 per cent of total views. This YouTube trend is largely symptomatic of the social media space which can lead to the conclusion that social media algorithms strike a balance between established players and independent creators.

Just as social media platforms look for ways to maximize their revenue, news producers also explore ways to go beyond the revenue-sharing features offered by these platforms. As noted above, seeking donations and subscriptions are two popular supplementary ways to earn revenue for news producers. The January 2020 Pew Research Center quoted above found that as many as 41 per cent of YouTube new channels, mostly independent ones, sought donations from viewers. While Patreon has emerged as a dominant platform for seeking donations, which a vast majority of YouTubers use, YouTube also has a donation-seeking platform which can be used effectively by creators as it allows integration with YouTube.



(Source: https://www.journalism.org/2020/09/28/a-closer-look-at-the-channels-producing-news-on-youtube-and-the-videos-themselves.)

In India, the arrival of the smartphone has changed the digital landscape completely, way more than it has happened in developed economies. The popularity of the smartphone has led to a greater access to social media platforms, which has become the primary distribution platform/aggregator of choice of digital news in the country. According to the 2019 'India Digital News Report', published by the Reuters Institute for the Study of Journalism, which surveyed English-speaking online readers in January 2019, 68 per cent of Indians accessed daily news on their smartphones and 31 per cent people used only the smartphone to access news-related content. Most importantly, 73 per cent of the surveyed people said that they used YouTube and Facebook for accessing news-related videos, while those that accessed them directly on the publishers' own web sites and apps constituted 35 per cent. The primary role that social media has come to play in news-related content, especially video content, drives much of digital advertisement and revenue-earning potential of news content creators in India. The Indian user's reliance on social media is likely to continue as a dominant practice, thus allowing content creators to monetise their content on these shared platforms.

12.5 DIGITAL REVENUE ON NATIVE MEDIA PROPERTIES

While social media and news aggregators have provided newer avenues for content creators and established media houses to monetise their content, there is friction among stakeholders about who should get how much of digital advertisement revenue. The Silicon Valley analyst Ben Thompson says that 'the only way to build a thriving business in a space dominated by an aggregator is to go around them, not to work with them'. Going around the aggregator/social media takes many forms from lobbying with governments to creating alternative ways to earn revenue.

Many established media houses have lobbied with their respective governments to enact laws to restrict the uneven share of digital advertisement that social media giants get on content created by media houses. One of the most prominent of such efforts took place in 2020 when, giving in to the demands from various media companies, the Australian government asked the Australian Competition and Consumer Commission to device a media code for equitable distribution of advertisement revenue between social media companies and content-

producing media organisations. The situation between the two lobbies escalated to such an extent that social media giants threatened to restrict the access to its platforms for Australian users, which, interestingly, led to some people suggesting the creation of state-run social media platforms.

These tensions are not new and not likely to disappear any time soon since both sides involve global giants which wield immense influence in the corporate world. But this tension has forced many established media houses to rethink their strategy towards generating online revenue. They employ latest tech tools to make digital audience to use their native platforms as the original source of obtaining news, rather than acquiring it form social media, analyse this traffic and then find ways to retain them on their platforms. The goal of this exercise is to not share advertisement revenue with social media companies that only redirect traffic to the web properties and apps of media houses.

Different media houses in different territories have met with varied degree of success in implementing this model. The general trend is that bigger the media organisation, better chances it has of acquiring native advertisements directly on its properties. In addition, large organisations are also able to convince readers/users to subscribe to their content and create an additional revenue stream. Smaller news organisations and independent content producers usually cannot make this revenue stream work for them, as the small number of visitors they attract do not become lucrative for advertisers.

The New York Times was one of the early adapters of the reader-revenue model. It started asking its readers to subscribe as early as 2011. The company reported the digital revenue of USD 709 million in 2018, out of which USD 400 million came from 3.3 digital subscriptions and USD 259 million from digital advertising. So, within seven years, the media giant was able to earn more from digital subscriptions than from digital advertisements. On the other hand, one can consider the example of the German media house Axel Springer SE, whose revenue touched about 3.5 billion euros in 2018 and out of which a substantial portion came from digital advertisements. Both these examples fully own the revenue that is earned on their content even when one prefers the reader-revenue route and the other digital advertisement route.

The success of both these strategies in increasing digital revenue which is independent of social media platforms has encouraged other global and Indian media houses to focus on user subscriptions and native advertisements. This state shows that while bigger news publishers will continue to find ways to circumvent social media platforms to protect their revenue streams, smaller publishers will increasingly keep going social.

12.6 ASPECTS OF ADVERTISEMENT REVENUE

Let us discuss below how the digital advertisement model works from the perspective of both the advertising industry as well as digital news organisations. We will study it from the perspective of social media, native and search-engine advertisements.

Key players

Important players in an advertising-based ecosystem include client, agency, ad network and publisher.

- *Client:* the client is an advertiser who has a product to promote. Their team is led by digital marketing managers, product managers and brand managers.
- *Publisher:* the publisher is the media platform which publishes content and has advertisement space on it, its apps or associated media properties to sell.
- *Agency:* the agency is the organisation that lays out the overall marketing plan for the client in terms of targeting, messaging, shortlisting of targeted publishing platforms and deciding on the mode of advertisements.
- *Ad network:* ad networks are majorly media buying and selling agencies. Traditionally, ad networks have worked by buying unsold ad inventory from multiple publishers and offer this pool of impressions to clients or agencies at a much lower price.
- *Affiliate networks:* affiliate networks, like agencies and ad networks, act as intermediary between publishers (affiliates) and clients. However, clients in these cases are not advertisers but sellers which pay out commissions on per sale basis. Major ecommerce companies, like Amazon, run affiliate programmes and allow clients to refer their readers to buy products and earn commission on completed transactions. The model works exceptionally well for publishers which do product listings and product reviews.

These stakeholders enter into multiple types of revenue-generating relationship with each other to create the kind of deals described below:

- *Fixed buy:* this type of deals take place when the client pays a fixed some of money for a fixed duration to run its advertisements on a publisher's website. Fixed buy deals often are reserved for premium properties which are not frequently advertised.
- *Pay on impression:* this type of deals takes place when the publisher gets paid based on how many times an ad banner has appeared to readers. As a standard, advertising rates are charged for every one thousand impressions and the client buys a bulk of

impressions from the publisher.

- *Pay per click:* these are deals when the client pays the publisher based on how many people have clicked on the ad banner and visited the client's website.
- *Pay per lead:* a pay-per-lead campaign is targeted at collecting customer data. The client pays the publisher on the basis of how many people click on the ad banner, visit the client's website and fills up a form there.
- *Pay per view:* these deals are around video advertisements. Video advertisements are becoming quite popular on multiple digital media platforms and advertisements that run before the video starts (pre-roll), in middle of the video (mid-roll) and at the end of the video (end-roll) are often measured in terms of views (that is, the number of people who see the advertisement). The client then pays the publisher based on the number of total views.
- *Pay per sale:* this type of advertisement is often a part of an affiliate program run by an ecommerce portal. The pay outs, as the name suggests, are done on the basis of sales that happen through the visitors who visit the client website from the publisher website.

Content creators and their marketing managers need to understand the terminology of digital advertisement to be able to obtain the maximum benefit in a competitive advertisement market. Below we discuss the terms that cover the advertisement landscape on social media, websites and apps:

- *Ad inventory:* advertising inventory is the base unit sold by a publisher to an advertiser. In the digital world of news publishers and advertisers, it is often measured in 'impressions', which is roughly understood as how many times an advertisement is shown to a user.
- *CPM:* it stands for cost per mille. 'Mille' in Latin means thousand. The term 'CPM' is used to denote the rate a publisher charges for 1000 impressions of an advertisement. It allows both the publisher and the advertiser to measure the impact of advertising campaigns and cost involved in it with ease, since impressions run into millions in the case of widespread campaigns and measuring them per impression could generate unmanageable numbers.
- *CPC:* it stands for cost per click. This term is used when the advertiser pays the publisher on the number of clicks on the banner or text advertisements placed on the publisher's website at various places.
- *CPL:* it stands for cost per lead. This term denotes the instance

when the advertiser pays the publisher for the number of sales leads generated through the publisher's web properties.

- *CTR:* it stands for click through ratio. It is the ratio measurement between how many people saw the advertisement (impressions) to how many people clicked it. CTR is often used as a metrics to evaluate the quality and relevancy of the visitors to the publisher's campaign.
- *Call to action:* this term denotes the 'Click Here' or 'Buy Now' button that the user often sees on or around an advertisement. It prompts the viewer to carry out a certain action that the advertiser wishes to lure them into.
- *Ad server:* it is the server where the advertisement is uploaded and served on the publisher website. The ad server is often a neutral platform that measures all the metrics related to the impact of an advertisement campaigned and is owned neither by the publisher nor the advertiser.
- *Programmatic buy:* this is a new-age advertising technology in which the buying of advertisement inventory takes place through real-time bidding. The advertisement inventory on the publisher website is made available to a group of advertisers which then buys the inventory through online bidding at the best possible price.

12.7 CHALLENGES AND MECHANICS OF DIGITAL ADVERTISING ECOSYSTEM

Even though digital advertising spend is increasing, most publishers are decreasing their dependency on the revenue stream. The major hurdles being too much measurement of every advertisement metrics. While a traditional television or print ad earns from selling of space, digital is constantly being measured and paid based on the returns in terms of website visits or sales. This makes advertisement operations difficult, tricky and less paying for publishers.

Another challenge for digital publishers is its constantly changing technology. The advertising formats are constantly evolving, especially as display advertising is making way for video advertising. The rise of podcasts is also opening options for audio advertising. The advertisement formats in each case varies from each other and require focused selling and specialised knowledge of advertisement operations. Constant upgradation requires investment in terms of technology and human resource trainings something that small and medium publishers find difficult to achieve.

