DIRECTORATE OF DISTANCE & CONTINUING EDUCATION

MANONMANIAM SUNDARANAR UNIVERSITY

TIRUNELVELI- 627 012

M.A., Journalism and Mass Communication

New Media Studies

Prepared by

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PROGRAMME OUTCOMES (PO)

PO1: Demonstrate comprehensive knowledge of journalism and media systems.
PO2: Apply ethical principles and professional standards in media practice.
PO3: Analyze media content, communication processes and public discourse.
PO4: Utilize digital technologies and multimedia tools in journalism.
PO5: Create responsible and socially relevant communication content.

Course Outcomes – New Media Studies

After completing this course, students will be able to:

CO1 Explain the evolution and global landscape of new media technologies.
CO2 Analyze digital journalism practices and transformations in global news environments.
CO3 Examine the role of social media in shaping global audiences and communication patterns.
CO4 Evaluate issues related to privacy, misinformation, and regulatory frameworks in digital media.
CO5 Assess emerging technologies such as AI, VR, AR, and blockchain in the future of media.

(FOR THOSE WHO JOINED THE PROGRAMMES FROM THE ACADEMIC YEAR 2023–2024

M.A. Mass Communication

Semester III

NEW MEDIA STUDIES

Unit I Global New Media Landscape

Evolution of digital media worldwide - Mobile revolution and its impact on global media consumption - Comparative analysis of digital platforms across regions - Digital divide and media accessibility: global perspectives with Indian insights - Case study: Jio's impact on India's digital landscape

Unit II Digital Journalism in the Global Context

Online news portals and digital-first journalism: international trends - Mobile journalism practices around the world - Data journalism: global best practices and regional applications - Crowdsourcing and citizen journalism across cultures - Case study: NDTV's digital transformation and its implications for Indian journalism

Unit III Social Media and Global Audiences

Major social media platforms and their global reach - Impact of social media on politics and society worldwide - Content creation and distribution strategies for diverse audiences - Influencer culture and its role in global mass communication - Case study: TikTok's rise in India and subsequent ban - implications for global platforms

Unit IV Privacy, Misinformation, and Disinformation in Digital Media

Global data privacy concerns and regulations (GDPR, CCPA, etc.) - Fake news and its spread through social media: a global challenge - International fact-checking initiatives and media literacy programs - Government policies and regulations on digital media across countries - Case study: WhatsApp and misinformation in India during the COVID-19 pandemic

Unit V Emerging Technologies and Future of Global Media

Artificial Intelligence and automation in journalism: global adoption trends - Virtual and Augmented Reality applications in media worldwide - Podcasting and audio content consumption: regional variations - Blockchain and its potential impact on the global media industry - Case study: AI in Indian vernacular news production - challenges and opportunities

Unit I

Structure

Overview

Learning Objectives

1.1 Introduction

1.2 Evolution of Digital Media Worldwide

1.2.1 Early Development of Digital Media

1.2.2 Impact of Social Media

1.2.3 Global Trends in Digital Consumption

1.3 Mobile revolution and its impact on global media consumption

1.3.1 Growth of Mobile Technology

1.3.2 Role of Mobile phones in Social media and News Consumption

1.3.3 Mobile consumption across age groups

1.4 Comparative analysis of digital platforms across regions

1.4.1 North America

1.4.2 Europe

1.4.3 Asia-Pacific

1.4.4 Africa and Latin America

1.5 Digital divide and media accessibility Global perspectives with Indian insights

1.5.1 Global perspectives with Indian insights

1.5.2 Media Accessibility and Inclusivity Challenges

1.5.3 India's Digital Divide

1.5.4 Government Initiatives to Bridge the Divide

1.5.5 Global Case Studies and Comparisons

1.6 Case study: Jio's impact on India's digital landscape

1.6.1 Introduction to Jio’s Entry into the Market

1.6.2 Transformation of Media Consumption in India

1.6.3 Socio-economic Impacts of Jio’s Expansion

Let us Sum up

Check your Progress

Suggested Readings

Video Links

Overview

The Unit discusses the global new media landscape, including the evolution of digital media, mobile revolution, regional differences in digital platform usage, and the digital divide. It also examines Reliance Jio's impact on India, democratizing digital access and setting global market examples.

Learning Objectives

After completing the lesson the student will be able to

- Trace the evolution of digital media from its inception to the present day.
- Analyze the impact of social media on communication, marketing, and global connections.
- Compare global trends in digital media consumption.
- Understand the mobile revolution's impact on global media consumption.
- Explore differences in digital platform usage across major global regions.

1.1 Introduction

The term "media" refers to various forms of communication, including mass media, news media, traditional media, and emerging digital forms. Before the digital age, the most popular forms of media were analog or conventional forms like radio, newspapers, magazines, billboards, and journals. Traditional media, including newspapers, magazines, books, and other printed materials, has existed for centuries. The digital era has introduced new media transmission methods and devices, with most types of digital media falling into one of these main subgroups: audio, video, social media, advertising, news, literature, and more.

Audio forms of digital media include digital radio stations, podcasts, and audiobooks, which are subscribed to by millions of Americans. Video forms include streaming movie and television services like Netflix and virtual reality surgical simulators used in medical institutions. YouTube is one of the biggest players in visual digital media, hosting billions of videos. Social media includes sites like Twitter, Facebook, Instagram, LinkedIn, and Snapchat, allowing users to interact through text posts, photographs, and videos.

Advertising has also become an integral part of the digital media landscape, moving away from pop-up and autoplay ads to native content and other methods of keeping consumers invested without overselling their product. News and literature have traditionally been

consumed via books, print newspapers, and magazines. Research from the Pew Research Center indicates that 38% of adults in the U.S. read news online.

Digital media influences many industries and opens avenues for people to make a living and utilize their talents in different ways. For example, before digital technology, surgeons and other medical professionals had to rely on clunky simulators, videos, or cadavers to practice new surgeries. Digital technology has introduced new tools into the surgical suite, allowing doctors to better practice and perform procedures, increasing patient safety, reducing mistakes, and lowering costs.

Digital media has also led to entirely new careers, such as streaming daily lives on websites like Twitch. Users can pay to subscribe to individual channels to watch what interests them, and digital media professionals can use easily obtainable technology to film their own shows, movies, or podcasts and stream them at little or no cost, creating greater equity in media.The technological revolution has brought new types of media that now play a major role in disseminating information and entertainment to populations worldwide. Digital media platforms, such as YouTube, Kick, and Twitch, accounted for viewership rates of 27.9 billion hours in 2020. The use of interconnectivity has contributed to the digital revolution, with digital media significantly impacting society and culture. It has caused disruptive innovation in publishing, journalism, public relations, entertainment, education, commerce, and politics. Digital media has also posed new challenges to copyright and intellectual property laws, fostering an open content movement where content creators voluntarily give up some or all their legal rights. The challenges to a digital transition remain including outdated copyright laws, censorship, the digital divide, and the spectre of a digital dark age. Despite these challenges, digital media has a significant, wide-ranging, and complex impact on society and culture.

1.2 Evolution of Digital Media Worldwide

Digital media has brought about a technological revolution, allowing us to handle information on a level that traditional information storage devices like books could only dream of. This new period in industrial history is known as the Information Age, as it has had a wide-ranging influence on modern society. The history of computers goes back over 200 years, with the first concepts on machine-readable codes coming from Charles Babbage in the early 1800s. The first notion of a rudimentary computer program came from Ada Lovelace in 1823, when she wrote the first instructions for calculations performed on Babbage's machines.

The first media we could truly call digital appeared with digital computers, which employed binary code and Boolean logic to process and store information. In 1853, Swedish inventor Per Georg Scheutz and his son Edvard designed the world's first printing calculator, which is significant for being the first to "compute tabular differences and print the results." In 1931, Vannevar Bush invents and builds the Differential Analyzer, the first large-scale automatic general-purpose mechanical analog computer. In 1936, Alan Turing presents the principle of a universal machine, later called the Turing machine, in a paper called "On Computable Numbers…" according to Chris Bernhardt's book "Turing's Vision." Turing is later involved in the development of the Turing-Welchman Bombe, an electro-mechanical device designed to decipher Nazi codes during World War II.

In 1939, David Packard and Bill Hewlett found the Hewlett Packard Company in Palo Alto, California, with the company's first headquarters in Packard's garage. In 1941, German inventor and engineer Konrad Zuse completes his Z3 machine, the world's earliest digital computer. The machine was destroyed during a bombing raid on Berlin during World War II but was later released as the world's first commercial digital computer, the Z4, in 1950.

In 1945, John Mauchly and J. Presper Eckert design and build the Electronic Numerical Integrator and Calculator (ENIAC), the first "automatic, general-purpose, electronic, decimal, digital computer." In 1946, Mauchly and Presper leave the University of Pennsylvania and receive funding from the Census Bureau to build the UNIVAC, the first commercial computer for business and government applications.

INDIVIDUALS	INVENTIONS	CHRONOLOGY AND MAIN CONTRIBUTION
Charles Babbage	Difference engine, analytical engine.	(1791-1871) First idea of a computer.
Herman Hollerith	*IBM, Tabulating Machine Company*	(1860-1929) Automated processing of large amounts of information.
Alan Turing	Automatic Computing Engine, *Turing Test*	(1912-1954) Father of Artificial Intelligence.
Norbert Wiener	Network systems	(1894-1964) Theory of cybernetics, automation, feedback.
Claude Shannon	Relays, Bits	(1916-2001) Father of the electronic communications era, mathematical theory of communication.
Konrad Zuse	Z-1,Z-2, Z-3, Z-4, Z-5 computers, etc., decrypting machines (*ENIGMA*)	(1910-1995) The first programmable binary electromechanical computer.
Jack Kilby	Integrated circuits, microprocessor, microelectronics	(1924-2005) Invention of microprocessors and microelectronics.
J.C.R. Licklider	*ARPANET*, Internet	(1915-1990) Concept of the intergalactic network and forerunner of the modern Internet.

The first digital computers were the EDSAC, invented in 1949, and the Manchester Mark 1, which appeared a year earlier. New age machines compared to analog ones from the past had digital software running their logical operations. In 1947, William Shockley, John Bardeen, and Walter Brattain of Bell Laboratories invented the transistor, discovering how to make an electric switch with solid materials and without the need for a vacuum. In 1949, a team at the University of Cambridge developed the Electronic Delay Storage Automatic Calculator (EDSAC), the first practical stored-program computer. In November 1949, scientists with the Council of Scientific and Industrial Research (CSIR) built Australia's first digital computer called the Council for Scientific and Industrial Research Automatic Computer (CSIRAC), which was the first digital computer in the world to play music. In 1953, Grace Hopper developed the first computer language, which later became known as COBOL. This was later dubbed the "First Lady of Software" in her posthumous Presidential Medal of Freedom citation.

Thomas Johnson Watson Jr., son of IBM CEO Thomas Johnson Watson Sr., conceived the IBM 701 EDPM to help the United Nations keep tabs on Korea during the war.

In 1954, John Backus and his team of programmers at IBM published a paper describing their newly created FORTRAN programming language, an acronym for FORmula TRANslation. Jack Kilby and Robert Noyce unveil the integrated circuit, known as the computer chip, in 1958, which is later awarded the Nobel Prize in Physics for his work. Douglas Engelbart reveals a prototype of the modern computer at the Fall Joint Computer Conference, San Francisco, in 1968, marking the development of the computer from a specialized machine for academics to a technology that is more accessible to the general public.

In 1969, Ken Thompson, Dennis Ritchie, and a group of other developers at Bell Labs produce UNIX, an operating system that made large-scale networking of diverse computing systems and the internet practical. The team behind UNIX continued to develop the operating system using the C programming language, which they also optimized.

In 1977, the Commodore Personal Electronic Transactor (PET) is released onto the home computer market, featuring an MOS Technology 8-bit 6502 microprocessor. The PET is especially successful in the education market. In 1975, the magazine cover of the January issue of "Popular Electronics" highlights the Altair 8080 as the "world's first minicomputer kit to rival commercial models." After seeing the magazine issue, two "computer geeks," Paul Allen and Bill Gates, offer to write software for the Altair, using the new BASIC language.

In 1976, Steve Jobs and Steve Wozniak co-founded Apple Computer on April Fool's Day, unveiling Apple I, the first computer with a single-circuit board and ROM (Read Only Memory). The Apple I computer was a basic circuit board to which enthusiasts would add display units and keyboards.

Radio Shack began its initial production run of 3,000 TRS-80 Model 1 computers in 1977, priced at $599. Within a year, the company took 250,000 orders for the computer.

In 1983, the Apple Lisa, also known as "Local Integrated Software Architecture," was the first personal computer to feature a GUI. The Gavilan SC was released in 1984, the first portable computer with a flip-form design, and the first to be sold as a "laptop."

In 1985, Microsoft released Windows as a response to the Apple Lisa's GUI. In 1989, Tim Berners-Lee submitted his proposal for what would become the World Wide Web, detailing his ideas for Hyper Text Markup Language (HTML), the building blocks of the Web.

In 1996, Sergey Brin and Larry Page developed the Google search engine at Stanford University. In 1997, Microsoft invested $150 million in Apple, ending an ongoing court case in which Apple accused Microsoft of copying its operating system.

In 1999, Wi-Fi, the abbreviated term for "wireless fidelity," was developed, initially covering a distance of up to 300 feet (91 meters). In 2001, Mac OS X, later renamed OS X then simply macOS, was released by Apple as the successor to its standard Mac Operating System. In 2004, Mozilla Corporation launched Mozilla Firefox 1.0, which exceeded a billion downloads by users during its first five years.

In 2009, Microsoft launched Windows 7, which features the ability to pin applications to the taskbar, scatter windows away by shaking another window, easy-to-access jumplists, easier previews of tiles, and more. In 2010, the iPad was unveiled, and in 2011, Google released the Chromebook, running on Google Chrome OS. In 2015, Apple released the Apple Watch, and Microsoft released Windows 10. In 2016, the first reprogrammable quantum computer was created, which allowed for the programming of new algorithms into a quantum-computing platform. In 2017, the Defense Advanced Research Projects Agency (DARPA) developed a program called "Molecular Informatics" that uses molecules as computers. This program aims to harness the rich properties of molecules for rapid, scalable information storage and processing.

In 2019, Google demonstrated quantum supremacy by creating a quantum computer that could outperform the most powerful classical computer, dubbed "Sycamore." However, achieving quantum advantage, where a quantum computer solves real-world problems faster than the most powerful classical computer, is still a distant goal.

In 2022, the first exascale supercomputer, and the world's fastest, went online at the Oak Ridge Leadership Computing Facility (OLCF) in Tennessee. Built by Hewlett Packard Enterprise (HPE) at a cost of $600 million, Frontier used nearly 10,000 AMD EPYC 7453 64-core CPUs

and 40,000 AMD Radeon Instinct MI250X GPUs. This machine ushered in the era of exascale computing, which refers to systems that can reach more than one exaFLOP of power. Only one machine, Frontier, is currently capable of reaching such levels of performance and is being used to aid scientific discovery.

1.2.1 Early Development of Digital Media

Digital media's inception dates back to the early 19th century, with Charles Babbage and Ada Lovelace laying the groundwork for computational machinery and algorithmic programming. The transition from analog to digital media reached its zenith with the advent of digital computers, which were capable of processing binary-coded data and executing complex logical operations. Notable landmarks in this evolutionary trajectory include the Electronic Delay Storage Automatic Calculator (EDSAC) in 1949 and the Manchester Mark 1 in 1948.

Digital computers had the capacity for multitasking and versatile functionality, heralding a paradigm shift in computational capabilities. Equipped with digital software for executing logical algorithms, these machines heralded the dawn of a new era characterized by unprecedented computational power and data processing efficiency. Moore's Law, a computing term that originated around 1970, states that processor speeds will double every two years, pushing technology to strive for better quality and faster PCs. The introduction of Cable Television (Cable TV) also played a major push towards a digital platform for media. The first adoption of Digital TV was in the late 1990s, and the transition is expected to be completed worldwide by mid to late 2010s. The internet's influence on digital media has been significant, with the world wide web invented in 1989 by Tim Berners-Lee. Internet access to the public is now widely used in our day-to-day lives, and many people would struggle to survive without it. The rise in popularity of the internet since 1995 to 2010 has skyrocketed, with 16 million internet users in 1995.

1.2.2 Impact of Social Media

Social media has emerged as a powerful communication medium, with widespread influence in cities and remote areas. As of 2019, there are 3.2 billion social media users worldwide, representing 42% of the Earth's population. The rise of digital transformation has not only influenced businesses and made the world more accessible but also changed the way we communicate.

Social media has taken over the business, advertising, and education sectors, transforming the

way people communicate and becoming an integral part of their lives. Platforms like WhatsApp have redefined instant messaging culture, allowing people to text anyone across the globe as long as they have an internet connection. This transformation has been brought about by Facebook, Twitter, LinkedIn, and Instagram.

Online communication has brought information to people and audiences that previously could not be reached, increasing awareness about global events. For example, the story about the Amazon Rainforest fire spread through multiple platforms. Businesses now rely on social media to create brand awareness, promote, and sell their products, reaching customers irrespective of geographical boundaries.

Social media has influenced the way we communicate, making everything accessible and easy to access. Education has also incorporated forums and chat rooms to increase interactivity among students, conduct webinars, and promote events and courses. Social media is a crucial section of digital marketing, helping businesses go beyond demographic and geographic boundaries.

Online payments have also evolved, with platforms like WhatsApp incorporating options for transferring money with minimal effort. However, maintaining security standards is a challenge to ensure customers are safe when using these systems.

Social media has revolutionized healthcare, civic awareness, disaster management, and social justice. It has replaced physical visits with virtual consultations and Skype calls, offering patients a more convenient alternative to traditional medical visits. However, there are risks associated with this, such as the possibility of non-qualified individuals posing as doctors and the difficulty in verifying doctor credibility.

Government has also become more transparent through social media, with leaders using it to voice their opinions and prioritize issues. However, some organizations are misusing the power of social media to negatively influence people. Disaster management has become easier with social media, enabling relief funds, information, and support to be sent and accessed. Social justice has also emerged, with social work organizations like animal welfare and fundraising organizations using social media to raise awareness about societal issues.

The widespread impact of social media has led to a new genre of communication, with quick conversations and easy information relay. Employers are increasingly seeking professionals with social media skills for important roles within organizations. Social media as a business function is growing rapidly, offering numerous employment opportunities.

Social media has significantly impacted communication, personal relationships, information consumption, and societal discussions. With around 5 billion users worldwide, it continues to shape communication norms and behaviors. Social media platforms use algorithms to curate content, shaping what we see based on our preferences and behaviors. This curation impacts the diversity and balance of messaging we encounter, often creating echo chambers where we are exposed to information that reinforces our existing beliefs.

Information overload is a common issue, as many people tend to binge on social media, leading to a constant craving for more internet and social media consumption. Young people are particularly affected by social media, as they consume news from platforms like TikTok, Facebook, and YouTube. Stories, part of Instagram, Snapchat, and Facebook, provide the full picture of an event or activity, changing how people think about what to post.

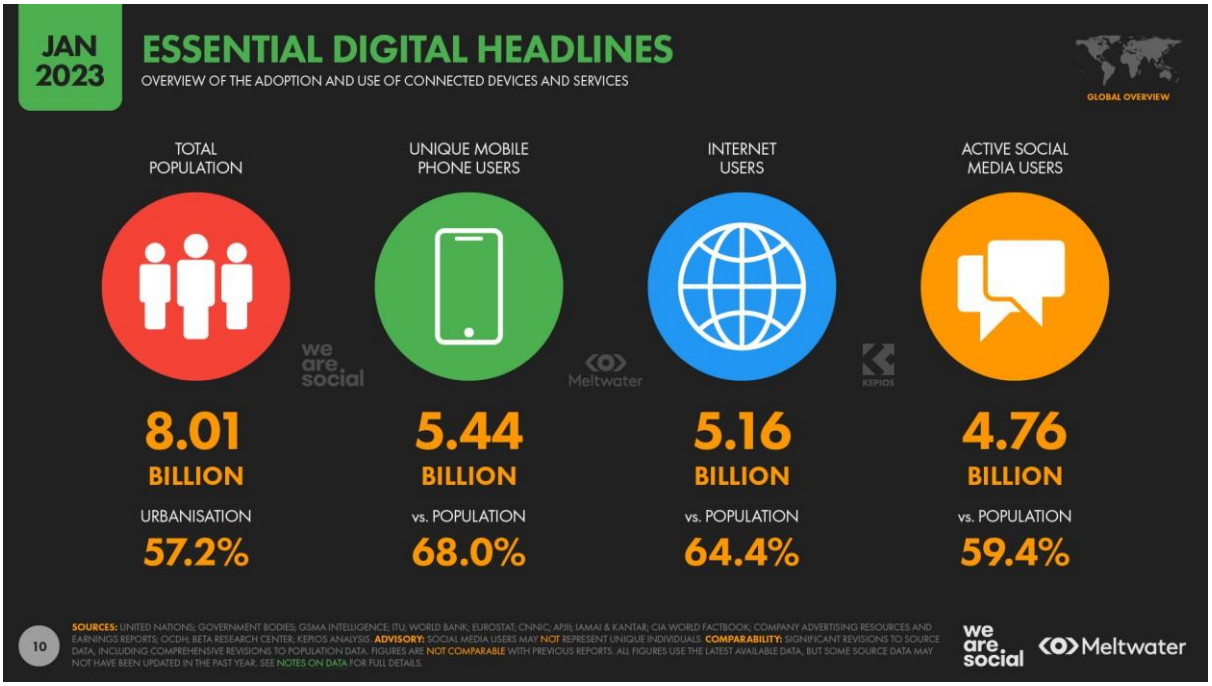
Boredom in conversations is another negative effect of social media, as people become bored during real conversations due to the instant, colorful feedback only social media can give. This can lead to a decrease in the quality and number of meaningful conversations. In-person

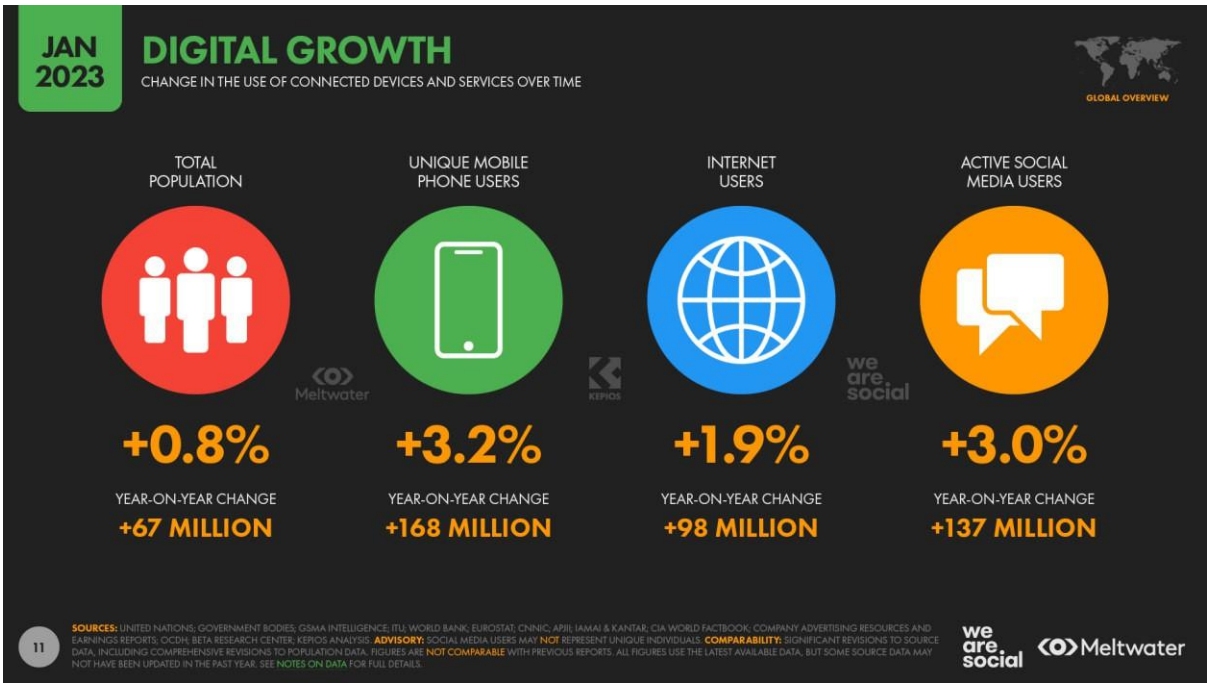
reactions to non-verbal, emotional, and social cues are changing, as people no longer need to respond to these cues when online.

Social media has transformed how people express themselves, offering unprecedented opportunities to share thoughts, opinions, and creativity with a global audience. Features such as posts, stories, and multimedia content make self-expression more accessible and diverse than ever before. However, there is also a sense of urgency, as people expect a quick response time and feel anxious if they haven't heard back from family members, friends, or partners.

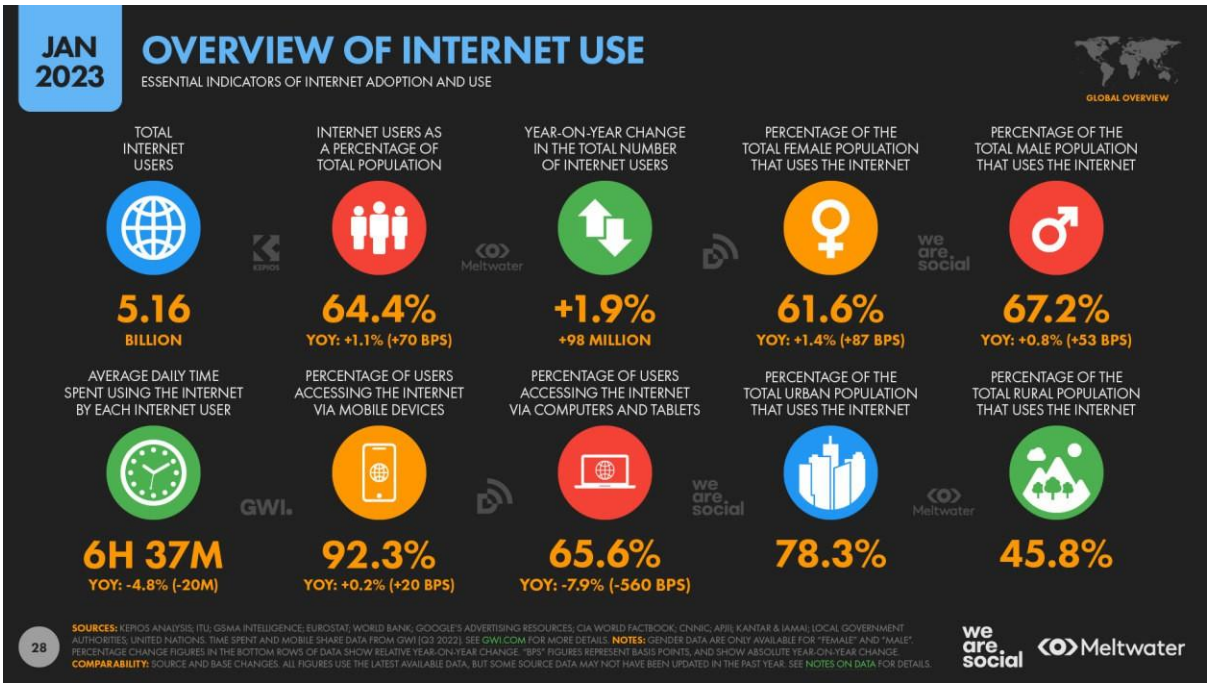
1.2.3 Global Trends in Digital Consumption

The world's population has grown from 8 billion in November 2022 to 8.01 billion in 2023, with 57% living in urban areas. Mobile phone usage has increased by over 3% in the past year, with 168 million new users in the past 12 months. The global internet user total has increased by 1.9% over the past year, but delays in data reporting suggest actual growth may be higher. Social media usage has reached 4.76 billion, representing just under 60% of the global population. The growth has slowed, with 137 million new users in the past year resulting in an annual growth rate of just 3%. The ITU and GSMA Intelligence have revised their internet user figures, bringing the global total to 5.16 billion. However, internet users have not increased by 90 million in just three months, with a year-on-year growth of just under 2%.





GWI's report on the global media market reveals that devices like smartphones and smart TVs are becoming increasingly popular, with global ownership of these devices rising 19% since 2018. Smartwatch ownership has doubled in the last three years, indicating a surge in post-pandemic interest for smart technology. Mobile devices continue to attract consumers, with the average user spending three hours and 41 minutes a day on a mobile device. While linear TV remains the top viewer in many regions, streaming platforms are catching up. Netflix remains the top player, but short-form video platforms like YouTube and Twitch are gaining traction among millennials and Gen Z members. Social media platforms like TikTok, Instagram, and LinkedIn have successfully integrated video viewing into their models. As of 2022, time spent reading global headlines online beats physical newspapers and magazines by 25 minutes. However, social media remains the dominant source of news discovery for most consumers, with 46% of millennials in 11 global markets reporting being tired of hearing about social causes from news outlets, media sites, and brands.



Generative AI is revolutionizing the content industry by enabling creators to create more compelling content and experiences that cater to the best audiences, fans, and tastemakers. US consumers are increasingly demanding personalization and customization of content experiences, easy purchase and library access, and the ability to follow favorite stories across TV shows, movies, and video games. Generative AI is already empowering content creators and disrupting industry standards. Gen Zs and millennials are leading the way in experimenting with these tools, with 18% using it to create images and 25% to create text. The metaverse and blockchain technology are expanding rapidly, and savvy creators should consider experimenting with these tools to augment human creativity and enhance productivity.

