Digital
Cooperation
Organization

COMBATING ONLINE MISINFORMATION:

A COMPREHENSIVE FRAMEWORK FOR STRENGTHENING NATIONAL AGENDAS

TABLE
OF CONTENTS

Document Disclaimer

The following legal disclaimer ("Disclaimer") applies to this document ("Document") and by accessing or using the Document, you ("User" or "Reader") acknowledge and agree to be bound by this Disclaimer. If you do not agree to this Disclaimer, please refrain from using the Document.

This Document, prepared by the Digital Cooperation Organization (DCO). While reasonable efforts have been made to ensure accuracy and relevance of the information provided, DCO makes no representation or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability or availability of the information contained in this Document.

The information provided in this Document is intended for general informational purposes only and should not be considered as professional advice. DCO disclaims any liability for any actions taken or not taken based on the information provided in this Document.

DCO reserves the right to update, modify or remove content from this Document without prior notice. The publication of this Document does not create a consultant-client relationship between DCO and the User.

The designations employed in this Document of the material on any map do not imply the expression of any opinion whatsoever on the part of DCO concerning the legal status of any country, territory, city, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The use of this Document is solely at the User's own risk. Under no circumstances shall DCO be liable for any loss, damage, including but not limited to, direct or indirect or consequential loss or damage, or any loss whatsoever arising from the use of this Document.

Unless expressly stated otherwise, the findings, interpretations and conclusions expressed in this Document do not necessarily represent the views of the Digital Cooperation Organization. The User shall not reproduce any content of this Document without obtaining DCO's consent or shall provide a reference to DCO's information in all cases.

By accessing and using this Document, the Reader acknowledges and agrees to the terms of this Disclaimer, which is subject to change without notice, and any updates will be effective upon posting.

1. EXECUTIVE SUMMARY

The framework to combat online misinformation offers a comprehensive roadmap to address the growing challenge of false and misleading information in an increasingly interconnected world. Misinformation poses significant risks to public health, democratic systems, social harmony, and economic stability. Recognizing its multifaceted nature, this framework emphasizes proactive and coordinated strategies that engage diverse stakeholders, from policymakers and technology platforms to civil society. By integrating global imperatives with localized solutions, the framework aims to create a resilient information ecosystem that fosters trust, accuracy, and informed decision-making.

> The framework to combat online misinformation offers a comprehensive roadmap to address the growing challenge of false and misleading information in an increasingly interconnected world.

The framework acknowledges that while the ultimate goal is to achieve zero online misinformation, this aspiration faces various challenges. Critical obstacles include the rapid evolution of online misinformation tactics, the varying levels of digital literacy among populations, and the complexities of balancing content regulation with freedom of speech. These challenges highlight the importance of continuous adaptation, resource allocation, and global cooperation to effectively implement the framework and address emerging threats in the information landscape.

At its core, the framework is built on **seven pillars**: (1) Clear Definitions and Scope, (2) Cultural Context and Sensitivity, (3) Legal Framework and Ethical Balance, (4) Education and Empowerment, (5) Technological Innovation, (6) Global Collaboration and Partnerships, and (7) Assessment and Monitoring. These pillars reflect the dynamic interplay between global standards and local adaptations, providing a structured approach to counter misinformation effectively. Each pillar is underpinned by carefully defined dimensions that offer actionable guidance tailored to address specific challenges and leverage unique opportunities.

The framework's **dimensions** delve deeper into the pillars, addressing critical components such as digital literacy, technological advancements, legal safeguards, and cultural adaptations. These dimensions emphasize precision in defining misinformation, aligning strategies with local values, balancing freedom of speech with content regulation, and integrating advanced technologies to detect and counter false information. By incorporating diverse perspectives and measurable benchmarks, the framework ensures a balanced and inclusive approach to combating misinformation across different contexts and sectors.