The overall digital advertisement ecosystem is more difficult for regional publishers to operate in, which often fail to get the critical mass of viewers to make an attractive proposition to advertisers. Despite the many revenue streams and models mentioned above, digital publishers in India often struggle to break even on their investments. Digital advertising is constantly becoming less paying to publishers since a larger proportion of the ad spends has been constantly moving to Google and Facebook.

With over 1.3 billion people and about 500 million internet users in 2020, digital advertising in India is expanding fast. According to a report published by Dentsu Aegis Network in early 2020, advertisers in India were spending a significant amount online, which could touch Rs 28,249 crore by 2022 and stood at Rs 13,683 crore in 2019. However, a large part of this advertising budget goes to Google and Facebook and very little to digital news publishers. Google and Facebook together had a combined market share of 68 per cent in India's online advertising space, according to a Seeking Alpha report published in 2018.

Google's platform Google Adwords and Facebook (and Instagram owned by the company) both allow advertisers to run advertisement on their platforms targeting specific audience segments based on their interest, age, location and web surfing habits. While Google shows advertisements on its search result pages, emails, partner publisher sites and other properties, Facebook displays it on the news feed of its social media users. Both companies have also launched video advertising options, allowing advertisers to run TV-like advertisements on the user-uploaded videos on YouTube (owned by Google) and Facebook.

Both the companies work on a pay-per-click (PPC) model, in which advertisers are charged based on the number of people who click on their advertisements. For video advertisements, advertisers are charged based on the size of viewership.

Technology advancements create better returns for advertisers, and most of them are driven by Google and Facebook. The new tech tools allow advertisers of all sizes to leverage the vast user network of these sites. Smaller advertisers which traditionally would not have been able to afford advertising on bigger publishers' websites can easily target their own set of audience in a limited budget using the offerings made by these two giants.

However, this process leaves very little of advertising money to be distributed among publishers. At the same time, both the tech giants act as agencies helping advertisers and publishers meet on common platforms. While Google attracts a major portion of advertisers' money through its product Google Adwords, a complimentary product named Google AdSense comes to the rescue of many small and big publishers. Google AdSense allows publishers to embed advertisements on their web properties which advertisers upload on Google Adwords. While Adwords is an advertiser's product, AdSense is targeted at publishers.

Publishers can sign up and put the AdSense code on their websites and apps and the advertisements will start showing up automatically based on the visitor's profile. Google collects data about the visitor's browsing habits using cookies and sign-ins to build their profiles. The publisher gets paid when someone clicks on the advertisement. Google has a strict set of guidelines on who they approve for the AdSense programme, but these restrictions do not distinguish between big and small publishers. This creates a level-playing ground of some kind for small publishers which otherwise would not have been able to attract advertisers.

The AdSense programme is also available to YouTube video creators, where a particular publisher can choose to display advertisement on the videos they upload.

A similar feature is also available from Facebook, through which the tech giant shows advertisers' campaigns on the content of video creators and shares a portion of the revenue with them.

On the one hand, these revenue-sharing methods help small publishers generate revenue, and, on the other, they encourage a lot of new content creators to develop their independent channels, especially on YouTube and Facebook Watch (Facebook's video platform). For example, according to a report published on the financial insights website Top Dollar, Ajey Nagar, a popular comedy content creator and gamer who goes by the YouTube name of CarryMinati, was the top individual YouTuber from India in July 2020 with an estimated monthly earning from the platform of around $66,100 due to his over 26 million subscribers.

YouTube ties up with creators using the Partner Program. These content creators are popularly known as influencers. They become eligible to earn money on YouTube by placing advertisements within their videos using their Google AdSense account. These advertisements are filtered by Google, and creators get paid a certain amount based upon factors like a video's watch time, length and the viewer's profile.

12.8 CONTENT PAYWALLS IN SUBSCRIPTION ECONOMY

The term 'paywall' is self-explanatory. It is a practice that creates a restriction on access to certain content, requiring visitors interested in accessing it to make a payment. In general, paywall works on a subscription model – the user pays a fixed monthly or periodic fee to access the content.

Paywalls work well in news-related content, though it is not uncommon to find them in other genres as well, like gaming, music, OTT, tutorials, etc. International news-related websites that have put their premium content behind paywall include *The New York Times*, *The Economist*, *The Guardian* and *Wall Street Journal*. Common Indian media websites that

use content paywall include The Ken, *The Hindu* and *Business Standard* and magazines like *India Today.*

In terms of business model, there are the following two major types of paywalls:

- *Premium:* when a publisher chooses to put its entire content behind a paywall, it is called a premium offering. In this case, the user is not able to read or view any content before they buy a subscription plan. A very popular example of such a model is the international OTT platform Netflix.
- *Freemium:* The name 'freemium' is a combination of the words 'free' and 'premium'. This describes a situation when the publisher chooses to lure the audience by offering some of its content for free. The popular belief is that once the user understands or is hooked onto the content offered by the publisher, they will be more inclined to buy a subscription.

Technology separates many content paywall models the way business logic does. They include:

- *Hard paywall:* this model blocks all types of content, and visitors need to login to access any piece of material. In this case, only the title and subtitle of the content can be viewed by the visitor solely to generate desire and curiosity.
- *Soft paywall:* a soft paywall allows the user to access some or several sections of the website for free for some time or always. It can be set up either as a freemium paywall or metered paywall.
- *Freemium:* this model of soft paywall, in technical terms, means that a section of the website or app content will always be available to users for free. This can be a particular category, page or episode on the website. The users can watch them without taking subscription as long as they want or as many times as they want.
- *Metered:* a metered model of soft paywall, in technical terms, means that users have a limited view rights for the content. This limitation is applied often in terms of the number of content pages that the user can view in a month or in a day.
- *Server-side paywall:* this technology allows the technical team to configure the server to decide whether the user has rights to access the premium content or not. After the user inputs their login credentials, the server validates the user rights and acts accordingly. A server-side paywall is considered to be a more secured paywall and is contrasted against the browser-side paywall described below.
- *Browser-side paywall:* this technology allows hiding of user rights in the web browser they use to access the restricted content.

This means that the content is available in a web browser but is not visible to user because of restrictions put in the browser. Technically savvy users are sometimes able to break the code in this case and access the restricted content without buying it legally. Hence, browser-side paywalls are less secure. Sometimes, content companies add browser-side controls only to force users to login even when it does not involve making any payments. Through this method, the companies still want to restrict user access but offer it for free. It allows them to study user habits more closely, which they can use to drive more advertisers to their websites.

Paywall subscription is constantly becoming a dependable source of revenue for publishers. Research shows that most publishers are moving their good content behind paywalls. With the rise in fake news, user awareness against fake news and preponderance of social media, viewers are constantly becoming choosy about what they want to read in the limited time they spend on the internet.

The COVID-19 pandemic played havoc with the growth projection of many traditional print publishing houses by disrupting their operational procedure and distribution mechanism. This became a boon for digital publishers. During the 2020 pandemic years, even while the major companies saw a slump in their sales number, digital publishers saw an enormous growth in their overall paid subscriber count. According to the 2020 edition of the Subscription Economy Index, subscription businesses expanded at a rate of 12 per cent in the second quarter of 2020, when the effect of COVID-19-induced lockdown disrupted economy the most. OTT video streaming, digital news and media, e-Learning and communications software are the sectors that saw maximum growth in digital subscriptions. While for digital news and the media segments, subscriptions grew by three times in March 2020 over the previous 12 months, they grew by 2.9 times for e-learning platforms in the same period. Understandably, streaming services saw the highest spike in subscription growth at seven times. While the growth may look like an aberration due to the pandemic, the report published in 2020 shows subscription revenue for all digital publishing sectors grew by more than 350 per cent for the past seven-and-a-half years.

Even though the market may have matured for subscription-led revenue stream for digital publishers in the West, in India its growth phase has been much longer. At over 500 million, India has the second highest active internet population only after China, but a large number of this population accesses digital content for free. According to the report jointly published by the Federation of the Indian Chambers of Commerce and Industry and Ernst & Young in 2019, the media and entertainment sector is expected to cross Rs 2.35 trillion by 2021, but subscription revenue will continue to lag the advertising revenue for most publishers.

This data suggests that the digital news industry in India will depend on advertisements and subscriptions in different measures to protect its revenue, while new and independent publishers will bank on social media platforms.

12.9 DONATIONS

Many media organisations and digital publishers have survived on a donation-based model for years. Such a model works because users make financial contributions in order to support the publication they read or want to support for issues it raises. The platforms which use the donation-based model usually have a loyal and committed audience. If this was not so, the publisher will struggle to convince users to donate to keep its operations running.

Digital media allows publishers to connect with their target user group in multiple ways, which was not easy to do in the non-digital world. For example, donations can use the same technology as subscription streams do while giving the user the option to either make one-off payment or turn it into a periodic donation. At the same time, the emergence of crowdfunding platforms, like Kickstarter, Patreon, Google Contributor, PressStart, Our Democracy, etc., has made the task of seeking donations easier. Major international websites that have chosen the donations path as a mode of revenue include Wikipedia (though it does not operate in the news space) and *The Guardian.* In India, such media websites include The Wire and Alt News.

While major international publishers started moving from the advertising model to the subscription-based model, *The Guardian* chose to work on a hybrid model of advertising and donations. It constantly kept producing good content and appealed to users to make donations as low as USD 1 to keep the content free. In May 2019, it announced operating profit in the last 20 years. The success of this model had a significant number of donors who contributed one million donations.

The company launched focused journalistic campaigns in strategic markets, like the US, where users are keener towards making a one-time payments rather than committing to longer payment models. While subscriptions require a longer commitment from readers, donations are short term and come packed with a feel-good factor. *The Guardian's* first American fundraising and investigative series, 'This Land is Your Land', set a fundraising goal of USD 100,000 but obtained five times the amount from individuals, corporates and philanthropic organisations. *The Guardian's* success inspired many small issue-based media houses to appeal to users' good nature and support their operations through donations and received a mixed response.