Generative AI could improve content creation quality but could also lead to a flood of cheap and novel content, further blurring the boundaries between "real" and synthetic, commodity, and premium. Media and entertainment companies and society may face a larger volume of novelty, content, and creative output. As the first quarter of the 21st century continues to disrupt, companies leveraging traditional business models may face challenges in the new environment of connected and interdependent digital media. Understanding consumers' interests, attitudes, and identities is crucial for media and entertainment companies to build profitable businesses and operate confidently in a constantly shifting landscape.

1.3 Mobile revolution and its impact on global media consumption

The public mobile phone, first invented in the 1940s, had limited advanced design and

capabilities. The Federal Communications Commission's restrictions hindered commercial use, but the first mobile phone in the US was a pay-phone on the Metroliner train service. The first handheld cell phone was invented in 1973 by Martin Cooper at Motorola. Despite the demand, the FCC's inability to grant commercial use impacted the growth of mobile phones.

In 1996, Nokia introduced the Communicator, which combined the mobile phone and handheld computer. Equipped with a QWERTY keyboard, it allowed individuals to send and receive faxes, check email messages, and visit the Internet. However, the effectiveness of these tasks was limited due to cellular networks being optimized for voice.

By the mid-1990s, data became the central interest for system designers, leading to the development of new applications and services such as Java, Multi-Media Messaging (MMS), Music, TV, and GPS. This led to the popularity of mobile smartphones.

The rise of mobile phones and social media has contributed to augmented reality, linking the power of the digital with the physical to create an atmosphere of augmented revolution. This phenomenon is evident in past social movements like the UK Riots, Arab Spring, and Occupy. However, defining social movements like the Arab Spring as a "Twitter Revolution" fails to account for the role of both society and technology in augmented reality, where both humans and media merge together to create change.

1.3.1 Growth of Mobile Technology

Mobile technology is a growing field that consists of portable two-way communications devices, computing devices, and networking technology that connects them. It is primarily used by internet-enabled devices like smartphones, tablets, and watches. The communications networks that connect these devices are wireless technologies, enabling them to share voice, data, and applications. The global mobile workforce is expected to reach 1.87 billion by 2022.

There are various types of mobile networks, including cellular networks, which use distributed cell towers to automatically switch frequencies and communicate without interruption across large geographic areas. 4G networks, the current standard for most wireless communication, use packet switching technology and are 10x faster than 3G. 5G, the fifth generation of cellular wireless technology, uses high frequencies that offer more bandwidth, delivering more data at higher speeds to more devices. This technology is expected to improve video streaming experiences for both individuals and groups.

The development of mobile networks began in the 1940s with early car phone services, but it took time for the technology to evolve for personal use. 1G networks used analogue technology, such as AMPS in the United States and the NMT in Europe, which had limitations such as limited capacity and poor call quality. 2G networks adopted digital transmission methods in the 1990s, revolutionizing the mobile telecommunications industry by allowing for more concurrent calls and users on the network. SMS, a short-message service, was introduced in the 1990s and 2000s, becoming an increasingly popular and cost-effective method of communication between users.

3G networks emerged in the new millennium, introducing faster data speeds, enabling users to browse the web, send emails, and access basic multimedia content on their phones. This breakthrough laid the foundation for various mobile applications and services, transforming mobile devices into powerful tools for information and entertainment.

The early 3G video calling technology used circuit switching and was billed by the minute, making it an expensive option. However, the latter half of the 2000s saw the introduction of smartphones and app stores, allowing users to download applications to extend their handsets' functionality.

4G networks emerged around 2010, significantly increasing data speeds and reduced latency, making real-time video streaming, online gaming, and high-quality video calls a reality. The improved capabilities of 4G networks also spurred the development of Internet of Things (IoT) devices and applications, creating new opportunities for smart homes, wearables, and other IoT innovations.

5G is the next step in the evolution of mobile communications, designed to provide greater rates of data transfer, lower latency, and improved reliability compared to previous generations. It can support a much larger number of devices than previous generations and handle more data-intensive applications such as Virtual and Augmented Reality, autonomous vehicles, and the IoT. 5G is also a key driver for technologies such as Edge Computing and Artificial Intelligence.

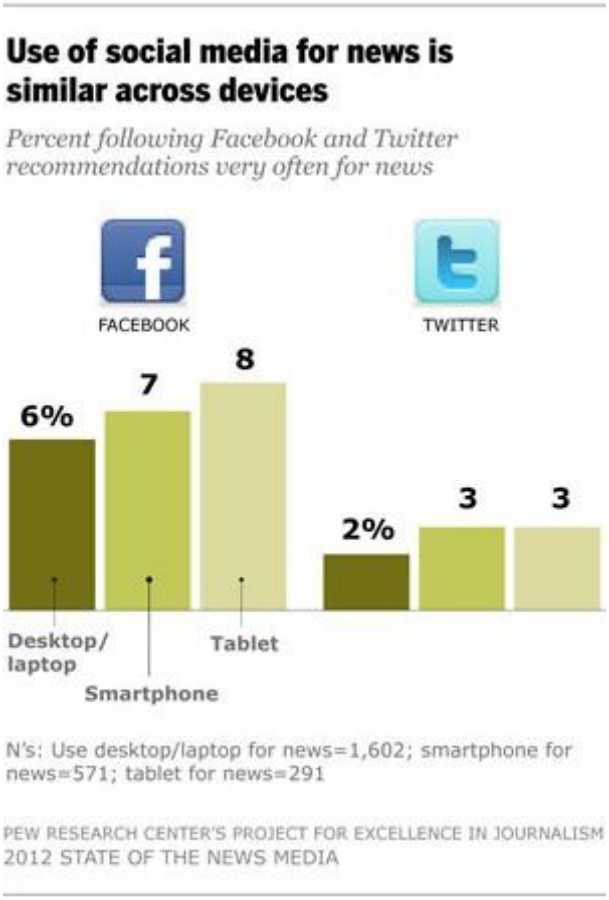
Key use cases for 5G include massive IoT connectivity, mission-critical applications, enhanced mobile experiences, and energy efficiency and sustainability. As mobile service providers roll out their 5G networks, it will be exciting to see the new use cases it enables as we move through the 2020s.

1.3.2 Role of Mobile phones in Social media and News Consumption

The shift towards digital news has significantly increased since 2011 and early 2012, with more than three-quarters of U.S. adults owning laptop or desktop computers. Today, 44% of adults own a smartphone, and the number of tablet owners has grown by about 50% since the summer of 2011. However, less is known about how people use these devices and what the move to mobile might mean for news and journalism.

A new survey by the Pew Research Center's Project for Excellence in Journalism finds that a growing number of Americans are becoming multiplatform digital news consumers. These "digital mavens" get news on all their devices, and even more so if they own all three types of devices. The reputation or brand of a news organization is the most important factor in determining where consumers go for news, and that is even truer on mobile devices than on laptops or desktops.

The growing body of data suggests that the move toward mobile holds some promising options for news producers, including increasing the amount of overall news being consumed. To capitalize on that potential, the industry will need to do a better job than it did in the desktop realm of quickly coming to understand audience behavior and developing technology and revenue models to adapt to it. Among the major findings of this research are that the majority of Americans now get news through at least one digital, web-based device. While the desktop or laptop computer remains the primary digital platform for news (54% of Americans get news there), the number of consumers who get news on multiple digital devices is growing. Nearly a quarter of U.S. adults, 23%, now get news on at least two devices–a desktop/laptop computer and smartphone, a computer and a tablet, a tablet and a smartphone, or on all three.



Social media recommendations are not as significant a driver of news as brand and search. Only 9% of consumers follow news recommendations very often from Facebook or Twitter on any of the three devices. Facebook has the larger role, with 6% of people using it "very often" to get news on desktop/laptops, 7% on smartphones, and 8% on tablets. However, peer-to-peer sharing of news is an emerging trend that may become a part of news consumption.

1.3.3 Mobile consumption across age groups

Digital natives, aged 13-24, are the most enthusiastic users of mobile technology, with preferred platforms including social media apps and video-sharing platforms. They use mobile devices for social interaction, entertainment, and creative outlets. However, over-reliance on mobile devices can lead to issues like digital addiction and exposure to online risks.

Millennials, aged 25-40, are highly engaged with mobile technology, often balancing professional and personal use. They use platforms like Facebook, LinkedIn, productivity tools, e-commerce apps, and streaming platforms for work-related activities, entertainment, self-development, and financial transactions. However, they often face challenges like "work-life blur."

Generation X, aged 41-56, are tech-savvy adopters who use mobile devices for both utility and leisure. They prefer Facebook for social networking, online news, financial management, and productivity tools. They also use health and fitness apps.

Baby boomers, aged 57-75, integrate smartphones into their daily lives for communication, information, and utility. They use messaging apps like WhatsApp for staying in touch with family and friends, news apps, and streaming platforms like YouTube for entertainment. They have higher reliance on mobile devices for essential functions like communication, navigation, and online transactions.

Seniors, aged 75+, adopt mobile technology gradually due to its convenience and utility. They use simple interfaces and basic utility apps like weather and health trackers. However, accessibility issues due to vision or motor impairments and lack of familiarity with app-based ecosystems limit their usage.

1.4 Comparative analysis of digital platforms across regions

1.4.1 North America

The North America Digital Transformation Market is expected to grow by 21.98%, reaching nearly US$ 1122.85 Billion by 2027. The market is segmented into component, deployment type, enterprise size, vertical, and geography. The solution segment holds the largest market share, driven by higher demand for cloud computing and big data analytics. The market is also influenced by disruptive technology and artificial intelligence. Cloud technology is the largest segment, offering higher scalability and flexibility for data storage. Large enterprises and small & medium enterprises (SMEs) are the main segment, with SMEs experiencing the fastest growth due to rapid expansion in their organizations. Digital transformation is a cultural change that impacts businesses, governments, public sector agencies, and societal challenges like pollution and aging populations. The market is primarily dominated by the US and Canada, with ease in operations and added value to customers being major factors. Key players in the market include Apple Inc., Dell EMC, IBM Corporation, Oracle Corporation, Google Inc., Capgemini, Microsoft Corporation, SAP SE, CA Technologies, and Cognizant. The report provides a comprehensive analysis of the North America Digital Transformation market, including market leaders, followers, and new entrants by region.

1.4.2 Europe

The Europe digital experience platform market, valued at USD 2.88 billion in 2021, is expected to grow at a CAGR of 12.4% from 2022 to 2030. This growth is attributed to the rapid digital transformation across industry verticals and the need to enhance customer experiences. The COVID-19 pandemic has prompted businesses to adopt digital platforms to improve workflow efficiency and preserve business growth. The adoption of technologies like AI and Machine Learning in DXP solutions is expected to boost market growth. Digital experience platforms allow businesses to focus on a larger customer base and integrate with existing business processes, such as CRM and social media. Cloud-based digital experience platforms are also driving growth, as they reduce investments in physical infrastructure and provide customized content based on customer preferences and transactions. Voice commerce is expected to further drive the growth of the regional market.

1.4.3 Asia-Pacific

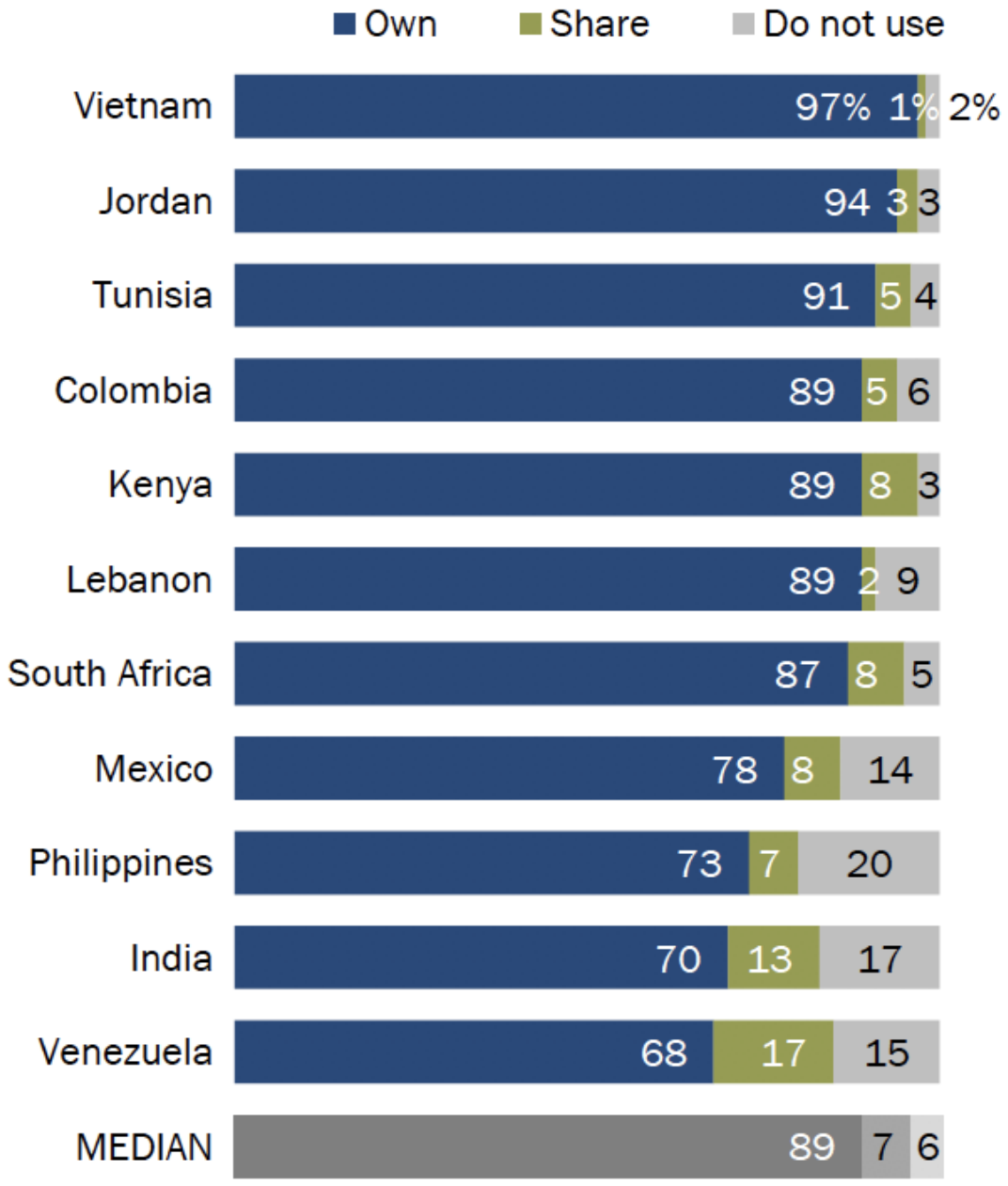
The rise of digital platforms has transformed various human activities, including economic, sociocultural, and political interactions. Access to digital technology has given individuals and households greater convenience and wider choices, triggering changes in purchasing and consumption behavior. Digital platforms help micro, small, and medium-sized enterprises (MSMEs) conduct their online business and afford them global reach. Digital platforms have been transformative, challenging traditional business models and enabling consumers to become goods and services providers. Traditionally, household production was limited to a few industries, but due to platforms, households have become providers of transportation services, food and accommodation, and culture and recreational services, earning income on the side.

However, the platform economy has both desirable and undesirable consequences, raising issues on competition, data privacy, social and labor protection for platform workers, safety and security for customers, and taxation for the government. Governments and society must harness the potential benefits from digital platforms while minimizing their potential costs.

The digital economy has core, narrow, and broad scopes, with the core and narrow scopes relating to the ICT-producing sector and the broad scope including e-commerce, automation, artificial intelligence, sharing, and gig economies. Digital platforms are digital matchmakers, providing a mechanism for consumers and suppliers to exchange information, match demands, and pay and receive and deliver goods and services.

Majorities of adults own a mobile phone

% of adults who say they ___ a mobile phone



Source: Mobile Technology and Its Social Impact Survey 2018. Q4 & Q5.
"Mobile Connectivity in Emerging Economies"

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1.4.4 Africa and Latin America

In 2019, 58% of Africa's population lived in an area covered by 4G networks, compared to 23% in 2015. The number of African tech start-ups receiving backing grew six times faster than the global average between 2015 and 2019. In Latin America and the Caribbean, digital transformation can help countries overcome long-term challenges such as low productivity growth. 70% of the population uses the Internet regularly, almost twice the share as in 2010. The real potential for large-scale job creation lies in the diffusion of digital innovations from large, digitally focused firms to the rest of the economy.

To trigger large-scale job creation and boost inclusive growth, policies need to bring digital solutions to the non-digital economy. Increased investments in infrastructure promise higher quality Internet connectivity. In 2018, total financing for communication infrastructure networks in Africa was USD7 billion, 80% of which came from private investors. Africa's fibre optic network extended from 278,056 km in 2009 to 1.02 million km in June 2019. New projects are expanding Africa's broadband capacity, such as Facebook and a group of telecom companies deploying 37,000 km of new subsea cables in the Africa projects.

1.5 Digital divide and media accessibility Global perspectives with Indian insights

The digital divide refers to the gap between those with access to digital technologies and the internet and those who do not. Factors contributing to this divide include economic barriers, infrastructure gaps, digital literacy, and policy and governance. Media accessibility challenges include language and cultural barriers, disability access, and age and generational barriers.

Global efforts to bridge the digital divide include international connectivity programs, affordable access initiatives, and educational campaigns. India, a unique case of digital transformation, faces wide gaps in access due to factors such as rural-urban disparity, gender, income levels, and regional diversity. The Indian government has launched various initiatives to reduce the digital divide and enhance media accessibility, including the Digital India Program, PM-WANI (Wi-Fi Access Network Interface), National Digital Literacy Mission (NDLM), and educational platforms like SWAYAM and DIKSHA.

Despite strides in improving digital access, India faces several challenges in media accessibility, including language barriers, accessibility for persons with disabilities, and telecommunication affordability. The launch of Jio in India disrupted the telecom market by

making data affordable and accessible, reducing data costs, expanding internet penetration, and promoting digital inclusivity.

Comparing India's approach with other countries like China and Africa, key takeaways include localized solutions for inclusive access, strengthening infrastructure, encouraging public-private partnerships, and policy and awareness for media accessibility. Expanding content in regional languages and promoting gender-inclusive digital access will enhance digital literacy and engagement. Strengthening broadband networks, particularly in rural and remote areas, and encouraging public-private partnerships can lead to innovative, affordable, and accessible digital solutions for underserved communities. Policies that mandate accessibility standards across platforms, combined with public awareness campaigns, can create a more inclusive digital environment for people with disabilities and marginalized groups.

1.5.1 Global perspectives with Indian insights

India is leading the world in internet shutdowns, with authorities able to shut down access in any village, city, or state. This overreach could pose a threat to civic rights, as millions of regular citizens find themselves disconnected from the modern world. India is also considering censoring streaming video services like Netflix and Amazon Prime Video, which would align with broadcast cable channels that are seen as pliant to the government. The country has also been weighing a law to force global companies to keep their data on Indians stored on local servers, raising concerns among firms like Visa, Google, and Uber.

India already has the world's largest biometric database, Aadhaar, which includes the fingerprints and retinal scans of more than a billion people. However, numerous instances of data breaches have been unrecognized by the government, jeopardizing faith in the system. The ability of governments to misuse the internet is endless, and the question then is how to create formidable checks and balances.

Civil society has fought hard to protect digital freedom in India, with the 2016 telecom regulator ruling against Free Basics, a Facebook-led initiative to provide a free but gated version of the internet. Rights activists fought to make the case that privacy was a fundamental right, leading to a 2017 Supreme Court ruling enshrining that freedom in the country's constitution.

The battle to keep the internet free and fair is an endeavor that has no end; new frontiers and

areas of control will continue to emerge as the internet evolves and advances. The stakes are greatest in the world's biggest democracy.

1.5.2 Media Accessibility and Inclusivity Challenges

Accessibility on social media is crucial for making digital spaces inclusive and fostering online spaces for everyone. With the global number of social media users increasing from 4.72 billion in January 2023 to 5.04 billion in January 2024, prioritizing accessibility is key to tapping into the full potential of these channels and engaging all users, regardless of disability.

Accessibility on social media is also a compliance imperative for many organizations, as many laws, including Title II of the Americans with Disabilities Act (ADA) in the U.S. and the Accessibility for Ontarians with Disabilities Act (AODA) in Canada, require social content to be accessible. Inaccessible social posts could leave organizations vulnerable to regulatory risks.

By making social media content accessible, businesses can boost their brand, expand their audience, and reduce legal risks. By ensuring accessibility, brands can better connect with the large community of people with disabilities, who collectively control $490 billion in disposable income annually in the U.S.

Ensuring accessibility on social media helps organizations meet their existing compliance obligations and stay ahead of potential regulatory changes. By proactively prioritizing accessibility on social media, businesses can meet their existing compliance obligations and stay ahead of potential regulatory changes. Media accessibility and inclusivity aim to ensure that all individuals can access and engage with digital content effectively. However, challenges in this area span technological, socio-economic, cultural, and policy dimensions. Technological barriers include the lack of accessible features, inconsistent standards, device compatibility, and limited bandwidth. Socio-economic challenges include affordability, digital divide, and skill gaps. Cultural and linguistic barriers include language diversity and cultural relevance. Regulatory and policy gaps include inadequate legislation, fragmented policies, and low awareness of accessibility needs. Disability-specific challenges include visual impairments, hearing impairments, cognitive disabilities, and motor impairments. Age and generational barriers include older adults and children with disabilities. Industry-driven limitations include profit over inclusion, lack of representation, and technological prioritization. Geopolitical and regional disparities include the urban-rural divide and the global South vs. global north. To overcome these challenges, governments, organizations, and media platforms need to

implement universal standards, promote affordable solutions, enhance digital literacy, encourage multilingual content, and integrate inclusive design.

1.5.3 India's Digital Divide

India faces a significant digital divide, with only 24% of rural households having internet access, compared to 66% in cities. This disparity creates a barrier to education, healthcare, and economic progress, further widening the social gap. Top NGOs in Delhi are actively working to empower rural India with crucial digital skills. The unequal distribution of digital access in rural areas limits access to quality education, employment opportunities, and economic growth.

The gender digital divide also exacerbates these disparities, as urban women enjoy better prospects than rural women locked into traditional roles. Women in rural communities face an additional hurdle: the gender digital divide. Men are nearly twice as likely to use the internet than women, further restricting their participation in the digital world.

The NIIT Foundation is working to bridge the digital divide by implementing initiatives such as Nreach Initiative, Mobile Schools on Wheels, and Financial Literacy workshops. These programs equip women with the confidence and knowledge to leverage technology for entrepreneurship, financial inclusion, and accessing government services.

Despite progress made in urban areas, the digital divide between rural and urban India remains stark. Only 14% of rural citizens actively use the Internet, compared to 59% of urban adoption. This disparity has severe implications for access to entitlements and opportunities, such as Direct Benefit Transfer payments. As recruitment processes increasingly shift online, internet literacy has become a crucial determinant of employment prospects.

1.5.4 Government Initiatives to Bridge the Divide

The Indian government has launched the India BPO Promotion Scheme (IBPS) and North East BPO Promotion Scheme (NEBPS) as part of the Digital India Programme to boost the IT/ITeS industry in smaller cities and towns. These initiatives have successfully established 246 BPO units across 27 States and Union Territories, generating local employment and contributing to the economic development of these areas. The Digital India Mission aims to transform the nation into a digitally empowered society and knowledge-driven economy.

The government has launched several initiatives to address the digital divide, including the BharatNet project, which connects 2.5 Lakh gram panchayats with optical fibre, and the National Digital Literacy Mission (NDLM) and Digital Saksharta Abhiyan (DISHA) initiatives. The PMGDISHA initiative targets 6 crore rural households for digital literacy, with a registration count of 6.63 crore candidates and 5.69 crore completed training, leading to 4.22 crore certifications.

The National Skill Development Corporation (NSDC) has also initiated the "Digital Skill Champions" certification program, partnering with tech giants like WhatsApp and LinkedIn to equip youth with vital digital proficiencies. The private sector and NGOs play a pivotal role in bridging the digital divide by providing resources, training, and mentorship to underprivileged young individuals.

The Challenges persist in bridging the digital divide, such as infrastructure limitations, cost of digital equipment and connectivity, and lack of awareness about the benefits of digital inclusion. To overcome these challenges, governments and stakeholders must invest in infrastructure development, offer subsidies for digital equipment, and conduct awareness campaigns to promote digital empowerment.

One successful example is the ODISI-OSAAT Digital School Infrastructure initiative, implemented in over 50 rural schools across four Taluks of Karnataka. This initiative offers a comprehensive platform comprising essential hardware, teacher training workshops, and refresher courses, enabling educators to effectively integrate technology into education. Continuous monitoring mechanisms are in place, and cloud-based analytics enhance transparency, accountability, and daily reviews of platform usage.

1.5.5 Global Case Studies and Comparisons

1.6 Case study: Jio's impact on India's digital landscape

Digital transformation is a crucial aspect of business growth, offering companies the opportunity to stay competitive and up-to-date. Companies like Netflix, Amazon, Faulkner Hayes, LEGO, and Espinoza's Leather Company have all successfully adopted digital transformation strategies to improve customer experience, encourage growth, and fuel employee engagement.

Netflix, a global streaming platform, has experienced significant growth due to its adoption of digital technologies. The company has expanded its ecommerce practices to meet changing customer demands and introduced new features such as free two-day shipping and shared payment methods. Amazon, a leading global ecommerce retailer, has also scaled up its ecommerce practices to meet changing customer demands.

Faulkner Hayes, a heating, ventilation, and air conditioning distributor, found success by automating manual processes and partnering with Impact's Digital Transformation team and DPI Information Services. This led to cost savings, increased efficiency, improved customer service, and reduced hiring costs. LEGO, a Danish toy company, has also thrived through digital transformation, restructured its entire business, and connected its physical products to the virtual world.

Espinoza's Leather Company, a California-based family business, turned to digital transformation to overhaul outdated processes. The company went nearly paperless in the order-taking process, automatically sent customers status updates, safely stored orders, and made them easily searchable. This digital transformation allowed Espinoza's Leather Company to reduce time spent on customer communications by 50%, increase sales, focus on growth-oriented projects, and access critical data more easily.

Digital transformation is essential for businesses to stay competitive and adapt to the ever-changing landscape. By embracing new strategies and implementing digital transformation, companies can achieve their goals and stay ahead of their competitors.

1.6.1 Introduction to Jio’s Entry into the Market

The Department of Telecommunications (DoT) was established by the Government of India in the 1980s to manage all telecommunication services within the country. In 1986, the GoI modernized the telecommunications facilities and established Mahanagar Telephone Nigam Limited (MTNL) for Mumbai and New Delhi, and Videsh Sanchar Nigam Limited (VSNL) for overseas services. The National Telecom Policy (NTP) was introduced in 1994 to improve India's position in global telecommunications.

Jio entered the Indian telecom market six years ago, based on Ambani's belief that mobile internet was the revolutionary technology of the 21st century. The company introduced

Aadhaar-based digital Jio SIM activation across 3,100 cities and towns in India, allowing customers to complete the SIM activation procedure within minutes using their Aadhaar number.

Jio disrupted the Indian telecom market with its six-month-long free data services and started charging customers from April 1, 2017. Ambani announced Jio's tariff plans in February 2017, including the special Jio Prime membership and the "Everyday More-Value" offer.

RIL aggressively promoted Jio even before its launch, promising free data and voice calls. According to industry observers, Jio was the fastest growing company in the world, crossing 50 million subscribers in a record 83 days.

1.6.2 Transformation of Media Consumption in India

Jio, a telecom operator, has successfully penetrated rural and semi-urban markets by targeting these regions through tailored marketing campaigns and focusing on customer experience. The company introduced paperless onboarding through Aadhaar-based eKYC, promoting convenience and ease of access. Jio also focused on customer support services, offering 24/7 helplines and online support.

Promotional pricing and loyalty programs were key elements of Jio's marketing strategy, offering some of the lowest data rates in the world. Jio Prime, a loyalty program, offered additional benefits like extra data and exclusive content. The company also developed a comprehensive digital ecosystem, including JioSaavn, JioCinema, JioTV, and JioMoney, which have enhanced customer engagement and retention.

Inspired by Jio's model, other telecom operators like Telefonica and Orange have expanded their offerings to include digital content and mobile payment solutions. By 2024, Jio's digital services had over 450 million users, solidifying its position as one of the largest digital platforms in India.

1.6.3 Socio-economic Impacts of Jio’s Expansion

Reliance Jio Infocomm Ltd's entry in India in 2016 led to $10 billion in annual savings for consumers and is expected to expand India's per capita GDP by about 5.65%. The company has made data accessible and affordable, with average data prices dropping to Rs10 from Rs152. This has allowed newer segments of society to use and experience the internet for the first time. According to the Telecommunications Regulatory Authority of India (TRAI), there

are currently 1.17 billion mobile-phone subscriptions in India, an increase of roughly 140 million since August 2016. The growth is especially pronounced in rural areas, where there are now over 500 million wireless subscriptions. As more Indians gain phone subscriptions, more are coming online, with nearly 50 million Indians gaining internet access between December 2016 and December 2017.

Let us Sum up

Media accessibility and inclusivity are crucial for everyone to benefit from the digital landscape. Global and Indian initiatives are working to address the digital divide, influenced by factors like economic, infrastructural, and educational disparities. The media industry must prioritize accessibility by including diverse perspectives in design and integrating features like captions, screen readers, and language options. Emerging technologies like AR and VR should also be developed with inclusivity in mind.

