ALSYSTECH
Journal of Education Technology

e-ISSN : 2988-442X
p-ISSN : 2988-4403

Index : Dimensions, Scilit, Crossref, Garuda, Semantic, Google Scholar, Base, etc

https://doi.org/10.58578/alsystech.v3i2.5468

Assessing the Influence of the Media Technologies on Communication Practices and Social Change

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Article Info:

Submitted:	Revised:	Accepted:	Published:
Mar 22, 2025	Apr 6, 2025	Apr 18, 2025	Apr 23, 2025

Abstract

This paper investigates the impact of media technologies on communication practices and social change through the framework of technological determinism. The purpose of the study is to analyze how advancements in media technologies influence individual and societal communication, thereby affecting cultural norms, political engagement, and economic development. Employing a qualitative descriptive methodology, this research evaluates both the positive and negative consequences of media technology adoption. The findings reveal that while technological determinism posits that technology fundamentally shapes social structures and behaviors, there is also significant evidence supporting the role of human agency in mediating media use. This dual perspective emphasizes the complexity of the relationship between technology and society, suggesting that media technologies not only drive societal transformation but also interact with human choices and cultural contexts. The implications of this study highlight the necessity for scholars and practitioners to adopt a nuanced understanding of media technologies' influence, encouraging further research that integrates both technological impacts and human agency. Ultimately, this research contributes to the

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broader discourse on the interplay between technology and society, underscoring the importance of critically examining the role of media in shaping communication practices and fostering social change.

Keywords: Media Technologies, Communication Practices, Technological Determinism, Social Change, Human Agency.

Introduction

In recent years, the pervasive integration of media technologies into daily life has profoundly reshaped communication practices and instigated significant social transformations. Asemah & Ede (2019) posits that the theory of technological determinism posits that technological innovations are the primary drivers of societal change, influencing human behavior and cultural norms. This perspective suggests that as new media technologies emerge, they inherently alter the ways individuals interact, access information, and perceive the world around them.

The advent of social media platforms exemplifies this transformative impact. Platforms such as Facebook, Twitter, and Instagram have redefined interpersonal communication by enabling instantaneous sharing of information across the globe. This shift has not only facilitated the rapid dissemination of news and ideas but has also contributed to the formation of virtual communities that transcend geographical boundaries (Akpan & Mutua, 2025). Consequently, traditional face-to-face interactions are increasingly supplemented, or even replaced, by digital engagements, leading to a reevaluation of social relationships and community structures.

Moreover, the influence of media technologies extends to the political sphere, where they have become instrumental in shaping public opinion and mobilizing social movements. The utilization of social media for political communication allows for direct engagement between political figures and the populace, bypassing traditional media gatekeepers. This direct line of communication can amplify political messages, sway public sentiment, and even incite collective action, as evidenced by various social movements worldwide (Howard, 2020). However, this phenomenon also raises concerns about the spread of misinformation and the potential for echo chambers that reinforce existing biases.

While technological determinism emphasizes the role of technology as a catalyst for change, it is essential to acknowledge the reciprocal relationship between society and technology. Human agency plays a crucial role in shaping how media technologies are developed, adopted, and utilized. Cultural, economic, and political contexts influence technological trajectories, and individuals exercise choice in their interactions with these technologies. Therefore, a comprehensive understanding of the interplay between media technologies and social change necessitates an examination of both technological influences and the societal factors that mediate their impact.

Theoretical Framework

Technological Determinism Theory

Technological determinism is a theory that suggests technology drives societal changes and shapes human behavior, culture, and social structures. The concept emerged during the Industrial Revolution when advancements in machinery and production processes radically transformed society. According to McQuail (2017), the roots of technological determinism can be traced back to;

1. Karl Marx (19th Century): Marx's work indirectly influenced technological determinism by emphasizing the role of the "forces of production" (technology) in shaping societal structures and relations. While not a technological determinist, his idea of "technological forces shaping social relations" laid the groundwork for the theory.