To operationalize the framework, a set of concrete **actions** is proposed. These actions include initiatives such as developing user-friendly fact-checking tools, embedding digital literacy into education systems, fostering public-private partnerships, and implementing rapid response protocols for misinformation. Together, the pillars, dimensions, and actions provide a strategic and adaptive toolkit, enabling stakeholders to navigate the complexities of the information age and build a robust defense against the pervasive spread of misinformation.
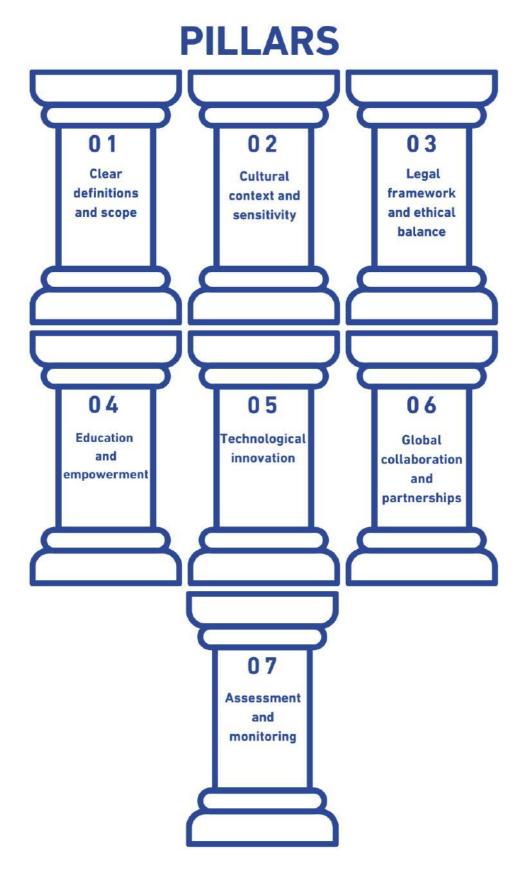
PILLARS

01
Clear
definitions
and scope

02
Cultural
context and
sensitivity

03
Legal
framework
and ethical
balance

04
Education
and
empowerment

05
Technological
innovation

06
Global
collaboration
and
partnerships

07
Assessment
and
monitoring

Figure 1: Seven Pillars of the Framework to Combat Online Misinformation.

2. INTRODUCTION

2.1 Background and Context

In today's interconnected world, the spread of misinformation poses a significant threat to societal well-being, public safety, and democratic integrity. The digital age, characterized by the ubiquitous presence of social media and instant communication platforms, has revolutionized information dissemination. However, it has also amplified the reach and speed at which misinformation can spread. Understanding the magnitude of this issue is crucial for devising effective countermeasures.

Before introducing and discussing the framework in subsequent sections, it is crucial to **highlight the necessity of combating** online misinformation and **to emphasize** its interconnected and multifaceted nature. Misinformation permeates various societal domains, including health, politics, economics, and the environment, often exacerbating existing challenges and creating new ones (as shown in Figure 2, illustrating the impact of misinformation on key societal sectors). This complexity demonstrates that only a holistic approach can adequately address the breadth of the problem. The proposed framework, as detailed in later sections, offers such an approach by providing a structured and inclusive solution. By considering the interplay between diverse stakeholders and contexts, it enables collaborative efforts to effectively mitigate the pervasive and evolving threat of misinformation.

Misinformation can have dire consequences for public health. The COVID-19 pandemic has underscored how false information can lead to poor health decisions, such as vaccine hesitancy and the use of unproven treatments [1, 2]. For example, misinformation related to COVID-19 (in particular, that the consumption of disinfectants and alcohol could prevent or treat COVID-19 infection) contributed to over 5,800 hospitalizations and 800 deaths in the first three months of the pandemic in Iran [3], which demonstrates the lethal potential of health-related misinformation. Recent studies indicate that online misinformation led to a 6.4-percentage-point decrease in COVID-19 vaccination intent in the United States [64]. Additionally, exposure to antivaccine content on Twitter caused approximately 750,000 people to refuse vaccination between February and August 2021 in the U.S., resulting in at least 29,000 additional cases and 430 additional deaths [65].

Democracies thrive on an informed citizenry and transparent processes. Misinformation undermines these foundations by distorting facts and spreading false narratives. This can lead to electoral interference, general mistrust of democratic institutions, and an impact on electoral behavior [4, 5, 6]. For instance, the 2017 Kenyan general election faced significant challenges from misinformation campaigns, including false stories and doctored images aimed at discrediting candidates [7]. These efforts were intended to sway public opinion and disrupt the democratic process. Such events highlight the need for robust measures to protect electoral integrity and public trust in democratic systems.

Misinformation can exacerbate social divisions and fuel conflict. False information often targets specific groups, spreading hate and inciting violence, for example, against migrants [8]. The spread of misinformation via WhatsApp in India has led to mob violence and lynchings based on unfounded rumors [9]. In Myanmar, misinformation on Meta (formerly Facebook) has been linked to the incitement of violence against the Rohingya Muslim minority [10]. Addressing misinformation is therefore critical to

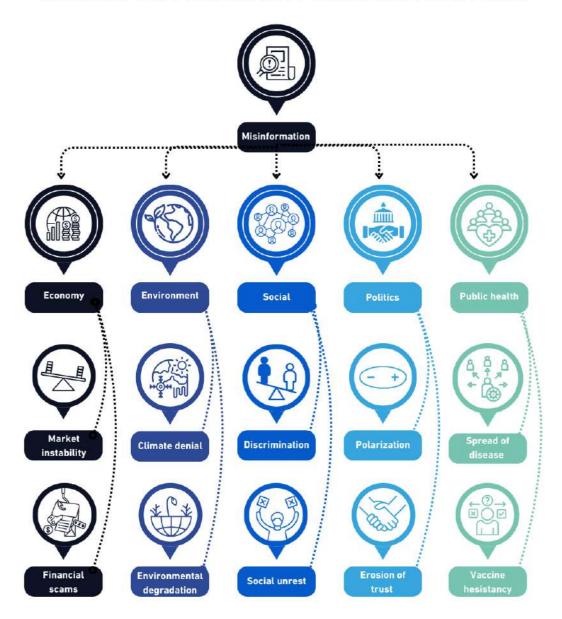maintaining social harmony and preventing   conflict.