12.10 CONCLUSION

Throughout the first decade of the 21st century, media organisations depended on digital advertising to support their content operations. The big legacy organisations which were able to derive enough advertisers to their digital content waited for more than a decade to see if they could fully cover the cost of content production through advertisements alone. On the other hand, new media organisations like Vice and BuzzFeed survived through investor money in the hope that the digital space would eventually produce enough revenue for them to break even and earn a profit. But, with the dominance of social media in the second decade, these hopes were belied, as a huge chunk of advertising revenue started moving towards social media platforms. The traditional media organisations then started investing in raising subscriptions in the digital space, which yielded handsome returns for big organisations. The smaller and independent content producers preferred to generate content for social media audiences, as that is where their revenue lies. Media companies and social media platforms may take many more years to conclude the debate about the most effective source of digital revenues and how to share it justly with all stakeholders.

12.11 CHECK YOUR PROGRESS

1. Why do Indian content creators depend heavily on social media platforms for generating revenue?

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2. How does YouTube allow content creators to earn, and how do creators measure their earnings?

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3. Describe the success of *The New York Times* with reader-revenue model in the digital space.

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4. Explain how Google makes dual offerings to advertisers and content creators to benefit from each other.

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UNIT : 13 MOBILE JOURNALISM

:: STRUCTURE::

13.0 Introduction

13.1 Learning Objectives

13.2 Origins of Mobile Journalism

13.3 Opportunities

13.4 Challenges

13.5 Case Studies: The Arab Spring

13.6 Case Studies: #BlackLivesMatter – African-American Responses to Police Brutality

13.7 The MoJo Kit: Tools Required to Build a Story

13.8 Conclusion

13.9 Check your progress

13.10 References

13.0 INTRODUCTION

Technology has fundamentally transformed all interactions. In this new, constantly evolving nature of communication, connectivity is the key. Proverbial and physical networks continue to transcend boundaries across the globe at an increasing rate. Journalism has managed to adapt itself, time and again, to cater to the new patterns of the media. Smartphones and the internet are a key factor in this overarching transformation. While continuing to cater the need for effective communication, these have also become tools that have made possible a convergence of the many steps of media collection, production and distribution. From this convergence, mobile journalism has evolved. It is a personal, interactive, multimedia platform which is fast, cost-effective and portable. Most importantly, it is ubiquitous. These transformations have also made possible a larger democratisation of the consumption and

production of media. As a result, many in the public find themselves participating in the journalistic process. And previously under-represented voices are amplified at a higher rate. Consequently, the media landscape has become more diverse. However, these opportunities are met with fundamental concerns about the scope of technology and the ethics of social media. In this unit, we will study the emergence of mobile journalism as well as its objectives, possibilities and disputes. We also analyse some of the more prominent examples of mobile journalism and critically examine the relevance of social media in journalism. The unit also describes how to effectively build a story using a smartphone and allied tools.

13.1 LEARNING OBJECTIVES

- Understand the pattern of evolution of mobile journalism
- Learn about the crossroads between social media and journalism
- Analyse the relevance of the audience as contributor
- Understand the practical technicalities involved in reporting a MoJo story

On the completion of this Unit, you will be able to:

- Understand the opportunities that arise with mobile journalism
- Analyse the risks and challenges involved in mobile reporting
- Learn how to choose different tools to tell a host of stories
- Navigate the concerns regarding privacy protection

13.2 ORIGINS OF MOBILE JOURNALISM

The new millennium is marked by the sharp expansion of digital networks and the increase in world connectivity. Attempts have historically been made to streamline communication – be it in speech, language or visual form – beginning from the first instance of electronic-led networking, the telephone. Since then, networks evolved to facilitate communication and information sharing, leading eventually to the birth

of the internet as we know it. In 1989, Tim Berners-Lee, a scientist at the European Organization for Nuclear Research, popularly known with its French acronym CERN, designed a network aimed to make retrieving of data easier. A year later, he coined the name World Wide Web for it. Through this, computers and networks took a leap from the domain of science and technology to that of the masses. This was because the program simplified the technical language as the codes were now behind the Hypertext Markup Language (HTML), so even as technical know-how was required for production, anyone could look up things on the network through simple commands. Other scientists followed this with the launch of accessible browsers to platform the HTML.

It was in the 21st century, however, where the scope of the internet was realised. In 2000, 10 years after the launch of the World Wide Web, about half of the population of the USA was online. But, its influence on the rest of the world remained doubtful as only about seven per cent of the world was connected via the internet. As of 2020, 62 per cent of the world's population uses the internet with a noted steady increase in the rate of expansion. This increase is explained by multiple factors including, but not limited to, rapid technological progress, expansion of telecommunication grids, drop in data prices, accessibility of mobile devices, various uses of mobile devices, etc.

Mobile phones in particular, and in tandem with the internet, have managed to change the very nature of our interaction with each other. Not only achieving its intended purpose of streamlining communication, this development has also led transformative sociological change as it has come to shape the contours of our everyday lives. Apart from all the features a mobile device has, a big factor in its popularity is from where it derives its name, which is mobility. The mobile phone and other such devices provide an exclusive convenience that computers did not – they travel along with the user. Consequently, they have become a bigger part of our routines, shaping how we model our lives around them. Constant usage of mobile phones, then, implies constant connectivity. This connectivity led to both, the need for 'social networking' platforms to facilitate interpersonal connectivity and for new forms of 'mobile media' catered specifically to mobile users. These innovations made the experience of using a mobile phone more personal and customised, which led to the eventual ubiquity of these applications. An important event that is believed to be singularly transformational in its impact was the launch of the Apple iPhone in 2007. Though it was neither the first mobile phone nor the first smartphone, it proved to be as 'revolutionary' and 'breakthrough' as Steve Jobs described it to be in the launch event. It was also especially breakthrough in terms of mobile media consumption, as it introduced the then-novel idea of making a good camera accessible. The concurrent increase in the use of social media aided in the adoption and innovation of visual media in mobiles. Further, iPhone helped in diversifying the purpose of mobile phones – with the launch of the App

Store in 2008. No longer a mere cellular device, or an archive of past communication, the smartphone now replaced the need for maps, calendars, voice recorders, clocks, etc. A modern mobile device or a smartphone, thus, not only digitised lives but elevated the media consumption.

Newsrooms have been continuously adapting to this digitisation and adding further value to their reporting by responding with innovative methods to use new technology. The most refined response has been evidenced in the field of digital journalism, as reporters take technological tools to enable new forms of storytelling. These forms of storytelling take a more distinct shape when mobile phones are viewed as independent technology. As the media researchers Xosé López-García and others explain, 'New paths are opened within the relationships between user-media, journalist-user and journalist-media through the technological mediation enabled by mobile devices, both in the production and communication processes and the news consumption.' Media agencies, as well as the people who later came to be identified as 'citizen journalists', began to exploit these new paths to platform a new kind of content that was both the product of and shaped by the tool of their choice – the mobile phone. The medium in these cases was almost always visual, as stories were either entirely video or photographic.

Mobile journalism, or MoJo, is defined keeping in mind two views: the first focuses on the 'dissemination and reception of content for mobile devices,' while the second revolves around the production of content. The former is indicative of how the audience behaves: that is, how mobile journalism has changed the patterns of content consumption. The latter draws on the transformation in the methods of reporting as news can be gathered, edited and published through the same device. Essentially, as the journalist Nick Garnett explains, '…mobile journalism is [not] about using a mobile phone… It's about the reporter being mobile'. Further, according the professor and journalist Adrian Hadland, there are broadly three kinds of MoJo: user-generated content (unedited eyewitness accounts sent in as a source), citizen journalism and professional mobile journalists (who use a mobile as a tool for on the spot reporting). MoJo, thus, is a new, evolving and flexible field of journalism, which emphasises the use of mobile devices for comprehensive news-gathering, editing and, in some cases, broadcasting.

13.3 OPPORTUNITIES

The journalist Mary Angela Bock argues that MoJo (specifically its most famous iteration, video journalism) is a 'natural outgrowth of media convergence'. Media convergence here is believed to be the 'product and manifestation of … technology, organisation and presentation'. Essentially conveying that the availability of sophisticated mobile devices, which included exhaustive media features, made the need for specialised technology of multiple devices drop significantly, if not completely obsolete. That is perhaps the greatest opportunity that MoJo

provides – it streamlines production, dissemination and reception of journalism. The method is then not limited to traditional media structures, and the erstwhile audience has a chance to become the contributor. It has, thus, led to the rise of 'citizen journalism', as eyewitness images and videos aided coverage. The evolution of this sub-field is credited to South Korea where the first website hosting amateur-generated reports, OhMyNews, was launched. However, participatory journalism predates the internet to when eyewitness visuals were used as sources to supplement reporting. One of the earliest example of this symbiotic relationship, as realised digitally, dates to 2006 when CNN launched iReport, a platform which urged citizens to submit user-generated videos and photos to the network. The journalist Kevin Klose defines journalism as 'nothing more, nor less, than the witnessing by one person of something happening an event, an occurrence, a manifestation of an idea or an emotion and bearing witness of that to someone else'. In this way, citizens who are at the frontlines, with the help of technology provided by their mobile phones, partake in journalistic methods.

However, MoJo bridges the gulf between the journalist and audience in another important way, one which leads to opportunities in the technological aspects of the field. The medium of mobiles, as well as the medium of broadcasting that is social media, has made journalism significantly more interactive. Media companies further capitalise on the nature of mobile media by personalising content and running targeted stories that lead to more clicks, that is more eyes, on their websites. Further, the journalist themselves are openly available on social media platforms where they can be contacted after a story is published or the journalist themselves can seek sources via social media. This has led to far greater engagement, involvement and connection between reporters and their audience, which is no longer a passive receiver.

