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Navigating the Modern Infodemic: Historical Perspectives and Information Science Frameworks as Guideposts*

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Abstract

The contemporary information ecosystem is characterized by a high volume of chaotic, overwhelming, and often false information. This environment, where 'bad actors' exploit low-verification channels like social media, has left the general populace ill-equipped to distinguish verifiable information from misinformation. This article argues that while the scale and velocity of this *infodemic* are new, the phenomenon of misinformation itself is not. To chart a path forward, this paper synthesizes two critical bodies of knowledge: historical precedents and information science. It first contextualizes the current crisis by examining key historical case studies of misinformation. Second, it presents a theoretical framework grounded in information behavior, reviewing key concepts such as information poverty, information overload, information disorder, and social noise. This synthesis reveals a public that is cognitively overwhelmed, systematically marginalized, and navigating social cues that often supersede truth. The paper concludes that a robust, widespread, and sustained focus on media literacy, conceptualized as a set of critical-thinking habits, is the most viable intervention for building a more resilient citizenry.

Keyphrases

Information science, information behavior, information disorder, misinformation, disinformation, social noise, media literacy.

Introduction

The proliferation of digital technologies has transformed the global information ecosystem into a chaotic and overwhelming environment (Eppler and Mengis 2004). While journalistic standards in traditional media are increasingly questioned, standards on social media platforms are nascent or non-existent. This has created a fertile ground for malicious actors to flood information channels with misinformation (false information shared without intent to harm) and disinformation (false information shared with intent to harm) (Wardle and Derakhshan 2017). Consequently, the general population is often ill-equipped to navigate this complex landscape, leading to decreased trust in credible institutions (van der Meer et al. 2023) and significant societal harm (Zimmerman, Shiroma, et al. 2023).

This article argues that to effectively address the current *infodemic*, both historical and theoretical perspectives are necessary. First, the problem must be contextualized; misinformation pervading society and causing confusion is not a new phenomenon but the latest iteration of a long-standing human challenge. Second, the problem must be theoretically diagnosed. The field of Library and Information Science (LIS), particularly the subfield of information behavior, provides critical frameworks for understanding why and how individuals interact with information in the ways they do.

This paper synthesizes these two approaches to provide a coherent guide for researchers, educators, and the public. It will first review key historical precedents of misinformation to demonstrate its persistence. Second, it will analyze the modern infodemic through the lens of established and emerging information behavior theories. Finally, it proposes media literacy as the most critical and sustainable intervention for charting a path forward.

Historical Precedents of Misinformation

Misinformation causing widespread confusion is a persistent feature of human communication. Examining historical examples illustrates that vulnerability to false narratives is not unique to the 21st century.

In the 14th century, the memoirs of an English knight, Sir John Mandeville, captivated European audiences. Among his tales, Mandeville described the "Vegetable Lamb of Tartary," a gourd-like fruit in India that, when opened, allegedly revealed a miniature, living lamb. This myth was discussed by leading naturalists, repeated by other writers, and persisted in scholarly circles for nearly four centuries before being definitively debunked. As O'Connor (2019) note, the believers of this myth were not ignorant fools but the most highly educated members of society, demonstrating that vulnerability to misinformation is not a simple failure of intelligence.

In the 18th century, Benjamin Franklin demonstrated the use of disinformation as a tool of political warfare. In a fake edition of the Boston Independent Chronicle, Franklin fabricated an article claiming that Native Americans, incited by the British military, were committing atrocities against colonists. To enhance the document's credibility, Franklin included manufactured letters to the editor, bogus real estate ads, and other mundane details like a lost horse notice (Wahl-Jorgensen 2019). The articles were subsequently republished by British newspapers, successfully stoking anti-war sentiment, which was Franklin's goal.

The *Great Moon Hoax* of 1835 serves as a 19th century example of widespread misinformation. The New York Sun published a series of articles, purportedly from the Edinburgh Journal of Science, detailing