2. Thorstein Veblen (1920s): Veblen explicitly explored how technological innovation impacts economic and social systems, coining the term "technological determinism. Veblen advocated for the idea that technology drives economic and social change, emphasizing innovation's role in societal evolution

3. Marshall McLuhan (1960s): McLuhan popularized the theory in media studies with his famous phrase, "The medium is the message," emphasizing how communication technologies influence human perception and society. Argued that the nature of a medium (e.g., television, print, radio) shapes how people think, behave, and interact. The scholar Introduced concepts like the "Global Village," highlighting how electronic media connects the world and transforms cultural boundaries.

Assumptions of Technological Determinism

Communication scholars like McQuail (2017), Thompson (2019), clearly captured the following assumptions of the theory;

1. The theory assumes that technological advancements are the main factors shaping society, culture, and institutions.

2. Technology is viewed as an independent force that evolves on its own and influences societal development, often without human control.

3. It assumes a one-way relationship where technology impacts society, but society has limited influence over technological development.

4. Technological development is seen as inevitable and linear, meaning that once a technology is introduced, its societal impact is unavoidable.

5. The theory simplifies societal change by attributing it predominantly to technology, often neglecting cultural, economic, or political factors.

6. In media contexts, the theory assumes that the characteristics of a medium (e.g., television, radio, internet) dictate how information is perceived and used.

Strengths of Technological Determinism Theory

1. The theory highlights how technological advancements drive significant changes in society, economy, and culture. It acknowledges the transformative power of technology, such as the Industrial Revolution or the Digital Age, in shaping human experiences.

2. Technological determinism provides a framework for understanding historical shifts, such as the transition from agrarian to industrial societies. It illustrates how inventions like the printing press, electricity, and the internet have revolutionized communication, education, and governance.

3. By focusing on technological trends, the theory can help anticipate future societal changes driven by new innovations. For example, it predicts the societal impact of emerging technologies like artificial intelligence, automation,

Weaknesses of Technological Determinism Theory

1. The theory assumes that technology is the sole or primary driver of societal change, ignoring other critical factors like culture, politics, economics, and human agency. It overlooks the complex, multi-faceted nature of societal evolution.

2. Technological determinism underestimates the role of human choices, creativity, and decision-making in shaping technological development and its applications. Societies and individuals actively influence how technologies are adopted, used, and regulated.

3. The theory suggests that technological advancement follows a fixed, inevitable path, ignoring the potential for alternative developments or disruptions. In reality, technological progress is often non-linear, influenced by unpredictable social and economic factors.

4. Technological determinism presents technology as an autonomous force that drives change, leading to a fatalistic view that society must simply adapt to technological progress. - This perspective can discourage critical thinking about ethical concerns, regulation, and the unintended consequences of technological adoption.

5. The theory often focuses narrowly on the impact of specific technologies without considering the broader context in which they emerge and operate. For example, it may fail to account for the societal conditions that enable or constrain technological innovation.

6. The theory tends to overstate the influence of technology on human behavior and social structures, while underestimating the resilience of cultural and traditional practices. - Some societies may resist or adapt technologies in ways that are not predicted by a deterministic framework.

7. By assuming a universal impact of technology, the theory disregards cultural diversity and the varying ways in which societies interact with and integrate technology. It ignores ethical concerns and the potential for unequal access to technology, leading to digital divides.

8. The theory assumes a one-way relationship where technology shapes society but fails to recognize how society, in turn, influences technological development. Factors such as social needs, cultural values, and market demands play a significant role in determining the trajectory of technological innovation.

Applicability of Technological Determinism Theory in the Media

Technological determinism theory is highly relevant to understanding the media, as it emphasizes how technological advancements influence media systems, content, consumption, and societal impacts. Below are the key ways the theory applies to the media:

1. Evolution of Media Technologies

Technological determinism explains how new media technologies, such as the printing press, radio, television, and the internet, have transformed communication practices and the dissemination of information. For example, the invention of the printing press enabled mass communication and the spread of literacy, leading to significant cultural and societal changes.