An important aspect of MoJo is that professional journalists can act as solo journalists using mobile methods. That is, they become in-charge of all aspects of news production on the phone. For this sub-set, MoJo provides unprecedented geographical or physical accessibility and technological ease. They can work on location as opposed to the newsroom, thus providing the opportunity to have more engaged hyper-local stories. This increase in mobility is made possible both because of the software technology that makes multi-step processes simple, but also because mobile devices are increasingly becoming more portable and affordable. A single phone is much cheaper than a professional camera. Media outlets, thus, also employ professional solo journalists in cost-saving measures. One of the earliest instances of professional journalists using mobile devices as tools came to light in 2007 when Nokia and Reuters partnered to experiment with MoJo. In a trial, selected reporters were given mobile toolkits which included 'a Nokia N95 smartphone, a small tripod, a keyboard and a solar battery charger'. They, then, used the

tools to cover various events like the New York Fashion Week and the Olympics in Beijing.

13.4 CHALLENGES

The use of these simplified devices, and more agile reporters, also leads to less intrusive reporting than the traditional camera and mic setup allows. This can be lensed as a form of psychological accessibility, as interviewees are less intimidated, and the follow up is more conversational than traditionally filmed interactions. A historic pioneer of the method was the photographer Henri Cartier-Bresson who shaped modern street photography by using a portable film camera (Leica).

Mobile Journalism presents reporting with greater storytelling opportunities, as video and photo testimonies can create significant impact. Past examples have also shown that MoJo is capable of mobilising and shaping public opinion. The biggest example cited here is of the Arab Spring of the early 2010s (which is discussed in detail in the next section).

While MoJo can be used to direct collective action, it also provides a new way of asserting control and governmental interference. Examples abound in authoritarian states where censorship of social media has become praxis. As MoJo leaves a digital footprint, it is easier to trace sources. In the same vein, in the Hong Kong pro-democracy demonstrations of 2014, the Chinese administration traced and intimated bloggers who reported the protests – with some instances leading to jail sentences. Further, MoJo, especially citizen journalism, is dependent on social media for dissemination of information. Authoritarians can easily block access to certain websites or even revoke internet access in areas so as to muzzle journalistic voices. However, in many of these cases, where censorship becomes a big issue, citizen journalism eventually becomes the only source from the frontline, as journalists lose access because of institutional blocks. For example, in Syria, news media used citizen reporters to enter otherwise uncharted territory.

This reliance on citizen journalists and MoJo, especially in contested spaces, leads to another fundamental challenge – maintaining objectivity and neutrality. Verification of leads and facts becomes a more complex process especially in hastily gathered material by people who are not trained to be journalists. Further, as citizens themselves become the source of images and videos, there is an inherent agenda in each image. This is because more often than not the citizens are those who are linked to or are directly shaped by whichever event they are recording. Thus, the way they frame, compose and caption these images will always have a bias – whether its negative or positive. There is, thus, a challenge for professional journalists, and the audience at large, to interpret the images objectively. Especially if the audience itself is impacted by the event, the personal testimonies then can reinforce already prevalent opinions with no critical analysis. Another fallout of the lack of accountability is the higher chance for vigilantism. Sudden engagement by citizen reporters, with zero systems of checks, can lead to irresponsible reporting. For example, in the aftermath of the 2013 Boston Marathon bombing, as bystanders of the event subverted their roles to take on investigation, they misinterpreted sources and falsely accused a student Sunil Tripathi of being the bomber, which led to online vilification and physical threats. Thus, while MoJo has held to account traditional centralisation of information, it also needs to be systematic. As the journalist Micha Barban Dangerfield states, 'If citizen journalism has emphasised the creation of a new counter-power, it can be argued there is a responsibility to self-regulate – to restrain the role to that of eye-witness, and not to descend into a simplified form of collective justice.'

Further, the technological aspects that make MoJo an attractive alternative, can negatively affect narratives as smaller devices lead to obstruction of camera angles and awkward framing. Moreover, the academic Panu Karhunen likens the use of mobiles in journalism to the concept of a Swiss Army knife, 'A knife that forms part of a multi-tool is not as good as a proper knife, and a bottle opener is not as good as a proper bottle opener. In the same way, the camera on a smartphone is not as good as a proper video or still camera. It is just good enough to get things done.' To counter the gaps created by minimal technology, professional journalists have to carry an extensive toolkit around which includes several devices like lenses, microphones, tripods, etc. While effectiveness of the story is increased, it challenges the mobility offered in the medium, by not only adding a physical burden but also adding to costs associated with the story.

13.5 CASE STUDIES : *THE ARAB SPRING*

In the contemporary period, the most expansive example of the power of social media as an effective broadcasting platform is the Arab Spring uprising of the early 2010s, which started in Tunisia and

eventually moved to other West Asian countries, like Libya, Egypt, Yemen, Syria, etc. While underlying political and economic conditions had sown the seeds of discontent, social media, which was essentially leveraged through mobile phones, helped amplify local skirmishes to a national and eventually international level. This amplification further made social networking websites the ground zero of organising protests – as social media could offer a 'virtual civil society platform'.

On 17 December 2010, Mohammed Bouazizi from Tunisia, who was the sole breadwinner in a family of eight, lit himself on fire after the local government authorities failed to heed his complaints about police corruption that hindered his trade. Immediately, protests broke in the city. In the evening, his friend Ali Bouazizi, who had filmed the day's events, posted them on Facebook, detailing the government's incompetence. Almost immediately, as news channels picked up the story, the whole country broke in protest.

Mohammed Bouazizi's death proved to be the catalyst for uprisings in the entire region. Social networking sites proved to be the tool to organise these protests. Activists planned through the internet and arrived at protest sites where they recorded the proceedings on their mobile devices, which included demonstrations and slogan chanting. Later, they uploaded these photos and videos to websites, like Twitter, Facebook and YouTube. Subsequently, news channels, newspapers and radio stations picked up these local stories to curate larger national stories.

Emboldened from the support, the activists, who were overwhelmingly young and tech-savvy, increased their personal reporting. As the news spread from national to international news, some administrations, like the Syrian regime, responded by banning international media from entering the country. Consequently, these organisations had to resort to local videos, which were sourced from social media and primarily recorded through mobile cameras.

NPR's social media strategist Andy Carvin has created a whole book out of his experience of obtaining information directly from eyewitnesses of the Arab Spring, verifying information and tweeting it all day long using his iPhone. He said, 'Engaging with people through my phone on Twitter was a story itself.' Importantly, he recalled that he did not work under the assumption that his MoJo will materialise into text or radio stories. Neither did he feel that his would would have replaced the work of traditional journalists. Traditional and MoJo journalists sharing the same space and creating different products continue to be a reality for the MoJo space. Now, this device is part of the American History Museum due to the role it played in the coverage of the Arab Spring.

Apart from organisation of protests, social media and mobile journalism also helped shape narratives in real time. In a report about the use of social media during the uprisings, the academic Philip Howard states, 'Our evidence suggests that social media carried a cascade of messages

about freedom and democracy across North Africa and the Middle East, and helped raise expectations for the success of political uprising… People who shared interest in democracy built extensive social networks and organized political action. Social media became a critical part of the toolkit for greater freedom... people throughout the region were drawn into an extended conversation about social uprising. The success of demands for political change in Egypt and Tunisia led individuals in other countries to pick up the conversation. It helped create discussion across the region.'

Finally, the criticality of social media and new forms of journalism, including MoJo, in political revolutions is arguable: after the Arab Spring, sceptics noted that social media-led activism was too broad and decentralised to find political consensus for change. However, the use of social media – fuelled by citizen journalists' accounts of both government depravity and revolutionary resilience – as a support and its use as tool for mobilisation is universally established.

13.6 CASE STUDIES: *#BLACKLIVESMATTER: AFRICAN-AMERICAN RESPONSES TO POLICE BRUTALITY*

Systemic racial injustice in America has been a constant fault line that goes largely unaddressed in policy. One of the most glaring examples of the same has been historically overwhelming discrimination that African Americans face in policing – including being incarcerated for the same crimes at a rate higher than other racial groups and facing the brunt of police brutality. While prevalent for decades, police brutality took centre stage in the US because of the social media hashtag #BlackLivesMatter.

The #BlackLivesMatter movement was created in 2013 in response to the acquittal of 28 year old George Zimmerman who killed 17 year old Trayvon Martin on account of 'self-defence' after racially profiling the teenager to be 'suspicious person'. The movement started as a hashtag on Twitter, as other black people chimed in the aggressions they had faced, as they were racially profiled in the past. However, it was a year later, when 18 year old Mike Brown was shot by the police officer Darren Wilson in the city of Ferguson. After an altercation, it was reported by a bystander that Brown had his hands up in surrender and had said 'don't shoot' before he was shot. His alleged last words became viral on social media and what followed were riots in the city of Ferguson and demonstrations in the rest of the country under the banner of #BlackLivesMatter. While the first two incidents led to the use of social media as a tool to air opinion and demand accountability, these led to the foundation for a larger call by those in the African American community to practice citizen journalism as a self-defence mechanism, as they believed that the courts and other authorities – which were largely constituted by white people – did not pay heed to their demands as they chose to stick to their idea of reality. The argument was that because of

their privileges white American could not imagine what black Americans had to face and, thus, needed proof. Consequently, in the following years, hordes of videos started being published which showed disproportionate police action against African Americans when they were accused of committing crimes. Livestreaming also became an important tool, as people started broadcasting the racist behaviour that they were being subjected to live so as to present blow-by-blow coverage.