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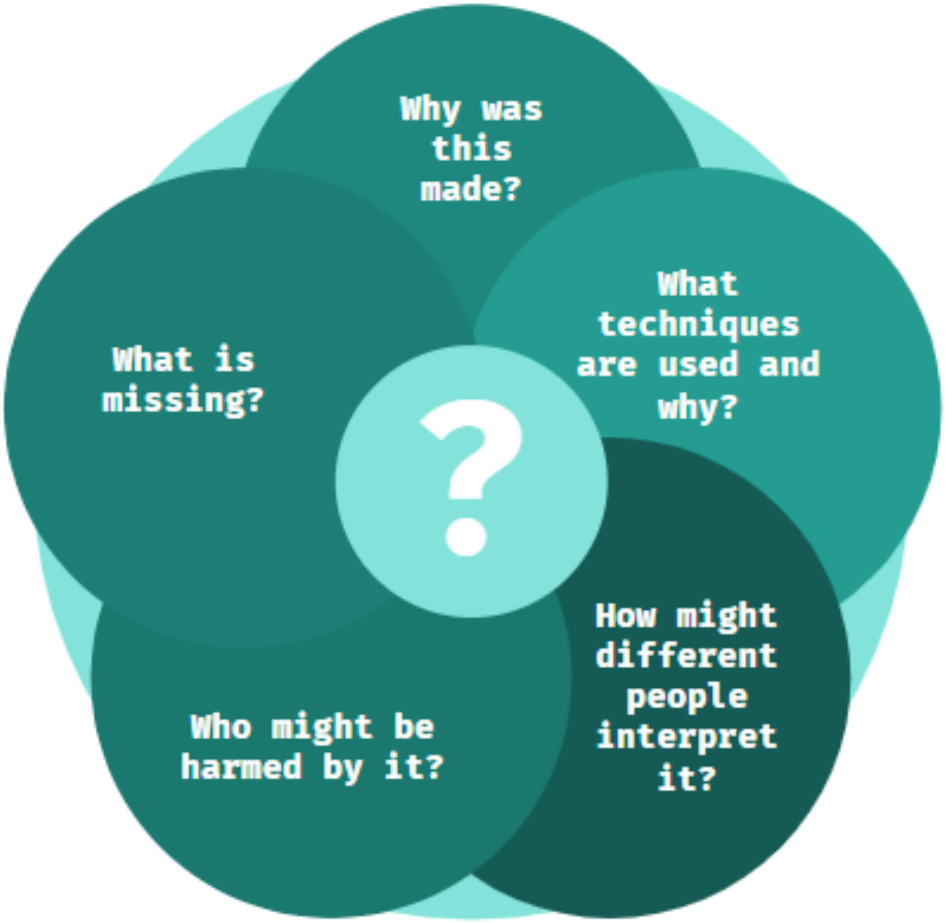

Figure 1: Questions to ask about information; adapted from NAMLE (2023).

the discovery of animal-like beings and fantastical flora on the moon, complete with illustrations. The story was reprinted widely in the United States and abroad, capitalizing on public fascination with science and the authority of its (fabricated) source (Goodman 2008).

The 20th century saw the *Red Scare* of the 1950s, during which Senator Joseph McCarthy utilized the power of the press and the platform of government hearings to propagate accusations of communist infiltration in the U.S. government and entertainment industry. This campaign of misinformation and malinformation (true information, such as an individual's past political affiliations, used to harm) ruined careers and stoked public panic for years before McCarthy was formally censured (Schrecker 1998).

These examples, among countless others, illustrate that false and misleading information has always impacted society. The fundamental development in the 21st century is not the existence of misinformation, but its unprecedented scale, speed, and the new social contexts in which it is shared.

Information Science Theoretical Frameworks

The field of LIS and the subfield of information behavior provide theoretical frameworks to diagnose the mechanisms underlying the modern information crisis.

Information Poverty: The theory of *information poverty* developed by Chatman (1996) posits that a lack of power — stemming from social, economic, or political marginalization — profoundly affects an individual's ability to seek, find, and use information. Those experiencing information poverty may feel defeated, believing helpful information is inaccessible. This leads to self-protective barriers, where secrecy and deception increase, and outsiders are viewed with suspicion. This framework can be applied to help understand the lack of agency shown by individuals when they feel helpless to navigate the complexities of today's information environment.

Information Overload: Identified by Eppler and Mengis (2004), *information overload* is a state of being overwhelmed by an unmanageable volume of information. The cognitive system cannot process the influx of stimuli, leading to symptoms such as cognitive stress, diminished perspective, higher tolerance for error, and significant difficulty in making informed decisions. The modern digital environment, defined by constantly evolving delivery formats, ubiquitous notifications, and infinite scrolling, is a primary driver of this phenomenon.