Figure 2: Impact of Misinformation on Key Societal Sectors

Misinformation in the economic sphere can lead to market instability and financial scams [11, 12]. For example, false information about a company's financial health can cause stock prices to plummet or surge, leading to significant financial losses for investors. Additionally, scams often leverage misinformation to deceive people into investing in fraudulent schemes, causing them to lose their savings. This highlights the importance of accurate information for maintaining a stable and trustworthy economic environment.

Environmental misinformation, such as climate denial [13], can lead to environmental degradation and hinder efforts to combat climate change. False claims that downplay the severity of climate change can delay necessary policy actions and reduce public support for environmental initiatives. For example, misinformation campaigns [14] have been used to cast doubt on scientific consensus about climate change, leading to inadequate responses to environmental crises. Combating misinformation is essential for protecting the environment and ensuring sustainable development.

2.2 The Need for a Framework to Combat Online Misinformation

In this context, the need for a comprehensive framework to combat online misinformation is both urgent and essential. The rapid spread of misinformation, fueled by the virality of digital platforms, has demonstrated the limitations of piecemeal and reactive approaches.

A framework offers a structured and holistic solution, addressing misinformation at multiple levels – social, technological, legal, and educational. It bridges the gap between local realities and global imperatives, ensuring that interventions are not only contextually relevant but also aligned with international

standards. By delineating clear pillars, a framework facilitates coordinated efforts across diverse stakeholders, providing actionable guidelines for governments, platforms, and civil society to work collaboratively.

Ultimately, a well-defined framework is not merely a tool for managing misinformation but a roadmap for cultivating an informed and resilient society capable of navigating the complexities of the information age. This framework seeks to provide such a roadmap, emphasizing a balance between proactive strategies and adaptive measures to address the evolving landscape of misinformation.

2.3 Objectives and Scope

The primary objective is to present a holistic framework for combating online misinformation to provide insights and guidelines for strengthening national digital agendas against misinformation. It supports the "Race to Zero Misinformation" project by equipping policymakers with the knowledge and tools necessary to implement effective strategies.

The framework aims to provide a structured and holistic approach to combating misinformation by aligning specific, measurable, achievable, relevant, and time-bound (SMART) goals with its seven pillars. For example, under the **Clear Definitions and Scope** pillar, a key objective is to establish universally understood definitions and prioritize sectors like health and politics to ensure targeted and effective

interventions. For **Cultural Context and Sensitivity**, the goal is to tailor misinformation policies to align with local customs while harmonizing global and regional efforts. In the **Legal Framework and Ethical Balance** pillar, the objective includes developing fair penalties for harmful misinformation that respect freedom of speech while maintaining accountability. The **Education and Empowerment** pillar focuses on integrating digital literacy programs into educational systems to build long-term resilience. Under **Technological Innovation**, the goal is to leverage AI-driven tools for real-time detection and proactive countermeasures. The **Global Collaboration and Partnerships** pillar aims to foster alliances among governments and stakeholders to address cross-border challenges effectively. Lastly, the **Assessment and Monitoring** pillar emphasizes establishing clear KPIs, such as misinformation reduction rates, and creating feedback mechanisms to ensure adaptability and transparency. These high-level goals collectively serve as a roadmap for implementing the framework effectively across diverse contexts.

The framework document is structured as follows: Section 3 introduces the framework for combating online misinformation, its methodology, the framework pillars, dimensions, and actions. Section 4 concludes the analysis by summarizing the key insights and reinforcing the need for a holistic, collaborative approach to combating online misinformation.

3. FRAMEWORK TO COMBAT ONLINE MISINFORMATION

3.1 Methodology for the Framework

The methodology for developing the framework to combat online misinformation involved a comprehensive and multifaceted approach, as shown in Figure 3.

An extensive **literature review** was conducted to identify best practices and gather insights into effective measures for combating misinformation. This review covered academic articles, policy papers, and reports from credible institutions. The goal was to synthesize a wide range of perspectives and evidence to inform the framework for combating misinformation.