Check your Progress

Short Answer Questions

Question	CO	PO	K
Define new media.	CO1	PO1	K1
Explain the evolution of digital media.	CO1	PO1	K2
What is the mobile revolution in media consumption?	CO1	PO3	K2
Define digital divide.	CO1	PO3	K1
Explain the role of Jio in India's digital transformation.	CO1	PO5	K2

Essay Questions

Question	CO	PO	K
Discuss the global evolution of digital media technologies.	CO1	PO1	K3
Analyze the impact of mobile technology on media consumption.	CO1	PO3	K4
Explain the concept and implications of the digital divide.	CO1	PO3	K3
Examine the accessibility challenges in global digital media systems.	CO1	PO5	K4
Evaluate the impact of Reliance Jio on India's digital media landscape.	CO1	PO5	K5

Suggested Readings

Seunghwa Jun, Jongsur Park and Jeong Yoon Kim (2022). Digital Transformation Landscape in Asia and the Pacific: Aggravated Digital Divide and Widening Growth Gap. United Nations ESCAP, Information and Communications Technology and Disaster Risk Reduction Division, July 2022. Bangkok

Video Links

https://youtu.be/nrdNdprcYls?si=FKh0C8OWjJ_dl6VY

https://youtu.be/R50Af2CHOQQ?si=fVINTVs4lCQGhTD3

https://youtu.be/vqSOMybhosE?si=99-evMDqk96y1WAC

https://youtu.be/bme80Sna7Fg?si=qoTxR8b3MrHDdhD6

https://youtu.be/W3vkEXZBCAQ?si=N2pgEV4JDgfULgWU

Unit II

Structure

Overview

The Unit covers the evolution of digital media worldwide, the mobile revolution, regional differences in digital platform adoption, and the digital divide. It also discusses the impact of Reliance Jio on India, highlighting its role in democratizing digital access and setting an example for global markets. The text also discusses digital journalism in the global context, including online news portals, mobile journalism, data journalism, crowdsourcing, and citizen journalism. It also discusses the case study of NDTV's digital transformation, highlighting its influence on Indian journalism.

Learning Objectives

After completing the lesson the student will be able to

- Understand the Concept of Digital-First Journalism
- Explore International Trends in Online News Portals
- Examine Regional Adoption of Mobile Journalism
- Analyze Global Examples of Crowdsourced News
- Assess the Impact of NDTV's Digital Transformation on Indian Journalism

2.1 Introduction

Digital journalism is a modern response to the demands of an interconnected society, combining traditional journalistic principles with cutting-edge technology. It involves gathering, creating, and distributing news content through digital channels like websites, social media, mobile applications, podcasts, and videos. Digital journalism transcends the limitations of conventional print or broadcast media, offering a dynamic and engaging approach to storytelling. It faces challenges such as misinformation and ethical concerns. As technology advances, digital journalism will play a central role in shaping how we access and comprehend the world's events. Key skills required for digital journalism include strong writing and reporting skills, multimedia storytelling, digital literacy, SEO, data analysis, social media management, mobile reporting, and video production.

Standard writing and reporting skills are essential for crafting clear, concise, and engaging content. Multimedia storytelling involves incorporating photos, videos, audio, and interactive graphics into stories. Digital literacy involves understanding content management systems, social media platforms, and other digital tools effectively. Knowledge of SEO principles can improve content visibility and reach.

2.2 Digital Journalism in the Global Context

As of 2021, 86% of Americans rely on digital devices as their primary news source, a trend that is growing even stronger as digital natives reach adulthood. The rapid advancement of online publishing platforms has transformed the journalism industry, leading to the professional practice of digital journalism. Digital journalists report on events as they occur, often breaking stories in real time. They must be exceptionally agile, processing information quickly and sharing it accurately within minutes of receiving it.

Digital journalism offers several advantages, including extensive reach, real-time reporting, and interactions with the audience. Mobile devices have changed how people search for and consume news, allowing readers to access breaking news with just a click. Traditional gatekeepers are eliminated, allowing startups and individual reporters to distribute information without compromising their reporting potential.

Digital platforms also allow for real-time reactions like comments, shares, and likes, making it easier for journalists to source content and engage readers. Content that references digital life, such as viral photos, memes, deep dives into forum members, online community explainers, and internet trend breakdowns, can make readers feel like they are part of the developing story. Engagement metrics can help editors understand how long readers are

averaging on a story and how many unique impressions a story is getting. With a global audience of billions, any news item posted online can grab millions of eyes and elicit hundreds of thousands of reactions.

In the late 20th and early 21st centuries, journalism has evolved significantly, with the rise of citizen and activist journalists who openly have a bias or point of view but still attempt to promote that perspective through fair framing, editing, and reporting. The internet has also allowed for the creation of blogs and opinions that can go viral without any fact-checking or editing.

The digital journalism era has brought wholesale changes to the industry, affecting different types of journalism roles and how they have adjusted. Traditional journalism, which involves newspaper reporters and editors working for a local paper of record, has suffered due to the digital transition. The BLS expects both reporting and editorial jobs in newspapers to decline by 40% over the next 10 years, and small papers across the U.S. are shutting down or reducing operations.

Broadcast and cable journalism, which has been around since the invention of radio in the early 20th century, has seen a decline in reporting and editorial jobs. However, the rise of independent broadcast outlets has challenged broadcast journalism, as streaming apps like Facebook Live and Twitch allow citizen journalists and entrepreneurial journalists to spread compelling, high-definition video and attract big audiences in the span of a few minutes.

Investigative journalism has come to lean on new tools, such as the rise of big data, which allows them to comb through years of financial data, browsing history, cellphone logs, and other data sets to put together their stories. Sports journalism has seen the rise of ESPN, which has become the dominant force in American sports coverage. Sportswriters have branched out into analytics and long-form journalism to stay relevant.

Print news has seen the hard hit in the industry, with high printing costs for color pages and full-bleed photos, along with high costs for quality writers who often produce long features that take weeks or months to complete. Long-form journalism has moved onto sites such as The Athletic or Medium, and former powerhouse magazines have had to cut back on staff and the size of their product to try and stay afloat.

Social media news has only existed since the rise of digital journalism, with the first social media journalists appearing on sites such as Facebook and Twitter, but now working on photo sites such as Instagram and specialty platforms such as Signal and VSCO. As new platforms emerge and attract users, social media journalists are learning to grow with the times

and adapt to the changing landscape of journalism.

2.2.1 Online News Portals and Digital

Online news began with the Viewtron project launched by Knight-Ridder in 1983, which was one of the first systems to send electronic news directly to readers. However, it was too far ahead of the technology available at the time. By 1988, Internet provider Prodigy was offering news updates straight to subscribers' home computers. The real revolution came in the early- to mid-1990s with the advent of the World Wide Web. Pioneers like CNN, The Chicago Tribune, and the News & Observer launched their own sites, focusing on more targeted subjects.

In 1993, the University of Florida's Journalism Department launched the first online journalism web site, which was a basic, static site with a picture of the red-bricked wall. The UK's Daily Telegraph launched the Electronic Telegraph in 1994, which followed the rhythm of print publishing, posting online content once a day. The Electronic Telegraph's remit was to explore the new medium, its technological and commercial possibilities, and the scope for the launch of the Telegraph as an online brand.

The Columbus Dispatch was the first newspaper to be read online, followed by the Washington Post, The New York Times, and The Los Angeles Times. The Mosaic web browser gained popularity, showing text and images on the same page. The University of Florida launched the world's first journalism site, and the News & Observer launched Nando. The Telegraph launched an online version of its newspaper, the Electronic Telegraph, in 1994. The New York Times began publishing daily content at NYTimes.com, with over 2.8 million digital-only subscribers. BBC Online was launched in 1997, and the Guardian launched its online version, Guardian Unlimited in 1999. RSS syndication was developed by Netscape, and the Online News Association was formed. The Associated Press launched AP Streaming News in 2000, and El Pais became the first in Europe to charge for online content in 2002. News blogs were launched, and the Times and Sunday Times began charging for content access in 2010. In 2018, paid digital subscriptions for The Times and Sunday Times overtook paid print subscriptions. The Hindu, the first Indian newspaper to have a website, launched its website at thehindu.com in 1995. In 2009, the 130-year-old newspaper launched its beta version of its redesigned website at beta.thehindu.com. Technology has significantly impacted the media industry, enabling new forms of storytelling, facilitating content distribution to a global audience, and changing business models. Examples include the digitalization of content, social media

platforms like Twitter, Facebook, and Instagram, mobile technology, artificial intelligence and machine learning, and virtual and augmented reality.

Technology has enabled new forms of journalism, improved content distribution, and transformed the way media companies do business. The joining of technology and the media industry has been a major driver of change and innovation, enabling new forms of journalism, improved content distribution, and transforming the way media companies do business. The impact of technology on the media industry will continue to evolve, with new innovations and technologies likely to emerge in the years to come. Online newspapers are an essential part of the media landscape, providing people with access to news and information from around the world.

Online news sites have become an important metric for publishers, with traffic to these sites becoming an important metric. New actors in the online news industry include news organizations, search engines, internet portals, social networks, mobile news providers, online advertising groups, and hardware and services providers. News production and dissemination are more interactive and multi-directional, with journalists and contributors constantly updating information. News wires, freelance journalists, photographers, and camera teams may cut out middlemen and go directly to online services willing to pay. Device or network service providers control access to end consumers and have bargaining power with content providers. Users may also become diffusers, commentators, and creators of news. Online revenues may be small, but there are few fixed costs.

2.2.3 Changing Business Models in Digital Journalism

Media business model transformation is crucial for the survival and growth of organizations in the rapidly evolving media landscape. Traditional business models, such as print publications, broadcast television, and radio, are challenged by the dominance of digital platforms, making adaptation and innovation essential for long-term sustainability. The transformation necessitates the exploration and implementation of new revenue models, such as subscription-based services, paywalls, and digital advertising, to stay relevant and competitive. It also fosters innovation and creativity within the industry, allowing media companies to experiment with novel storytelling methods, reach wider audiences, and create more engaging content.

The main challenges of media business model transformation include resistance to change, technological adaptation, competition for attention, monetization and revenue diversification, audience fragmentation, balancing quality and profitability, data privacy and security, and

talent acquisition and retention. Overcoming these challenges requires strategic planning, investment in technology, organizational culture change, and continuous experimentation to identify the most effective and sustainable business models for the digital age. By embracing new technologies and formats, media companies can experiment with novel storytelling methods, reach wider audiences, and create more engaging content, leading to economic growth and transparency.

The second half of the twentieth century was a prosperous period for media industries, including broadcasting, publishing, film, and music. Companies like film studios, publishers, and record labels enjoyed comfortable business positions based on advertising and user payment. Consumer demand for information and entertainment increased, leading to the creation of artificial scarcity and economies of scale. However, this stable business environment has been undermined since the late 1990s due to the development of internet and ICT technologies.

The print media industry, particularly newspapers and magazines, has suffered greatly due to the spread of pirated copies and unlawful downloading of content online. The recorded music industry has also faced challenges due to peer-to-peer technology and video-sharing websites like YouTube. Eradicating unlicensed music online proved difficult, leading record labels to provide free access to official videos for artist promotion.

Since the early 2000s, the emergence of social media, search engines, and major online services like Amazon, Netflix, and Spotify has further threatened conventional businesses in the media industries. Consumers are less willing to pay for content and are more focused on the ways they interact with it. This has led to a major transformation in the media industries, with academic disciplines focusing on specific aspects and relevant issues concerning these changes. Pessimistic commentators have pointed out troubling issues such as increased centralization of corporate power, intensified commercialization of culture, and the rise of surveillance culture. Regulation and policy measures, including copyright, have been needed to adapt to changing practices in media production and consumption. Digital transformation in the media industries has also been discussed among scholars concerned with its impact on public interest and democracy.

2.2 First journalism: International trends

Journalism is the gathering, organizing, and distribution of news through various print and non-print media outlets. It has its roots in Rome around 59 B.C., when news was recorded in a circular called the Acta Diurna. During the Tang dynasty, China prepared a court report called a bao to keep government officials informed of relevant events. The first indication of a regular

news publication can be traced to Germany in 1609, with the Daily Courant appearing in 1702. Governments initially attempted to impose censorship by placing restrictions and taxes on publishers to curb freedom of the press. However, literacy among the population and the introduction of technology improved printing and circulation, leading to an explosion in newspaper publications. The creation of magazines became widespread, with the Tattler and Spectator being the earliest attempts to marry articles of opinions with current events. By the 1830s, magazines were common mass-circulated periodicals that appealed to a broader audience, including illustrated serials aimed specifically at the female audience.

The cost of news gathering increased dramatically as publications tried to keep pace with the growing appetite for printed news. News agencies formed to take the place of independent publishers, hiring people to gather and write news reports and selling these stories to various individual news outlets. However, the invention of the telegraph, radio, television, and mass broadcasting soon came head-to-head with an entirely new form of news gathering. Non-print media changed the dynamics of news gathering and reporting altogether, making the news more timely and relevant. Technology became an integral part of journalism, even if the ultimate product was in print form. Today, satellites and the Internet place breaking news in the hands of almost every person in the world at the same time, creating a new model of journalism that will likely be the standard for the future.

In the United States, the rise of journalism began with influential leaders like Governor William Berkeley of Virginia who spoke with disdain about the press. Newspapers and their writers did so as a medium of empowerment, with publishers making money from the public and newsboys and publication workers. The content and format of newspapers have not changed since the 18th century, with newspapers dividing news into sections such as foreign and domestic, and opinion pages being as common as they are today. The history of journalism dates back to the early 19th century, when newspapers were condensed to provide only the most basic information, often in the first paragraph. This model for journalistic writing began with the first paragraph answering the basic questions of who, what, where, when, and why. Colonial newspapers also included sensational stories, poems, satire, essays, and political cartoons. After the Revolutionary War, newspapers went from weekly to daily publication, and they became more vigilant about the political state of the new nation.

Journalism was not once held in esteem or regard, but it began to organize as a way of gaining recognition for their craft. The American Newspaper Guild was organized in 1933, an institute meant to function as both a trade union and a professional organization. Journalists entered the field as apprentices, starting out most often as copy boys and cub reporters. The

first time that journalism was recognized as an area of academic study was when it was introduced at the university level in 1879, where the University of Missouri offered it as a four-year course of study. New York's Columbia University followed suit in 1912, offering the study of journalism as a graduate program, endowed by Joseph Pulitzer.

The world of journalism grew exponentially, with in-depth reporting, economics, business, politics, and science all vied for the attention of the public. Motion pictures, radio, and television also increased the need for refined and expert skills and techniques. Journalism was a common course of study by the 1950s in universities across the United States. Literature and texts on the subject of journalism grew to keep up with the demand of budding journalists and their professors.

The nature of journalism in the United States has always championed social responsibility, and this has not changed since the early 1700s. Even today, media outlets and national newspapers are identified by their social leanings, either liberal or conservative. However, there are still many that present a fair and unbiased look at events, written and published with the intent of informing the public and allowing them to make their own decisions on an issue.

In the 21st century, the professionalism of journalism has grown immensely, thanks to factors such as becoming a recognized area of study at the university level, increasing knowledge on all aspects of journalism, and the creation of professional organizations. The term "news" itself has taken on new meaning, with hard news, celebrity news, and breaking news altering journalism from its beginnings.

2.3 Impact of Real-Time Reporting on Global Audiences

In 1920, Walter Lippmann argued for the dignity of journalism, stating that the health of society depends on the quality of information it receives. However, critics argue that journalism has failed to meet these high hopes and ideals, with issues such as cash for comment, privacy violations, and bias rampant. Over the past 50 years, public trust in journalism and news media has collapsed, and its practice is increasingly challenged.

In the digital platform era, journalism and news media have come under intense scrutiny, with questions about the role and value of the news looming large. Digital platforms have changed the news consumption, distribution, and production, with consumers and digital platforms taking on the role of distributors. This has led to a more complex and layered relationship between journalists and audiences, with far-reaching impacts for consumers, producers, and digital platforms.

One key aspect of this change is the hybrid role of platforms. Traditional news media operated

in a two-sided market with its audience and advertisers, where democratic exchange was a significant positive externality. In the era of digital platforms, this two-sided market has become a multi-sided market, with digital platforms entering the frame to tremendous effect. The relationship between journalists and audiences has become more crowded, as digital platforms have helped consuming audiences become creating audiences. Participatory journalism, which includes citizen journalism, comments sections, discussion forums, and the expanding universe of blogs, Twitter, 4chan, and Reddit, has become more prevalent in 2018. Understanding the news media today requires taking into account this dynamic, interactive environment. Categorical distinctions between industrial news production and individual news consumption, professional and citizen journalism, and private and public engagement will continue to be restricted. Digital platforms have made the relationship between news producers and news consumers more fluid and interactive. Digital platforms play a crucial role in news distribution and shaping the news agenda, making them more than content producers but more than mere intermediaries. Social media platforms, such as Facebook, have evolved from delivering information to curating an algorithmically selected set of posts to generate a News Feed. This shift has led to a multi-sided market where news media interacts with audiences, advertisers, and digital platforms. Distinguishing this four-sided relationship is challenging. Despite the shift towards digitalization and digital platforms, there is a fear that the industry may be lowered and de-professionalized. Nick Davies, a journalist, coined the term "churnalism" to describe content produced quickly and without care, often recycled from other news content. Since 2008, there has been a push to re-construct journalism practice and convince consumers that if journalism is a service, it might be worth paying for via online subscriptions. In the face of digital onslaught, revenues in TV and radio have stood up relatively better than print/online. Social media journalism faces numerous challenges and concerns due to the digital era, including misinformation, fake news, and privacy breaches. To maintain trust and credibility, journalists and media professionals must address these issues by verifying information, combating misinformation, maintaining integrity and ethics, balancing speed with accuracy, and monetizing and business models.

Verification of information is crucial as many people share fake news, creating confusion and confusion. Maintaining integrity and ethics is essential for journalists, but on social media, things spread rapidly, making it difficult to balance speed with accuracy. News companies must find different ways to make money, such as selling newspapers or ads, and finding ways to make money through various means.

Best practices and guidelines for social media journalists include source verification and fact-checking, ethics in reporting, building credibility and audience trust, leveraging social media analytics, and professional training. Source verification ensures that the information being shared is reliable and accurate, while ethics in reporting prioritizes reporting true events and avoiding clickbait strategies. Building credibility and audience trust involves sharing accurate news and reliable content, actively conversing with viewers, and leveraging social media analytics to track engagement, content performance, and audience demographics.

Professional training for social media journalists includes digital storytelling tactics, audience engagement strategies, social media ethics, and crisis communication management. The future of social media journalism will see more interactive and visually appealing news formats, with the focus on using influencers, building online communities, and creating personalized content.

2.4 Evolution of Mobile Journalism (MoJo)

The introduction of smartphones in the 21st century has significantly changed our daily lives, with businesses like Uber and pub trivia being built around them. Smartphones have made news consumption more accessible, allowing instant updates, reading articles, and watching video as stories unfold in real time. This has also impacted the way news is produced and reported, making it easier for journalists to tell stories from beginning to end.

The power of a smartphone and its tools allows journalists to film, record audio, take photographs, edit video, write stories, connect and post to the web, and make phone calls. This mobility, independence, and ability to work on the go have made mobile journalism more accessible to reporters on a budget, women, and people living with a physical disability.

Mobile apps and equipment are cheaper than traditional broadcast journalism equipment and software, making multimedia storytelling more accessible to reporters on a budget, women, and people living with a physical disability. Mobile journalism is truly revolutionary from a storytelling perspective because members of the audience increasingly have access to a mobile phone, allowing them to include the voices of their community in their storytelling and make journalism more inclusive. Most modern phones can film in 1080p high-definition video and can film reasonably well in low light.

If your phone doesn't have OIS, you can use an external app like Filmic Pro or Open Camera, which have OIS as a feature. If you want a high level of control over depth of field or need to film a subject from a considerable distance, a traditional camera or DSLR will be a better choice if you can afford it. However, one of the characteristics of a mobile journalist is a willingness to experiment and see what's possible, so don't let a lack of equipment be a barrier!

Mobile journalism is an evolving field with new apps and equipment being developed and coming on to the market all the time. Initially, iOS was the preferred system due to higher-quality apps and a larger developer base, but the majority of the world's smartphone users have android phones, making it more difficult for developers to work with. For those new to the form, her advice is to "keep it simple" and focus on the story and having an idea of how to tell the story.

2.5.1 Mobile journalism practices around the world

Mobile journalism (MoJo) is a cost-effective, flexible, and accessible approach to storytelling that has emerged as a vital tool in today's media landscape. It enables journalists to create high-quality content with minimal equipment and deliver real-time updates, making it a vital tool in today's media landscape. MoJo has been widely adopted in North America, Europe, Asia-Pacific, Africa, and Africa due to its technology-driven storytelling, training, and education initiatives.

In North America, MoJo has been embraced by both large media organizations and independent journalists. In Europe, MoJo has been integrated into newsrooms by European media organizations like BBC and DW. Initiatives like the European Journalism Centre (EJC) offer workshops and training programs to equip journalists with MoJo skills. MoJo has been extensively used in covering crises such as refugee migrations and climate change events.

Asia-Pacific countries, including India, China, and the Philippines, have seen a surge in MoJo practices due to high smartphone penetration. Mobile journalism has democratized news reporting by enabling citizen journalists to contribute and capture local stories and traditions that mainstream media might overlook. In Africa, MoJo is a vital tool for reporting in areas with limited access to traditional media infrastructure.

Mobile journalism applications include breaking news coverage, empowering citizen journalism, bringing local stories to global audiences, and integrating digital media platforms like YouTube, Instagram, and Twitter. In India, MoJo has lowered the barriers to entry for reporting, enabling a wider range of voices to contribute to public discourse.

The future of MoJo in India will see technological advancements, such as 5G rolling out, AI and AR integration, capacity building and training, policy and regulation, and collaboration between professional journalists and citizen reporters. Technological advancements will benefit from faster upload speeds and enhanced live-streaming capabilities, while AI and AR will redefine mobile journalism practices. Capacity building and training will be expanded to further democratize media and enhance content quality.

Challenges in mobile journalism include technical limitations, such as dependence on

battery life and internet connectivity, verification and credibility issues, privacy and consent concerns, and balancing speed with accuracy in reporting. As 5G networks roll out, MoJo will become faster and more efficient, with innovations like AI-driven tools and enhanced editing apps further streamlining workflows.

2.5.2 Role of Mobile Journalism in News Coverage of Underreported Areas

The field of journalism has experienced a significant shift due to technological advancements, improving connectivity and accessibility. Mobile journalism (MoJo) has become an increasingly important part of the media landscape, allowing journalists to report and publish news stories from any location, at any time, using only their mobile devices. The rise of MoJo can be attributed to factors such as the widespread availability of mobile devices, affordable data plans, and the popularity of social networking platforms.

The number of mobile users worldwide has surpassed five billion, accounting for about 80% of the mobile phones in use today. The rise of MoJo can be attributed to several factors, including the widespread availability of mobile devices, affordable data plans, and the popularity of social networking platforms. Traditional reporting equipment has experienced declining usage, especially among younger journalists, as they increasingly embrace digital methods to meet the demand for timely information. This shift reflects the industry's adaptation to the fast-paced nature of the digital world, prompting journalists and reporters to prioritize agile and efficient reporting approaches over traditional methods.

The mushroom growth in the number of mobile users and internet connections has directly affected the number of social media users across all digital platforms. As a result, an additional 190 million people joined the ranks of the social media users in the preceding year, bringing the grand total to 4.74 billion at the beginning of October 2022. A further 4.2% growth over the past year means that 59.3% of the world’s population are now active on the social media across a variety of platforms. If the current rate of growth continues, it may expect that the two-thirds of the world’s population will be using the internet by 2023, majority of which will have an active presence on the social media platforms.

Mobile journalism has garnered significant appeal among news organizations due to its inherent speed and efficiency. As a result, nearly every news media outlet now maintains a robust presence on mobile platforms to outpace competitors in delivering breaking news. However, mobile journalism has faced skepticism from traditional media organizations due to perceived flaws and deficiencies concerning the authenticity and credibility of news sources. To counter these issues, researchers Kovach and Rosenstiel (2021) suggest focusing on synthesis and verification rather than rushing to add context and interpretation. The practice of

mobile journalism is driven by market demands for speedy news stories at the click of a button, leading to a departure from gatekeeping principles. The internet has significantly impacted journalism's working practices, with mobile journalism becoming a necessity in the age of decentralized newsrooms. Mobile journalism requires journalists to acquire new technological skills to work efficiently in a highly competitive environment with immense speed and efficiency. The emergence of a nonstop 24/7 digital environment has led to the questioning of the validity of changing practices in the field of journalism.

The ethical and legal considerations of mobile journalists have been a major concern for traditional journalists. They must master the MoJo skill, adopt visual thinking, and integrate ethical and legal awareness. Journalists should be proficient with cameras and other electronic gear used in reporting, be able to think visually and creatively, and realize their own limitations in terms of moral and legal constraints.

The emergence of new technology in journalism has posed a challenge to traditional ethical issues. MoJo often involves high-speed reporting, and journalists must take into account both ethical and legal considerations while covering stories that may have a direct bearing on public health and safety. In the absence of ethical and legal awareness, journalists may cross ethical and legal lines, potentially leading to false material or defamatory statements.

New organizations should have institutional frameworks to train journalists in MoJo and gate-keep their stories in real time. No all-inclusive definition of "mobile journalism" could be found in any communication studies dictionaries reviewed. This research focuses on one definition of mobile journalism for general purposes by reviewing scholarly articles and research papers that mentioned or otherwise defined mobile journalism. The organic definition of MoJo is proposed as "mobile journalism's purpose – through the reporters and journalists is to gather news, significant information to entertain, amuse, educate, inform and highlight significant societal issues in a symmetrical, balanced, and ethical way while utilizing mobile technology to distribute news content to the large audience from anywhere with minimum delay."

2.5 3 Challenges and Opportunities in Mobile Journalism

Mobile journalism has revolutionized the field of journalism by providing real-time news and allowing journalists to be jacks-of-all-trades. This has led to a culture of instant gratification, where there is no need to wait for information. Traditional reporting relies on the few, while mobile journalists disseminate pieces of the story as they are revealed.

Mobile journalism has a competitive advantage over traditional media outlets, catering directly to people's desire for real-time information. It also allows for the surge of live media coverage

through platforms like Facebook and Twitter, which have increased engagement rates globally. Mobile journalism is one of the biggest contributors to globalization, as it plays a crucial role in informing the public about events happening outside their immediate surroundings.
Citizen journalism has emerged as a result of mobile journalism, allowing anyone with a smartphone or other internet-connected device to become a citizen journalist. This has led to questions about the value of an eyewitness account film shot on a mobile phone and posted on the internet versus a traditional broadcast on a television network.

Mobile journalism has its drawbacks, including concerns about privacy, ethics, and truthfulness. Social media can easily become flooded with uncredible or misleading information, and the accessibility of mobile journalism means that sensitive or violent content may be released. Additionally, the quick dissemination of information can be dangerous for people living in countries with restricted free speech, such as Hong Kong, where protestors must fight to stay anonymous due to the Chinese government's view of protests as illegal assemblies. Mobile journalists face numerous challenges in their daily lives, including the need for reliable internet, power-saving hacks, and the need for backup connectivity. To ensure their safety, they often carry extra batteries, use solar power, and use power-saving hacks to extend battery life. They also need reliable internet, which is crucial for sending reports, streaming live videos, and researching. They can prepare for poor connectivity by downloading offline maps and essential information beforehand. Backup connectivity options include additional SIM cards and portable Wi-Fi devices. In worst-case scenarios, they may resort to texting updates or satellite phones. Safety training is also essential for journalists to navigate dangerous situations effectively. Protective gear, such as bulletproof vests and waterproof cases, is a crucial investment. Emergency protocols, encryption software, physical security, and remote wiping capabilities are also essential for journalists to maintain their reliability and continuity of reporting. By being resourceful and planning strategically, mobile journalists ensure their audience remains informed, no matter the situation.

2.5 Data journalism: global best practices and regional applications

Data journalism, coined by political commentator Ben Wattenberg in the mid-1960s, combines narrative with statistics to support the theory that the United States had entered a golden age. The field of computer-assisted reporting was officially organized in the late 1980s, with investigative reporter Bill Dedman winning a Pulitzer Prize for his 1988 series of stories using Computer Assisted Reporting (CAR) techniques to analyze racial discrimination by banks and other mortgage lenders in middle-income black neighborhoods.

The first recorded use of data journalism by a major news organization was The Guardian's Datablog in 2009. Since then, it has become widely used since the Wikileaks' Afghan War documents leak in 2010. Data journalism can also be seen as an investigative role, dealing with "not-so open" or secret data on occasion.

The annual Data Journalism Awards recognize outstanding reporting in data journalism, and numerous Pulitzer Prizes have been awarded to data-driven storytelling in recent years. In many investigations, the data that can be found might have omissions or be misleading. As one layer of data-driven journalism, a critical examination of the data quality is important. In other cases, the process of data-driven journalism can turn into stories about data quality or refusals to provide the data by institutions. Examinations of data sources, data sets, data quality, and data format are equally important part of this work.

Data-driven journalism and the value of trust are suggested changes in media strategies, moving from attention to trust. The creation of attention has lost its relevance due to faster distribution via new platforms like Twitter than through traditional media channels. Trust can be understood as a scarce resource, and transforming media companies into trusted data hubs is a potential solution. Data-driven journalism focuses on examining the quality of data sources, data sets, data quality, and data format to provide accurate and trustworthy information. This approach can be applied to various contexts such as finances, health, environment, or other areas of public interest. The process of data-driven journalism involves six phases: finding data, cleaning data, visualizing data, publishing data stories, distributing data, and measuring the impact of data stories.

Finding data can be done through governmental databases, Freedom of Information requests, scrapers, OCR software, or crowd sourcing. Cleaning data involves cleaning and structuring data, using tools like OpenRefine, Data Wrangler, and Google Spreadsheets. Visualizing data involves using applications like Many Eyes, Tableau Public, Yahoo! Pipes, and Open Heat Map. HTML 5 libraries using the canvas tag are also becoming popular.

Publishing data stories involves attaching data to single stories or creating single dossiers, which can be coded individually. Distributing data is another crucial phase, with sites serving as "marketplaces" where datasets can be found easily by others. Buzzdata, a site that uses social media concepts to create a community for data investigations, provides access to data and enabling groups to discuss what information could be extracted. Other platforms used for gathering or distributing data include Help Me Investigate, Timetric, and ScratchWiki.