2. Media Content Production and Distribution

The theory highlights how advancements in technology have shaped how media content is produced and distributed. Digital cameras, editing software, and cloud storage have revolutionized filmmaking and journalism. Streaming platforms like Netflix and YouTube have disrupted traditional broadcasting by enabling on-demand content.

3. Shift in Audience Behavior

Technological determinism provides a framework for understanding how new technologies influence audience behavior and media consumption patterns. For instance, the rise of smartphones and social media has shifted audiences from passive consumers to active participants in content creation and sharing. People now consume news in real-time through digital platforms, altering traditional media's role in society.

4. Creation of New Media Forms

The theory explains the emergence of entirely new forms of media driven by technological advancements, such as virtual reality (VR), augmented reality (AR), and interactive storytelling. - These innovations are reshaping how audiences engage with content, blurring the lines between producers and consumers.

5. The "Medium is the Message"

Marshall McLuhan, a key proponent of technological determinism, argued that the medium itself (e.g., television, internet) influences how messages are perceived, independent of the content. For example, television's visual and auditory nature impacts how audiences process information compared to text-based media like newspapers.

6. Globalization of Media

Technological determinism explains how communication technologies, such as satellites and the internet, have enabled the globalization of media. Media content now transcends national borders, creating a "global village" where cultures and ideas are shared instantaneously.

7. Personalized Media Experiences

Advances in algorithms and artificial intelligence (AI) have transformed how media is tailored to individual preferences. Streaming platforms and social media use recommendation systems to personalize content, influencing consumption habits and shaping cultural tastes.

Critiques and Limitations in Media Contexts

While technological determinism highlights the transformative power of technology, it often overlooks:

1. Audience and Listeners actively shape how they adopt media technologies. It can be for gratifications and most times affordability (Thompson, 2019). The impact of media technologies varies across cultural and social contexts.
2. The theory doesn't adequately address challenges like digital divides, misinformation, or the loss of local cultures due to globalization (Asemah & Ede, (2019).
3. While the theory has been influential, it has faced significant criticism for oversimplifying complex interactions between technology and society. Critics argue that it underestimates human agency, cultural diversity, and the reciprocal influence society exerts on technological development.

Applicability of Technological Determinism Theory to Society

Technological determinism suggests that technological advancements are the primary drivers of societal change, shaping culture, behavior, economic systems, and social structures. This theory is applicable to various aspects of society, as outlined below according to Albrechtslund (2016), Jenkins, Ford, & Green, (2016), Fuchs, (2017) and Boyd, (2017);

1. Transformation of Social Structures

The rise of digital technologies in the 21st century is transforming labor markets, with new job categories emerging and traditional industries facing automation. Technological advances shape the structure of societies by influencing how people interact, organize, and live.

2. Media and Communication

Technological advancements in communication have reshaped how information is disseminated, leading to the transformation of social norms and behaviors. The advent of the printing press enabled mass literacy, profoundly impacting education and social hierarchies.

The rise of the internet and social media has redefined communication by enabling real-time, global interactions, influencing social movements (e.g., Whatsapp, Instagram, twitter and Meta).

3. Cultural Shifts

Technology often shapes and reflects cultural values, influencing art, entertainment, and even social ideologies. Television, for example, has played a key role in shaping social norms around family life, gender roles, and political values. Digital platforms like YouTube and TikTok have created new forms of cultural production and consumption, democratizing content creation and altering cultural practices worldwide.

4. Impact on Education

Technological advancements influence education systems by transforming how knowledge is created, shared, and accessed. The introduction of computers and the internet has led to the rise of online education platforms and digital learning tools. Artificial intelligence and machine learning are increasingly being used in personalized learning, adaptive assessments, and even grading.

5. Changing Human Relationships

Technology impacts how people form and maintain relationships, both within and outside their immediate communities. The rise of social media has altered the way people interact, creating virtual communities that transcend geographic boundaries. While technology facilitates connection, it has also raised concerns about social isolation and reduced face-to-face interactions.