The framework is also underpinned by extensive engagement with diverse stakeholders, ensuring its relevance and practicality. Its development was informed by **survey data** collected during the DCO DSA Roundtables, as well as insights gained through **face-to-face discussions** with policymakers during these roundtables. Additionally, **online sessions** involving policymakers, business representatives, and academic experts provided valuable perspectives that enriched the framework's design. This collaborative approach reflects a comprehensive effort to address the challenges of misinformation through informed, multi-stakeholder input.

The methodology also emphasizes the importance of **inclusive stakeholder engagement** and an **iterative feedback loop** to ensure the framework remains dynamic and effective. Continuous collaboration with a broader range of stakeholders – such as community leaders, media outlets, and independent fact-checking organizations – is critical to capturing diverse perspectives and addressing localized challenges. Furthermore, the framework incorporates a feedback mechanism that enables periodic reviews and updates based on real-world implementation and emerging challenges. This iterative process ensures the framework evolves over time, adapting to new misinformation tactics and technological advancements while remaining relevant to stakeholder needs.
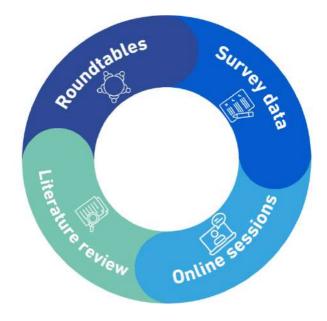

Figure 3: The Methodology Used to Create the Framework to Combat Online Misinformation

3.2 Framework Definitions

The framework to combat online misinformation is built on three essential components: pillars, dimensions, and actions. These elements collectively provide a structured, holistic approach to addressing complex and evolving challenges. By clearly defining these components, the framework ensures clarity, alignment, and coherence across diverse applications and stakeholders.

A set of ten **critical aspects** serves as foundational elements that inform the development of the framework's seven pillars for combating online misinformation, as shown in Section 3.3.

Pillars are the foundational themes or domains that anchor the framework. They represent the broad areas of focus necessary to achieve the framework's objectives. Each pillar addresses a critical aspect of the challenge at hand, ensuring

that the framework captures the multidimensional nature of the issue. By providing a thematic structure, pillars offer a strategic roadmap for organizing efforts and directing resources efficiently.

Dimensions break down the pillars into specific, actionable focus areas, providing greater depth and precision. They represent the key components or subcategories within each pillar, ensuring a nuanced understanding of the challenges and opportunities. Dimensions help stakeholders identify detailed aspects of broader themes, ensuring that all critical elements are addressed. They also allow for tailoring strategies to specific contexts while maintaining coherence with the overarching goals.

Actions are the practical steps or initiatives derived from the framework's pillars and dimensions. They translate the

framework's strategic components into tangible outcomes. Actions provide clear guidance for implementation, offering a pathway for stakeholders to move from theory to practice. They ensure that the framework is not only conceptual but also operational, enabling measurable progress toward addressing the issue.

The four-step approach to combating online misinformation, as shown in Figure 4, provides a structured and holistic pathway to address the issue effectively:

Understand: This step emphasizes building a foundational understanding of misinformation by establishing clear definitions and identifying target areas (Pillar 1), ensuring strategies are culturally sensitive and adapted to local contexts while maintaining global relevance (Pillar

2). This creates a framework grounded in precision and cultural awareness.

Plan: Here, the focus shifts to balancing legal and ethical considerations (Pillar 3), safeguarding free speech while ensuring proportional enforcement and accountability. Simultaneously, Education and Empowerment (Pillar 4) are prioritized through fostering digital literacy, engaging communities, and emphasizing proactive learning rather than punitive measures.

Implement: Practical actions take center stage with the deployment of Technological Innovations (Pillar 5), like AI-driven detection tools and proactive/reactive measures. Additionally, global collaboration (Pillar 6) fosters international cooperation, public-private partnerships, and harmonization of global and local efforts, ensuring coordinated and effective implementation.

Assess and Monitor: The final step focuses on continuous improvement via robust metrics, data collection, and transparency (Pillar 7). Monitoring mechanisms ensure accountability, and feedback loops promote adaptability to evolving misinformation challenges, enabling sustained impact and trust-building.