Measuring the impact of data stories involves measuring how often a dataset or visualization is viewed. In the context of data-driven journalism, tracking user data or other information

beyond the control of the user should be considered problematic. A lightweight tracker called PixelPing, developed by ProPublica and DocumentCloud, is a non-intrusive option to measure usage.

2.6.1 Global Best Practices in Data Journalism

The green divide: How wealth buys shade in a warming world is an interactive data story from Aotearoa news outlet Stuff, which explores the concept of "leafy suburbs" in Aotearoa's major city centres. Trees help cool the air by releasing moisture through transpiration, making central areas hotter than tree-filled and less densely populated areas. The council projects mapping tree cover are still developing, but Canterbury University associate professor Justin Morgenroth is pushing for more detailed investigations.

ZDF News' investigative journalism questions whether the German parliament represents the people using statistics and data visualizations. The story's main visual feature are outlines that represent Germany's 598 federal MPs, which are highlighted and annotated in different ways as the reader scrolls through the story. The key is to combine specialist expertise with knowledge gained from diverse lived experiences.

Aotearoa's vanishing species story investigates the difference between Aotearoa's self-perception as a "lush, verdant country" and the reality of the statistics showing that wildlife has suffered blow after blow after human arrival on the islands. The RNZ team visualises data from the New Zealand Threat Classification System, providing a clearer visual perception of threatened species.

The Guardian's stories highlight the role of data journalism in uncovering and reporting truths in the public interest, drawing together historical data from journals, maps, oral testimony, and newspapers to illustrate the scale of colonial violence against Indigenous Australians since 1788. The Financial Times' 'visual guide to the war' in Ukraine uses geographical maps as a starting point for reporting on a complex human narrative.

2.6.2 Regional Applications and Challenges in Data Journalism

Data journalism presents unique challenges, including finding reliable data, ensuring data integrity, making sense of complex information, interpreting data, and translating data into engaging stories. To overcome these challenges, journalists must master key skills such as technical proficiency, journalistic skepticism, and storytelling flair.

Web-based resources like data analysis tools, open data repositories, and online communities can help data journalists visualize and analyze data, spot patterns, and collaborate on projects. The transformative potential of data journalism lies in uncovering hidden

narratives, driving accountability, and informing public policy.

Data journalism can reveal stories that would otherwise remain obscured, giving voice to the voiceless, holding individuals and institutions accountable for their actions, and informing policy decisions, leading to societal changes and improvements. By recognizing the challenges it presents and equipping oneself with the skills and tools to overcome them, data journalism has the potential to incite change and drive progress. It's a complex yet rewarding craft that continues to shape our understanding of the world. Data journalism involves adding data-backed context to daily news coverage, analyzing issues, creating infographics, narrating stories, using data for investigations, and covering big-ticket events. It's important to consider that data journalism is not just about data visualization or interactive stories. While charts can help tell brilliant stories, it's crucial to focus on the data itself and its meaning. Visual journalism in India can wait, but newsrooms should hire coder-journalists with excellent programming and design skills to work on exciting special projects. The Hindustan Times' small data and visuals team from 2016-2018 used this approach, learning from their work and gaining valuable insights.

2.6 Crowdsourcing and Citizen Journalism Across Cultures

Citizen journalism is a concept that empowers everyday individuals with smartphones and internet connections to report on events and issues they encounter in their communities or while traveling. These journalists act as the eyes and ears on the ground, providing unique perspectives and real-time updates that traditional news outlets may not capture. Crowdsourcing plays a pivotal role in citizen journalism, amplifying its reach and credibility.

Citizen journalists come from various backgrounds and locations, providing a rich tapestry of viewpoints. Crowdsourcing enables immediate news reporting, allowing citizen journalists to share photos, videos, and text updates faster than traditional news outlets can react. The wisdom of the crowd can be harnessed to verify the authenticity of information, weeding out fake news.

Citizen journalists often cover hyper-local stories or niche topics that might not get attention from larger news organizations, diversifying the news landscape and ensuring important stories are not overlooked. Crowdsourced citizen journalism can transcend borders, making it easier to report on international events and share stories that might otherwise remain untold. Crowdsourced journalism platforms provide a space for decentralized citizen journalists, independent reporters, and concerned individuals to share their news, stories, and information with a wider audience in a more structured manner than operating individually. Some notable crowdsourced journalism platforms include Citizen Portal, Bellingcat,

Wikinews, and Rappler. Citizen journalism aims to revolutionize civic engagement, revive government transparency, and transform American democracy by offering AI-powered first-hand access to public meetings, transcripts, and a searchable database of government data and statistics. Citizen journalism is an activity where ordinary citizens generate non-professional content on breaking events or other news. In China, some professional journalists are considered citizen journalists if they write stories online that would otherwise not be published in traditional media. Citizen journalists were the first to report and provide eyewitness sources for crisis events such as the Wenchuan earthquake and Wenzhou train crash. However, with censorship and the RNR system, individuals often exercise micro self-censorship by focusing on non-political events or trying to test the boundaries.

A broader conceptualization of citizen journalism includes activities such as re-posting, tagging, rating, modifying, linking, or commenting upon news materials posted by other users or professional news outlets. Goode (2009) argues that comments, discussions, and reframing of ordinary news readers contribute to content production and participation in media agenda setting, fulfilling a potentially important role in journalism. A recent extension of the agenda-setting theory suggests that traditional media organizations' agenda-setting practices have been heavily influenced or reversed by the advent of social media. Researchers suggest that news organizations monitor trending online topics, which become an important basis for content choices by traditional media, casting social media users as one type of e-citizen journalist.

2.7 Global Examples of Successful Crowdsourced News Projects

Crowdsourcing in journalism involves leveraging the collective knowledge, experiences, and inputs of the public to gather, verify, and disseminate news stories. This approach has gained traction globally, enabling more inclusive, diverse, and real-time news coverage. Notable examples of successful crowdsourced news projects include Ushahidi in Kenya, BBC's User-Generated Content Hub in the UK, The Guardian's Crowdsource Projects in the UK, Reddit's r/WorldNews and r/Journalism Communities in the Philippines, ProPublica's "Patient Safety" and "Electionland" Projects in the US, Storyful in the Global, and CheckNews by Libération in France. Ushahidi uses crowdsourced reports from mobile phones, SMS, and emails to create interactive maps, which have played a critical role during crises like the 2010 Haiti earthquake and the Ebola outbreak. The BBC's UGC Hub verifies videos, images, and stories sent by the public, often used in breaking news scenarios such as natural disasters or protests.

The Guardian's Crowdsource Projects in the UK exposed financial abuses in over 700,000 documents detailing UK MPs' expenses, leading to resignations and reforms in parliamentary expenses. Reddit's r/WorldNews and r/Journalism Communities in the Philippines facilitated

citizen journalism and real-time reporting during the Boston Marathon bombings. Rappler's MovePH Platform in the Philippines engaged citizens in local news and disaster response, curating and verifying contributions before integrating them into news stories. ProPublica's "Patient Safety" and Electionland Projects in the US investigated issues affecting public welfare using crowdsourced tips, while Storyful verified and amplified user-generated content for global newsrooms.

2.8 Case study: NDTV's digital transformation and its implications for Indian journalism

NDTV, established in 1988 by Prannoy Roy and Radhika Roy, has undergone a significant digital transformation to adapt to the evolving media landscape shaped by the internet, smartphones, and social media. The company's digital transformation includes the creation of NDTV.com, which became a primary source for online news in India, leveraging platforms like Facebook, Twitter, and Instagram for audience engagement and multimedia storytelling.

NDTV also launched digital-only video platforms, such as YouTube channels like NDTV India, NDTV 24x7, and Gadget 360, and mobile-first strategies, such as developing user-friendly mobile apps for real-time news updates and on-demand videos. It also launched niche portals like NDTV Gadgets 360, NDTV Food, and NDTV Profit, and expanded into e-commerce partnerships and affiliate marketing. Despite challenges such as monetization issues, maintaining credibility, audience fragmentation, and technology infrastructure, NDTV has set a benchmark for legacy media transitioning into digital spaces. It has emphasized mobile and video journalism, contributed to the rise of "snackable" news formats, promoted data-driven journalism, and expanded coverage in regional languages.

However, NDTV's digital ventures have also highlighted the declining relevance of TV news among urban and young audiences and shifted the focus of advertising from television to digital platforms. The company has also driven social responsibility through campaigns on environmental conservation, health awareness, and social issues. NDTV's digital transformation exemplifies how legacy media can adapt to the evolving needs of modern audiences. By embracing digital platforms, adopting innovative storytelling techniques, and maintaining journalistic integrity, NDTV has redefined its role in India's media landscape.

2.9.1 Impact on Indian Journalism and Media Consumption

NDTV's digital transformation has significantly impacted Indian journalism and media consumption. The shift towards digital-first journalism has encouraged other media organizations to adopt digital-first strategies, leading to the emergence of new digital news

platforms like The Wire, Scroll.in, and NewsLaundry. NDTV's focus on mobile apps, social media, and live streaming has led to increased online news consumption, on-demand news, and mobile journalism. The rise of mobile journalism has made news more accessible to users, especially in urban and semi-urban areas where smartphones are the primary devices for internet access. NDTV's data-driven and visual storytelling has bolstered credibility and enhanced transparency in media consumption.

However, challenges to television news include the decline of traditional TV audiences, reduction in advertising revenue, democratization of news production, amplification of social responsibility, accountability in journalism, and regional and vernacular empowerment. NDTV's diversification into e-commerce, affiliate marketing, and digital advertising has encouraged the media industry to explore alternative revenue streams. Digital platforms have allowed NDTV to produce and disseminate content more efficiently than traditional methods.

Fact-checking initiatives have set a precedent for responsible journalism, addressing the proliferation of fake news. As a trusted news source, NDTV's digital evolution has reinforced public trust in professional journalism. However, challenges to media consumption include the digital divide, which remains limited in areas with poor internet access, and algorithmic bias.

2.9.2 Implications for Future Digital Journalism in India

Digitalization has significantly transformed the journalism industry, leaving behind traditional forms like broadcast and print media. The future of journalism in India is reshaped by rising opportunities, trends, and new technologies. Digital platforms have become the go-to source for news, with news now disseminated through various online websites and social media platforms. This shift in media consumption will focus on storytelling techniques, real-time and engaging news, and connecting with audiences through multimedia interactive articles and immersive experiences.

Journalists must adapt to changing audience preferences to deliver news in an easily understandable and consumable manner. Different types of journalism have emerged, such as data journalism, entrepreneurial journalism, multimedia journalism, and citizen journalism. Data journalism uses abundant data and visualization to uncover stories through in-depth analysis. Entrepreneurial journalism allows journalists to start their own news outlets, create niche publications, and launch podcasts, giving them more control over their work and exploring their business models. Multimedia journalism incorporates videos and interactive visual elements into news and stories, making it more engaging and immersive for viewers.

The future of journalism in India is expected to see exponential growth, leading to

revolutionary changes in education and training. It is not just about collecting information and news but also about adopting new technologies and skills to reach out to audiences in the most engaging and impactful way. Institutes are working on developing the necessary skills and technology technologies to drive the evolving journalism industry. Aspiring journalists must learn to navigate various platforms, understand multimedia and storytelling, and deliver data-driven news analysis effectively.

Let us Sum up

Digital journalism has evolved significantly in the global context, with online news portals, digital-first journalism, real-time reporting, mobile journalism (MoJo), data journalism, crowdsourcing, and citizen journalism all playing significant roles in shaping news production, distribution, and consumption. Real-time reporting, mobile journalism, data journalism, and citizen journalism have all contributed to the rise of digital journalism, with real-time reporting, mobile journalism, data journalism, and citizen journalism democratizing news production. NDTV's digital transformation has transformed Indian media consumption habits, fostered inclusivity, interactivity, and accountability while addressing challenges like misinformation and the digital divide.

Check your Progress

Short Answer Questions

Question	CO	PO	K
Define digital journalism.	CO2	PO1	K1
Explain digital-first journalism.	CO2	PO3	K2
What is mobile journalism (MoJo)?	CO2	PO4	K1
Define data journalism.	CO2	PO3	K1
Explain citizen journalism.	CO2	PO3	K2

Essay Questions

Question	CO	PO	K
Discuss the concept and characteristics of digital journalism.	CO2	PO1	K3
Analyze the growth of online news portals globally.	CO2	PO3	K4
Explain the role of mobile journalism in modern reporting.	CO2	PO4	K3
Examine global trends in data journalism practices.	CO2	PO3	K4
Evaluate the impact of citizen journalism on mainstream media.	CO2	PO5	K5

Suggested Readings

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https://youtu.be/zDGRMsEfHVQ?si=S6FOBb8wUVgGL1R5

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https://youtu.be/iIa5EoxyvZI?si=HLED6qp9luZAdxsY

https://youtu.be/etKiP8BgUJA?si=DCzVwXk3CNUNDl--

Unit III

Social Media and Global Audiences

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Overview

This Unit discusses the global impact of social media platforms like Facebook, Instagram, Twitter, and TikTok, their influence on political discourse, content strategies, and influencer culture. It also explores the case study of TikTok's success in India and its implications for other global platforms.

Learning Objectives

After completing the lesson the student will be able to

• Examine evolution of major social media platforms.

• Discuss global influence of these platforms.

• Explore impact on politics and society.

• Understand content creation and distribution strategies.

• Explore influencer culture.

3.1 Introduction

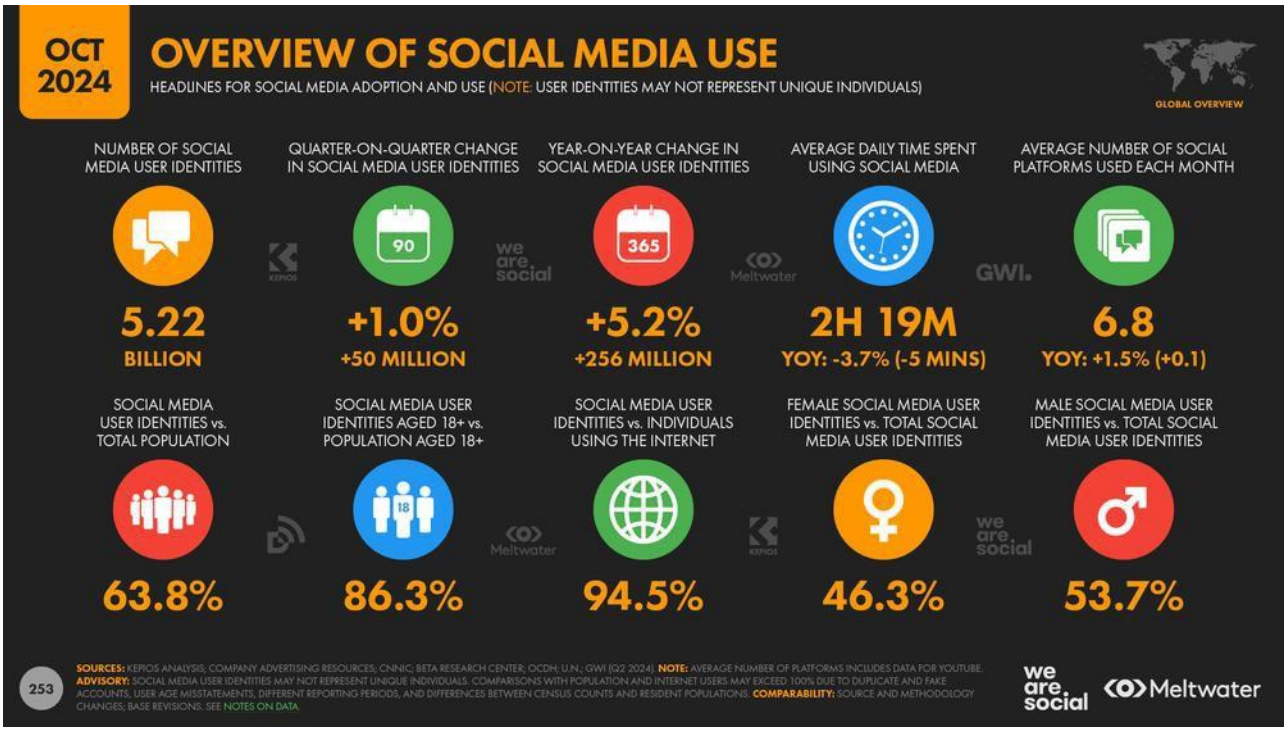
Kepios' analysis reveals that there were 5.22 billion social media users globally at the start of October 2024, representing 63.8 percent of the total global population. Over the past year, 256 million new users joined social media, resulting in an annualized growth of 5.2%. The latest data indicates that 94.5 percent of the world's internet users now use social media each month. However, figures for social media users may not represent unique individuals and may exceed figures for internet users or the total population due to issues like duplicate accounts.

The number of "adult" social media users around the world now equates to 86.3 percent of all adults in that age group. The typical social media user actively uses or visits an average of 6.8 different social platforms each month and spends an average of 2 hours 19 minutes per day using social media.

The world spends more than 12 billion hours using social platforms each day, which is equivalent to 1.38 million years of human existence. YouTube has the greatest number of active users today, with an index of 100. WhatsApp and Facebook rank second and third, respectively. Instagram ranks fourth with just over 70% of YouTube's active app user base. Facebook Messenger ranks fifth with an index of 48.8, while TikTok claims sixth place with an active app user base 44.7 percent the size of YouTube's.

YouTube has the largest social media advertising audience, reaching 2.53 billion users per month, more than 10% greater than Meta reports for Facebook. TikTok ranks third at a

worldwide level, with its 1.690 billion figure being just 0.09 percent ahead of Instagram's reported ad audience total of 1.688 billion.



3.2 Major social media platforms and their global reach

Social media platforms have significantly impacted global communication, with Facebook being the largest platform with over 2.9 billion monthly active users as of 2024. Instagram, acquired by Facebook in 2012, is a leader in photo and video content sharing, particularly popular in North America, Europe, and Asia. Twitter, known for its real-time communication, has become a critical platform for political discourse, news, and social movements. YouTube, launched in 2005, is the most significant platform for video content globally, with over 2.7 billion active users. TikTok, launched in 2016, has rapidly expanded its global presence, reaching over 1 billion active users.

Regional preferences vary across regions, with North America dominating platforms like Facebook, Instagram, and YouTube. Europe's social media landscape is diverse, with Facebook and Instagram being widely used, but Twitter plays an essential role in public communication. Asia-Pacific countries like India, Japan, and South Korea use platforms like Facebook, YouTube, and Instagram, but regional platforms like WeChat, Line, and KakaoTalk dominate the market. Latin America uses platforms like Facebook and WhatsApp, while Africa's Facebook, WhatsApp, and Instagram are the leading platforms.

Challenges in developing economies include limited internet access, government

regulations, and language barriers. While social media platforms leverage algorithms to tailor content to users based on their preferences, behaviours, and engagement, concerns about echo chambers, misinformation spread, and user privacy remain. Understanding these factors is crucial for comprehending the global reach and influence of these platforms.

3.2.1 Evolution and Growth of Social Media Giants (Facebook, Instagram, Twitter, etc.)

Social media platforms like Facebook, Instagram, and Twitter have evolved significantly over the past two decades, influenced by technology, user behavior, and cultural shifts. Facebook, launched in 2004, was initially a platform for university students but quickly expanded to include anyone with an email address. Its early features included profiles, news feeds, messaging, and friend requests. By 2006, Facebook opened its doors to the public, leading to rapid global expansion.

Instagram, launched in 2010, was initially a photo-sharing app, initially available only on iOS. It gained over 100 million users within two years due to its intuitive interface and emphasis on visually appealing content. In 2012, Facebook acquired Instagram for around $1 billion, expanding its appeal beyond photo-sharing to video content, e-commerce, and influencer marketing. By 2024, Instagram boasts over 2 billion active users, making it one of the most widely used platforms, particularly among younger demographics (Gen Z and Millennials).

Twitter, founded in 2006, was a microblogging platform that allowed users to post short text-based updates (tweets) of up to 140 characters. It gained popularity as a tool for breaking news and live reporting, especially during significant global events such as the 2008 U.S. elections and the 2010 Haiti earthquake. However, it struggled with consistent monetization strategies and faced challenges related to harassment, hate speech, and misinformation.

Snapchat, created in 2011, was created as a mobile app for sending photos and videos that disappear after being viewed. Its innovative concept encouraged users to share more casual, unpolished content. The platform quickly gained popularity, particularly among younger users (Gen Z), and became known for its creative filters and Stories feature.

TikTok, launched in 2016, became the dominant platform for short-form video content, enabling users to create 15-second to 3-minute videos with music, effects, and filters. Its algorithm pushed content based on user interaction, allowing viral trends to emerge quickly. Despite facing government scrutiny, TikTok continues to experience strong growth, particularly in Asia, Europe, and North America, with over 1 billion active users as of 2024.

3.2.3 Regional Preferences in Social Media Usage

India, the world's second-largest internet user base, is a significant market for

businesses. Facebook, Instagram, and WhatsApp are the dominant social media platforms in India, with WhatsApp being the most popular for personal communication, business interactions, and social commerce. Facebook remains a powerful platform for news consumption, community building, and brand awareness. Instagram, a favorite among younger demographics, is popular for influencer marketing and social commerce.

Understanding user demographics and behavior patterns is crucial in India, as it is a linguistically diverse nation with a significant portion of users consuming content in regional languages like Hindi, Tamil, and Marathi. The majority of social media consumption occurs on mobile devices, necessitating optimized content and visuals for smaller screens. Video content consumption is surging in India, with platforms like YouTube, MX TakaTak, and Instagram Reels experiencing immense popularity. Price sensitivity is a prominent factor among Indian social media users, as they often research products, compare prices, and seek recommendations before making purchase decisions.

To cater to Indian social media users, businesses should focus on culturally relevant content, visual storytelling, using regional languages, influencer marketing, and running interactive campaigns. To stay updated, businesses should follow industry reports, monitor competitors, and experiment with different content formats and platforms.

3.2.4 Emerging Platforms and Their Disruptive Potential

India is experiencing rapid digital transformation as disruptive technologies like cloud technology transform sectors and impact millions of lives daily. The cloud has become a popular term in the business and technology world, with over half of the world's enterprises transitioning from a cloud-first to cloud-only model. Cloud services enable companies and individuals to derive insights from vast amounts of data, transforming the world into a connected system with an Omni channel and ubiquitous interface. However, India must evaluate infrastructure requirements and costs, as well as the risks associated with technology, such as privacy and intellectual property infringement.

India's abundant talent pool and thriving startup ecosystem make it well-positioned to capitalize on the evolving technology landscape. Emerging technologies like blockchain, IoT, and AR are expected to revolutionize sectors like finance, healthcare, and manufacturing. Startups will also focus on sustainability and environmental responsibility, developing technology solutions to address global challenges like clean energy, waste management, and eco-friendly practices.

Collaborations and partnerships are crucial for startups' growth, providing access to expertise, funding, and market reach. By partnering with established technology companies,

research institutions, and government bodies, startups can leverage synergies, accelerating their growth and technological advancements.

3.2.5 Global Penetration: Challenges in Developing Economies

The digital divide between wealthy and developing countries continues to narrow as internet access and social media use continue to grow. In the past five years, there has been a steady increase in internet use among the 19 emerging and developing economies surveyed, with a median of 42% accessing the internet at least occasionally or owning a smartphone by 2017. However, internet use among the 17 advanced economies surveyed has remained relatively flat, with a median of 87% using the internet at least occasionally in 2017, similar to the 86% who said this in 2015 or 2016.

Social media use has also increased in emerging markets, with 53% using social media as of 2017. However, the world remains digitally divided, with wealthier countries having higher rates of internet use and smartphone ownership. Within countries, digital divides persist, with age, education, income, and gender still determining who uses the internet and who does not, and who is active on social media and who is inactive.

Internet penetration rates remain high in North America, much of Europe, and parts of the Asia-Pacific. South Korea stands out as the most heavily connected society, with 96% of adults reporting internet use. However, other countries are not far behind, with roughly nine-in-ten reporting internet use in Australia, the Netherlands, Sweden, Canada, the U.S., Israel, the United Kingdom, Germany, France, and Spain. Internet use continues to lag in many developing economies, with only one-in-four Indians reporting using the internet or owning a smartphone.

The global digital divide is largely an economic story, with richer countries tending to have higher rates of internet use, while poorer countries tend to have lower rates. Smartphones are increasingly common worldwide, with a median of 59% reporting owning a smartphone in 39 countries surveyed. However, ownership still lags in India, Indonesia, and Africa.

3.2.6 Role of Algorithms in Shaping Global Reach

Social media platforms like Facebook, Instagram, and Twitter constantly update their algorithms, affecting the visibility of posts. Businesses must adapt their strategies to stay visible to their target audience. Understanding these algorithm changes is crucial for marketing success, as they determine the visibility and success of a brand's social media presence.

Facebook's marketing algorithms-based feeds are effective in delivering personalized

and engaging content to its users. To maximize the reach of your LinkedIn content, understanding the platform's marketing algorithms' updates is essential. Personal connections are given greater weight in the feed ranking system, and the algorithm also takes a person's interests into account based on groups, hashtags, and pages followed by the account.

Instagram users often need to catch up on a large percentage of content on their overcrowded feeds, making it challenging for brands to get advertising space and reach their target audience. Therefore, social media algorithms offer a solution to reduce clutter. Instagram's algorithm constantly changes and now focuses on general engagement instead of a chronologically-based feed. To increase your business's visibility on Instagram, it's essential to understand how the platform presents content in users' feeds.

Understanding social media algorithms helps businesses boost their online presence, reach wider audiences, and optimize their ad spend. By building a loyal audience that consistently engages with your content through likes, shares, comments, and retweets, your posts rank higher in the algorithm and reach a wider audience. Utilizing hashtags using algorithms can help you reach wider audiences, especially for businesses like brick-and-mortar restaurants, retailers, and home service companies that want to connect with local customers.

Social media algorithms determine the best time and content to post, based on the interests and behavior of your followers. By analyzing the data, social media analysts can identify the best times to post and the type of content that resonates with your audience. However, less than 7% of organic content is seen by followers on Facebook, Instagram, Twitter, and LinkedIn.

3.3 Impact of social media on politics and society worldwide

A Pew Research Center survey of 19 advanced economies found that ordinary citizens see social media as both a constructive and destructive component of political life, with most believing it has had a positive impact on democracy. Across the countries polled, a median of 57% said social media has been more of a good thing for their democracy, with 35% saying it has been a bad thing. However, the United States is an outlier in this question, with larger shares of Americans seeing social media as divisive.

The spread of false information online is considered a major threat by 70% of respondents, second only to climate change on a list of global threats. A median of 65% thinks it has made people more divided in their political opinions, and more than four-in-ten say it has made people less civil in how they talk about politics.

Social media may help people feel less powerless in a few ways: first, it informs them, making it easier to stay informed about domestic and international events. Most of those

surveyed see social media as an effective tool for accomplishing political goals, raising public awareness, changing people's minds about issues, getting elected officials to pay attention to issues, and influencing policy decisions.

Americans are the most negative about the impact of social media on democracy: 64% say it has been bad. Republicans and independents who lean toward the Republican Party (74%) are much more likely than Democrats and Democratic leaners (57%) to see the ill effects of social media on the political system. In addition to being the most negative about social media's influence on democracy, Americans are consistently among the most negative in their assessments of specific ways social media has affected politics and society. The average score among U.S. respondents is 3.05, the highest in the survey.

3.3.1 Social Media as a Tool for Political Campaigns and Advocacy

Politics is a dynamic field that involves crafting narratives that inform, persuade, and call citizens to action. Social media has revolutionized political campaigns by allowing incumbents and newcomers to speak directly to constituents on various topics. Wharton marketing professor Pinar Yildirim found that political newcomers can gain substantial support by using social media channels, which cost next to nothing and are easily tapped by anyone with an internet connection. This finding indicates how social media can help level the playing field in politics, where money and access to formal communication channels pose huge barriers to new entrants.

Using social media for political campaign fundraising has been found to increase support for politicians within the first month of using Twitter, which was able to raise between 1% and 3% of what they would have raised in a two-year traditional campaign. The advantage has nothing to do with the age of the constituency or the technological savvy of the candidates.

New candidates can humanize themselves through their social media accounts, making voters feel more connected to them. For example, Pete Buttigieg introduced his shelter dogs to his 2 million Twitter followers, while U.S. Sen. Elizabeth Warren used her Instagram account to chat live with supporters who made small contributions to her presidential campaign.

The intersection of social media and politics is ripe for more research, and their paper makes a notable contribution in the field. With enough strategy, social media could erase the incumbency advantage and bring American politics back to its grass roots.

3.3.2 Role in Protests, Movements, and Revolutions

Social media has been a powerful tool for activism, particularly during the 2011 Arab Spring, when it was used to attract global support for fights against injustices. However, it also has the potential to spread misinformation and division. The COVID-19 pandemic has further

amplified social movements, providing evidence to support and inform causes, and allowing for the organization of protests at an unprecedented rate. Social media's visual culture allows for the communication of injustice widely and quickly, holding those responsible accountable. Social media's ability to spread information quickly can also fuel division. For example, the storming of the US Capitol was fuelled by misinformation that spread in an echo-chamber of perceived injustice against Trump. This online polarisation turns violent when it takes to the streets, and international communities are more vulnerable. In this era of rapid information and misinformation distribution, it is crucial to understand how these platforms can effectively educate and mobilize. Users and creators must balance the right to free speech and ease of access to information with the responsibility to protect factfulness. While social media has the power to galvanize and polarize, it is essential to balance its role and responsibility in addressing the challenges of socio-political communication.

The ALS Association launched an ice bucket challenge in 2014 to raise awareness of the disease ALS and raise $115 million in donations. The challenge involved dumping a bucket of ice water over one's head or someone else's head, which went viral on social media due to its nomination system. The success of the ice bucket challenge was aided by its low barrier to participation, entertainment value, and celebrity participation.