6. Political and Power Structures

Technological innovations often shift power dynamics, enabling new forms of governance and political participation. The internet has made political movements more accessible, allowing marginalized voices to mobilize and express dissent. Governments and

corporations may use technologies (e.g., surveillance, data collection) to exert control and influence over populations.

7. Social Movements and Activism

Technology has transformed the way social movements organize and operate. The internet and social media enable decentralized activism, where people can quickly mobilize and share information (e.g., Black Lives Matter, climate change protests). While these platforms empower activists, they also raise issues related to misinformation, echo chambers, and the surveillance of activists.

Examples of Technological Determinism Theory in Nigeria

Technological determinism can be observed in various aspects of Nigerian society, where technological advancements have significantly influenced social structures, economic activities, and cultural norms. Below are several examples of how technological determinism has manifested in Nigeria:

1. Mobile Phone Revolution

The rapid adoption of mobile phones in Nigeria has dramatically changed how people communicate, conduct business, and access information. The widespread use of mobile phones has enabled greater connectivity, particularly in rural areas where landline infrastructure was previously lacking. It has also influenced social behaviors, such as the rise of mobile banking, social media engagement, and access to educational content through mobile devices.

1. Impact on Social Life and Economy:

Mobile technology has empowered individuals by providing access to new communication channels (e.g., WhatsApp, Twitter, Facebook) and economic opportunities (e.g., mobile money, e-commerce). It has facilitated the growth of online businesses and has been a key enabler of the "gig economy" in Nigeria, where people can work from home or remotely through mobile platforms.

3. The Internet and Social Media

Social media platforms like Twitter, Facebook, and Instagram have transformed political participation and activism in Nigeria. Movements such as #EndSARS, which called for an end to police brutality, were fueled by social media, where

millions of Nigerians organized protests, shared information, and raised awareness. This technological shift has enabled a new form of political activism, often bypassing traditional media and institutions, showcasing how technology can shape societal movements.

2. Information Accessibility:

The internet has changed how Nigerians access news, education, and entertainment. With limited access to traditional media outlets in some areas, people now rely on the internet for real-time news and online learning. Online platforms, such as YouTube and blogs, have democratized information, providing a space for diverse voices and new forms of media production.

7 Mobile Banking and Financial Inclusion

The development of mobile banking platforms like Quickteller and Flutterwave has transformed Nigeria's financial landscape, especially in rural areas where access to traditional banking services was limited. The mobile payment systems have facilitated financial inclusion, allowing people to send money, pay bills, and access credit via their mobile phones.

8. E-Commerce and Digital Economy

E-commerce platforms like Jumia and Konga have revolutionized the Nigerian retail landscape by providing online shopping options to millions of Nigerians. The rise of e-commerce has changed consumer behavior, making it easier for people in urban and rural areas to purchase goods and services without geographical limitations. This shift toward digital shopping is another example of how technological advancements can shape economic activity and consumer habits in a society.

Review of Related Studies

Awofadeju (2022) explored the impact of Information and Communication Technology (ICT) on broadcast media in Nigeria, focusing on the Broadcasting Corporation of Oyo State. The study found that ICT integration has enhanced media operations by improving production quality, expanding audience reach, and enabling real-time news dissemination. However, the study also highlighted challenges such as inadequate technological infrastructure, high operational costs, and the digital divide that limits access to modern

broadcasting tools. The findings align with technological determinism by demonstrating how media advancements dictate operational changes within broadcasting organizations.

Similarly, Suemo, Ahmad, and Mohammed (2024) examined the prevalence of hate speech in Nigeria's digital communication space. Their study revealed that technological advancements, particularly the rise of social media platforms, have amplified the spread of hate speech, fueling political and ethnic tensions. They argue that while technology provides new communication opportunities, it also presents challenges in regulating harmful content. This study underscores the deterministic nature of media technologies by illustrating how digital platforms shape online discourse, often with unintended societal consequences.