The framework to combat online misinformation is built on three essential components: pillars, dimensions, and actions. These elements collectively provide a structured, holistic approach to addressing complex and evolving challenges.
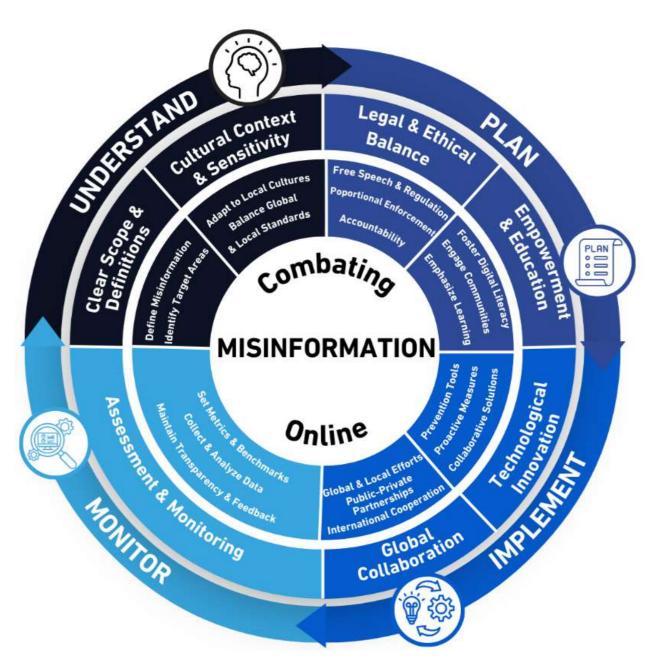
Figure 4: Pictural Representation of the Framework

3.3 Framework Rationale

The **ten critical aspects** were identified through desk research (literature review), survey data (during the DCO DSA Roundtables) as well as face-to-face discussions with stakeholders, including policymakers in a) DCO DSA Roundtables and b) online sessions with policymakers, businesses and academia: proactive vs. reactive approaches, defining misinformation and target areas, severity of punishments, combating misinformation vs. freedom of speech, education vs. punishment, responsibility and accountability, novel technologies, international cooperation and public-private partnerships, cultural differences and values, balancing global standards with local adaptations. A comprehensive overview of these ten critical aspects is provided in the Appendix section of this document.

These ten critical aspects underpinned by the survey data and face-to-face discussions with stakeholders led to the formation of **seven pillars**: Clear Definitions and Scope, Cultural Context and Sensitivity, Legal Framework and Ethical Balance, Education and Empowerment, Technological Innovation, Global Collaboration and Partnerships, Assessment and Monitoring, as outlined in Table 1. One critical aspect can contribute to multiple pillars, which explains why the table includes more than ten aspects, even though there are only ten unique ones.

Aspects	Description	Pillars
Defining Misinformation and Target Areas	Establishing clear definitions and prioritizing sectors most affected by misinformation enables targeted and effective interventions.	**Clear Definitions and Scope**
Proactive vs. Reactive Approaches	Emphasizing proactive strategies like education and preventive measures ensures long-term resilience against misinformation.	
Cultural Differences and Values	Tailoring misinformation policies to cultural nuances and values enhances their relevance and acceptance.	**Cultural Context and Sensitivity**
Balancing Global Standards with Local Adaptations	Aligning universal best practices with local needs ensures both consistency and contextual effectiveness.	
Combating Misinformation vs. Freedom of Speech	Balancing the regulation of harmful content with the protection of freedom of expression safeguards democratic values.	**Legal Framework and Ethical Balance**
Severity of Punishments	Proportionate penalties for spreading misinformation deter harmful behavior while maintaining fairness.	
Responsibility and Accountability	Clearly defining roles and responsibilities fosters a collaborative approach to combating misinformation.	
Education vs. Punishment	Prioritizing education over punitive measures empowers	**Education and Empowerment**

	individuals to recognize and resist misinformation.	
Proactive vs. Reactive Approaches	Emphasizing proactive strategies like education and preventive measures ensures long-term resilience against misinformation.	
Novel Technologies	Leveraging advanced tools like AI enhances real-time detection and mitigation of misinformation.	**Technological Innovation**
Responsibility and Accountability	Clearly defining roles and responsibilities fosters a collaborative approach to combating misinformation.	
International Cooperation and Public-Private Partnerships	Collaboration among governments, companies, and civil society strengthens global strategies against misinformation.	**Global Collaboration and Partnership**
Balancing Global Standards with Local Adaptations	Aligning universal best practices with local needs ensures both consistency and contextual effectiveness.	
Responsibility and Accountability	Assigning responsibility ensures transparent and effective monitoring mechanisms. Clear accountability structures help in coordinating efforts, enforcing standards, and ensuring that monitoring activities are carried out diligently and ethically.	**Assessment and Monitoring**
Defining Misinformation and Target Areas	Clear definitions are crucial for accurately monitoring and assessing misinformation. Without a precise understanding of what constitutes misinformation and which areas to target, efforts can become unfocused and ineffective.	

Table 1: Transforming Key Aspects into Pillars

3.4 Pillars, Dimensions, and Actions

Each pillar is enhanced, expanded, and given depth through the inclusion of multiple dimensions and corresponding actions, as shown in Table 2, which are outlined and discussed in detail below.