The Arab Spring in Tunisia in the early 2010s saw young protesters using social media to organize, create awareness, and document the experience on the ground. Social media played a significant role in these events, acting more as a megaphone than a rallying cry, bringing issues and events into global discussion and resulting in international pressure against violent reactions.

Black Lives Matter began as an online community fighting anti-black racism and police violence targeting African Americans, using the hashtag #BlackLivesMatter. The hashtag was used nearly 30 million times on Twitter from its first use in July 2013 to the research cap date of May 1, 2018.

The Human Rights Campaign (HRC) used social media to promote the legalization of marriage between same-sex couples in 2015. The #LoveWins hashtag was used to celebrate the Supreme Court's decision to legalize same-sex marriage, with celebrities like President Barack Obama, Hillary Clinton, Taylor Swift, and many companies participating.

The Me Too movement, which focuses on the experiences of sexual violence survivors, reached the mainstream in 2017 when high-profile actresses shared their stories. The Occupy Wall Street movement is a modern example of a grassroots political movement that operated from a bottom-level organization with no official leader, utilizing social media to foster unified

collective participation.

3.3.3 Amplification of Misinformation and Fake News

Misinformation spreads differently on social media than on traditional media, with rapid publication and peer-to-peer sharing allowing for low oversight. Social media platforms also have unique features that encourage viral content with low oversight, leading to "echo chambers" that bind and isolate online communities with similar views, aiding the spread of falsehoods and impeded factual corrections.

Social media algorithms track user engagement to prioritize content that spurs negative emotions like anger and outrage. While algorithms are employed to enhance user experience, they do not necessarily save users from misinformation. Fake news impacts various aspects of human lives, including social, political, emotional, and economic aspects.

Fake news can be found in various forms, including podcasts, videos, images, print news, blogs, digital news, and radio shows. Platforms like Google's algorithms, Facebook, and Twitter are working to combat this issue. However, the lack of a smart mechanism to deal with selective exposure and the impact of information overload on society make the purpose of algorithms questionable.

Twitter, a mini-blogging hegemon in the social media field, has faced criticism from the Indian government for its irresponsible behavior and unregulated algorithms towards fake news. In 2020, 18,000 accounts were reported spreading fake news, and the social media giant was booked for not attempting to establish the truth.

While platforms like Facebook and Twitter claim to be democratic, safe, and healthy places for socializing, algorithms are failing to curb the spread of fake news entirely. Information overload also aids the spread of fake news and makes it easier.

3.3.4 Influence on Cultural Trends and Societal Norms

The impact of social media on culture is significant, with the role of men and women defined by mass media. This has affected intercultural and international communication, leading to a better understanding of culture and its influence on human behavior.

Culture is defined by various sociology scholars, and the media plays a crucial role in explaining its meaning and enabling everyone to have a cultural identity. Intercultural relations have been hindered by many people not being aware of their cultural identity. The internet and mass media have promoted globalization, which has led to positive influences on different societies and races. Media can also create stereotypes, such as portraying Muslims as terrorists and Africans as illiterates. However, by educating people about different cultures and

emphasizing positive aspects, the media can help construct cultures of different societies and avoid prejudice and stereotyping. Social media has a significant impact on various aspects of life, including mental health, creativity, professional networking, education, and social awareness. A 2020 Harvard study found that daily use of social media positively correlated with three health-related outcomes: social well-being, positive mental health, and self-rated health. This positive networking reduces feelings of loneliness, social isolation, and low self-esteem. Social media has created complex human interaction at multiple levels, ranging from personal to general entertainment and news events. It allows individuals to connect with friends, family, and like-minded individuals, fostering a sense of belonging, self-esteem, and support. Personal expression and creativity are also enhanced through social media platforms. Sharing knowledge, collaborative projects, and creative endeavors fosters camaraderie, community, and social well-being. Professional networking opportunities are available through platforms like LinkedIn, which has expanded exponentially in 22 years. Research supports the value of social networks in building and maintaining professional relationships.

Educational opportunities and social awareness are also provided by internet sites, such as online courses and tutorials. These resources make learning accessible to a global audience, often for free, regardless of location or socioeconomic status. Social media use enables advocates to reach a global audience and discuss solutions to social issues, such as increasing physical activity for better health and getting more fun out of life. Overall, social media has a significant impact on various aspects of life, including mental health, creativity, education, and social awareness. Social media platforms offer businesses new opportunities for brand promotion, marketing campaigns, and customer engagement. Artificial intelligence (AI) and algorithms can direct users' search activity on commercial or search sites to brands on social media pages, known as remarketing or retargeting. This technique allows companies to reach their target audience across multiple platforms, making it easier for users to find and purchase products.

Social media also provides marketing channels for businesses, individuals, and nonprofit groups. Nonprofit groups can raise awareness of troubling issues and fundraise campaigns. Social platforms host community trade groups, barter pages, garage sale days, and nonprofit events. However, social media can also have negative effects, such as cyberbullying, doxxing, child exploitation, and addiction. Cyberbullying is a serious issue, particularly for students aged 13 to 17. It can take various forms, such as exposing comments, negative posts

or photos, and spreading rumours. Doxxing is a type of privacy invasion enabled by social media use, which can lead to identity theft and other negative consequences. Social media offers businesses new marketing channels and opportunities, but it is important to be cautious and aware of potential negative effects.

The mass media has a large audience, giving it the power to influence many societal issues. It advocates for social concerns and enables communication and exchange of positive cultural values among different societies. Global sports like the World Cup have a significant following, and the media has the power to influence many cultural aspects during these tournaments. Media has constructed ideas concerning males and masculinity, portraying men as brave and emotional, women as fearful and emotional, and men as aggressive and financially stable. This has led to increased interest in weight control and diet changes among women and young girls. The media plays a vital role in ensuring that societal norms, ideologies, and customs are disseminated, making socialization easier and simpler. Through the media, society learns how to behave in different circumstances according to one's role and status, and it helps in portraying models of behavior that are expected to be followed by society and its members.

3.3.5 Ethical and Privacy Concerns in Political Usage

In the digital age, political campaigns have evolved from traditional canvassing methods to sophisticated digital strategies that leverage vast amounts of data to target and influence voters. However, these methods have raised significant concerns regarding data protection and privacy. Political parties must uphold data protection in their campaigns and follow practices to safeguard the integrity of elections and the privacy of individuals. Prioritizing having a lawful basis and transparency is crucial for political parties to ensure that the collection, use, and sharing of personal data are based on clear, lawful grounds for processing the personal information of data subjects. Transparency about data collection practices, including the types of data collected, purposes of data use, and parties with whom data is shared, is essential for building trust with voters and complying with data protection laws.

Implementing robust data security measures is also crucial for political parties to protect the sensitivity of political data, including voter preferences, demographic information, and contact details. This includes adopting industry-standard encryption, secure data storage solutions, regular security audits, and training staff and volunteers on data security best practices. Respecting data minimisation principles is essential for upholding data protection in political campaigns. Parties should carefully evaluate the data they collect and retain, ensuring they gather only essential information. Establishing a dedicated data protection officer (DPO)

can help ensure ongoing compliance and accountability.

Fostering ethical data use in political campaigning involves critically assessing the potential impact of targeted advertising and data analytics on democratic processes, voter autonomy, and public discourse. Ethical guidelines should govern the use of personal data, promoting informed decision-making rather than manipulation or undue influence.

3.4 Content creation and distribution strategies for diverse audiences

Content distribution channels are essential for businesses to effectively reach and engage their audience. These channels can be categorized into three main types: Owned, Earned, and Paid. Owned channels refer to media that a company controls, such as websites, blogs, and email newsletters. Optimizing these platforms with the best content delivery network ensures swift and reliable delivery, enhancing user experience and engagement. Earned channels, on the other hand, involve content exposure through external parties, such as media mentions, customer reviews, and shares by influencers. This form of content distribution is highly valuable as it builds credibility and extends your reach organically.

Paid channels involve direct payment for exposure, such as PPC campaigns, paid advertisements on social media, or fees paid to a content distribution service. These channels help to amplify your reach quickly and can be precisely targeted to reach specific demographics. By understanding the strengths and best uses of each type of channel, marketers can craft a balanced approach to content distribution that drives real business results.

Owned distribution channels include websites and blogs, email newsletters, social media platforms, and earned content distribution channels. Websites and blogs can be optimized through strategic content distribution strategies, while email newsletters offer a direct line to the audience and can be highly effective in driving engagement. Social media platforms like TikTok and Instagram are essential for distributing video content, capturing the attention of a diverse audience, including the tech-savvy Gen Z.

Earned content distribution involves strategies where your content gains exposure through third-party channels without direct payment. Influencer partnerships, media coverage, social media and user shares, guest posting, and paid distribution channels require a strategic approach tailored to your content goals and audience preferences.

Paid distribution channels include social media advertising, search engine marketing, native advertising, and influencer marketing. Social media advertising allows targeting based on professional criteria, while search engine marketing positions content in front of users based on keywords they search for. Native advertising and sponsored content help target specific professional communities, providing credibility and targeted reach. Influencer marketing

involves partnering with influencers to promote your brand to their followers, effectively reaching niche audiences that trust their recommendations.

3.4.1 Localization and Cultural Sensitivity in Content Creation

Cultural sensitivity and awareness are crucial for creating compelling content for new audiences. It involves understanding and respecting diverse cultures, recognizing language differences, and insight into local traditions and beliefs. Cultural localization is important as it preserves the context and meaning of messaging, making it easier to avoid embarrassing faux pas and miscommunications.

Big brands like Nintendo and Coca-Cola have learned the hard way when it comes to localization. To avoid mistakes, adopt a transcreation mentality, which allows translators more freedom when adapting content into a new language. Localizing imagery and symbols can have dramatically different connotations across the world, and it's essential to consider how certain symbols are interpreted by different languages.

Implementing cultural localization should be at the forefront of your mind from the very beginning of your localization project. Cultural consultants can help you better understand the specifics of a target culture, ensuring you deliver relevant and appropriate content. They can also offer feedback on your existing assets, determining how suitable they are for a new demographic. Cultural sensitivity analysis will assess existing brand messaging, imagery, and other collateral to determine how suitable it is for adaptation.

Leveraging technology and automation is essential when localizing for a new market. While human translators and localization experts are essential to the success of any localization project, you'll ultimately have to embrace some degree of automation. Integrating technology into your workflows doesn't mean you have to make significant sacrifices when it comes to quality. Certain tasks and textual elements can be readily adapted with machine translation tools, with more crucial content tied to branding reserved for human linguists.

Technology can also be used to lighten the load for human translation teams. With translation memory, machine translation tools can be used to quickly and accurately translate content into the target language, reducing the need for manual labor.

3.4.2 Strategies for Targeting Regional and Niche Audiences

Identifying your niche is the first step in a successful niche marketing strategy. This involves conducting thorough market research and understanding the specific needs, preferences, and challenges of the segments you aim to target. Key strategies include market analysis using tools like SEM Rush, customer feedback through surveys or social media, and competitor assessment using tools like HubSpot.

Crafting tailored messages involves crafting content that resonates deeply with your target audience's unique needs and preferences. This can be achieved through content marketing, social media engagement, email marketing, and leveraging digital platforms like LinkedIn for B2B brands, Instagram or TikTok for visually-driven niches. SEO optimization, social media advertising, and influencer partnerships are key strategies for success.

Measuring success involves using analytics such as Google Analytics and HubSpot to track website and campaign performance, soliciting customer feedback, and monitoring sales trends and customer acquisition costs. Navigating challenges in niche marketing requires continuous learning, community building, and flexibility.

Social media marketing is a vital component to the market mix for businesses, as there are 4.9 billion people using social media platforms worldwide. Social media marketing is an effective way to reach your target audience, strengthen your brand, establish a loyal customer base, and increase revenue. It involves creating business profiles, maintaining and optimizing them, and developing a content calendar that describes what, when, and where to post. Posts will likely include text, images, videos, and stories that position your brand in a positive light and capture a relevant audience. Featured partners like Sprout Social, Hootsuite, and TikTok for Business offer various advertising plans and platforms. These platforms support platforms like Facebook, Instagram, Twitter, LinkedIn, YouTube, TikTok, Pinterest, Reddit, Tumblr, Yelp!, Glassdoor, and Trip Advisor.

The benefits of social media marketing include adding a human element to your business, driving traffic through links to your website, generating leads through features like appointment booking and call-to-action buttons, increasing brand awareness, and building relationships with customers. By focusing on these strategies, businesses can effectively reach their target audience, strengthen their brand, establish a loyal customer base, and increase revenue.

3.4.3 Monetization Models for Global Content Creators

Identifying your niche is the first step in a successful niche marketing strategy. This involves conducting market research, understanding the specific needs, preferences, and challenges of the segments you aim to target. Key strategies include market analysis, customer feedback, and competitor assessment. Crafting tailored messages involves creating content that resonates with your target audience's unique needs and preferences.

Tailored messages can include content marketing, social media engagement, and email marketing. Leveraging digital platforms like LinkedIn, Instagram, and TikTok can make or break your niche marketing efforts. Key strategies include SEO optimization, social media

advertising, and influencer partnerships.

Measuring success is crucial for understanding what works and what doesn't. Key strategies include using Google Analytics and HubSpot to track website and campaign performance, soliciting customer feedback, and monitoring sales trends and customer acquisition costs. Navigating challenges in niche marketing requires continuous learning, community building, and flexibility.

Social media marketing is a vital component for businesses, connecting with both current and potential customers. It involves creating business profiles, maintaining and optimizing them, developing a content calendar, responding to comments, likes, and shares, and potentially including paid social ads.

Featured partners include Advertisement, which offers various plans starting from $199/seat/month, Professional, and Advanced subscriptions. Direct content monetization involves content creators earning revenue directly from their content, such as subscriptions, pay-per-view or pay-per-access, sales, freemium with paid upgrades, micropayments, transactional video on demand (TVOD), and e-learning courses and webinars. This approach provides a clear link between content creation and revenue, potentially leading to a more predictable and sustainable income stream.

Indirect content monetization involves earning revenue through methods not directly tied to the sale of the content itself. Common forms of indirect content monetization include advertising, affiliate marketing, merchandise, licensing, sponsorships and partnerships, donations and crowdfunding, and events and appearances.

Direct monetization provides content creators with a clear link between content creation and revenue, potentially leading to a more predictable and sustainable income stream. However, overdependence on ad revenue can be risky as platforms frequently change their monetization criteria and algorithms.

3.4.4 Role of Video Content in Audience Engagement

Video content has become a crucial tool for news media companies as audiences shift from traditional news consumption to online platforms. With 93% of adults in the US getting some of their news online, video content is a significant portion of this consumption. Video content's ability to engage audiences is rooted in its multi-sensory appeal, which combines visuals, sound, and motion to create a more immersive experience. This combination makes information more digestible and memorable, especially in news, where conveying the urgency and significance of a story can be enhanced through the use of video.

Social media platforms have amplified the impact of video content, with algorithms on platforms like Facebook, Instagram, and TikTok prioritizing video content, increasing its visibility and engagement rates. Millennials and Gen Z are more likely to watch brand video content on social media than through traditional advertising channels, driving engagement and building loyalty. Live streaming platforms like YouTube and TikTok allow viewers to comment in real-time, ask questions, and react with emojis, creating a dynamic and participatory viewing experience.

Real-world success stories demonstrate how a robust video approach can enhance a news organization's reach and influence in the digital space. As technology continues to evolve, the role of video in news media is expected to grow even more prominent, with the market size for VR and AR technologies projected to exceed $109 billion by 2026.

3.4.5 Cross-Platform Content Distribution

In today's digital age, businesses are constantly navigating various platforms with unique audience and engagement metrics. Cross-platform content distribution is crucial for businesses to maximize the reach and impact of their messages by distributing content across multiple channels such as social media, blogs, email newsletters, and more. By understanding the strengths and limitations of each platform, tailoring content to meet the specific needs and preferences of each user base, and leveraging analytics and feedback from these platforms, businesses can refine their strategies continuously.

Understanding cross-platform distribution involves sharing content across multiple digital channels to reach a wider audience. This approach creates a unified community, connecting with diverse audiences on various social media channels like Instagram, Facebook, and Twitter. Content consistency is essential for building a recognizable and trustworthy brand, as the audience expects to see the same values, tone, and visuals across all platforms. This consistency helps reinforce the brand's core messages and values, ensuring that no matter where the audience encounters us, they receive the same experience and understand our brand's mission.

Leveraging social media channels is essential for effectively engaging and growing an audience. Each social media channel offers distinct features and user demographics, allowing us to foster a sense of community and belonging within our audience. By understanding these nuances, we can enhance our cross-platform distribution efforts. For instance, we can use Instagram for visually compelling content that tells our brand's story, Twitter for real-time updates and engaging conversations, Facebook for detailed posts and community building, and LinkedIn for professional connections and industry insights.

Tailoring content for each platform allows us to capitalize on the unique features and audience preferences of each social media site. By creating platform-specific content, we are not just broadcasting—we're connecting. This approach ensures our cross-platform distribution strategy resonates with each audience segment. Utilizing video and visual content is also crucial for engaging our audience effectively. By leveraging cross-platform distribution, we ensure that our videos and images reach our audience wherever they are, whether it's Instagram, Facebook, or TikTok. Maintaining content consistency across these social media channels is crucial, as when our audience sees a familiar style and message, they feel more connected to our brand.

Cross-platform content distribution is essential for businesses to reach a wider audience, and increase visibility, engagement, and effectiveness. By understanding the unique characteristics and requirements of each platform, businesses can ensure their content is accessible and discoverable by their target audience, regardless of their preferred platform.

3.5 Influencer culture and its role in global mass communication

Social media influencers (SMIs) have become a significant part of the media landscape, replacing traditional media and becoming more involved in various fields such as education, business, and entertainment. They have the potential to significantly impact societies by introducing new ideas, lifestyles, and trends that challenge or reinforce existing cultural practices. However, there are concerns about misinformation, cultural imperialism, and lack of accountability.

Benefits of using social media include cultural transformation, education and awareness, and business and marketing. Influencers can introduce new ideas, lifestyles, and trends, which can either challenge or reinforce existing cultural practices in a backward society. They can also influence consumer behavior, impacting local economies and promote products, lifestyles, or businesses.

Education and awareness are another area where influencers can bring positive change and awareness. They can collaborate with educational institutions to produce content aimed at enhancing students' learning experiences, such as educational videos, webinars, or online courses accessible to students. Some influencers also offer valuable tips and guidance on effective studying, stress management during exams, and navigating college life challenges, contributing to positive changes in society.

Business and marketing use social media influencers to enhance brand growth and extend their reach. Integrating influencers into marketing strategies can generate excitement around a brand, increase website traffic, and potentially make the brand recognizable to

consumers. Employing influencers to showcase a brand to their audience opens up new consumer segments, expanding reach and garnering more attention for their offerings at a fraction of the cost.

Concerns about uneducated social influencers include spreading misinformation, cultural imperialism, lack of accountability, and lack of authenticity. Uneducated influencers may not fully understand the consequences of their actions or the power they hold over their followers, leading to a lack of accountability for the content they produce and its potential impact on society.

Legal regulation is crucial for social media influencers, as the Advertising Standards Council of India (ASCI) mandates that advertisements must be legal, decent, honest, truthful, and free from hazards or harm while promoting fairness in competition. The Department of Consumer Affairs has introduced guidelines under the Consumer Protection Act, 2019, requiring influencers to disclose promotional content, and non-compliance may result in penalties for offences.

3.5.1 Evolution of Influencers: From Celebrities to Micro-Influencers

Influencer marketing has seen a significant shift in recent years, with micro-influencers making a significant impact. These individuals are relatable and have followers typically ranging from 1,000 to 100,000, making them more relatable than celebrities. Authentic engagement is key, as consumers are increasingly skeptical of traditional advertising and celebrity-endorsed products. Micro-influencers offer genuine connections and recommendations that resonate with audiences, making their content more trustworthy.

Targeted reach is another advantage of working with micro-influencers, as they cater to niche markets, making them invaluable for brands looking to target specific demographics. Their followers are highly engaged individuals who share a real interest in the influencer's niche, making it easier for brands to connect with an audience already predisposed to an interest in their products or services. This cost-effective approach allows for more efficient marketing strategies, reaching a dedicated audience at a fraction of the cost.

Micro-influencers also offer more flexibility and creativity, as they are open to creative collaboration ideas. They are generally more accessible and willing to co-create content that aligns with both the brand's and personal brand's values, leading to more authentic and innovative marketing content. Audiences in 2024 love authenticity, so marketers must find alternative targeting strategies. Several brands, including Airbnb and Daniel Wellington, have used micro-influencers to connect with their target audiences more authentically and engagingly. Airbnb uses micro-influencers to share their unique travel experiences, while

Daniel Wellington encourages users to share their own stories and photos featuring their products, driving brand awareness and conversions. Overall, the rise of micro-influencers is reshaping how brands connect with their target audiences and offering new opportunities for success.

3.5.2 Impact on Consumer Behavior and Brand Marketing

Social media significantly impacts consumer behaviour, with platforms like Instagram, Twitter, and Facebook playing crucial roles in product discovery, influencer marketing, social proof, feedback, and reviews. Product discovery is facilitated by social media, where users discover new products or services through posts, reviews, and recommendations from their connections. Engaging content can help create brand advocates who endorse and support the brand, amplifying its reach and credibility. Influencer marketing can also influence purchasing decisions by providing endorsements and authentic reviews. Collaboration with influencers can expand reach and gain credibility within the target market.

Social proof is another important aspect of social media, where consumers gauge the popularity and credibility of a product or service based on likes, shares, and comments. Engaging with customer reviews can build trust and loyalty among customers, fostering lasting relationships beyond individual transactions. Feedback and reviews are valuable resources for potential buyers, influencing their choices. Active engagement with customers by responding to queries and complaints on social media and addressing both positive and negative comments can demonstrate transparency and a customer-centric approach.

To build a brand reputation management plan, assess current reputation, set clear objectives, develop a response strategy, engage proactively, and monitor and measure progress. Utilizing social listening tools and regularly reviewing key metrics can help maintain a positive brand image on social media.

Social media can be a breeding ground for fear of missing out (FOMO), which can drive consumers to make impulsive purchasing decisions. To leverage FOMO, businesses can create content that creates a sense of urgency among visitors, such as limited-time offers, flash sales, or exclusive deals for social media followers. Strategically using persuasive language and compelling visuals can amplify FOMO, driving immediate action from their audience and fostering excitement and anticipation around brands and products.

To influence consumer behaviour to facilitate social selling, businesses can leverage user-generated content (UGC) by encouraging customers to share their experiences with their products or services on social media. This authentic endorsement resonates with potential buyers and can be done by creating dedicated hashtags and reposting user-generated content

on the brand's social media profiles.

Building trust through transparency is crucial for building trust among social audiences. Companies can share behind-the-scenes content, highlight their values and mission, and address customer inquiries openly and promptly. For example, a cosmetics company can build trust by regularly posting videos on YouTube and emphasizing the use of natural and sustainable ingredients. Investing in advanced social listening tools like Sprinklr rating and review management can provide valuable insights that can drive better conversions and customer satisfaction. By harnessing the power of social listening, businesses can gain a deep understanding of consumer sentiment and refine their products, services, and marketing strategies.

3.5.3 Role in Shaping Public Opinion and Trends

Social media has a significant impact on shaping public opinion, from agenda-setting to viral content. Influencers, opinion leaders, and viral trends play crucial roles in shaping public views. Agenda setting determines which topics receive public attention through media coverage, while social media platforms prioritize certain issues, amplifying their importance in public discourse. Influencers create and share content promoting specific products, ideas, or causes, while opinion leaders emerge as trusted sources of information within niche communities online.

Viral content spreads rapidly across social networks, reaching large audiences quickly, often eliciting strong emotional responses and increasing engagement. Platform algorithms further expand its reach and influence, mobilizing large groups of people around specific actions or causes. The speed of viral content can outpace traditional media in breaking news situations.

Social dynamics in shaping views include social proof and the bandwagon effect, where people adopt behaviors or beliefs they see as common or popular. Online reviews and ratings serve as a form of social proof, while the bandwagon effect occurs when people align their opinions with perceived majority views. Social media metrics (likes, shares, followers) can trigger these effects, and echo chambers form when users predominantly engage with like-minded individuals reinforcing existing beliefs.

Digital discourse encompasses all forms of online communication and debate, with social media platforms facilitating real-time discussions on current events and social issues. Comment sections and forums allow for direct interaction between content creators and audiences, while online anonymity can lead to more candid expressions of opinion but also increased hostility. Trolling and cyberbullying emerge as negative aspects of digital discourse,

while social media activism mobilizes supporters for causes through hashtags and online campaigns.

Public opinion assessment tools provide vast amounts of data for analyzing public sentiment, including polls, surveys, social listening tools, text analysis algorithms, geolocation data, sentiment analysis techniques, word clouds, emotional intensity scales, and real-time sentiment tracking. Understanding these dynamics is key to grasping how social media impacts our collective thoughts and beliefs.

3.5.4 Challenges of Authenticity and Accountability

The Indian government has clarified that there is no proposal to create a separate law to ensure and authenticate all social media accounts or link a government identity with social media accounts of individuals. This means that the Government does not intend to make verification of social media accounts mandatory at the moment. The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, notified in February 2021, provide that a significant social media intermediary (SSMI) shall enable users who register for their services from India or use their services in India, to voluntarily verify their accounts by using any appropriate mechanism, including the active Indian mobile number of such users.

The government has already notified the IT Rules, 2021 under the Information Technology Act 2000 to make social media platforms accountable to their users and enhance user safety online. The statement acknowledged the risks and dangers posed by the growing phenomenon of fake news and the dissemination of wrong information through various social media platforms.

The government has taken several steps to address the challenges of misinformation and rumours spreading via various online media platforms. These steps include the IT Rules 2021, which require intermediaries to follow various due diligence norms, such as informing users not to host, display, upload, modify, publish, transmit, update, or share any information that is harmful, objectionable, and unlawful. A Fact Check Unit has been set up under the Press Information Bureau of Ministry of Information and Broadcasting in November, 2019 to take cognizance of fake news.

There are limited empirical studies that empirically examine how people develop their perception of information credibility towards information posted to online review sites and the consequences. Previous studies demonstrate disagreement among researchers regarding the credibility of online information and its impact on sales or behaviour. Administrators of travel-

related review sites or online recommendation-type social media sites should design their websites that make the source identity of the information posted on the websites available for their visitors or perhaps encouraged for reviewers.

Trust has also been central to the investigation into the use of online social networks. Mayer et al. defined trust as 'the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party.

3.5.5 Regional Differences in Influencer Culture

Influencer marketing is a powerful tool for brands to connect with their target audiences in the digital landscape. Influencers in India and worldwide often leverage cultural context, platform preferences, niche focus, brand collaborations, and social impact to engage with their audiences. In India, influencers often tailor their content to resonate with the diverse cultural fabric of the country, such as food bloggers sharing recipes for traditional Indian dishes or fashion influencers showcasing ethnic wear.

In the global influencer marketing landscape, platforms like Instagram, YouTube, Moj, and Twitter dominate, particularly among the younger demographic. Influencers around the world gravitate towards platforms that resonate with their target audience, adapting their content to suit each platform's unique characteristics.

In India, influencers often specialize in niche categories such as beauty, fashion, travel, food, and technology, catering to the growing demand for specialized content catering to specific interests and preferences. Influencers around the world also specialize in niche categories based on their interests, expertise, and audience demographics.

Brands worldwide leverage influencer marketing to amplify their reach and engagement with consumers, serving as authentic advocates for brands. Influencers can drive brand awareness and sales globally through sponsored posts, product placements, brand ambassadorships, and affiliate marketing. In recent years, Indian influencers have increasingly used their platforms to raise awareness about social issues and drive positive change in society. They have the power to spark meaningful conversations and inspire real-world impact, demonstrating the importance of understanding and leveraging the unique characteristics of influencers in today's digital landscape.

3.6 Case study: TikTok's rise in India and subsequent ban implications for global platforms

TikTok, a short-form video app, has faced criticism from governments worldwide for its data protection practices. The US has dominated the international digital platform market

for over two decades, and China's economic growth destabilizes this world order. The TikTok controversy highlights the extent to which this geopolitical setting is affecting the politics of platforms today.

In an information economy, digital platforms are information gatekeepers that can influence social conditions by determining ideas and information shared across vast socio-technical systems. In the international platform market, a few US companies enjoy immense cultural, economic, and political power derived from their ownership and control over platform infrastructure and data. TikTok has provided competition to these US companies, and the global success of TikTok confirms that users will adopt innovative new platforms when made available to them, regardless of their geographic origins.

The dominance of Silicon Valley technology companies presents a range of social, political, and economic problems, many of which are compounded by their oligopolistic status. The incumbent US platforms, including Facebook, Instagram, YouTube, and Twitter, are dysfunctional in their democratic role, spreading and amplifying misinformation and hate speech, generating and exploiting data at the expense of user privacy, embedding unfair biases into algorithms and technical infrastructure, failing to ensure user data security, and offering limited mechanisms for transparency and accountability.

Overcoming conventional geopolitical agendas and eschewing both US and Chinese hegemony is crucial for increased competition and dilution of concentrated power in the international platform market.

Lawmakers worldwide are increasingly addressing the influence of dominant US platforms, such as the European Union's General Data Protection Regulation and the Australian Competition and Consumer Commission's investigation into Facebook and Google's impact on media and advertising competition. This has led to open hostility towards TikTok, a competitor to incumbent US platforms. To understand the logic behind these actions and rhetoric, a geopolitical context is needed. This study systematically establishes the geopolitics of the TikTok controversy by analyzing 27 government documents issued between April and August 2020, as well as relevant corporate sources. The documents contain political positions and responses of US and Chinese state actors during a period when the Trump administration was actively pursuing the regulation of TikTok. Corporate documents include official statements released by TikTok executives and one by Microsoft Inc.