In the realm of journalism, Izuogu, Okpara, and Omeonu (2025) investigated the paradox of internet-based reporting in Nigeria, balancing flexibility and accuracy. Their research found that while digital technologies have enabled faster and more accessible news reporting, they have also led to an increase in misinformation and a decline in journalistic accuracy. The study emphasized the struggle between speed and credibility in online journalism, reinforcing the argument that technological advancements inevitably reshape media practices, sometimes at the expense of traditional ethical standards.

Appelgren (2023) critically examined the role of technological determinism in journalism studies, highlighting its underrepresentation in academic discourse. The study revealed that journalism scholars often view technological determinism with skepticism, favoring more human-centered perspectives. However, Appelgren argued that technology plays a significant role in shaping journalistic practices, from content production to audience engagement.

Madaki et al. (2024) focused on the transformation of broadcasting in the digital era. Their study revealed that technological advancements have led to changes in content distribution, audience fragmentation, and increased competition among media organizations. The research suggested that while technology is a key driver of these changes, human agency and regulatory frameworks also influence the adoption and use of new broadcasting technologies. In the field of public relations, Akarika (2023) explored how digital technology has redefined communication strategies in Nigeria. The study highlighted how interactive and real-time engagement on digital platforms has shifted the dynamics of

public relations, aligning with technological determinism's premise that technology dictates media evolution.

The influence of technological determinism on political communication was evident in Kim's (2024) study on Twitch as a platform for political discourse. The research found that live-streaming technologies have altered how political messages are delivered and received, creating new forms of engagement between political communicators and audiences. This supports the argument that technology shapes communication behaviors in ways that were previously unimaginable.

Findings from the reviewed studies

1. The studies confirm that technological advancements have fundamentally altered media landscapes, from journalism to broadcasting and digital communication. Traditional media outlets have had to adapt to digital innovations to remain relevant, demonstrating the deterministic influence of technology.
2. Digital technologies have revolutionized audience interaction. Online platforms enable real-time communication, fostering immediate and interactive engagement between media organizations and the public.
3. The accessibility of online platforms has made it easier for false information to spread, raising concerns about the credibility and ethical implications of digital journalism.
4. Political communication is involving through technology e.g live-streaming platforms like Twitch are redefining political communication, allowing for direct and interactive engagement between politicians and audiences. This shift underscores the role of technology in shaping new political discourse strategies.
5. While digital media transformation is evident, the inadequate technological infrastructure and digital divides in African countries hinder full adoption. Limited access to advanced media technologies affects the extent to which traditional media organizations can integrate digital innovations.
6. while digital platforms enable faster news dissemination, they also contribute to declining accuracy in journalism. Journalists often prioritize speed over verification, leading to increased misinformation and ethical concerns regarding reporting standards.

Conclusion

The findings of this study underscore the significant influence of technological determinism on media and communication practices, highlighting how technological advancements reshape journalism, broadcasting, public relations, and digital discourse. Our review confirms that while media technologies are pivotal in driving social change through transformations in audience engagement, political communication, and information dissemination, they also pose challenges, including misinformation, ethical dilemmas, and unequal access to digital resources. This research effectively addresses the existing gap in understanding the dual role of technology as both a catalyst for media evolution and a source of potential risks, emphasizing the necessity of human agency in the adoption and regulation of these tools.

The implications of our findings are profound for practice and theory. To harness technology for positive social change, it is imperative to address the digital divide, uphold journalistic integrity, and implement responsible media policies. Additionally, prioritizing the ethical integration of artificial intelligence and automation in media processes is crucial to ensure transparency and credibility. Moving forward, future research should explore innovative strategies for fostering ethical media practices, enhancing digital literacy, and investing in infrastructure to maximize the benefits of technological advancements while mitigating their associated risks. A balanced approach that recognizes both the influence of technology and the responsibility of human agency will be essential in navigating the evolving media landscape.

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