Pillar	Dimension	Action	Stakeholders
Pillar 1: Clear Definitions and Scope	Defining Misinformation and Related Concepts	Differentiate between misinformation, disinformation, and malinformation.	Academic institutions, research organizations, international bodies.
		Outline the characteristics, sources, and impacts of each type.	Researchers, media professionals, policy experts.
		Develop a classification system for different types of misinformation (e.g., health-related, political, financial) to tailor strategies more effectively.	Policymakers and regulatory bodies, digital platforms, researchers and academics.
	Identifying Target Areas	Highlight sectors most vulnerable to misinformation, such as health, politics, and security.	Government agencies, industry experts, civil society.
		Prioritize efforts based on the potential societal impact.	Policymakers, advocacy groups, community organizations.
Pillar 2: Cultural Context and Sensitivity	Cultural Sensitivity and Adaptation	Understand how cultural nuances affect information dissemination and perception.	Cultural experts, local leaders, non-governmental organizations (NGOs).
		Establish training programs for stakeholders to enhance cultural competence and sensitivity.	Education institutions, community leaders, non-governmental organizations (NGOs)
		Customize strategies to align with local customs, languages, and societal values.	Community groups, media outlets, cultural institutions.
	Balancing Global Standards with Local Practices	Apply international best practices while allowing for regional adaptations.	International organizations, national governments, regional institutions.
		Foster regional collaborations and local partnerships to address specific local challenges.	Regional bodies, grassroots organizations, local authorities.
Pillar 3: Legal Framework and Ethical Balance	Protecting Freedom of Speech while Regulating Content	Ensure measures respect individual rights and do not suppress legitimate discourse.	Legal bodies, human rights organizations, regulatory agencies.

		Promote transparency and accountability in content moderation and enforcement processes.	Digital platforms, oversight committees, advocacy groups.
	Proportionate Enforcement and Penalties	Establish fair and appropriate penalties for the dissemination of harmful misinformation.	Legislators, legal experts, enforcement agencies.
		Distinguish between intentional and unintentional spread to assign suitable consequences.	Judiciary, ethical boards, law enforcement.
	Assigning Responsibility and Ensuring Accountability	Define clear roles and responsibilities for individuals, organizations, and platforms.	Digital platforms, government regulators, international bodies.
		Address algorithmic bias in digital platforms that can amplify misinformation.	Digital platforms, data scientists, regulatory agencies
		Implement oversight mechanisms (e.g., oversight committee) and encourage self-regulation among digital platforms.	Regulatory agencies, independent auditors, civil society.
Pillar 4: Education and Empowerment	Digital Literacy and Critical Thinking	Integrate digital literacy programs into educational curricula at all levels, including schools' level	Educational institutions, ministries of education, NGOs.
		Equip individuals with skills to discern credible information from falsehoods.	Teachers, community trainers, advocacy groups.
	Community Engagement and Awareness	Launch proactive educational campaigns highlighting the impact of misinformation.	Local governments, media outlets, community organizations.
		Explore mechanisms to incentivize the creation and dissemination of truthful content.	Content creators, digital platforms, advertisers and sponsors
		Foster open dialogues within communities to promote critical assessment of information.	Community leaders, social activists, cultural influencers.
	Prioritizing Education over Punishment	Focus on educating the public rather than imposing punitive measures.	Advocacy groups, educators, civil society.
		Encourage a culture of informed sharing and personal responsibility.	Public figures, community organizations, media platforms.

Pillar 5: Technological Innovation	Advanced Detection and Prevention Tools	Invest in artificial intelligence and machine learning for real-time detection.	Tech companies, R&D agencies, innovation hubs.
		Develop user-friendly tools for content verification and rapid fact-checking.	Startups, fact-checking organizations, developers.
	Proactive and Reactive Technological Measures	Implement systems that anticipate and counteract misinformation before it spreads.	IT security firms, software developers, crisis management teams.
		Establish rapid response protocols to address misinformation post-detection.	Emergency response teams, digital platforms, regulatory bodies.
	Collaborative Tech Development	Encourage partnerships between tech companies, researchers, and governments.	Public-private partnerships, academic institutions, funding organizations.
		Share technological advancements and best practices across platforms and borders.	International bodies, research networks, tech alliances.
Pillar 6: Global Collaboration and Partnerships	International Cooperation	Build alliances among governments and international bodies to coordinate strategies, international agreements or treaties.	Governments, international organizations, regional alliances.
		Create a repository of best practices and case studies that can be shared among stakeholders to facilitate learning and improvement.	Policymakers and regulators, digital platforms, academic institutions and researchers.
		Share resources, intelligence, and methodologies to enhance global resilience.	Intelligence agencies, research consortia, civil society.
	Public-Private Synergy	Establish cross-sector partnerships by engaging stakeholders such as tech companies, media organizations, NGOs, academia, and civil society in joint initiatives.	Corporations, media organizations, advocacy groups, NGOs, academia, civil society.
		Develop collaborative platforms for information sharing and strategy development.	NGOs, think tanks, academic institutions.
	Harmonizing Global and Local Efforts	Balance global objectives with local needs and values.	Governments, international bodies, cultural organizations.