Information Disorder: To clarify the terminology, Wardle and Derakhshan (2017) proposed the *information disorder* framework. This model moves beyond the generic 'fake news' label to offer a crucial typology based on falseness and intent to harm. They defined three

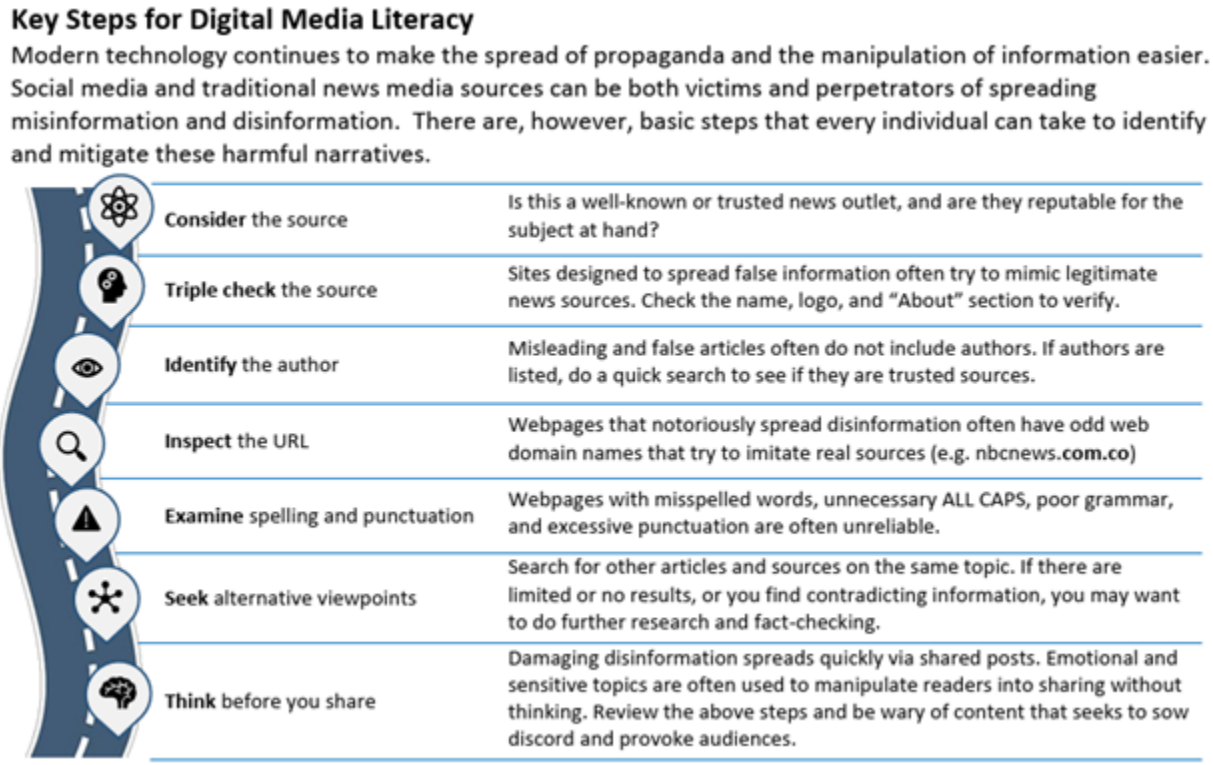

Figure 2: Key steps for digital media literacy; reprinted from US Dept Homeland Security (2025).

key terms:

1. *Misinformation:* Information that is false, but not created or shared with the intention of causing harm (e.g., sharing a false article one believes is true).
2. *Disinformation:* Information that is false and deliberately created and spread to harm a person, group, organization, or country.
3. *Malinformation:* Information that is truthful but used to inflict harm (e.g., doxxing, publishing private photos, or strategically leaking emails).

Examining truth in science, particularly in scientific publications, Taswell et al. (2021) extended the work of Wardle and Derakhshan (2017) by categorizing types of scientific misconduct. In addition to definitions of misinformation, disinformation, and malinformation, these researchers include two additional designations of false information.

1. *Anti-information* False scientific information published unknowingly by the authors, but which they refuse to correct after being made aware of the falsehood.
2. *Caco-information* False scientific information published knowingly by the authors, but which they refuse to correct after being offered opportunities to correct the falsehood.

Information Marginalization: Extending the work by Chatman (1996), Gibson and Martin (2019) introduced *information marginalization*, which refers to systemic, contextual, and structural barriers to information. These barriers can include a lack of cultural knowledge, language proficiency, or digital access, among other societal obstacles. This marginalization, observed in communities ranging from migrant workers to parents of individuals with disabilities, results in defensive information behaviors and a fundamental distrust of formal information sources.