A classical geopolitical approach is used to establish an objective account of a specific geopolitical context. This approach is characterized by the modernist epistemological and

ontological assumption that a common geopolitical reality can be observed through historical example, logic, common sense, visualization, statistical analysis, and rational choice. However, a critical geopolitical analysis of the TikTok controversy is a topic worthy of future study. For this research, a classical geopolitical approach is effective, improving our understanding of how state territoriality and changes in the global geopolitical landscape impact platform politics.

3.6.1 TikTok's Success Story: Penetration in India's Tier-2 and Tier-3 Markets

TikTok, a popular social media app in India, has expanded its reach to 30% of all Indian smartphones as of August 2019, according to data provided by Delhi-based market intelligence firm KalaGato. The majority of TikTok's users in India are 18-35 years old and come from tier-2 and tier-3 cities. The platform's user base does not skew towards high-earning Indians, with approximately 52% of Indian TikTok users earning less than 25,000 rupees ($350) per month.

Bridging the digital divide has been a prime driver of TikTok's success in India. Its launch coincided with skyrocketing levels of internet penetration, just as the Jio effect was beginning to be felt. TikTok's playful, short video format and straightforward user interface have turned phones into a creator's studio, allowing aspiring actors, dancers, and performers far from Bollywood's flashing lights to gain recognition.

Brands follow the eyeballs of TikTok, spending more than 30 minutes a day on the app, ahead of both Instagram and Snapchat. TikTok was the most downloaded social media app in the world for September, with 44% of downloads concentrated in India. With eyes glued to the app and downloads on the rise, brands have followed suit to reach this segment of the population in a novel way.

3.6.2 Content Democratization: Opportunities for New Creators

TikTok, a popular social media platform, has seen a significant rise in content creators who craft engaging and entertaining videos that resonate with audiences worldwide. The platform's algorithm, designed to surface content based on user preferences, has contributed to the rise of TikTokers, who have mastered the art of capturing attention in just a few seconds. The platform's emphasis on creativity and originality has also driven the proliferation of content creators.

Data plays an increasingly important role in shaping content creation strategies on TikTok. It provides creators with valuable insights into audience demographics, engagement metrics, and trending topics, allowing them to make informed decisions about their content and target audience. By analyzing this data, creators can identify trends gaining traction among their target audience and adjust their strategy accordingly.

TikTok also introduces TikTok Shops, allowing users to buy products directly from the app. This presents an exciting opportunity for content creators to monetize their audience and capitalize on their influence. However, the success of TikTok Shops relies heavily on data. Brands need to understand their audience's preferences, purchasing behavior, and engagement patterns to effectively sell products on the platform.

Data-driven strategies are key to success for TikTok content creators looking to monetize their audience through TikTok Shops. By analyzing audience insights, creators can identify products that resonate with their followers and tailor their content accordingly. Additionally, they can track the performance of their TikTok shop in real-time and make adjustments as needed to optimize sales.

Collaborations between content creators and brands are also becoming increasingly common on TikTok, allowing brands to identify the most relevant creators for their target audience and measure the effectiveness of their collaborations.

3.6.3 Reasons for the Ban and Its Socio-Political Context

The ban on TikTok in India led to significant changes in user behavior, migration to other platforms, and a shift in user attitude. Millions of Indian users abandoned Facebook and Twitter to find alternatives like Instagram Reels, MX TakaTak, and Moj on ShareChat, which offered similar capabilities for sharing short videos. However, the transition was not without friction, with the user base splitting. Some users easily transitioned to other platforms, while others struggled to find alternatives. This resulted in a scattering of TikTok's user base, reducing its popularity. The prohibition also made creating and enjoying user-generated material harder, as creators had to go elsewhere to share their work and interact with fans. The prohibition affected user attitudes and happiness, with some users accepting the restriction and switching to other platforms without protest, while others expressed regret and irritation at abandoning the service. This disruption disrupted regular routines and habits, resulting in decreased user happiness and engagement.

The TikTok ban in India significantly impacted the digital marketing ecosystem, forcing marketers to adapt their approaches and find new channels to reach their target demographics. The ban had an immediate impact on internet advertising budgets, as companies spent a lot on TikTok ads due to its massive user base and entertaining video format. However, many businesses were forced to redirect their marketing dollars to other channels and mediums.

Marketers and content developers flocked to Instagram Reels, MX TakaTak, and ShareChat's Moj, which attempted to fill the void left by TikTok by offering users a place to share and enjoy

short videos. However, matching the degree of engagement and variety of material TikTok created on competing platforms was impossible, making it difficult for marketers and content developers to reestablish their identities and fan bases on these novel channels.

The ban on TikTok in India had a significant effect on the company's earnings and raised the possibility that other countries would follow suit. Estimates put the company's losses at $6 billion, and millions of subscribers had already been disconnected from the service. TikTok's user-based revenue took a significant hit, with over half of its overall user base of over 150 million downloads attributed to users in India. The ban also caused a drop in viewership and revenue for TikTok's most popular creators, costing them 120 crores in annual revenue. Other countries are now more inclined to consider enacting bans similar to India's, posing a serious risk to TikTok's business and revenue. The ban's effects extended beyond monetary loss to include ripples in the influencer market and the potential globalisation of the ban itself. It is crucial to assess the ban's economic effects before deciding how to regulate or market via social media. TikTok was a ladder to fame and the only source of income during the lockdown that left people without work for months. The app had over 200 million followers across India, but its relationship with people in tier-II and tier-III cities was special. With the ban, people in remote towns and villages didn't have to wait for an outsider to discover their talent. The hunger for validation and money on social media has become a quicksand of anxiety, as people become more active in the online world than in real life. As the era of the wild Web gives way to a more controlled space, TikTok creators will have to change their game plan to offer more than just 15 seconds of fun.

3.6.4 Post-Ban Landscape: Rise of Indian Alternatives (e.g., Chingari, Moj)

TikTok, a popular social media app in India, has been banned in the US, leading to a shift in the short-form video market. Local competitors like Mitron, LitLot, Moj, Josh, and Tiki emerged, offering Indian users alternatives to TikTok. Instagram, which launched Reels, gained traction among Indian users, while YouTube also launched its own version, YouTube Shorts. Research shows that time spent in the top 25 live-streaming apps in 2021 outpaced the overall social market in India, with a 40% year-over-year growth in usage. Live-streaming apps are becoming increasingly important in the social media landscape, as they enable consumers to support content creators and increase consumer spending. A potential ban on TikTok in the US raises questions about where its millions of users will go in search of short-form video content. Indian short-form video app Moj has seen a surge in popularity, with 1.2 million followers and a paid content creator earning around 15,000 rupees ($182) a month. However,

the platform's popularity has led to the rise of Indian TikTok clones, such as Moj and Josh, which have around 300 million monthly active users. Indian marketing experts and social media influencers believe that these American platforms, Instagram and YouTube, will eventually take over India's short-video segment, which is estimated to be worth over $19 billion by 2030. Indian short-form video companies have received massive funding from large global investors to sustain their businesses. Moj's parent company, Mohalla Tech, raised $805 million at a valuation of $5 billion, while Josh's parent company, VerSe Innovation, raised $255 million at a similar valuation.

Creators like Adarsh Parve, who has been making short video content since he was 16, argue that the Indian platforms have not filled the hole left by TikTok's ban. Parve has over a million followers on Josh and makes decent money from the payments he gets from the app and brand collaborations. Kaushik, who has over a million followers on Moj, is looking beyond the local apps to Instagram, where he has just around 12,000 followers. The numbers posted by ShareChat-owned Moj have made it the top player among Indian short video apps, followed closely by Josh.

3.6.5 Lessons for Global Platforms: Navigating Policy and Local Markets

The recent threat to ban TikTok in the United States has sparked debate about the shifting balance of power between nation-states and multinational corporations (MNCs). This shift is a result of states asserting their authority over global enterprises, raising questions about the implications for globalisation and international business dynamics. MNCs have historically benefited from globalisation, leveraging international markets to grow and influence economic policies. However, the rise of digital platforms and concerns about data security, national security, and cultural influence have prompted states to reassert control.

The European Union's General Data Protection Regulation (GDPR) sets stringent guidelines for data protection, reflecting a trend of increasing regulatory frameworks that aim to protect consumers and ensure corporate accountability. However, excessive state intervention can stifle innovation, restrict the free flow of information, and create an environment of uncertainty for global businesses. MNCs thrive on open markets and predictable regulatory environments, which allow them to plan and invest in long-term growth strategies.

The ideal approach moving forward involves striking a balance between state control and corporate autonomy. Governments need to establish clear, transparent, and consistent regulations that protect national interests without unduly hindering business innovation and growth. International cooperation is crucial in this regard, as countries can collaborate on

establishing global standards for data privacy and security. Fostering dialogue between states and MNCs can lead to mutually beneficial solutions, such as requiring foreign tech companies to store data locally or undergo regular security audits.

Let us Sum up

This unit explores the global impact of social media, focusing on major platforms like Facebook, Instagram, Twitter, and TikTok. These platforms have transformed global communication, transcending geographical and cultural barriers. They have become powerful tools for political mobilization, awareness campaigns, and public discourse, but also raise concerns about misinformation, polarization, and algorithmic biases. Content creation and distribution strategies for diverse audiences require understanding audience preferences, leveraging trends, and creating platform-specific strategies. Influencer culture plays a significant role in shaping public opinion, driving consumer behavior, and promoting social causes. The 2020 ban on TikTok in India highlights the geopolitical and cultural complexities global platforms face in localized markets. Understanding these factors provides insights into how digital communication continues to shape the modern world.

Check your Progress

Short Answer Questions

Question	CO	PO	K
Define social media platforms.	CO3	PO1	K1
Explain influencer culture.	CO3	PO3	K2
What is audience engagement in social media?	CO3	PO3	K1
Define content distribution strategies.	CO3	PO4	K1
Explain the role of TikTok in global communication.	CO3	PO3	K2

Essay Questions

Question	CO	PO	K
Discuss the impact of social media on global communication.	CO3	PO1	K3
Analyze the role of influencers in digital communication.	CO3	PO3	K4
Explain strategies for creating content for global audiences.	CO3	PO4	K3
Examine the influence of social media on politics and society.	CO3	PO3	K4
Evaluate the cultural impact of global social media platforms.	CO3	PO5	K5

Suggested Readings

Meikle, G. (2016). ***Social media: Communication, sharing and visibility*** **(1 Edition). Routledge, Taylor & Francis Group.**

Mortensen, M., & McCrow-Young, A. (2022). ***Social Media Images and Conflicts*** **(1st ed.). Routledge. https://doi.org/10.4324/9781003176923**

Mortensen, M., Neumayer, C., & Poell, T. (Eds.). (2019). ***Social media materialities and protest: Critical reflections*** **(1 Edition). Routledge.**

Unit IV

Privacy, Misinformation, and Disinformation in Digital Media

Structure

Overview

Learning Objectives

4.1 Introduction

4.2 Global data privacy concerns and regulations (GDPR, CCPA, etc.)

4.2.1 The evolution of data privacy regulations: A global perspective

4.2.2 GDPR (General Data Protection Regulation) and its impact on businesses

4.2.3 California Consumer Privacy Act (CCPA): Key features and implications

4.3 Fake news and its spread through social media: a global challenge

4.3.1 Mechanisms of fake news dissemination on social media platforms

4.3.2 Psychological and social factors driving the spread of misinformation

4.3.3 The role of algorithms in amplifying fake news

4.3.4 Impact of fake news on public trust and democracy

4.4 International fact-checking initiatives and media literacy programs

4.4.1 The rise of fact-checking organizations: Global examples (e.g., PolitiFact, FactCheck.org, AltNews)

4.4.2 Technology's role in verifying information: AI and fact-checking tools

4.4.3 Media literacy: Key to combating misinformation in the digital age

4.5 Government policies and regulations on digital media across countries

4.5.1 Role of governments in regulating hate speech and fake news on digital platforms

4.5.2 Impact of digital media regulations on freedom of expression

4.5.3 Challenges of balancing regulation with innovation in digital media

4.6 Case study: WhatsApp and misinformation in India during the COVID-19 pandemic

Let us Sum up

Check your Progress

Suggested Readings

Video Links

Answers to Check your progress.

Overview

This Unit explores privacy, misinformation, and disinformation in digital media, discussing global regulations like GDPR and CCPA. It examines the spread of fake news, fact-checking initiatives, and government regulations. The case study of WhatsApp in India examines the spread of misinformation during the COVID-19 pandemic.

Learning Objectives

After completing the lesson the student will be able to

- Understand the evolution and importance of global data privacy regulations.
- Identify the mechanisms of fake news dissemination on social media platforms
- Recognize the importance of media literacy in combating misinformation.
- Evaluate case studies of impactful digital media governance frameworks.
- Understand the socio-cultural impact of misinformation on public health and safety.

4.1 Introduction

Data privacy is a growing concern in the digital age, with the rapid growth of personal information online posing an increased risk of disinformation. Disinformation, which has existed since before the internet era, is false or misleading information created to influence people. Social media platforms have been criticized for their role in spreading disinformation, as they encourage users to share content with their friends and followers. Distinguishing between legitimate information and disinformation is a big concern, as incorrect or false information can make it difficult to understand whether the information being shared is true.

Disinformation poses a significant threat to data privacy, as it can trick people into sharing sensitive information, such as credit card details or passwords. Fake emails from banks or organizations can lead to financial loss if the link is clicked and details are entered. It can also spread false rumors about data breaches or security incidents, creating confusion and panic among users.

To protect against disinformation, individuals should be cautious of suspicious emails and messages, use strong passwords and enable two-factor authentication, stay informed about new security threats, and report suspicious activity to authorities. Social media platforms should be held accountable for disinformation being shared, and users should demand transparency and accountability from these platforms. Legislation protecting users' privacy and security should be created to protect users' information.

Disinformation can have severe consequences for individuals and communities, including fear, panic, limiting freedom of expression, damaging trust in media and government, and influencing people's decisions. Digital fake news is becoming a major threat due to the ease of creating, diffusing, and consuming content. False or misleading stories can be easily created and diffused via global online networks, making it difficult to spot them. The latest technologies enable hacking real videos or creating artificial ones that present people doing things they never did, in a very realistic way. Synthesized speech that matches the voice of a known person can also be used to claim statements or words never said.

Fake news is engineered to become viral, being promoted by regular users at scale, both intentionally and unintentionally. Unintentional promotion happens due to a generalized lack of awareness, as people do not realize how often they are exposed to Fake News and may be part of the problem itself by unintentionally promoting Fake News and influencing others.

The difficulty in identifying, tracking, and controlling unreliable content makes it extremely hard to solve. A good solution would require advanced digital technologies and protocols for assessing content. Raising awareness about the problem among social media users would require a global, ongoing program that educates online users to apply critical thinking when consuming and sharing digital content. Handling probable Fake Stories is also difficult, as there is not much to do until there is certainty about it. While efforts within news corporations and social media companies are ongoing, the fake news problem is primarily a social problem.

4.2 Global data privacy concerns and regulations (GDPR, CCPA, etc.)

Businesses operating online serve customers from various parts of the world, making compliance with international data privacy laws complex and time-consuming. Users' data is crucial for business success in a data-driven world, and they have the right to proper data protection. Data protection laws are essential for ethical business practices, trust-building relationships, and avoiding penalties.

There is no single universal data protection law, as each government can pass laws that apply to their jurisdiction. Local data privacy laws apply to different regions or groups of people. For example, US citizens must comply with federal laws, state laws, and industry regulations when collecting and using visitor data. In contrast, visitors from Canada and EU countries must comply with both US and Canadian laws.

Compliance with all data protection laws worldwide is challenging, but governments tend

to pass similar laws, making it easier for businesses with an online presence. Advanced tools like Secure Privacy online privacy policy generator and cookie banner generator can help businesses stay compliant with these laws.

In Europe, businesses must be aware of the European Union (EU) laws and the laws of member states. The General Data Protection Regulation (GDPR) and the ePrivacy Directive are two main laws to follow. GDPR, which came into effect in 2018, is the most extensive personal data protection law to date, with many countries following its example.

4.2.1 The evolution of data privacy regulations: A global perspective

The Personal Data Protection Bill, 2019 (PDPB 2019) was introduced in Parliament to regulate Indian citizens' data. The current draft has some amendments compared to the original 2018 draft. Privacy has been recognized since the Semayne case in 1604, with territorial privacy being a key aspect. The term "privacy" gained prominence in 1890 when Justice Louis Brandeis and Boston Attorney Samuel Warren argued for the recognition of the right to privacy. The Universal Declaration of Human Rights (UDHR) in 1948 recognized privacy as a fundamental human right, leading to the creation of guidelines on the protection of privacy and transborder data flows. The OECD aims to harmonize privacy principles across multiple jurisdictions, and the basic privacy principles have evolved to meet emerging needs. The European Union (EU) adopted Directive 95/46/EC in 1995, which established an organized framework for inter-country personal data transfer and flow. However, it was replaced by the General Data Protection Regulation (GDPR) in 2018, which introduced new features such as the role of a Data Protection Officer. Other global legislations, self-regulations, and privacy codes include the Data Law of Sweden, Fair Credit Reporting Act, Privacy Act, Fair Information Privacy Principles, and National Standard of Canada/Standards Council of Canada. In India, the debate over privacy rights has been ongoing since the M.P. Sharma and Kharak Singh cases. The Supreme Court overruled these cases, stating that privacy is an indispensable part of personal liberty and guaranteed under Article 21 of the Constitution. The Information Technology Act of 2000 and its amendments of 2008 attempted to provide legal recognition for e-transactions and protect data, but it was not comprehensive enough in all privacy dimensions. As the digital economy grows, personal data becomes a tradable commodity for brokers and dealers, necessitating a robust legal framework to regulate cross-border data transfers and provide rights and remedies for individuals. The Personal Data Protection Bill, 2018 and the 2019 version, motivated by the GDPR, aim to provide a full-fledged statute for data protection.

4.2.2 GDPR (General Data Protection Regulation) and its impact on businesses

GDPR, or General Data Protection Regulation, is a European privacy law that applies to all companies selling and storing personal information about citizens in the EU and EEA region. It provides citizens with greater control over their personal data and ensures its secure protection. Personal data includes information related to a person, such as name, photo, email address, bank details, social networking posts, location details, medical information, or computer IP address.

Under GDPR, individuals have several rights:

1. Consent must be given: Businesses must process personal information without consent.
2. The right to access: Individuals have the right to request access to their data and ask how it is used by the company. If they withdraw consent, their data can be deleted.
3. The right to data portability: Individuals have the right to transfer their data from one service provider to another in a commonly used and machine-readable format.
5. The right to be informed: Consumers must be informed before data is gathered.
6. The right to have information corrected: Individuals can have their data updated if it is out of date or incomplete.
7. The right to restrict processing: Individuals can request that their data is not used for processing.
8. The right to object: Individuals can stop processing their data for direct marketing.
9. The right to be notified: If a data breach compromises an individual's personal data, they must be informed within 72 hours.

GDPR is a new data protection law that applies to all businesses and organizations established in the EU, regardless of whether data processing takes place within the EU or not. Companies that work with personal data must appoint a data protection officer or data controller for compliance. Non-compliance can result in fines up to 4% of annual global revenue or 20 million Euros.

The GDPR has broad implications for companies, including how they handle marketing and sales activities. Consent requirements are stricter under GDPR, with individuals having the right to withdraw consent at any time and separate consents for different processing activities. This changes the way marketing and sales activities are managed, necessitating reviews of business processes, applications, and forms to be compliant with double opt-in rules and email marketing best practices. In 2018, salespeople no longer have the ability to add contacts to the company's mailing list, necessitating new ways of collecting customer information. To comply with GDPR, companies must map their company's data, determine what data needs to be kept,

and consider the reasons behind collecting too much data.

Privacy by design is a key component of GDPR legislation, requiring companies to closely examine their data handling practices. To begin, companies should map their data, document their data handling, identify access risks, and determine what data is necessary. In the clean-up process, businesses should consider the reasons behind their data collection and use.

4.2.3 California Consumer Privacy Act (CCPA): Key features and implications

The United States lacks a single federal data protection law, with numerous states passing their own laws and bills being introduced or in progress. Other privacy laws target specific types of information or human demographics, such as the Health Insurance Portability and Accountability Act (HIPAA) for health and the Children's Online Privacy Protection Act (COPPA) for children's safety. The California Consumer Privacy Act (CCPA) is the first and most influential state-level consumer privacy law passed in the US, taking some influence from the European Union's General Data Protection Regulation (GDPR).

The CCPA/CPRA law defines personal information as "information that identifies, relates to, describes, is reasonably capable of being associated with, or could reasonably be linked, directly or indirectly, with a particular consumer or household." Examples include IP address, real name, alias, postal address, Social Security number, and email address. Sensitive personal information, such as driver's license, state ID card, passport, or Social Security number, precise geolocation data, racial or ethnic origin, debit card or credit card number, genetic data, and content of a consumer's postal mail, email, and text messages, can cause harm to a consumer if misused.

Unique identifiers under the CCPA/CPRA are persistent identifiers that can be used to recognize a consumer, a family, or a device linked to a consumer or family over time and across different services. Examples of unique identifiers include device identifiers, IP addresses, cookies, beacons, pixel tags, mobile ad identifiers, or similar technology. Consent under the CCPA/CPRA is defined as "any freely given, specific, informed, and unambiguous indication of the consumer's wishes by which the consumer, or the consumer's legal guardian, a person who has power of attorney, or a person acting as a conservator for the consumer, including by a statement or by a clear affirmative action, signifies agreement to the processing of personal information relating to the consumer for a narrowly defined particular purpose."

Sale under the CCPA/CPRA law applies to for-profit businesses operating in California and collecting the personal information of the state's residents if they meet any one of the following thresholds: annual gross revenues exceeding USD 25 million for the previous

calendar year, receiving, buying, selling, or sharing personal information of 100,000 or more consumers or households, or earning more than half of their annual revenue from the sale of consumers' personal information. More recently passed privacy laws in other states have abandoned the revenue-only compliance threshold, and all companies that meet the threshold must meet CCPA/CPRA obligations if they are doing business with California residents, regardless of where in the world they are based.

4.3 Fake news and its spread through social media: a global challenge

The recent Titanic rescue operation, which failed due to a tourist submersible losing contact, was a viral TikTok video that went viral and spread more than the fact-checked truth. Social media's evolution as a news distributor has had serious consequences for what counts as journalism and what gets conflated with the truth. Today, over 8 in 10 Americans get their news on digital devices, beating out TV, radio, or print. Among 18-29 year olds, social media is the most common news source, and 53% of Americans get at least some of their news from social media.

The shift to social media has intensified the dynamics of the journalism industry, with content being near-endless and easily capable of supplying social media feeds with hundreds of 24-hour news cycles. Instead of opinion sections or dedicated programs for pundits, social feeds mix opinions and facts together, and the more outlandish a story, the better it does. As a result, more of what we see online is misinformation – content that simply gets the facts wrong. Misinformation is incorrect or misleading information, sometimes as simple as an error in reporting or purposefully exaggerated using clickbait headlines or out-of-context details.

New technologies are making it easier than ever for anyone to substantially edit photos and videos to reflect a reality that doesn't really exist. The move towards social media as a source for news has allowed misinformation to flourish, as anyone with a social media account can become a "news" source. Fake news can spread up to 10 times faster than true reporting on social media, and when explosive, misinforming posts go viral, their corrections are never as widely viewed or believed. In the race between false but interesting and true but boring, the interesting story wins.

Social media platforms use algorithms to curate content and keep users online for targeted ads. These algorithms reward frequent content sharers by broadcasting their posts to a higher number of social feeds, earning more views, likes, comments, and shares. However, this encourages the sharing of high-performing content, fueling networks of ongoing misinformation. A USC study found that 15% of frequent social media news-sharers were behind up to 40% of fake news circulating on Facebook.

The tech behind social feeds is not optimized for providing access to high-quality information, but for engagement, allowing outrageous stories and opinions to find a broad audience quickly. TikTok has ushered in a new era of misinformation online, exposing its young user base to bad information frequently. A 2022 study found that almost 20% of TikTok videos returned contained misinformation, and approximately 40% of medical videos on the platform contained medical misinformation.

Platforms have a responsibility to address the societal cost of misinformation, particularly for young people who have experienced mental health troubles on these platforms. With social media's propensity to amplify misinformation, more people accessing news-like content on these platforms may further distort the echo chambers we are currently grappling with as a country. Regulators need to pay more attention to what's happening behind the social media feed curtain and let tech giants know it's time to address this issue.

4.3.1 Mechanisms of fake news dissemination on social media platforms

Social media platforms like Facebook, Instagram, YouTube, and Twitter have become popular sources for news and entertainment. However, fake news can have negative consequences, ranging from inconvenience to deceiving communities or governments. Methods for recognizing fake news include knowledge-based, language-based, machine learning-based, hybrid, and topic-agnostic approaches. Two-step methods include the integration of text mining techniques with supervised artificial intelligence algorithms, which use accuracy, recall, precision, and F-measure to verify the combined algorithms.

The term frequency-inverse document frequency method is used to determine content characterization, while the latent Dirichlet allocation (LDA) method is introduced to identify bogus news using a random number generator. The EGSLA algorithm successfully predicts fake users and news on Twitter by extracting important features on the weighted graph.

Khan et al. discovered that participants' perceptions of false news transferred to adjacent brand advertising when they saw an adjacent brand commercial. The discrepancy between perceived credibility and actual credibility is investigated by analyzing changes in audience behavior. Qasim et al. used four integrated components for the FND model, validating its usefulness through accuracy, precision, recall, and F-measure. Ahmed et al. developed a unique approach for identifying harmful social bots in online social networks, comparing it with the support vector machine (SVM) approach. Figueira and Oliveira devised a content-based analysis method to ensure that collected tweets contributed to the discussion, using accuracy, precision, recall, and F-score as parameter metrics. Rumor detection techniques have shown success in detecting tumors at an early level, even before refuting or interrogating

messages on social media platforms.

4.3.2 Psychological and social factors driving the spread of misinformation

Social media platforms like Facebook, Instagram, YouTube, and Twitter have become popular sources of news and entertainment for mobile devices. However, these platforms also have flaws, such as the spread of fake news. Various methods are available to recognize fake news, including knowledge-based, language-based, machine learning-based, hybrid, and topic-agnostic approaches. Two-step methods include integrating text mining techniques with supervised artificial intelligence algorithms to identify false news using accuracy, recall, precision, and F-measure.

The term frequency-inverse document frequency method is used to determine content characterization, while the latent Dirichlet allocation (LDA) method is used to identify bogus news by employing a random number generator. The EGSLA algorithm, proposed by Khan et al., uses accuracy, precision, sensitivity, specificity, and Mathews' sensitivity and specificity to predict fake users and news on Twitter.

Khan et al. investigate the consequences of fake news by analyzing changes in audience behavior and user behavioral intentions. They found that false news strongly influences user behavioral intentions, which significantly impacts the perceived credibility of news sources. Qasim et al. developed an automated technique for distinguishing between diverse scenarios when rating and categorizing news items and assertions, using accuracy, mean squared error (MSE), and F1 score metrics.

However, these techniques do not focus on regional news categorization or extract text due to picture properties. A principled automated technique has been developed to distinguish between different scenarios when rating and categorizing news items and assertions, using accuracy, mean squared error (MSE), and F1 score metrics.

Ahmed et al. developed a method for identifying harmful social bots in online social networks using accuracy, precision, recall, and F-score metrics. Figueira and Oliveira developed a content-based analysis method to evaluate the performance of the proposed model. Rumor detection techniques have shown success in detecting tumors early on social media platforms. A 2018 study by MIT found that false news stories are 70% more likely to be retweeted on X than true stories, reaching their first 1,500 views six times faster.

Confirmation bias is a psychological tendency that makes people accept false news stories that confirm their worldview while dismissing contradictory information. This creates a self-reinforcing cycle where exposure to disinformation solidifies existing beliefs. Social media algorithms display content similar to users' previous engagement, creating echo

chambers that perpetuate the spread of disinformation.

The bandwagon effect is a phenomenon where people adopt beliefs, ideas, or behaviors simply because many others are doing so. This phenomenon is tied to our evolutionary instincts for social survival and cognitive efficiency, combining our innate desire for group belonging with our brain's tendency to use mental shortcuts in decision-making. When individuals see a piece of news gaining traction, they are more likely to perceive it as true.

4.3.3 The role of algorithms in amplifying fake news

Social media algorithms are designed to keep users engaged for hours, but there is no mechanism in place to identify and ramify content based on context. While algorithms aim to enhance user experience, they do not intensify existing societal and ideological differences. Misinformation and fake news spread rapidly on social media platforms, but this does not mean they aid the spread of misinformation. Information dissemination through word of mouth takes longer, and social media is distressing as it allows users to share knowledge with just a click. AI only amplifies users' behavior patterns and considers pre-existing ideologies, but the lack of a smart mechanism to deal with selective exposure highlights the collective failure of these platforms in providing a secure platform. Fake news impacts social, political, emotional, and economic aspects, and if algorithms are meant to enhance user experience, they become a tool for spreading misinformation. The internet has become a hub for fake news, spanning various forms such as podcasts, videos, images, print news, blogs, digital news, and radio shows. Twitter, a social media giant, has faced criticism from the Indian government for its irresponsible behavior and unregulated algorithms towards fake news. In 2020, 18,000 accounts were reported to be spreading fake news, and the social media giant was booked for not attempting to establish the truth.

While Facebook is currently under scrutiny, Twitter has launched a 'false' content button to report fake news, which experts consider a significant step in optimizing algorithms. However, information overload aids the spread of fake news and makes it easy.