		Convene regional roundtables to align global strategies with local needs.	Regional governments, international organizations, community organizations
		Adapt international strategies to fit regional contexts without diluting effectiveness.	Regional organizations, local authorities, community representatives.
Pillar 7: Assessment and Monitoring	Metrics and Benchmarks	Define key performance indicators to measure the success of misinformation countermeasures.	Policy experts, data analysts, evaluators.
		Develop sector-specific benchmarks to tailor assessments to areas like health, politics, or security.	Sector experts, researchers, monitoring organizations.
	Data Collection and Analysis	Create centralized data systems to collect and analyze information on misinformation trends and impacts across platforms and regions.	Research institutions, big data firms, policy analysts.
		Use data analytics to map misinformation patterns in vulnerable areas.	Big data firms, government agencies, research institutions
		Use real-time monitoring tools to track the spread of misinformation and respond promptly.	Digital platforms, government agencies, fact-checking organizations
		Collaborate with academia and civil society to validate data and ensure comprehensive coverage of misinformation dynamics.	Universities, NGOs, advocacy groups.
	Transparency and Feedback	Publish periodic reports summarizing monitoring findings and progress toward combating misinformation.	Watchdog organizations, public relations teams, transparency boards.
		Conduct periodic independent audits to ensure the framework's effectiveness and identify areas for improvement.	Independent auditors and evaluators, policy experts and regulators, civil society organizations
		Establish feedback channels to incorporate stakeholder insights and experiences into monitoring and assessment processes.	Community organizations, user advocacy groups, citizen forums.

Table 2: Framework to Combat Online Misinformation

Below, the pillars and their respective dimensions and actions are described in detail.

3.4.1 Pillar 1: Clear Definitions and Scope

The **pillar of Clear Definitions and Scope** emphasizes the need for precise and universally understood definitions, as well as clearly delineated focus areas.

In the framework for combating online misinformation, the **pillar of Clear Definitions and Scope** emphasizes the need for precise and universally understood definitions, as well as clearly delineated focus areas, as shown in Figure 5. Definitions of misinformation can evolve and should be periodically reviewed and updated to reflect new forms of misinformation. This foundational pillar ensures consistent interpretation and effective intervention, providing the structure upon which policies, strategies, and actions are built. It helps align stakeholders' efforts and reduces ambiguity in addressing misinformation.

The pillar has two **dimensions**:

- The **dimension of defining misinformation and related concepts** focuses on creating clear, actionable definitions of key terms such as **misinformation**, **disinformation**, and **malinformation**. It ensures that stakeholders reach a shared understanding, enabling coherence in identifying and combating false or misleading content while reducing potential misinterpretations that could hinder collaborative efforts.

- The **dimension of identifying target areas** involves mapping sectors, platforms, or communities most vulnerable to misinformation, such as health, elections, or public safety. It helps stakeholders prioritize

resources and tailor strategies to address the unique challenges within these contexts.

By fostering clarity in definitions, this pillar ensures aligned goals and consistent implementation among stakeholders. Identifying target areas like health and elections ensures that resources are used efficiently, and interventions are focused on mitigating the most pressing risks. This approach establishes a robust foundation for tackling the complex phenomenon of misinformation.

Following are the actions for this pillar.

The **actions** proposed under Pillar 1 include differentiating between misinformation, disinformation, and malinformation; outlining their characteristics, sources, and impacts; identifying sectors most vulnerable to misinformation, such as health, politics, and security; and prioritizing efforts based on their potential societal impact. These steps aim to enhance precision and effectiveness in addressing misinformation challenges.

Differentiating between misinformation, disinformation, and malinformation is a critical step in combating false or misleading content effectively. Misinformation refers to unintentionally false or misleading information, while disinformation is deliberately deceptive, involving the intentional creation and dissemination of false information to mislead or manipulate others. Disinformation is often spread to achieve

specific objectives, such as influencing public opinion, sowing discord, or undermining trust in institutions. Malinformation involves truthful content weaponized to cause harm. Establishing these distinctions ensures that interventions can be tailored to address the intent, scope, and impact of each type.

Equally important is **outlining the characteristics, sources, and impacts of each type of misinformation**. This involves identifying their unique traits, such as their origin (e.g., individuals, organized groups, or automated systems), scale, and potential consequences. A deeper understanding of these aspects enables stakeholders to design more targeted and effective strategies that address the pathways through which misinformation spreads.