In the beginning of the #BlackLivesMatter movement, citizen journalism, apart from being a response to those in political and social power, also highlighted discrepancies in the coverage of traditional news outlets. For example, during the Ferguson unrest, as CNN reported that the city had gone quiet, a grassroots blog called This Week in Blackness (TWiB!) livestreamed police activity in neighbourhoods which included the use of tear gas specifically for black residents. It, thus, managed to show the disconnect that mass media, controlled mostly by white men, has vis-a-vis the reality of black people. Consequently TWiB! took on the role of a media outlet and started hosting other forms of content, like podcasts which talked about racial inequality – all from funds collected from social media fundraisers. Deriving from both mobile and digital journalism, as its editors used technology to create customised content, Twitter became their central form of distribution and interaction. Finally, they gained enough recognition to be invited to mainstream news outlets like MSNBC to report their findings.

A few years later, similar, but far wider, protests erupted after the killing of George Floyd, who on the suspicion of handing out a counterfeit currency note, was held and choked to death by a police officer who did not take his knee off Floyd's neck for almost eight minutes, even as Floyd repeatedly said that he could not breathe. In this case, protests started after a video of the event, which was taken by a bystander Darnella Frazier, was uploaded on social media. The video was widely circulated and invoked stark reaction, as it was evident that Floyd had done nothing aggressive to warrant police violence.

Here, it is evident that mobile journalism, especially the proximity to events that it covers as well as the speed of dissemination of its output, was able to mobilise action in major cities across the country while also ensuring something that lies at the heart of journalism – that is, informing the masses.

13.7 THE MOJO KIT: TOOLS REQUIRED TO BUILD A STORY

It has become imperative for journalists to not only have an understanding of mobile journalism as practised on social media and other digital platforms but also to be predisposed with tools to navigate the genre. The nature of social networking is such that a story now first breaks on social media. The virality factor has come to shape how reporters narratively shape their writing so as to achieve the greatest impact. However, the key still has to be the substance of the story. A mobile journalist, though fundamentally defined by the singular mobile device and a spirit of inquiry, can use a range of tools to ensure effective storytelling.

The first such tool is the story itself. While viral trends on social media have the power to influence storytelling, it should not be the only deciding factor. Just at content creation has become easier and inexpensive through mobile devices, content distribution through social media has reduced the lifetime of news items, as the audience is easily distracted in the constant barrage of content. A story then should be driven by its value, which can be assessed by its core content and message. In his book *MoJo: Mobile Journalism in the Asian Region*, Stephen Quinn carves out three levels of multimedia reporting. These are: breaking news; general news; and features. Breaking news, he postulates, 'takes the form of a single sentence. The item is then developed or built over the next few hours or days, depending on the significance of the story'. The key here is to be succinct and direct in communication. A mobile journalist can use text to convey the immediate impact and then add photos or video testimonies as the story evolves. In the next level of the general news story, he includes 'stories that contain conflict, involve prominent individuals, have impact on a large number of people, are money stories, represent examples of a new trend or development (usually the first of something), or involve novelty or something odd or bizarre'. The same general MoJo applications apply as that of the breaking news, but here, the journalist has to be more detailed in their reporting. The third level is more expansive and similar to a feature or a documentary. The work to build a story in this level is neither instant nor short. It requires thorough investigation, ideally from multiple sources which are then vetted. Quinn explains that the first level of breaking news is *prima facie* most appropriate for mobile journalists. This is particularly true in the case of citizen journalists and other social media sourced

eyewitness accounts. It is essential to keep in mind the kind of story that one wants to tell and then employ resources constructively.

Second, a mobile journalist needs to be equipped with proper hardware tools. These tools help build a story that could either be forwarded to a news organisation for further refinement or self-published on social media. The tools include:

1. *Smartphone:* the most fundamental requirement is that of a smartphone. Either iOS or Android operating system works well. Priority, instead, should be on the quality of camera and the processing speed of the device. While current available technology encompasses quality in all price ranges, for professional level work, a higher-end smartphone returns more dividends in the long run. It is suggested that a smartphone should be chosen based on the kind of storytelling that is aspired to. Other kinds of considerations include: is there a 3.5 mm headphone socket or included adapter in the phone (so it can easily be plugged to other devices)?; is the lens quality enough for the kind of journalism that is aspired to (for example, single lens cameras, as opposed to double or triple lens cameras, cannot provide depth in video; that is, zooming is not an option and hence depth driven conflict videos cannot be recorded)?; and does the phone have built-in optical image stabilisation option? Making an informed choice will help in the long run.

In the basic understanding of mobile journalism, coupled with the level of available technology, a smartphone alone can be enough to practice MoJo. However, for solo journalists in newsroom or those who work as freelancers, a more refined toolkit is an investment towards more effective storytelling. The other tools required thus include:

2. *Tripod/monopod/selfie stick:* contrary to the larger studio tripods, a journalist on the go would benefit with a light, compact portable tripod. Tripods can provide stability to otherwise shaky handheld smartphone cameras while also helping in setting camera angles. These would be especially helpful in filming interviews or other still formats. Monopods are a cheaper alternative, especially those with spreadable feet. Selfie sticks are helpful when reporting live, but advised only with phones with higher quality front-facing cameras.
3. *Microphone:* while a phone mic can suffice, to increase the quality of recorded audio, one can choose between (or go for all) three types of microphones, depending on the kind of stories told. This includes a clip for interviews, a reporter mic for pieces-to-camera and a shotgun mic for ambient sound. It is helpful to have a good quality headset or even smartphone headsets, as they usually include mics and can thus be helpful without needing to invest in more complex ones.

4. *Light and external lenses:* another option, depending on the kind of story sought, is for mobile lights that either stand individually or attach to phones (popular brands in this category include Lume Cube, Manfrotto, Godox and Genaray). These can help in indoor or night shots. There is also an option now to have several kinds of clip-on external lenses that enhance the resolution and zoom features of phone camera (for example, Olloclip, Exolens, Moment and Moondog lenses).
5. *Power backup:* this is especially necessary if one is shooting in conflict or other high pressure situations or in places without secure electricity availability. Power banks are necessary as videos have a tendency to drain on phone battery, so it provides a backup with little to no hassle.
6. *Backpack and miscellaneous tools:* lastly, keep all your tools in a light bag that can help you carry the equipment with ease. It also helps centralise the process, and the tidier the organisation, the more streamlined your methods of collection would be. Having protective cases and screen protectors for devices is also advisable.

Third, to get the most out of the smartphone, it is just as important to be equipped with relevant software tools, or applications. Below is a list of suggested apps that can increase productivity but the reader should look out for newer and updated tools:

Function	Android	iOS
Photo/Video Recording	Camera MX, Cinema FV-5, FiLMiC Pro, Lapse it, Open Camera	PoCamera, Camera+, Fyuse, FiLMiC Pro, Lapse it
Photo/ Video Editing	Snapseed, Adobe Photoshop, Adobe Premiere, KineMaster, Quik, PowerDirector	iMovie, Snapseed, Adobe Photoshop, Adobe Lightroom, Splice, LumaFusion, Kinemaster,
For Adding Text to Photos or Videos	Phonto, Movie Maker, Autocap	Phonto, Vont, DIY Subtitle
Audio Recording/Editing	Field Recorder, RecForge II, Voice Record Pro, n-Track	Wavepad, Hokusai, Ferrite, Voice Record Pro
File Sharing	Google Drive, Dropbox, FileHub	iTransfer, Google Drive, Dropbox, FileHub
Publishing/Social	WordPress, Twitter, Facebook, Tumblr, Instagram, Snapchat	Wordpress, Twitter, Facebook, Tumblr, Instagram, Snapchat
Livestreaming	YouTube, Periscope, Instagram, Facebook	YouTube, Periscope, Instagram, Facebook

Fourth, in the process of publishing a story and after a story is published – especially if it is done by one's own venture or on own social media channels – its important to have a basic understanding of social media and web analytics to ensure that the story reaches its intended audience and is optimised for monetisation. The most basic way to do so is to first make a list of the relevant sites for uploading your story. It could include sites like Twitter, Facebook, Instagram, Tumblr, YouTube, etc. It is important to note that if multiple platforms are available from the same corporation, they are likely to allow uploading the same story on all of them in one go. This reduces the efforts of the content producer, who should actively use this feature. For example, one can upload the same content on a Facebook page and link it to Instagram channel.

For the content producer, the choice of the site to distribute the content depends on its type. For example, photographs are more suited to an image-sharing site like Instagram and videos to YouTube, whereas the rest offer combinations. Once the targeted sites are decided, it is helpful to monitor the stories posted. Most websites provide analytic numbers, especially if your page is mentioned as a news agency or blog, etc. You could then track things like which post receives the highest engagement, how and why popular posts stand out, whose share and/or mentions increases visibility and how many visitors and from what sites visitors to a website are tracked. If the content producer runs their own website, they should consider pluggin in popular analytics tools like Google Analytics, Comscore, Alexa, etc. Many paid analytics tools offer a more fine-grained analysis of audience engagement. If finances permit, these tools should be actively used. An investigation into the behaviour of the audience as it relates to the stories is helpful in establishing a larger narrative and to find what works and what does not. Advanced social media analytics as well as search engine optimisations can also be run through either the analytics/insights page of the social media site in question or through specific technologies like, Google Analytics, Hootsuite Analytics, etc.

Lastly, since the nature of most MoJo stories is urgent, and it has the tendency to come out of conflict situations, it is key to protect one's data and privacy – especially in climates which are less favourable to journalists. To ensure it, it is advisable to store all data externally from the phone – in hard drives, flash drives, memory chips, cloud drives, etc. This creates a safe backup while also decentralising data. Further, encrypt and password protect all storage devices. If reporting in active conflict sites like protests, ensure an active internet connection and configure the phone to store data in a cloud platform, like Google Cloud, Dropbox, iCloud, OneDrive, etc. In this way, even if the phone storage is made to be physically deleted, an online backup is automatically available. In fact, even backups of backups should be created on a diverse set of online options. For example, if the phone backup is made in real time, say, on Google Drive, the Google Drive backup could be copied periodically on OneDrive. If some adversary makes you delete a backup copy through

the active sync connection on the phone, the second backup will still allow you to retrieve files. Also, as connectivity has the potential to be compromised by government regulations, encrypt all communications by using a virtual private network (VPN). A VPN connection ensures that data cannot be tracked easily while also ensuring access to blocked websites or servers. The user should use their ethical judgement while employing these features, since they can be used for illegal acts as well and could bring them in conflict with law and ethics of journalism. For all its uses, technology in general and mobile phones in particular are easily susceptible to intervention from hackers and government trackers. It is, thus, essential to take precautions so as to not put your story or yourself n any risk.