The debate surrounding social media algorithms and fake news is multidimensional, with numerous factors involved. Algorithms play a role in transmitting fake news, but think tanks behind these algorithms are working to counter the damage done. Algorithms are smart but not as smart as humans in deciding the credibility and authenticity of content. Additional features have been rolled down since the inception to help algorithms identify problematic content and people. Report and spam buttons help platforms decide the appropriateness, relevancy, credibility, and authenticity of information, limiting the visibility of certain content or warning other users. Social media platforms have both positive and harmful aspects,

particularly in the dissemination of misinformation. Algorithms play a crucial role in determining which posts users will see, but they can also spread false or misleading data. The haste to be heard can lead to the spread of false information, as algorithms prioritize content that is shocking or controversial, resulting in more clicks and interactions. This can lead to a cascading effect, where false information is repeated and seen by the entire network, making it difficult to curb. To combat this issue, a multi-pronged strategy is needed. This includes increased accountability from social media firms, stricter guidelines for content control, and more reliable fact-checking processes. Additionally, education about false information dangers and promoting critical thinking are essential. Combining these approaches can help reduce the negative effects of algorithms on data integrity.

4.3.4 Impact of fake news on public trust and democracy

The issue of political misinformation gained attention after the 2016 U.S. presidential election, with concerns that it could destabilize political institutions and media organizations. Fake news, defined as fabricated information with news content but not the editorial standards of legitimate journalism, can lead to people adopting political misperceptions that can affect their behavior, including voting decisions. Media trust has experienced a decline in recent years, particularly during times of crisis and uncertainty when citizens need credible sources for current and reliable information. Fake news can erode public confidence in mainstream media, making them more vulnerable when disaster strikes. The content of false news stories can influence public confidence in the media, with cynical coverage and tabloid-style focus on scandal eroding citizen trust. Fake news can also shift trust from mainstream institutions to fringe organizations or from one political entity to another. India has experienced a massive surge in fake news and disinformation due to the rapid rise of right-wing nationalism. With over 830 million active internet users, India is the largest market for Facebook and WhatsApp, with over 800 million people having smartphones and cheap internet data. The main reason for disinformation is right-wing social media influencers, who use memes, funny gossip, trolls, sarcasm, write-ups, and often fake videos to target political opponents, specific groups, and individuals who are critical of the party on the internet. The right-wing ecosystem in India is spreading disinformation, leading to a rise in hate crimes against religious minorities and marginalized groups. This has resulted in increased cyber-bullying and hate crimes against minorities. High-ranking politicians have been using hateful language almost 500 percent more than in the past four years, with the unchecked peddling of fake news and misinformation through social media and television channels further contributing to this issue.

4.4 International fact-checking initiatives and media literacy programs

The International Fact-Checking Network (IFCN) was launched in 2015 to unite fact-checkers worldwide, advocating for information integrity and supporting them through networking, capacity building, and collaboration. IFCN reaches over 170 fact-checking organizations worldwide through advocacy, training, and global events. The network monitors trends in the fact-checking field to offer resources, contribute to public discourse, and support new projects advancing accountability in journalism. Media and Information Literacy (MIL) is a comprehensive approach that aims to empower citizens to access, analyze, create, and reflect on media to claim their rights to free information and expression. MIL aims align closely with fact-checkers' work, and many fact-checking outlets operate training programs that allow them to share their techniques, knowledge, and experiences.

MIL targets specific audiences, such as First Draft News, which develops techniques, tools, and training for journalists. MIL projects go beyond checking individual claims, allowing fact-checkers to transfer their knowledge and skills directly to others. However, challenges include reaching beyond interested audiences, fostering democratic engagement, and promoting media regulation and collective decision-making.

4.4.1 The rise of fact-checking organizations: Global examples (e.g., PolitiFact, FactCheck.org, AltNews)

Misinformation is information presented as factually accurate but includes false or misleading content, irrespective of the presenter's intentions. Social media has contributed to the dissemination of misinformation, with about half of Americans getting their news on social media. The spread of misinformation can have severe negative impacts on individuals and society, such as COVID-19 vaccination hesitancy and election results manipulation. Fact-checking organizations, known as fact checkers, are instrumental in identifying and debunking misinformation. However, human fact checkers face challenges due to the sheer volume of data and rapid spread of false claims. Automated fact-checking techniques have emerged to debunk misinformation on a large scale, employing advanced techniques such as natural language processing, machine learning, and deep learning to detect patterns and correlations in large datasets.

Manual fact-checking initiatives have been launched to combat misinformation, but they can invite criticism due to the subjective choice of claims to verify and the inconsistency in the evaluation process. Previous studies have shown conflicting results, particularly when different fact checkers provide conflicting assessments for the same claim. To address these limitations, an automatic method to collect fact checkers' data across topics and periods and

automatic techniques to find matching claims across fact checkers is proposed.

The low percentage of matching claims between two major fact checkers, Snopes and PolitiFact, from 2016 to 2022 suggests that fact-checking is a complex and multifaceted process that involves numerous variables, including the nature of the claims being fact-checked and the fact checkers' methods and priorities. It is crucial for fact checkers to collaborate and cross-check their findings to provide the most reliable information to the public. Future research could investigate these variations and their potential impact on public trust in fact checkers.

4.4.2 Technology's role in verifying information: AI and fact-checking tools

The rise of social media and the constant flow of information has made it increasingly difficult to distinguish between truth and lies. This has led to the need for reliable fact-checking, which is crucial in journalism to ensure accurate and trustworthy news reports. Artificial intelligence (AI) is transforming the way we approach fact-checking by processing large amounts of data quickly and accurately. AI offers advantages such as speed, accuracy, consistency, and scalability.

However, AI also faces limitations and challenges. Potential biases in AI algorithms can occur if they are trained on incomplete or biased data sets. Identifying falsehoods can be challenging, as false claims can be presented in various ways, such as exaggerations, omissions, or half-truths. Additionally, the context in which a claim is made can influence its truthfulness, making it difficult for AI to understand without human input.

Ethical concerns surround AI fact-checking, such as the potential for AI algorithms to suppress certain viewpoints or spread misinformation themselves. Ensuring that AI fact-checking tools are transparent and accountable is crucial to addressing these challenges.

To find a balance between human and AI fact-checking efforts, it is essential to find human oversight in AI fact-checking. Human fact-checkers can review and validate AI-generated fact-checks, identifying potential issues and correcting them before they are published. Collaborating between humans and AI can lead to more efficient and accurate fact-checking processes. Human fact-checkers can use AI-generated suggestions to prioritize their efforts and provide feedback to AI algorithms to improve their accuracy and effectiveness over time.

4.4.3 Media literacy: Key to combating misinformation in the digital age

Media literacy is a vital tool in combating disinformation, as it allows individuals to critically and digitally assess information they encounter online, identify trustworthy sources, and make informed decisions. Being media literate also opens up opportunities for engaging

more fully and creatively with the online and offline media world. Education in media literacy is crucial for both adults and children, as it involves practical skills and knowledge of the digital environment. It is a lifelong process, as digital and media environments are constantly evolving. Media literacy is not the only solution to disinformation, and should not be seen as a silver bullet that renders other regulations and initiatives unnecessary. It is incredibly complicated, as there is so much information about the online world that is illegible and constantly changing. However, it is an essential partner to regulation in improving the public's ability to navigate the online environment. Many regulations will be less effective without accompanying education and awareness, and there is clear scope to expand this.

An Ipsos Mori survey from March 2021 found that just 9% of Europeans (from 11 countries) have participated in training about how to use online tools to distinguish between true and false information. However, 58% are interested in doing so, and two-thirds believe it would be appropriate for a tech company to provide training to users to improve their ability to critically understand online information. Media literacy work has been ongoing for decades and has a wider role to play in citizenship. While there is a tendency to see media literacy as the solution to a particular problem like disinformation, this can be problematic as it narrows focus and leads to short-term thinking. Raising general media literacy levels will increase the public's resilience to online disinformation, even if this is not the direct target of an intervention. Media and Information Literacy (MIL) is the ability to critically and responsibly use, engage with, and create media and information in various contexts. MIL interventions are primarily aimed at younger age groups but also benefit older people. MIL measures aim to improve knowledge, attitudes, and behavior around mass media and online communication, addressing critical and responsible conduct in three potential roles: producers of disinformation, relayers/sharers of disinformation, and consumers of disinformation.

Being media and information literate means that people strive to refrain from producing, sharing, or falling for misleading or false information. MIL activities foster concrete skills such as a critical attitude toward media and information sources, as captured in the five core questions suggested by the Center for Media Literacy. These skills include accessing reliable information sources, analyzing motivations behind disinformation, reflecting on information shared on social media, responsibly creating messages, and acting when people share dubious information. MIL capacities can be boosted through training, awareness campaigns, podcasts, TV shows, and radio shows. Training typically teaches the basics of media and online communication function, analyzes different types of disinformation, and enables individuals to

reflect on their encounters with these forms of communication. Awareness campaigns should tailor content to the interests and needs of the target group, such as using comic-type content for young people. Podcasts and vodcasts have become popular channels for MIL content, reaching a wide range of people and promoting resilience against misinformation.

4.5 Government policies and regulations on digital media across countries

The United States and China are two poles in the global spectrum of online content regulation. China's strict liability framework requires online platforms to monitor, filter, and remove content to comply with state laws. The definition of a harm in China is expansive, encompassing anything that may threaten national security, the Chinese Communist Party's control over the country, and even minute matters like insulting national heroes.

The United States has a long tradition of permitting speech that is prohibited by other countries, including other liberal democracies. Under US First Amendment law, most speech, including hateful and violent speech, is protected, unless the speaker is using "fighting words" or inciting "imminent lawless action" that could lead directly to violence. The American tradition of free speech has influenced some other jurisdictions, such as India, where the courts have traditionally held that in order to ban hateful and violent speech, the government must show a proximate and direct connection between the speech and the imminent violence.

The American approach to speech has strongly influenced its domestic regulatory regime toward online harms, which can be classified as a broad immunity approach. Under Section 230 of the Communications Decency Act (1996), almost all online speech is legal in the United States. However, platforms cannot be held legally liable for the hateful content, defamatory speech, and breaches of privacy posed by individuals. Therefore, platforms where such speech may be posted—including Facebook, Twitter, and other sites—cannot be held liable for third-party posts. The rise of conditional immunity in Europe and Asia raises an interesting question: to what extent is government regulation of media content desirable, and would that regulate strengthen or weaken freedom of expression? The answers vary by jurisdiction.

In India, the regulation of online content is governed by the recently-framed Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, which interpret the Information Technology Act, 2000. If an online platform does host such content, it would lose its liability shield, and could face criminal and civil charges for offending content. The Indian government works with various service providers to implement the rules, and in extreme cases, the government can block material on its own without waiting for the service providers to act.

The UK has a long history of free expression, with the country's tradition being favorable to it. However, it is currently debating the Online Safety Bill, 2021, which would grant OFCOM new powers to regulate online speech. This bill has broad definitions of harm, such as stating that any content is harmful to adults if the online platform believes that the content has a material risk of having a significant adverse physical or psychological impact on an adult of ordinary sensibilities. The bill also proposes extensive powers, which have alarmed civil society and digital rights organizations.

The European Union, on the other hand, is closer to the United States than Germany on the online regulation spectrum. In April 2021, a law was passed that requires social media platforms to remove terroristic content, but most other unlawful content is removed by these platforms on a voluntary basis. Germany and Austria are the only EU-member states with laws against hate and crime on social media platforms. France had passed its own legislation against hate and crime on social media platforms, the Avia law, but the Conseil Constitutionnel deemed it unconstitutional due to incompatibility with freedom of opinion.

Germany's Network Enforcement Act (Netzwerkdurchsetzungsgesetz or NetzDG) entered into full force on January 1, 2018, and is arguably the most ambitious attempt by a Western state to hold social media platforms responsible for combating online speech deemed illegal under domestic law. It is closer to China's model than to the rest of the European models and India's model. The law requires large social media platforms to swiftly remove what it has deemed as "illegal content," which ranges from insult of public office to threats of violence to terrorist activities.

However, the law does not provide judicial oversight or a right to appeal content that has been removed. Without judicial oversight, companies have little incentive to err on the side of free expression. Furthermore, without judicial oversight, there is no judicial remedy, including the possibility to appeal a removal decision. This means that platforms can remove content that is lawful and thus violate a person's freedom of expression without giving that person a chance to challenge the decision.

4.5.1 Role of governments in regulating hate speech and fake news on digital platforms

The recent political Tweets from Rahul Gandhi and Shashi Tharoor in India highlights the power and responsibility of social media platforms. Digital platforms have become a platform for abuse, copyright infringement, defamation, hate speech, violence, pornography, terrorism, and anti-national activities. Regulating these harmful and illegal activities is essential

for law and order, peaceful existence, and upholding constitutional values. The digital ecosystem has become increasingly platform-centric, with platforms for various goods and services. Most platforms claim to be technology providers, allowing them to escape liabilities from transactions or business carried out through them. However, as digital technology has evolved, search engines, browsers, and digital platforms have become integral internet facilitators. As a result, granting the benefit of Section 79 to these platforms needs to be strictly limited. The exemption is available only if an intermediary observes due diligence while discharging its duties under the law and follows guidelines prescribed by the Central Government.

In 2011, the Information Technology (Intermediaries guidelines) Rules were notified, requiring every intermediary platform to have a user agreement that restricts users from posting or sharing information that belongs to another person, is grossly harmful, harms minors, infringes on patents, trademarks, copyrights, violates laws, deceives or misleads, impersonates another person, contains software viruses, threatens India's unity, integrity, defense, security, or sovereignty, or insults other nations. In 2017, ISPs were asked to dynamically block and remove content related to child sexual abuse using the Internet Watch Foundation list. The government has since made special provisions imposing obligations on internet platforms, such as Metrology Package Commodity Rules and the Consumer Protection Act, 2019. In 2018, the government proposed amendments to the intermediary rules, requiring intermediaries to remove or disable access to unlawful content restricted by Article 19(2) of the Constitution without vitiating evidence.

4.5.2 Impact of digital media regulations on freedom of expression

Freedom of expression is a fundamental right that is essential for defending other freedoms and rights. It is enshrined in the Universal Declaration of Human Rights (UDHR) and the International Covenant on Civil and Political Rights (ICCPR), as well as regional conventions and charters. However, there is limited clarity on when and how freedom of expression can be legitimately circumscribed, and civil society groups have attempted to articulate specific conditions for derogation.

The Internet has revolutionized communication by lowering barriers to access and creating new spaces for publishing and peer-to-peer collaboration. However, it has also led to unintended consequences, such as states adopting arbitrary actions and standards or companies exercising private censorship with content online. South Asia, with its share of the world's largest working-age population, middle-class consumers, poor and undernourished populations, and fragile global geopolitical states, has the potential to change the global order.

South Asia has an important role in global development, but the history of colonial rule, authoritarian governments, and a turbulent geo-political landscape has resulted in a tendency to over-regulate speech. Governments have construed the advent of the Internet as a challenge to their authority, leading to often regressive and sometimes draconian laws such as Myanmar's Electronic Transactions Law, India's IT Act, and Pakistan's Prevention of Electronic Crimes Act.

As the internet expands and provides greater access, it places censorship and surveillance capacities in the hands of states and corporations. Balancing freedom of expression with other rights is further complicated by the challenges of a fast-paced and changing regulatory environment. By highlighting these challenges and questioning the application of existing frameworks, we aim to contribute to further promoting and strengthening the right to freedom of expression in India and beyond.

4.5.3 Challenges of balancing regulation with innovation in digital media

Artificial intelligence (AI) has significantly impacted various aspects of our lives, from powering search engines to predicting earthquakes and controlling autonomous vehicles. However, the rapid pace of technological change makes it difficult to define AI effectively. Existing definitions of AI include intelligent behavior, machine-based decisions, comparable with human intellect, capacity for learning, and human cognitive capacity.

The rapid pace of technological change also makes it difficult to agree on a universal definition for regulators. The European Commission defines AI as systems that display intelligent behavior by analyzing their environment and taking actions with some degree of autonomy to achieve specific goals. The U.K. Government defines AI as the use of digital technology to create systems capable of performing tasks commonly thought to require intelligence.

Russia's 2019 national strategy for artificial intelligence defines AI as a collection of technological solutions that allow one to simulate human cognitive processes and get results comparable with those of human intellect. The capacity for learning allows AI systems to solve problems and support, emulate, or even improve upon human decision-making.

Global AI regulations must consider the requirements of nations and regions that have little or no AI capabilities. Existing AI strategies have been launched in Europe, North America, and major Asian powerhouses such as China, India, Japan, and South Korea, with very little activity in Africa, Latin America, and large parts of Asia.

National regulations and culture must be considered when setting global AI regulations. Interoperability is crucial to ensure tools and applications can work across boundaries while

respecting diverging preferences. As AI-enabled technology operates across markets, it is likely to relate to many other laws, such as tax law, tort law, privacy and data protection law, IP law, competition law, health law, public procurement law, and consumer protection law.

4.6 Case study: WhatsApp and misinformation in India during the COVID-19 pandemic

Fake news is a growing global issue, causing tension, misunderstanding, and disbelief. The COVID-19 pandemic has led to a surge in online fake news, which poses a new threat to public health communication as more people rely on the internet for health-related information. The World Health Organization (WHO) states that the pandemic is accompanied by an "infodemic," or information epidemic. While true information helps mitigate the pandemic-led crisis, false information may intensify it. For example, a single medicine-related fake news claimed at least 800 lives and 5800 more had to admit to hospitals.

In India, fake news has been a living crisis for the last few years, causing discontent among people and potentially causing communal violence and public lynching. The study of fake news in the Indian context has significance and importance due to the lack of proper measures taken by responsible authorities. Effective fake news prevention initiatives, such as bills, laws, and punishments, are more frequent in countries like Canada, China, the USA, and France. However, the Indian government often shuts down the internet to control the problem.

Fake news is closely associated with rumor, misinformation, and disinformation. Rumor is unverified information that is either true or false but misleads people, misinformation is unintentional false information that emerges from knowledge gaps, and disinformation is the intentional production and dissemination of false information to deceive people.

In recent years, fake news coupling with social media has become a novel crisis, as social media turns previous passive audiences into active information-producers. Fake news usually emerges in ambiguous and threatening situations and when information is scarce and people feel a psychological need for understanding or security. As the COVID-19 pandemic creates a global crisis with uncertainty, ambiguity, and information scarcity, the prevalence of fake news in social media is expected. The COVID-19 pandemic has led to a surge in social media fake news, disrupting public health communication and inciting mass anxiety. Studies have investigated fake news propagation from behavioral, cultural, and sociolinguistic perspectives. Rovetta and Bhagavathula (2020) found that top scientific and COVID-19-related terms are "novel coronavirus," "China coronavirus," "COVID-19," "2019-nCOV," and "SARS-COV-2," along with top-five searched key terms. Laato et al. (2020) developed a research model to explore why social media users share COVID-19 fake news, finding that trust in online

information and perceived information overload are strong predictors of unverified information sharing. Pennycook et al. (2020) found that many people fail to determine the truth value of the news and share it. Erku et al. (2020) discussed three tendencies parallel to the pandemic: the growth of fake medicines, fake news, and fake prescriptions. Some studies suggest that the ongoing fake news pandemic may gradually fade away with time. Casero-Ripolles (2020) found that people are actively consuming information that rises from 60% during the pre-COVID-19-era to 92% during the pandemic. Cinelli et al. (2020) analyzed data from five social media platforms to explore the patterns of COVID-19 information diffusion, finding that Gab is more susceptible to it. Some researchers offer solutions to the COVID-19-related fake news crisis, such as distributing reliable information from pharmacists, preparing myth busters, fact-checkers, and credible information sources, and addressing the fake news problem from the perspective of Crime Science.

Fake news typologies and theme analysis are common in previous literature, with ten identified types: news satire, news parody, fabrication, manipulation, propaganda, and advertising. Two studies propose typologies connecting fake news, rumor, misinformation, and disinformation, while others explore thematic themes such as nationalism, hate, celebrity gossip, and fear. However, previous studies have limitations, such as not considering COVID-19-related topics, not being related to social media, and not being inclusive enough to consider diverse fake news themes. Future research should focus on these issues to better understand and address fake news.

Let us Sum up

This unit explored the relationship between digital media and global communication challenges, focusing on global data privacy, fake news, fact-checking initiatives, government policies, and case studies. It examined GDPR and CCPA frameworks, analyzing their implications for businesses and users. It also discusses the impact of fake news on public trust and democracy, the role of fact-checking organizations, and the role of media literacy programs in combating misinformation. The case study of WhatsApp's role in India during the COVID-19 pandemic provides valuable lessons for global applications.

Check your Progress

Short Answer Questions

Question	CO	PO	K
Define data privacy.	CO4	PO2	K1
What is misinformation?	CO4	PO3	K1
Define disinformation.	CO4	PO3	K1
Explain fact-checking initiatives.	CO4	PO3	K2
What is GDPR?	CO4	PO2	K1

Essay Questions

Question	CO	PO	K
Discuss the global concerns related to data privacy in digital media.	CO4	PO2	K3
Analyze the spread of misinformation through social media platforms.	CO4	PO3	K4
Explain international initiatives for combating fake news.	CO4	PO2	K3
Examine government regulations on digital media platforms.	CO4	PO2	K4
Evaluate the impact of misinformation on democratic societies.	CO4	PO5	K5

Suggested Readings

Banaji, S., & Bhat, R. (2021). ***Social Media and Hate*** **(1st ed.). Routledge. https://doi.org/10.4324/9781003083078**

Bollinger, L. C., & Stone, G. R. (Eds.). (2022). ***Social media, freedom of speech, and the future of our democracy*****. Oxford University Press.**

boyd, danah. (2014). ***It's complicated: The social lives of networked teens*****. Yale University Press.**

Çoban, B. (Ed.). (2016). ***Social media and social movements: The transformation of communication patterns*****. Lexington Books.**

Crick, N. (Ed.). (2021). ***The rhetoric of social movements: Networks, power, and new media*****. Routledge, Taylor & Francis Group.**

Dijck, J. van. (2013). ***The culture of connectivity: A critical history of social media*****. Oxford University Press.**

Unit V

Emerging Technologies and Future of Global Media

Overview

Learning Objectives

1.1 Introduction

1.2 Artificial Intelligence and automation in journalism: global adoption trends

1.2.1 Evolution of AI in news gathering and production

1.2.2 Automated journalism: Benefits and ethical challenges

1.2.3 AI-driven personalization in media consumption

1.3 Virtual and Augmented Reality applications in media worldwide –

1.3.1 Overview of VR and AR technologies in storytelling

1.3.2 Immersive journalism: Enhancing audience engagement through VR/AR

1.3.3 Challenges of implementing VR/AR in global media production

1.4 Podcasting and audio content consumption: regional variations –

1.4.1 The rise of podcasting: Global growth and regional patterns

1.4.2 Cultural preferences influencing audio content trends

1.4.3 Role of local languages and vernacular content in audio media

1.5 Blockchain and its potential impact on the global media industry –

1.5.1 Understanding blockchain technology and its relevance to media

1.5.2 Applications of blockchain in copyright protection and content monetization

1.5.3 Decentralized platforms: Redefining content ownership and distribution

1.6 Case study: AI in Indian vernacular news production challenges and opportunities

Let us Sum up

Check your Progress

Suggested Readings

Video Links

Overview

This Unit explores emerging technologies in global media, including AI in journalism, VR/AR for immersive storytelling, podcasting trends, blockchain for transparent royalty distribution, and AI in Indian vernacular news. It also discusses regional variations in podcast consumption and the potential of blockchain for piracy prevention.

Learning Objectives

After completing the lesson the student will be able to

- Understand the role of AI in news gathering, production, and distribution.
- Evaluate the benefits and ethical challenges of automated journalism.
- Identify the challenges of implementing VR/AR in media production globally.
- Analyze the role of vernacular languages in the podcasting landscape.
- Understand the significance of AI in enhancing vernacular journalism in India.

5.1 Introduction

The media and entertainment industry is undergoing a transformation due to the advent of virtual and augmented worlds of groundbreaking technologies. AI, Gen AI, and AR are at the forefront of this revolution, reshaping how content is created, distributed, and experienced. AI and Gen AI are revolutionizing content personalization and creation, enabling platforms to deliver tailored experiences and assist in creating new, innovative content. Examples include Spotify's use of AI for music recommendations and Snapchat's AR filters.

Miquido's projects demonstrate this technological embrace, such as their music app development project, where AI was harnessed to create immersive audio experiences and global audience reach. As 2024 approaches, media companies are witnessing a significant shift in consumer behaviour, with preferences increasingly leaning towards personalised, on-demand content. Key trends include personalisation and on-demand content, surge in streaming service subscriptions, interactive and engaging media experiences, and the rise of multi-platform consumption.

These shifts in consumer behaviour are not just redefining the media and entertainment industry but setting the stage for a new era of digital consumption, where personalization, interactivity, and multi-platform accessibility are key. As the digital era continues to evolve, it is essential for companies to adapt and leverage these emerging technologies to drive innovation and user engagement.

5.2 Artificial Intelligence and automation in journalism: global adoption trends

The effects of AI on the news industry and the public arena remain poorly understood, with

little attention given to the implications of the news industry's dependence on technology companies for AI. This report examines the use of AI across editorial, commercial, and technological domains, focusing on the structural implications of AI in news organizations for the public arena.

AI's potential to increase efficiency in news organizations is a central motivator for its adoption. Various examples demonstrate that efficiency and productivity gains have been achieved, including dynamic paywalls, automated transcription, and data analysis tools in news production. However, these efficiency gains are task- and context-dependent, and potential efficiency gains can be curtailed by factors such as the unreliability of AI outputs, concerns about reputational damage resulting from inaccurate AI outputs, and the difficulty of automating certain tasks.

Publishers turn to platform companies' AI offerings due to the costs and challenges associated with independent development, including the need for extensive computing power, competition for tech talent, and the scarcity of large datasets. The convenience, scalability, and cost-effectiveness of platform offerings make them attractive, allowing publishers to leverage AI capabilities without the financial burden of in-house development.

The adoption of "platform AI" is largely viewed as a pragmatic choice driven by economic challenges and the competitive landscape for tech talent. The complexity of AI increases platform companies' control over news organizations, creating lock-in effects that risk keeping news organizations tethered to technology companies. This limits news organizations' autonomy and renders them vulnerable to price hikes or shifting priorities of technology companies that may not align with their own. The lack of transparency in AI systems raises worries about biases or errors creeping into journalistic output, especially as generative AI models gain prominence. There is also a risk that the use of AI undercuts journalists' autonomy by limiting their discretionary decision-making abilities.

AI's effects on the news and the public arena will largely be determined by the decisions news organizations and managers make about when, where, and how the technology is used. The increasing use of AI will likely reinforce existing inequalities among news organizations, with well-resourced, international publishers getting a head start. On a macro level, news organizations are a vital component of the public arena, acting as gatekeepers for the common attention space most of us inhabit. The adoption of AI is shifting news work and the public arena further toward the technical and logic of platform companies, prioritizing greater rationalization and calculability in journalistic work.

5.2.1 Evolution of AI in news gathering and production

The global media landscape is undergoing a transformation due to the rapid adoption of Artificial Intelligence (AI) technologies in the media and journalism industry. AI has the potential to improve newsroom efficiency, expand coverage reach, and create interactive and personalized news narratives. However, it also raises critical questions about accuracy, bias, transparency, and the future of journalistic work in the AI era.

The pre-Generative AI era focused on automation tasks such as data analysis and simple news writing. However, the emergence of Generative AI like ChatGPT has opened up broader possibilities, with chatbots openly reporting the use of AI in systematic production of news material. This shift has significant implications for journalism education and practice, as journalists will always need to understand their own feelings and those of others to connect with people on an emotional level.

Adopting AI in journalism is no longer a futuristic speculation but an ongoing reality. Leading news organizations like the Associated Press, Reuters, and The Washington Post have integrated AI systems into their operations for various purposes, including automated news writing, comment moderation, and content personalization. AI-powered social media platforms and news aggregators have become the primary source of information for many consumers, further changing news distribution and consumption dynamics.

Despite the opportunities offered by AI, there are complex challenges and risks, including concerns about job displacement, reinforcement of existing biases, threats to data privacy, and sophisticated manipulation of information. There is an urgent need for a comprehensive and evidence-based understanding of AI's impact on journalism and the broader media ecosystem.

AI's roots in journalism can be traced back to the beginning of newsroom computerization in the 1960s and 1970s. Recent developments in Generative AI, such as large language models and audio-visual deepfake technology, have opened new dimensions of possibilities and challenges, enabling new forms of investigative journalism and data-driven reporting.

5.2.2 Automated journalism: Benefits and ethical challenges

Automated news emerged almost half a century ago from weather forecasting, using software to generate "worded weather forecasts" based on weather models. This technology could free up journalists and allow them to focus on more important work. Financial news, where speed is a key value proposition, has also seen automation in newsrooms. Companies like Thomson Reuters and Bloomberg extract key figures from press releases and insert them into pre-written templates to automatically create news alerts for their clients.

In recent years, automated journalism has found its way into newsrooms to address other types of problems, often in the form of custom-made, in-house solutions. For example, the Los Angeles Times automated homicide and earthquake reporting, demonstrating how simple in-house solutions can increase news coverage speed and breadth.

Many newsrooms lack the necessary resources and skills to develop automated journalism solutions in-house. Media organizations have started collaborating with companies that specialize in developing natural language generation technology to automate stories from data for various domains. For example, Forbes.com used Narrative Science's Quill platform to automatically create company earnings previews, ProPublica used the same technology to generate descriptions for over 52,000 schools, and the Associated Press began automating its quarterly company earnings reports using Automated Insights' Wordsmith platform. Automated news emerged almost half a century ago from weather forecasting, using software to generate "worded weather forecasts" based on weather models. This technology could free up journalists and allow them to focus on more important work. Financial news, where speed is a key value proposition, has also seen automation in newsrooms. Companies like Thomson Reuters and Bloomberg extract key figures from press releases and insert them into pre-written templates to automatically create news alerts for their clients.