Social Noise: The author's own research introduced the concept of *social noise* (Zimmerman 2022). Just as physical noise (a loud room) or semantic noise (confusing jargon) interferes with communication, social noise is the influence of personal and relational factors on information received via social media. The information shared on these platforms is distorted by the user's conscious or subconscious awareness of their audience (friends, family, followers). Individuals alter their communication to manage their reputation or build social capital. Consequently, the information seen on social media is often more indicative of self-presentation and relationship management than an accurate reflection of a person's true, deeply held beliefs. This dynamic makes users highly vulnerable to sharing misinformation if it is posted by a trusted or admired person, as the relational signal of trust overrides the need for informational verification and fact-checking (Zimmerman, Njeri, et al. 2022).

Spillover and Multimodality: The current infodemic has also produced secondary effects. Researchers have identified a *spillover effect* (van der Meer et al. 2023), where the constant threat of misinformation has decreased public trust even in credible and factually accurate news. This makes 'fighting misinformation' a persistent societal threat that can inadvertently harm the very institutions it seeks to protect. Furthermore, *multimodal disinformation* (Lee et al. 2023) — which combines text with graphics, video, and sound — has been shown to impact people more severely than text-only disinformation, primarily by increasing anxiety.

Figure 3: Evaluating information sources using the SIFT method; reprinted from Caulfield (2019).

Charting a Path Forward Through Media Literacy

While historical examples provide perspective and information theories offer academic context, society is left with the question of how to respond to the current chaotic information environment which is a complex, multi-layered problem. The urgent need for an intervention is underscored by journalist and Nobel laureate Maria Ressa (2022). She warns that the algorithmic polarization of social media corrupts the information ecosystem by design, destroying the potential for a shared, fact-based reality. As Ressa (2022) states, "If you don't have facts, you can't have truth. Without truth, you can't have trust. Without these three, you don't have a shared reality... and without a shared reality, you can't have democracy itself." This paper argues that the most productive and sustainable intervention is the widespread cultivation of core media literacy skills.

Media literacy is defined by the National Association for Media Literacy Education (NAMLE) as the ability to "access, analyze, evaluate, create, and act" using all forms of communication. "Media literacy empowers people to be critical thinkers and makers, effective communicators, and active citizens" (NAMLE 2025). This non-partisan skills-based approach can help individuals navigate contentious topics without defaulting to political ideology, empowering them to stand up against the cognitive and emotional overload that misinformation fosters.

Individuals must develop the habit of questioning. The foundational questions provided by NAMLE (see Figure 1) are essential tools for developing a critical mindset and are promoted as part of U.S. Media Literacy Week (NAMLE 2023). These include wondering about the origin of a piece of information, the motivations and perspectives that shaped it, what important context might be missing. In addition, this approach humanizes the effects of information by questioning who might benefit and who might be harmed by it. These questions move the user from a state of passive consumption to active analysis. This approach is also supported by the U.S. Department of Homeland Security (n.d.), which identifies misinformation as a societal threat and published on its website *Key Steps for Digital Media Literacy* (see Figure 2) that emphasize source and content analysis (US Dept Homeland Security 2025).

To make this practical, heuristics like the SIFT method (Caulfield 2019) are highly effective (see Figure 3). This method operationalizes "lateral reading" where a user opens new tabs to investigate a claim before engaging with it, rather than "vertical reading" (staying only on the page). SIFT provides four simple, memorable steps:

1. *Stop:* Ask yourself if you know the source.
2. *Investigate the source:* Leave the page and look up the source's reputation.
3. *Find better coverage:* Look for other, trusted sources reporting on the same claim.
4. *Trace back to the original:* Find the original context of the quote, image, or data.

Conclusion

The current information crisis is not an insurmountable problem, but it is a complex one. It is rooted in long-standing human vulnerabilities to rumor, sensationalism, and social influence, while at the same time being amplified by new technologies. A synthesis of historical perspective and contemporary information science theory provides important context for helping us understand the modern information environment. The theories of information poverty, overload, disorder, and social noise reveal a public that is overwhelmed, systemically marginalized, and navigating an environment where relational cues often obscure informational accuracy. The human desire for quick answers, as Tavlin (2015) notes, "may overpower the desire to be certain of their validity". Once we have acknowledged our shared human vulnerability to misinformation, particularly online, society must focus on empower individuals

with the crucial critical thinking habits of media literacy. Media literacy can provide the essential tools for building a more resilient, informed, and engaged citizenry. These skills are not a quick fix, but they are fundamental survival skills for life in the 21st century.

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