13.8 CONCLUSION

The nature of mobile phones has fundamentally shifted in the 21st century. Now, phones can possibly be the site of the entire gambit of media production. This convergence of media enables journalists to produce quality content, for cheap, on the go. Mobile technology is regularly updated, making mobile journalism one of the most diverse and dynamic fields of reporting and production. It also enables those who under traditional media structures were under-represented to voice their independent stories as the means of storytelling is democratised. Though these aspects envision a positive future media landscape, it is equally important to heed the challenges. Mobile journalism, like other forms of digital journalism, is susceptible to data breaches and tracking. These privacy concerns need to be put forth both technologically, with the introduction of more secure ways of file sharing and hosting, and as a journalistic practice, by keeping those in power accountable to uphold democratic values. Further, there is a need to establish better, more ethical ways of consuming and responding to the raw content that mobile journalism is usually predisposed to producing. Traditional media needs to supplement mobile journalism by providing thorough checks so as to ensure that biases in reporting do not creep into larger narrative building.

13.9 CHECK YOUR PROGRESS

1. What led to the emergence of mobile journalism?

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2. What is citizen journalism?

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3. How can social media help during a conflict? Illustrate with an example.

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4. How is privacy an important aspect of mobile journalism?

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_____
_____
_____

13.10 REFERENCES

Web Pages

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Videos

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- 'Mobile Creator Podcast': https://podcasts. google.com/feed/aHR0cHM6Ly9hbmNob3IuZm0vcy80NmIzYTI0L3BvZGNhc3QvcnNz

Books

- *Mobile Storytelling: A Journalist's Guide to the Smartphone Galaxy* by Wytse Vellinga and Björn Staschen
- *Journalism Next: A Practical Guide to Digital Reporting and Publishing* by Mark Briggs
- *Mobiler Journalismus* by Björn Staschen
- *MOJO: The Mobile Journalism Handbook – How to Make Broadcast Videos with an iPhone or iPad* by Ivo Burum and Stephen Quinn
- *The Live-Streaming Handbook: How to Create Live Video for Social Media on your Phone and Desktop* by Peter Stewar

UNIT :14 FUTURE OF JOURNALISM

:: STRUCTURE::

14.0 Introduction

14.1 Learning Objectives

14.2 No more the gatekeepers of Information

14.3 Knowledge, Opinions are the new players

14.4 Forget 5Ws and H

14.5 Computer Assisted Reporting – 1

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14.9 News Aggregator Apps

14.10 Conclusion

14.11 Check your progress

14.12 References

14.0 INTRODUCTION

This unit takes an in depth look at the ways in which artificial intelligence is impacting journalists and media in general. We look at the history of AI in journalism, its evolution from a fringe requirement to a full-fledged division in big media houses. We also visualize AI's application in different fields ranging from content marketing, studying user

preferences, automation of content generation and exciting revenue opportunities arising out of them. The unit rounds off with various case studies to critically illustrate the role of AI in Journalism, and an unprecedented disruption in store. Digital journalism and Artificial Intelligence (AI) have virtually changed the dynamics of news gathering and writing news reports. What added to the confusion was the fact that the media industry reacted late to the social media and digital tools boom. Digital journalism changed the concept of journalism by introducing news bots using Artificial Intelligence and machine learning to write news and share it on media platforms as also traditional media like print and television.

The first media house which used AI for news gathering and reporting was Los Angeles Times, which published a report on an earthquake barely three minutes after the earthquake hit. This was made possible because a Staffer had developed a bot (software robot) which he named Quakebot which in return wrote automated articles by using data culled by the US Geological survey. With bots playing a bigger role in the past 7 to 8 years, the future of journalism was set in motion. Today, AI writes thousands of articles that are published in mainstream media today.

14.1 LEARNING OBJECTIVES

- AI and Machine learning tools and processes of news gathering are changing at a fast pace and customised news has become the order of the day.

-Students will be able to get an idea as to how to gather news and disseminate it in a 24-hour AI and news bot-driven format

On completing this unit, students will …

- be familiar with modern AI-based technological tools which are changing the dynamics of news gathering and news dissemination.

-be familiar with modern technological tools now available through bots and Artificial Intelligence.

-gain exposure to cutting-edge technology

14.2 NO MORE THE GATEKEEPERS OF INFORMATION

Time was when the newspaper and traditional media like radio and television were considered the primary source of news. They were said to be the gateways to authentic and credible forms of news dissemination. One had to wait for hours to get authentic news since news gathering was a tedious process and communication channels were few and slow. A telegram, fax machine or a teleprinter were the fastest modes of communication. The advent of the world wide web and social media, along with the popularization of the internet, these traditional media had

to cede ground to the more modern interactive forums to consume news. There was the concept of a reader, listener or viewer who made up the entire news-consuming audience. In the last two decades the reader, listener or viewer has given way to the consumer. And the consumer gets news in a jiffy from various sources on the net like Facebook, Whatsapp, Instagram and search engines like Google and Yahoo. What this means is that news is no more put through the crucible of authenticity, credibility, and verification of news. With micro-blogging sites like Twitter becoming the hub of information, news is shared by individuals, politicians, opinion leaders, common citizens and influencers without verification of facts. In the process, what is peddled as news are often rumours, fake news and opinions masquerading as news. Without a gatekeeper or a whistle-blower like the journalist who shares authentic news after processing, verifying and filtering the information to be shared with the audience, today news comprises any information or misinformation that is being shared on social media in the form of propaganda and rumours meant to excite or ignite the audience. The idea is to force news consumers to resort to extreme action by vested interests or sectarian forces who have a malicious agenda to propagate. The result of consuming such unfiltered news has led to mob fury and lynching of individuals along religious lines. As a result of such malicious campaigns, opinions are quickly made and if someone doesn't acknowledge or agree with a certain majoritarian viewpoint, he or she is trolled and abused. Instead of news, polarization along religious lines has become the order of the day and there is hardly any room for tolerance or accepting a contrarian viewpoint. Such trigger-happy forms of putting out unverified news has taken a huge toll on facts in the post-truth or what is called the Trump era. Either you agree with somebody and if you disagree with someone's viewpoint you are either trolled and abused or your social media account is pulled down. Some small examples will suffice to show how rumours have become the order of the day. Hindi cinema's thespian actor Dilip Kumar was 'killed' five times on social media in the past one year, and those who put out this kind of news, didn't bother to apologize to the consumers for their sins of commission. In the same vein, the recent Shaheen Bagh protests or the JNU violence, were both blown out of proportion by media propagandists who had a vicious reason to politicize the issue and fan the flames of communal violence. Today, there is a concerted attempt to sensitize people through workshops on fake news by search engine giant Google and attempts have been made by Facebook and WhatsApp to pull down propaganda and unverified content. Add to this the problem of political communication which is aimed at using social media to attract large number of sympathisers or some digital marketing companies who boost your message by using broad folksonomy or by using paid means and by making influencers to endorse your product or information. Even newspapers have started charging for news by running product propaganda as Advertorials which don't look different from real news.

There is need to tread with caution and raise awareness levels to contain fake news and false propaganda.

14.3 KNOWLEDGE, OPINIONS ARE THE NEW PLAYERS

Journalists are constantly faced with problems of reporting facts and opinions. They must be able to distinguish between them. This is important in both gathering and writing news. It affects how you deal with anything you are told and also how you pass the information on to your readers or listeners. News organizations investing in knowledge-based journalism are more likely to produce content that audiences search for and recommend to others. Such high quality content can help repair news organizations' sagging reputations and boost their finances by giving an outlet enduring relevance and audience share in an ultra-competitive world of many online choices. Journalists play an essential role as "knowledge brokers," unpacking the process of expert knowledge production for their readers, examining how and why scientific research was done, sometimes positing alternative interpretations or drawing connections to ongoing debates about a complex problem such as mental health, climate change, or infectious disease. Knowledge brokers focus on the institutions, assumptions, ideologies, political factors, and personalities that influence the production and interpretation of scientific research. Through this perspective, readers learn not only about the basic facts of science, but also how scientific research is conducted, interpreted, communicated, and contested. These veteran journalists often apply "weight-of-evidence reporting," a technique in which journalists seek out and convey where the preponderance of expert opinion lies on an issue. Yet most journalists who apply this valuable idea strongly defer to expert judgment and do "not get into the weeds of the scientific evidence." Knowledge brokers go further, probing deeper into the specialized research they write about, examining how and why it was produced, synthesizing and comparing findings across disciplines, and evaluating its usefulness when applied to proposed solutions.

Opinions

According to media experts, opinions are different from facts. "An opinion is a conclusion reached by someone after looking at the facts. Opinions are based on what people believe to be facts. This can include probable facts and even probable lies, although few people will knowingly give an opinion based on a proven lie." One person's probable fact can be seen by another person as a probable lie. This is one reason why people have differences of opinion. Although an opinion can be any statement of what a person believes to be true (as distinct from a proven fact), for journalists there are two main categories ofopinions.