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5.2.3 AI-driven personalization in media consumption

In today's digital landscape, marketing strategies are evolving to meet the demands of an increasingly personalized consumer experience. Personalization is the process of tailoring

marketing messages and offers to the specific needs, preferences, and behaviors of individual customers. It can help marketers increase customer loyalty, engagement, conversion, and retention. However, personalization can be challenging due to the collection and analysis of large amounts of data, creating relevant and timely content, and delivering it across multiple channels.

AI-driven personalization marketing has gained significant traction as it helps marketers improve customer experience, increase revenue, reduce churn, and gain data-driven insights. Benefits of AI-driven personalization include increased revenue, reduced churn, and valuable insights into customer behavior, preferences, and feedback. However, careful planning, execution, and evaluation are required for marketers.

Future trends in AI-driven marketing personalization include hyper-personalization, predictive analytics, content creation and curation, chatbots and conversational AI, sentiment analysis, image and voice recognition, programmatic advertising, and omnichannel marketing. Hyper-personalization will enable marketers to create highly personalized experiences by utilizing data-driven insights into individual preferences and behavior patterns. Predictive analytics will help marketers anticipate customer needs, wants, and actions by analyzing past and present data and generating predictive models. Content creation and curation will use natural language generation, image and video generation, and content optimization techniques to produce and distribute content that matches the customer's intent, context, and preferences.

Sentiment analysis will help marketers understand and measure the emotional states and attitudes of their customers by analyzing their online reviews, social media posts, feedback, and interactions. Image and voice recognition will help marketers recognize and identify customers' faces and voices using biometric sensors, facial recognition, and voice recognition technologies. Programmatic advertising will automate and optimize online advertising campaigns by using real-time data and algorithms to target, bid, and place ads across various platforms and channels. Omnichannel marketing will help marketers deliver consistent and seamless customer experiences across multiple devices, platforms, and channels.

AI-powered personalization raises ethical considerations that marketers need to address. Privacy is a risk, as it relies on collecting and analyzing large amounts of customer data. Marketers must respect customer privacy by obtaining explicit and informed consent, using data only for legitimate and transparent purposes, protecting data from unauthorized access or misuse, and complying with relevant data protection laws and regulations.

5.3 Virtual and Augmented Reality applications in media worldwide

The 2017 Global Entertainment and Media outlook forecast revealed that virtual reality (VR) is the fastest-growing segment in the entertainment and media space, with projections of 68 million VR headsets being used in the U.S. within three years, increasing VR content revenue to $5.0 billion. This growth highlights the interest of the industry in adopting immersive VR experiences to deliver engaging content. However, the credibility of journalism is questionable due to the widespread use of social media and fake news.

Virtual reality is now used by the news industry to regain credibility by putting viewers at the center of events, making them feel like they are directly participating in the event. However, challenges for journalists include maintaining unbiased opinions and presenting the opinions of all parties involved. Additionally, ethical issues arise, such as the appropriateness of virtualizing scenes of gore or death in a violent world.

Augmented Reality (AR) offers opportunities for the news industry, as it can be used for content delivery beyond VR. AR technology can be used to augment various aspects of the environment and experience, creating engaging and convincing content. While some may perceive AR and VR as isolating individuals from the real world, this perception is not accurate. Virtual movie theatres allow people to interact with a virtual audience and chat before the movie begins, demonstrating that VR is not isolating but connecting individuals from distant locations and allowing them to share experiences.

The future of the news industry is promising, as AR and VR will allow audiences to be drawn deeper into the news content and experience the story as a first-person experience. Consumers' increased demand for live, immersive, shareable experiences is driving the adoption of innovative technology in the media and entertainment sector. The potential of virtual reality is powerful and can raise empathy for events occurring in distant corners of the world. The media and entertainment industry must rethink their current system around AR and VR to address these challenges and improve their credibility in the digital world.

5.3.1 Overview of VR and AR technologies in storytelling

Storytelling has evolved through various forms, including oral traditions, art, text, images, cinema, and multimedia formats. As we move into a world of immersive technologies, virtual and augmented reality will transform storytelling, allowing participants to become characters and the story to happen to them. This creative opportunity is no longer bound by traditional media frames. The exploration and experimentation with immersive environments is nascent, with new terms like "storyliving" and "storyscapes" proposed. Stories using 360-degree video and virtual reality are captured using 360-degree cameras and computer-generated VR worlds developed in game engines like Unity and Unreal. The sense of presence in VR transforms the

storytelling experience, encouraging participants to act and respond to events they encounter. This is evident in the work of virtual reality pioneer Nonny de la Peña at USC, who created groundbreaking experiences like Hunger in Los Angeles and Across the Line.

Immersive journalism and storytelling initiatives are gaining traction at various universities. At the University of California, Berkeley, two students used 360-degree video to explore the refugee crisis in Europe, focusing on the lives and challenges immigrants face in Germany. The project, The Wait, uses text, animation, interviews, and 360-degree video to convey the individuality of human stories. John Hopkins University opened a new Immersive Storytelling & Emerging Technologies (ISET) concentration in its Film and Media Master of Arts program, focusing on using virtual and augmented reality and artificial intelligence to create new forms of cinematic storytelling for the digital era. The New School in New York City offers a minor in immersive storytelling, allowing students to explore experiential and immersive storytelling in virtual, augmented, and mixed reality. The Eugene Lang College of Liberal Arts is exploring media history and theory, while The New School opened the XReality Center to advance the study and design of emerging technologies in virtual, augmented, and mixed realities. The Mobile Virtual Reality Lab is a community-based initiative focused on creating digital story opportunities for South Florida communities, highlighting the effects of rising sea levels. Shakespeare's Hamlet is being adapted in virtual reality at the New York University Tandon School of Engineering. The adaptation, led by Javier Molina, is one of the first live theater performances in a multiuser virtual environment. The audience can participate remotely through HTC VIVE headsets, with motion-capture tracking the actors' movements and iKinema's LiveAction platform producing realistic digital characters. The immersive storytelling concept is a new medium, with no roadmap, tools, or templates for new storyforms. Higher education can provide the space for this creative process, demonstrating the need for an interdisciplinary approach. The projects demonstrate the need for subject experts, engineers, artists, and media specialists to continue the tradition of storytelling and equip students with the skills to tell their own stories and solve future problems.

5.3.2 Immersive journalism: Enhancing audience engagement through VR/AR

The emergence of video games has led to a shift towards interactive storytelling, allowing players to control and modify the narrative progression. This has expanded the paradigm of storytelling, making it more engaging and individualized. However, there are challenges in storytelling in Augmented Reality (AR) and Virtual Reality (VR). The immersive nature of AR/VR presents unique challenges, as it requires a fluid approach that balances user autonomy with a captivating storyline.

Technical constraints in graphics, processing power, and accessibility also impact AR/VR animation. Storytellers must navigate these constraints to ensure visually immersive experiences across devices and continuous adaptation to evolving technologies. Opportunities in AR/VR storytelling include the opportunity to create profound senses of presence and agency by incorporating interactive components and authentic settings. Spatial storytelling allows developers to use physical space as a canvas for communication, providing a level of immersion unattainable in conventional media.

Character interaction is crucial in AR/VR storytelling, as it allows users to forge deeper emotional bonds and experience a heightened sense of immersion. Narrative design tools play a pivotal role in crafting immersive stories for AR/VR, enabling storytellers to structure branching narratives and create dynamic, user-driven experiences.

Future trends in AR/VR storytelling will be shaped by new technologies like AI, haptic feedback, and advanced models. A multidisciplinary approach helps create virtual worlds where interesting stories and cutting-edge technologies work together smoothly, pushing the limits of what is possible in immersive storytelling.

5.3.3 Challenges of implementing VR/AR in global media production

Augmented Reality (AR) and Virtual Reality (VR) are emerging technologies that have revolutionized various industries by providing immersive experiences, interactive interfaces, and advanced training environments. AR enhances the real world by overlaying digital information on top of the physical environment, making it more interactive and informative. VR creates an immersive digital world that replaces the natural world around you, allowing you to experience an entirely computer-generated environment.

AR is built on combining digital and physical elements seamlessly, using transparent displays, spatial mapping, sensors, and markers to overlay interactive images and information in the real world. Popular uses for AR include overlaying directions or explanations on top of real objects, visualizing how furniture might look in your room, and seeing videos of celebrity appearances in your living room.

Virtual reality (VR) replaces your entire field of view with an immersive digital world, using headsets or stereoscopic displays to immerse you in the VR experience. As you move your head or body, the visuals adapt and shift accordingly, as if you have been transported elsewhere. VR allows you to explore digital worlds, watch 3D movies, play immersive games, experience extreme sports, and more from the comfort of your surroundings.

Both AR and VR present opportunities and risks that companies must consider before widespread implementation. AR can enhance experiences but also increase distractions and

impair perceptions of the real world. VR provides transportive experiences, but excessive use could lead to addiction, isolation, and health impacts. Balancing the benefits of immersion with real-world connections is essential.

As AR and VR continue to advance, they are set to reshape society and business fundamentally. They enable new forms of work, collaboration, education, therapy, worship, storytelling, travel, and community building. However, they also introduce risks of distraction, impaired real-world functioning, addiction, and unrealistic expectations that must be considered.

Balancing the immersiveness of virtual experiences with connections to physical reality is crucial. AR and VR should augment and enhance real-world living rather than replace it altogether. When aligned with human values and well-being, these technologies can transform the world in promising new ways without dystopian consequences.

5.4 Podcasting and audio content consumption: regional variations

The shift from traditional radio broadcasting to podcasts has significantly changed audio media consumption, reflecting technological advancements and listener preferences. Podcasts have emerged as a formidable challenge to traditional radio, particularly in Canada, where the audio media is segmented into talk radio, music radio, and podcasts. Radio Canada has adapted by offering podcasts that never air on traditional radio channels, attracting new listeners who previously may not have engaged with Radio Canada.

Global podcasting has gained significant traction by building dedicated listener communities and encouraging the formation of companies focused on podcast production. This rise is not just confined to English-speaking countries but is a global phenomenon, with varying degrees of market maturity across different regions.

Monetization challenges for global podcasting include the well-established revenue model through advertising, which traditional radio stations have a well-established system through. Accessibility and production differences make podcasts an accessible medium for many creators, contributing significantly to the volume of content and diversity of podcast topics compared to traditional radio. Podcasts often offer a more intimate and personalized listening experience, which resonates well with today's audience, who seek deeper engagement with content.

Video podcasts are a new dimension for global podcasting, blending visual elements with traditional podcast narratives. As platforms like YouTube prioritize video content, podcasters increasingly adopt this format to captivate a broader audience. Potential challenges for

traditional radio include the different nature of content consumption, which requires viewers' visual attention, which differs from radio's audio-centric nature, allowing for multitasking.

Content creators play a crucial role in shaping media consumption, with the decision to incorporate video into podcasts hingeing on the availability of resources, strategic choices about content delivery, and platform dependence. Building engaging communities through global podcasting that convert involves personal connection, regular engagement with listeners, and leveraging platforms for visibility.

Despite its traditional roots, radio continues to adapt to the changing media landscape, but podcasts' personalization and direct engagement often surpass radio's reach, especially among younger audiences who prefer on-demand and niche content. Effective community building involves sharing experiences and values in a natural and mutually beneficial way, and long-term relationships over short-term gains.

Podcasting trends show remarkable similarities across different countries, particularly in the initial stages of market development. However, a common challenge across all regions is the difficulty in monetizing podcasts, with about 80% of creators struggling to find sustainable funding models.

5.4.1 The rise of podcasting: Global growth and regional patterns

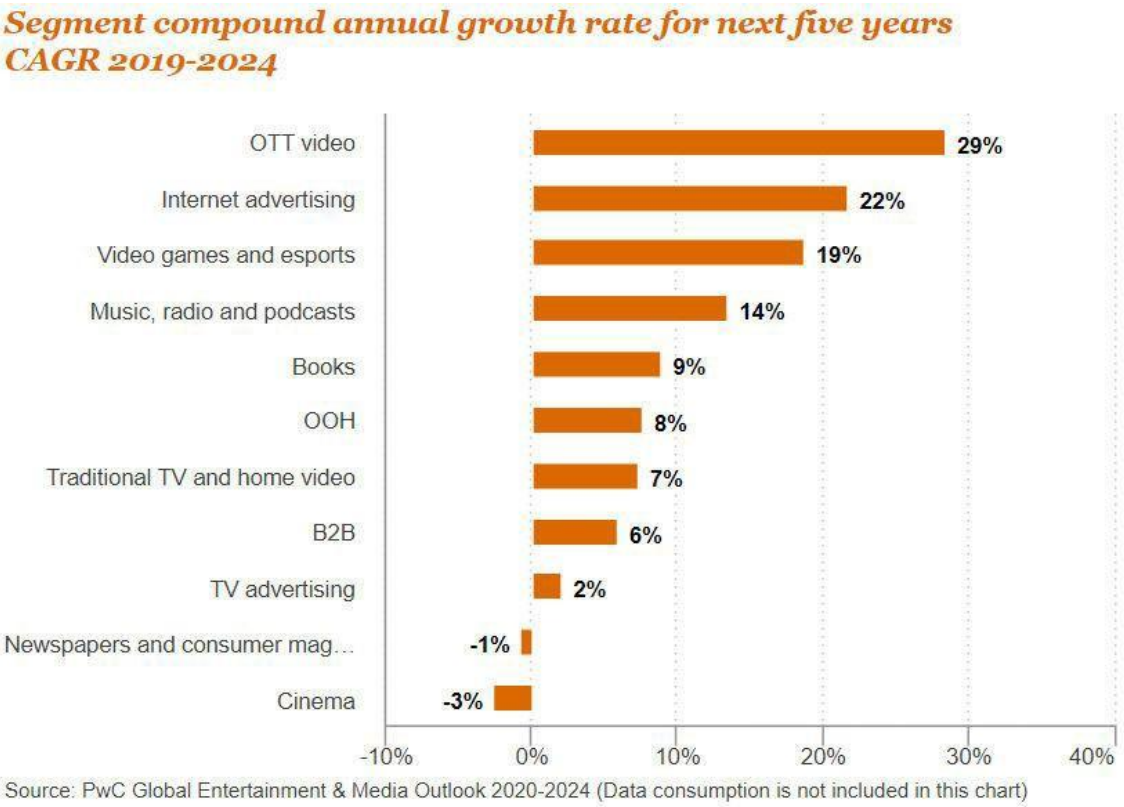
Podcasting has become a popular medium for Indians, with the country being the third-largest podcast listening market globally. With an average age of 20-21 years, India's podcast audience is predominantly young, with Gen Z being the largest cohort. The industry is also attracting older listeners, who make up a larger segment in mature markets like the US and Europe.

Consumption patterns in podcasts have not changed much over time, but the format has evolved. The two content segments that are currently working in India are entertainment and self-improvement. In India, oral storytelling has been a long-standing tradition, with serialized fiction in magazines being popular. Self-improvement topics include motivation, inspiration, meditation, spirituality, and management insights. Podcasts are also being used to learn, as social media and short video apps have reduced attention spans.

Monetisation models for podcasts are evolving, with platforms like Spotify offering freemium models and paid podcast services. Ad-based monetisation is still prevalent in the US and European markets, but it is yet to gain traction in India. Spotify also launched a paid podcast service, similar to Patreon for newsletters, allowing creators to charge subscribers. Micro payments are another option for creators.

Branded content within podcasts can become a powerful ad unit, as the content is typically

created fresh and the audience is more actively engaged. The future of podcasting will see increased programming in regional languages, as Indians consume entertainment in their mother tongue. Anchor, Spotify's podcasting tool, now allows people to create podcasts in at least 13 Indian languages, and this number is growing. Audio search has also become the default way for people to find information, with podcasting potentially becoming the default way to search in the coming years.



Source: PwC Global Entertainment & Media Outlook 2020-2024 (Data consumption is not included in this chart)

5.4.2 Cultural preferences influencing audio content trends

Podcasting has become a popular medium among Indians, with the country being the third-largest podcast listening market globally, according to a PwC report. With 57.6 monthly listeners, India is the third-largest podcast market globally, after China and the US. The audience is young, with Gen Z being the largest cohort. The average age of podcast listeners in India is around 20-21 years, with older listeners making up a larger segment in mature markets like the US and Europe.

Consumption patterns in India have remained consistent, with the format of podcasts focusing on entertainment and self-improvement. The country's oral storytelling tradition has been present since the 1950s, with serialized fiction in magazines and daily soaps. The growing exposure to global entertainment and evolving social environments has led to changes in consumer preferences, with the Indian audience preferring fiction, such as crime thrillers and

romance.

Self-improvement content on podcasts can range from motivation and spirituality to management insights and interviews with global CEOs. With social media and short video apps taking over, podcasts are becoming a popular tool for learning, as they allow people to make time for deep listening, thinking, and absorbing.

The podcasting industry is currently in the phase of building an engaged listenership, with monetization models evolving. Platforms like Spotify offer a freemium model for subscribers to listen to music and podcasts with advertisement breaks or pay a subscription fee without advertisements. Ad-based monetisation is prevalent in the US and European markets, but it has not gained traction in India. Spotify also launched a paid podcast service, similar to Patreon, where creators can charge subscribers and receive micro payments.

Brand-led monetisation in podcasts is becoming increasingly popular, as content is typically created fresh and the audience is more actively engaged. The future of podcasting is democratising content, as anyone can start a podcast, express themselves, and gain listenership all for free. Increased programming in regional languages is also happening, with people creating podcasts in at least 13 Indian languages on Spotify's podcasting tool, Anchor.

Personalization is no longer just an option in advertising; it's a necessity. With 65% of consumers valuing their individuality and almost half agreeing they enjoy being unique, advertisers must use advanced data to deliver 3X impact on purchase intent and skyrocket brand favorability when paired with customized ads.

The mainstream is dissolving, with 42% of the U.S. population identifying as Black, Hispanic, Asian, or other races. Individuals place more value on subcultures grounded in nuance and authenticity than broadening appeal to fit a mold. Digital media makes it easier to identify and engage with these subcultures and sub-communities, while leveraging targeting solutions and dynamic ads to make personalization more efficient and effective.

5.4.3 Role of local languages and vernacular content in audio media

As live shows and other in-person experiences took a pause in 2020, immersive virtual experiences helped millennials and Gen Zs find new ways to explore and connect. In fact, 73% of American millennials feel that audio is the most immersive form of media. Brands that connect with audiences in these spaces should focus on ads that enhance the listening experience, such as 3D audio, which mimics how sounds move and how people hear them in real life. 56% of Gen Z gamers agree that audio can make or break the experience of a game.

69% of Gen Zs feel more centered and generally happier when listening to their favorite music on a daily basis. Audio is a welcome escape from unhealthy tech habits, especially during

the pandemic, as it helps them achieve balance in their tech habits. A more holistic platter of audio content now enriches the lives of millennials and Gen Zs, helping them to achieve balance in their tech habits. Millennials find comfort in nostalgic playlists that deliver the best of decades past, while Gen Zs seek to soothe the effects of digital oversaturation with diverse content like positive-thinking podcasts, ambient sounds, and even the sound of silence.

Symbiotic creation between musicians, podcasters, audiences, and brands is changing the sound of culture from the inside out. Advertisers can create meaningful connections with millennials and Gen Zs by treating them as more than just consumers and giving them a chance to be part of the creative process. Spotify offers advanced targeting options that go beyond age, gender, and location to help advertisers resonate with listeners based on their interests, listening behaviors, and off-platform behavior.

Building campaigns for collaboration is essential for brands to foster connections with Gen Zs by including them in the creative process. For example, Calvin Klein drove Zs to a digital experience to ask, “What do you hope for?” Once they answered with their specific dream for the future, they could then add one song to a collaborative playlist for that specific hope.

5.5 Blockchain and its potential impact on the global media industry

The global entertainment and media industry, worth $2.1 trillion, faces numerous risks related to content distribution, rights management, and royalty payments. Illegal streaming and downloading of content have resulted in multi-billion-dollar revenue losses, with copyright piracy expected to cost the industry around $51.6 billion in 2022. Blockchain technology can help address these issues by connecting consumers, artists, and all stakeholders in the industry, providing transparency over the distribution process.

Blockchain provides a network where every digital music is cryptographically encrypted to ensure access only to paid customers. Payment mechanisms for accessing the content are controlled by a smart contract, eliminating the need for a centralized authority. All transactions in the blockchain network are recorded and immutable, making the process completely transparent and accessible to all stakeholders. This prevents illegal copying of digital music files and preserves copyrights for creators.

The cryptographic feature of blockchain technology enables creators to be tied to their content to avoid plagiarism. A digital music file on a blockchain network contains the owner's information and the time stamp, which are immutable and traceable. Copyright transfers are easily managed and traced with blockchain as all transactions are recorded and cannot be tampered with. Smart contracts can then control all the distribution and payment to the concerned parties.

Blockchain technology provides owners of intellectual property (IP) with tools to better monitor and protect their work. Preventing plagiarism of any previously copyrighted content is just one of the many applications the blockchain technology has to offer. Blockchain for businesses will reduce the enterprises' dependency on multiple security tools and has the potential to create high levels of trust for any transactions, enabling leaders to focus on better marketing strategies.

Blockchain for the media & entertainment industry can mitigate existing challenges through asset management security, new revenue streams, fan connections, television, film distribution, and music. Blockchain applications like smart contracts, NFTs, and micropayments can be the apt solution that this industry needs.

Unique features of blockchain include immutability, security, transparency, resistance, and invulnerability. The open and decentralised nature of the public Ethereum platform will allow actors in the entertainment industry to reap the benefits of blockchain, such as decreased IP infringement, disintermediated content from industry intermediaries, direct monetisation of all copywritten assets through smart contracts and p2p micropayments, and reduced digital piracy, fraudulent copies, infringed studio IP, and duplication of digital items. Blockchain technology has the potential to revolutionize the media and entertainment industry by reducing IP infringement, disintermediating content from industry intermediaries, and monetizing copywritten assets through smart contracts and p2p micropayments. Enterprise Ethereum allows artists and creators to digitize metadata of their unique content, managing and storing IP rights on a time-stamped, immutable ledger. This append-only structure makes it easier for creators to legally enforce their rights once infringement occurs.

Blockchain also brings disintermediation to the industry, as artists only take home about 12 percent of the industry's total spending. On-demand streaming services like YouTube, Spotify, Apple Music, and Soundcloud act as intermediaries, along with recorded music companies, publishers, managers, and distributors.

Blockchain technology can enable peer-to-peer sales and content distribution, streamline royalty payments, and create new pricing options for paid content. Artists can automate business administration work surrounding licensing, contracts, and payments, allowing them to sell their work directly to consumers without costly intermediaries.

Blockchain technology can also create new pricing options for paid content, as customers pay content aggregators to access streaming services like YouTube, Hulu, Tidal, Amazon Prime, and Netflix. By logging an intricate record of media usage data, blockchain technology enables efficient micropayment pricing models.

5.5.1 Understanding blockchain technology and its relevance to media

Blockchain technology is an advanced database mechanism that allows transparent information sharing within a business network. It stores data in blocks linked together in a chain, creating an unalterable or immutable ledger for tracking orders, payments, accounts, and other transactions. The system has built-in mechanisms that prevent unauthorized transaction entries and create consistency in the shared view of these transactions.

Blockchain technology is important because traditional database technologies present several challenges for recording financial transactions. For example, in the sale of property, both the buyer and seller can record the monetary transactions, but neither source can be trusted. To avoid potential legal issues, a trusted third party must supervise and validate transactions. If the central database was compromised, both parties could suffer.

Blockchain mitigates these issues by creating a decentralized, tamper-proof system to record transactions. In the property transaction scenario, blockchain creates one ledger each for the buyer and the seller, with all transactions must be approved by both parties and are automatically updated in both their ledgers in real time. Any corruption in historical transactions will corrupt the entire ledger. These properties of blockchain technology have led to its use in various sectors, including the creation of digital currency like Bitcoin.

Blockchain is being adopted in innovative ways by various industries, such as energy, finance, media and entertainment, and retail. Energy companies use blockchain technology to create peer-to-peer energy trading platforms and streamline access to renewable energy. Financial systems, like banks and stock exchanges, use blockchain services to manage online payments, accounts, and market trading. Media and entertainment companies use blockchain systems to manage copyright data, while retail companies use blockchain to track the movement of goods between suppliers and buyers.

The key components of blockchain architecture include a distributed ledger, smart contracts, and public key cryptography. A distributed ledger stores transactions in a shared file that everyone in the team can edit, while smart contracts self-manage business contracts without the need for an assisting third party. Public key cryptography generates two sets of keys for network members, with one common to everyone and another unique to every member. Blockchain works by recording transactions, which show the movement of physical or digital assets from one party to another in the blockchain network.

5.5.2 Applications of blockchain in copyright protection and content monetization

Blockchain is a decentralized system that enables the movement of physical or digital assets

between parties in a network. It works by recording transactions, gaining consensus, linking blocks, and sharing the ledger. The process involves recording transactions as data blocks, gaining consensus, and linking blocks together. Each block strengthens the verification of the previous block, preventing data tampering.

There are four main types of blockchain networks: public, private, hybrid, and consortium. Public blockchains are permissionless, allowing everyone to join, while private blockchains are managed by a single organization. Hybrid blockchains combine elements from both private and public networks, allowing companies to control access to specific data while keeping the rest public. Consortium blockchain networks are governed by a group of organizations, allowing them to maintain the blockchain and determine data access rights.

Blockchain protocols are different types of blockchain platforms that adapt the basic principles to suit specific industries or applications. Examples of blockchain protocols include the Global Shipping Business Network Consortium, which aims to digitize the shipping industry and increase collaboration between maritime industry operators.

Hyperledger Fabric is an open-source project that enables enterprises to build private blockchain applications quickly and effectively. It offers unique identity management and access control features, making it suitable for various applications such as supply chain tracking, trade finance, loyalty, and financial asset clearing. Ethereum is a decentralized open-source blockchain platform designed for business use cases. Corda is an open-source blockchain project designed for businesses, offering interoperable networks with strict privacy and smart contract technology. Quorum is an open-source protocol derived from Ethereum, designed for private or consortium networks. Blockchain technology has evolved over three generations: first generation, Bitcoin and other virtual currencies, second generation, and the future. Benefits of blockchain technology include advanced security, improved efficiency, and faster auditing. Blockchain systems use cryptography, decentralization, and consensus to create a highly secure software system, eliminating the risk of tampering. It also improves efficiency in business transactions, making them faster and more efficient.

5.5.3 Decentralized platforms: Redefining content ownership and distribution

Decentralized social media platforms, such as Odysee, Steemit, Threads, and Mastodon, are emerging as a potential solution to the data-sharing scandals that plague social media platforms. These networks act as independent hubs within the blockchain ecosystem, allowing users to send messages from various platforms without restriction. This lack of a single server and the blockchain's ability to store data anywhere provides users with greater security about their

private information. Examples of decentralized social networks include Odysee, Steemit, Threads, and Mastodon. Advantages of these networks include avoiding censorship, users owning their data, increased privacy and anonymity, user content ownership, user rewards and incentives, and transparency. However, traditional social media faces challenges such as centralizedization and the need for a more transparent and accountable platform.

5.6 Case study: AI in Indian vernacular news production challenges and opportunities

Austria's Russmedia has launched an AI Future Team to support the widespread adoption of AI. The team uses surveys, tools, and testing to understand employee expectations, hopes, and concerns around AI. They identify essential AI tools, test them, and develop custom in-house solutions, including GPT models, to streamline workflows and enhance content production. Education is crucial in effectively integrating AI into the workplace, and the AI Future Team organized over 70 workshops and created prompt catalogues to help employees familiarize themselves with AI tools.

Kölner Stadt-Anzeiger (KStA) has successfully transitioned to an AI-driven, fully personalized front-page experience. The company has introduced an AI-powered recommendation service, which increased click-through rates (CTR) by 80% and boosted the number of fully read articles by 13%. Currently, 80% of KStA's front page is curated by AI, with the remaining 20% managed by the editorial team. The goal is to fully automate the front page, eliminating the remaining 20% of editorial curation. Robert Zilz, head of data, advises companies not to aim too high too soon, stressing the importance of understanding data and investing in AI-ready infrastructure before diving deep into AI technologies. He also encourages using "plain AI" where possible and cautions against overreliance on generative AI alone.

Let us Sum up

The lesson focused on how emerging technologies are transforming global media by improving accessibility, interactivity, and efficiency. AI and automation in journalism are integrated into newsrooms to enhance efficiency and reach diverse audiences. Virtual and Augmented Reality (VR/AR) applications offer immersive storytelling experiences, but face challenges like ethical concerns and job losses. Podcasting and audio content consumption are also gaining popularity, with regional variations. Blockchain can combat piracy and ensure fair compensation for creators, but faces challenges like limited technical understanding and infrastructure needs. AI tools are enabling localized news in multiple languages, but challenges include cultural sensitivity and misinformation.

Check your Progress

Short Answer Questions

Question	CO	PO	K
Define artificial intelligence in journalism.	CO5	PO4	K1
Explain virtual reality in media.	CO5	PO4	K2
What is augmented reality?	CO5	PO4	K1
Define blockchain technology in media.	CO5	PO4	K1
Explain podcasting as a new media format.	CO5	PO4	K2

Essay Questions

Question	CO	PO	K
Discuss the role of artificial intelligence in digital journalism.	CO5	PO4	K3
Analyze the use of VR and AR technologies in media industries.	CO5	PO4	K4
Explain the growth of podcasting and audio content in new media.	CO5	PO4	K3
Examine the role of blockchain technology in digital media systems.	CO5	PO4	K4
Evaluate the future trends of global media technologies.	CO5	PO5	K5

Suggested Readings

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Video Links

https://youtu.be/jldGVY753iI?si=0xCrSPpImCHh6dD6

https://youtu.be/gM9VN4462kg?si=vvmjifwH2U1uRCES

https://youtu.be/2uLdB4kFzfk?si=KjYh86exotcTXUxe

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