Verifiable opinion

To comprehend verifiable opinion one must consider them as conclusions which can be verified (shown to be true) or shown to be false. To cite an example, people who predict the results of horse races draw conclusions from what they know about horses and racing. They may say that Golden Arrow will win the coming race. It is their opinion. Once the race is over, that opinion is proved to be either correct or incorrect, depending on whether Golden Arrow wins or loses. It would be pertinent to note that although people usually base their opinions on facts, there is always a danger that they can reach the wrong conclusions. They might have based their opinion on facts which are themselves untrue (such as Golden Arrow's fitness); they might have failed to consider a relevant fact (the ground was muddy and Golden Arrow runs best on firm ground) or they might have reached the wrong conclusion because of a gap in the logic they used to think it through (Golden Arrow had a strong name, so was bound to win). Going by the experts, "you must always treat verifiable opinions as if they could be wrong. You must always attribute them to the person who gave them."

Expert opinion

There is a special category we call expert opinion. Experts can give their opinion on an issue, based on their in-depth knowledge of the facts. To illustrate this point, a pathologist gives an expert opinion when she tells an inquest that she believes a person was killed before being thrown in a river. She has examined the body and found very little water in the lungs. Unless there is proof of what happened, this must remain an opinion and be attributed to the pathologist. The opinion may later be verified when the killer confesses and describes what happened. "The best kind of expert opinion is one in which the expert keeps their own personal feelings out of their conclusions. They look at the facts as they see them, and draw a conclusion based only on those facts."

Personal opinion

Personal opinions are the conclusions someone reaches based partly on facts and partly on what they already believe. According to media professionals, personal opinions can be given by people just because they are asked. If you conduct a vox pop with people on the street, asking what they think about capital punishment, they will give you their personal opinion.ersonal opinions which are based on beliefs or values which a person already has are called value judgments. "These are opinions of what is good or bad and advice on what other people should do about something." For example, a socialist might give the opinion that a new tax on the rich is a good thing while on the other hand a rich person might give the opinion that it is a bad thing. To understand value judgments, readers or listeners need to know who is making them and why. Such opinions must be attributed in all cases. As a journalist, it is more than likely that you encounter a lot of people

who want to express their personal opinion in order to impress people and to affect attitudes. They will see your newspaper, radio or television station as a useful way of getting their personal opinions across to people. "The most obvious examples of this are people such as politicians, who believe they know what is right or wrong for others. They need to get their opinions to the people, to gain their support." For example, the prime minister who says that his government is good for the people is expressing a value judgment. If he says it often enough, people will believe that it is true, whether or not it is based on facts. This is the kind of repetitive assertions that a journalist must be wary of.

14.4 FORGET 5WS AND H

Most journalistic practitioners have heard over time immemorial that it is important to include the five Ws (who, what, where, when, why, and we add in "how") to make a message clear and complete, and to a large extent that's true. But do not try to squeeze them all in the opening paragraph. However, you also need to use your discretion to include maybe two or three of the Ws in the opening line. As one media expert put it: "Give information in dabs, not slabs." A surprising number of people learned, or they seem to recall learning, that those critical elements needed to go in the first paragraph, but you cannot bury the reader with all that information in the opening couple of sentences. Instead, focus on the two (maybe three) most important pieces of information out of the six key elements. It usually will be the "what" (what is the single most important point) and the why or how (why is this significant, or how are people affected). Insert the other information in subsequent paragraphs.

Ordinarily, a complete news item, when written professionally, should answer the following six questions:

WHO – is or are involved?

HEN-did the event take place?

WHERE -did the event take place?

WHY -did it take place?WHAT -did actually take place?

And
HOW -did it take place?

However, the same news can be reported in different ways in various media platforms depending on the perspective of the reporter. However, they too apply the use of the characteristics of news when writing stories. "The difference in reporting is not because of the happenstance, but because of the demand of the medium and the target audience." For example, print media relies more on words and photographs, whereas television news requires visuals or videos. Similarly, radio news is

delivered in the form of sound bytes and online news portals can present the news using all word, video, audio and photographs. In print news, where space and time are a concern, a sentence can be about 20-25 words, whereas in broadcast news, where time is a concern, a sentence usually contains 10-15 words. Similarly, people don't read information on the Web in the same way as they read a newspaper or watch television or listen to the radio. Unique nature of the medium and the way in which it is received by the public demand newspapers, radio, television and online media to adopt different reporting styles. For example, we receive a newspaper everyday and it remains unchanged throughout the day. We can reread the story as many times as we want. But in case of Television or Radio, the timing is important. The news need to have an immediate feel. Reporting must be done on things that are happening now. Each news medium embodies a unique regime of content creation.

14.5 COMPUTER ASSISTED REPORTING – 1

According to western media experts, "it is in computer-assisted reporting where the real revolution is taking place, not only on big analytical projects, but also in nuts-and-bolts newsgathering. New tools and techniques have made it possible for journalists to dig up vital information within a short deadline, to quickly add depth and context. However, according to well-know media academician, "computer-assisted reporting has become crucial in creating credibility and in recognizing the globalization of news. But there is still a revolution going on in journalism when it comes to data, both at the basic and extraordinarily high levels." In the past decade, software for analysis has continued to become much simpler to use. An overwhelming amount of data is now online and easy to download. Storage space is immense on hard drives, flash drives, and on the "Cloud." The computing power on a laptop, tablet, or mobile phone dwarfs the power available only a few years ago. The ability to visualize data for better understanding and analysis has become pro forma. Furthermore, a new generation of computer programmers have joined traditional journalists to tackle the problems of capturing data from the Web, cleaning and organizing it, and creating fascinating presentations to be shared with the public and to encourage citizen participation and analysis. It must be noted that many fundamental truths remain the same. Databases are still created by people, and thus they naturally have omissions and errors that people have made and that must be noted and corrected. Like they say: "Every database also is a slice in time and thus is outdated the moment it is acquired and used." Also remember that a database alone is not a story. Instead, it is a field of information that needs to be harvested carefully with insight and caution. It needs to be compared with and augmented with observation and interviews. A news website puts it succinctly when it says that more important than ever is determining the accuracy of a database before using it. Equally important is careful analysis of the data,

since one small error can result in monstrously wrong conclusions. The idea of uploading data on the Web and hoping the public or volunteers will consistently make sense of it with reliable analysis has proven unreliable. In fact, journalists—not advocates—are needed more than ever to deliver a well-researched understanding of information and data, and to tell a compelling story using data. Yet, despite changes in technology and the availability of mega-data, some scenarios have not changed.

Computer-assisted reporting does not refer to journalists sitting at a keyboard writing stories or surfing the Web. It refers to downloading databases and doing data analysis that can provide context and depth to daily stories. It refers to techniques of producing tips that launch more complex stories from a broader perspective and with a better understanding of the issues. A journalist beginning a story with the knowledge of the patterns gleaned from 150,000 court records is way ahead of a reporter who sees only a handful of court cases each week.

Experts are of the view that computer-assisted reporting doesn't replace proven journalistic practices. It has become a part of them. It also requires greater responsibility and vigilance. The old standard—"verify, verify, verify"— that one learns in basic reporting classes becomes ever more critical. "Healthy scepticism" becomes ever more important. The idea of interviewing multiple sources and cross-referencing them becomes even more crucial.uter-assisted reporting is no longer a sidebar to mainstream journalism. It is essential to surviving as a journalist in the twenty-first century. The tools of computer-assisted reporting won't replace a good journalist's imagination, ability to conduct revealing interviews, or talent to develop sources." But a journalist who knows how to use computers in day-to-day and long-term work will gather and nalyse information more quickly, and develop and deliver a deeper understanding. The journalist will be better prepared for interviews and be able to write with more authority. That journalist also will see potential stories that would have never occurred to him or her. Without a rudimentary knowledge of the advantages and disadvantages of data analysis, it is difficult for a contemporary journalist to understand and report on how the world now works. Suffice it to say that it is far more difficult for a journalist to do meaningful public service journalism or to perform the necessary watchdog role.

14.6 COMPUTER ASSISTED REPORTING – 2

According to IT experts, Artificial Intelligence (AI) is an all-encompassing term that opens up possibilities made available by recent technological developments. Veteran journalists comment that "from machine learning to natural language processing, news organisations can use AI to automate a huge number of tasks. This involves a plethora of journalistic production, including detecting, extracting and verifying data,

producing stories and graphics, publishing (with sorting, selection and prioritisation filters) and automatically tagging articles).” There are many pluses to this system. For instance, it allows speed in executing complex procedures based on large volumes of data; providing alerts on events and the provision of draft texts to be supplemented with contextual information. In simple terms this means “an expansion of media coverage to areas that were previously either not covered or not well covered (the results of matches between ‘small’ sports clubs, for example); optimisation of real-time news coverage; strengthening a media outlet’s ties with its audiences by providing them with personalised context according to their location or preferences; and more.”

It is important to keep in mind that the efficacy of the systems depends on the availability of quality data. “What works here is the age-old principle of garbage in, garbage out (GIGO), which has been tried and tested in the IT world states that in the absence of reliable, accurate and precise inputs, it is nearly impossible to gather reliable, accurate and precise output.” According to new media experts, “news automation is the most visible aspect of this phenomenon and has undoubtedly given rise to the most heated debates within the journalistic profession. The idea of ‘robot journalism’ as it is often called has contributed to visions both dystopian and utopian.” In a worst case scenario automation could threaten jobs and journalistic identity by taking over work usually done by humans. But on the positive side, it could lead to a renewal of journalism by taking over repetitive and time-consuming tasks, freeing up journalists to focus on producing content with high value addition.

14.7 AI REPLACING NEWSROOMS

Based on sources in the internet we see how Natural Language Generation (NLG) tools produce articles via developed software companies like Narrative Science. Today, nearly a third of the content published by Bloomberg is generated by a system called Cyborg. These systems start with data – graphs, tables and spreadsheets.

However, there is a catch to this automated process. Only those articles with highly structured data are available as an input. To cite an example, the video of a football match, or spreadsheet data from a company’s annual return are where AI tools can be used effectively. According to a media expert, “they cannot write articles with flair, imagination, or in-depth analysis. As a result, they have not rendered thousands of journalists redundant. Instead they have sharply increased the number of niche articles being written.” The next technological development is Augmented Reality and Virtual reality, which transport the reader into the action zone. Here, the readers or viewers can experience a story as an immersive learning process. However, these tools can only be used by

major news media channels and the process of acquiring cutting-edge technology is an expensive proposition.

14.8 LONE RANGER JOURNALISM

The title may sound romantic, but in real terms it stands for individual anchoring blogs and shows on social media to garner trust and following. These are freelancers, sometimes graduating to entrepreneurs, or sometimes even moonlighting.

In the normal world, newspapers, corporations, governments, or other types of leading organizations simply had to give out information, and people would consume it by reading or looking at it. But this seemingly tried-and-trusted method is transforming. Simply making information available is not enough for today's public. Today's audiences expect to be able to choose what they read, and most believe they should be able to contribute content and opinions, too. This shift, sometimes called the social media revolution, is not the death of journalism as America always knew it; it's the birth of a democratic movement that emphasizes some of journalism's key factors: transparency, honesty, and giving a voice to the person who doesn't have one. On a more serious note, many traditional and non-traditional media outlets report and comment on how the Internet and social media, especially social networking, have begun to affect news organizations and how they operate. Although newspapers currently face a crisis on how to make news profitable in the digital age, that isn't the main focus. How papers will make money has been talked to death. So, instead, we need to focus on how social media, especially social networking sites like Twitter, have begun to affect the news organizations and changed — for better or worse — how journalists perform their jobs every day. The main purpose is to learn how the social media revolution has changed and will continue to change journalism and news organizations. To understand social media and its effects, one must read and analyze information gathered through journal articles, interviews and observations. For instance, the report is broken into subtopics: a summary of the current state of traditional media; definitions and background information on what social media and social journalism are; social media tools professionals use and why; current event case studies in which social media played a role in reporting the news; ethical issues surrounding the social media shift; and how the future of the news media might look like as a result of social media.
Journalists can benefit greatly from creating relationships with their audiences (Picard). Lavrusik also touched on this idea in his article quoting Jeff Jarvis, professor and director of interactive media at CUNY's Graduate School of Journalism. Jarvis said, "We used to always have the audience come to us, but that's not the case anymore" (Lavrusik). Jarvis's statement shows the importance of the shift from media organizations being incharge to people being in charge, or, if not in charge, at least having a say. Charlene Li and Josh Bernoff, authors of

"Groundswell: Winning in a World Transformed by Social Technologies," wrote, "Lawyers and entrepreneurs aren't the most powerful force on the Internet. People are. And people, empowered by technology, won't always go along. Media isn't neatly boxed into little rectangles called newspapers, magazines and TV sets anymore." Another expert wrote similar sentiments, saying major media outlets can't report information as quickly or as accurately as those who are actually at the scene of the event. In the past, though, those who were on the scene before news organizations didn't have anywhere to speak up besides through journalists. Now, journalism faces a dilemma because, in today's world, people can get online and publish their stories without ever even thinking about a journalist. "It can cost literally nothing to create content and make it available for other people to enjoy," experts observe. Giving consumers the ability to publish information more efficiently isn't good news for everyone, though; multiple problems emerge from the change. First, many blog posts are still opinion-oriented rather than first-hand news oriented coverage; meaning most blogs don't offer journalistically reported news content (Holtz). Second, the emergence of bloggers means news media organizations now face much more competition (Picard). Thirdly, true investigative journalism, like that done to uncover the Watergate scandal, faces a threat that could render it impossible because bloggers may not want to perform the meticulous work investigative journalism involves. Bloggers will probably want to focus on what interests them rather than on what's important for the public. Also, even if they want to do the work, bloggers may not be able to financially (Holtz). However, whether or not critics embrace or discourage social media's arrival, it is here and cannot be wished away. But the news media industry can use social media to its advantage if it thinks quickly. According to Skoler, "Social media are the route back to a connection with the audience. And if we use them to listen, we'll learn how we can add value in the new culture. The new journalism must be a journalism of partnership. Only with trust and connection will a new business model emerge" (Skoler). To understand how social media has affected journalism, one should understand the most popular social media tools for journalists, the most popular of the day being Twitter and Facebook. To start with, one could consider a story from Chris Martin, a public relations professional for more than 20 years. He said social media has helped him build and maintain relationships with reporters (Martin). His example involved a health reporter in Chicago with whom he was friends on Facebook.

14.9 NEWS AGGREGATOR APPS

These are exciting times for journalists using AI and Machine Learning tools. For example, the evolution of news automation technologies is bringing on new players on the media scene. These are professionals "who have not traditionally been linked to the world of journalism. Some among these are technology companies employing

linguists and computer scientists. Although they do not consider themselves as "producing journalism," these companies do participate actively in an editorial production chain that was hitherto the purview of news professionals." This in turn means collaboration between different professional cultures; where the rationality of technology is opposed to the subjectivity of journalism. An automated process cannot be simply limited to the transformation of input (data) into output (texts or any other form of visual representation). This process relies on traditional editorial logic, characterized by a succession of choices. "The aim to better understand this dynamic is by way of a case study conducted within French-speaking Belgian media, where an automated system was designed to support the daily routines of stock market journalists. The main lesson gleaned from this experiment was the need for a profile defined by both the journalistic and the technical fields, as it is meant to facilitate exchanges between these two worlds. The active involvement of journalists from the very beginning of any such project appears to be vital, and as long as they have expertise in the field it will be applied and the editorial skills to shape the program, which cannot be considered primarily technological." For social agents who are involved in the world of technology, this calls for a paradigm shift in which they accept that their participation in this new editorial process implies, at minimum, the development of a form of (automated) "journalistic thinking." If you want to stay informed on current affairs, you could download every single news app out there. But that would be overwhelming. Instead, make it easier on yourself and find a great news aggregator. These news apps collect articles from a large pool of sources, and incorporate different types of reporting, so instead of getting stories just from the New York Times or a local news station, you'll get a good mix. If you really only want updates from your regional newspaper, go ahead and download that dedicated app. But for news stories from around the world and across topics including entertainment, science, tech, politics, and beyond, find yourself the best news app for you that's customizable. If you use notifications you'll be glad you stuck with just a few news apps to save your entire screen from blowing up with constant "breaking" alerts. Apple News Service GoogleNewsFlipboardWay2NewsInshortsFeedlyDailyHunt

Content producers argue that news aggregators make money by stealing high-quality content. Since this money is pulled out of content producers' pockets, they have less incentive to produce high-quality content. On the other hand, news aggregators argue that aggregation drives profitable traffic to news sites themselves. A few years back Google (2010) claimed to send more than four billion clicks per month to news publishers via Google Search, Google News, and other products. Google's claim is that with each click (read visit) provides the publishers with an opportunity to show ads, register users, charge for access to content, and so forth.

There exist a variety of news aggregators. Some, like Huffington Post, use editorial staff, while others, like Google News, use an algorithm to find high quality content. After finding high quality articles, each aggregator posts them on its site. This, however, can be done in different ways. Some, like Yahoo! News, post the whole article on their site, with no link to the original content. Usually, this is because the aggregator pays the newspaper for that content and hence has the right to publish it. Others, like Google News, show the title and a short summary and provide a link to the original article. These two types of aggregators bring revenue to newspapers in different ways: the first by buying a content license, and the second by sending traffic to newspaper sites.

14.10 CONCLUSION

-Digital journalism and Artificial Intelligence have virtually changed the dynamics of journalism

-Traditional media has ceded ground to the more modern interactive forums to consume news

-With micro blogging sites becoming the hub of information, news is shared often without verification of facts.

-Opinions are based on what people believe to be facts.

-Augmented Reality and Virtual reality transport the reader into the action zone.

14.11 CHECK YOUR PROGRESS

Q1: The first media house which used AI for news gathering and reporting was…

Q2: Digital journalism has changed the concept of journalism by introducing news bots. Right or wrong?
Q3: Political communication uses social media to attract large number of sympathisers. Right or wrong?

Q4: Journalists play an essential role as "knowledge brokers." Right or wrong?
Q5: Opinions are different from facts. Right or wrong?
Q6: An opinion is always based on facts. Right or wrong?
Q7: Print media relies more on…
Q8: News organisations can use AI to automate tasks like detecting, extracting and verifying data, producing and publishing stories. Right or wrong?

Q9: Social media revolution has strengthened democratic system. Right or wrong?

Q10: Good news apps collect articles from a large pool of source. Right or wrong?

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સ્વાધ્યાયઃ પરમં તપઃ

શિક્ષણ, સંસ્કૃતિ, સદ્‌ભાવ, દિવ્યબોધનું ધામ,
ડૉ. બાબાસાહેબ આંબેડકર ઓપન યુનિવર્સિટી નામ;
સૌને સૌની પાંખ મળે ને સૌને સૌનું આભ,
દશે દિશામાં સ્મિત વહે, હો દશે દિશે શુભ-લાભ.

અભણ રહી અજ્ઞાનના શાને, અંધકારને પીવો ?
કહે બુદ્ધ આંબેડકર કહે, તું થા તારો દીવો;
શારદીય અજવાળાં પહોંચ્યાં ગુર્જર ગામે ગામ
ધ્રુવતારકની જેમ ઝળહળે એકલવ્યની શાન.

સરસ્વતીના મયૂર તમારે ફળિયે આવી ગહેકે
અંધકારને હડસેલીને ઉજાસનાં ફૂલ મહેંકે;
બંધન નહીં કો' સ્થાન સમયનાં જવું ન ઘરથી દૂર,
ઘર આવી મા હરે શારદા દૈન્યતિમિરનાં પૂર.

સંસ્કારોની સુગંધ મહેંકે,મન મંદિરને ધામે
સુખની ટપાલ પહોંચે સૌને પોતાને સરનામે;
સમાજ કેરે દરિયે હાંકી શિક્ષણ કેરું વહાણ,
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ભવ્ય રાષ્ટ્રનિર્માણ

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