Developing a classification system for misinformation – such as health-related, political, and financial – is essential for tailoring strategies to its unique characteristics and impacts. This approach enables stakeholders to design targeted interventions, allocate resources efficiently, and address specific challenges, such as ensuring accuracy in health content

or monitoring political misinformation during elections. By categorizing misinformation, efforts to combat it become more focused and effective, promoting a more informed and resilient society.

Identifying sectors most vulnerable to misinformation, such as health, politics, and security, further enhances the focus of interventions. Vulnerability in these areas often stems from their societal significance and high public interest, making them prime targets for misinformation campaigns. By highlighting these sectors, resources can be allocated more strategically to mitigate risks where the potential for harm is greatest.

Prioritizing efforts based on societal impact ensures that responses are proportional to the risks posed by misinformation. Not all misinformation carries the same level of threat; for instance, content that undermines public health or democratic institutions warrants urgent action. By focusing on high-impact cases, stakeholders can maximize the effectiveness of their efforts while addressing the most pressing challenges.

CLEAR DEFINITIONS AND SCOPE

PILLAR	DIMENSION	ACTION

CLEAR DEFINITIONS AND SCOPE

Defining misinformation and related concepts

- Differentiate between misinformation, disinformation, and malinformation.
- Outline the characteristics, sources, and impacts of each type.
- Develop a classification system for different types of misinformation (e.g., health-related, political, financial) to tailor strategies more effectively.

Identifying target areas

- Highlight sectors most vulnerable to misinformation, such as health, politics, and security.
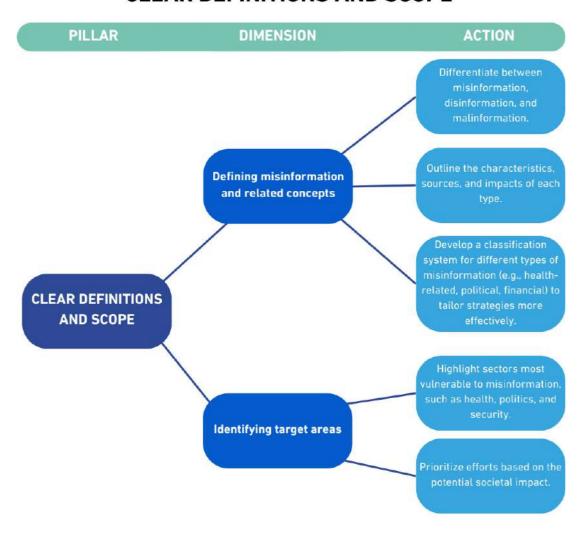- Prioritize efforts based on the potential societal impact.

Figure 5: Pillar 1 Dimensions and Actions

3.4.2 Pillar 2: Cultural Context and Sensitivity

The **pillar of Cultural Context and Sensitivity** highlights the importance of tailoring strategies to align with the cultural values, norms, and practices of diverse communities.

In the framework for combating online misinformation, the **pillar of Cultural Context and Sensitivity** highlights the importance of tailoring strategies to align with the cultural values, norms, and practices of diverse communities, as shown in Figure 6. Misinformation does not exist in isolation; it is shaped by and disseminated within specific cultural contexts. This pillar ensures that interventions respect local nuances while maintaining alignment with broader global efforts, fostering trust and effectiveness.

The pillar has two **dimensions**:

- The **dimension of cultural sensitivity and adaptation** emphasizes understanding and respecting the cultural contexts in which misinformation spreads. Interventions should account for local values, communication styles, and societal dynamics to ensure relevance and resonance with the target audience. This approach enhances the credibility and acceptance of initiatives, reducing resistance and improving outcomes.
- The **dimension of balancing global standards with local practices** involves adapting international best practices to culturally specific contexts. It ensures that while global standards remain consistent, their implementation is sensitive to local nuances, harmonizing universal principles with localized applications to achieve equitable and sustainable solutions.

By integrating cultural considerations, this pillar ensures that interventions are not only relevant but also respectful and effective. It fosters credibility, trust, and collaboration, making efforts to combat misinformation more impactful across different cultural contexts.

The **actions** proposed under Pillar 2 include recognizing how cultural nuances influence the dissemination and perception of information, tailoring interventions to fit local customs and societal values, and balancing international best practices with regional adaptations. Additionally, fostering regional collaborations strengthens localized efforts while contributing to broader global initiatives. These actions aim to create solutions that are both culturally relevant and universally effective.

Understanding how cultural nuances affect information dissemination and perception is fundamental to combating misinformation effectively. Cultural beliefs, values, and communication norms shape how people interpret and share information. For instance, certain narratives may resonate differently across regions due to historical, social, or linguistic factors. By studying these nuances, strategies can be refined to anticipate and address culturally specific misinformation trends.

Establishing training programs for stakeholders to enhance cultural competence and sensitivity is essential for addressing misinformation in diverse communities effectively. These programs equip participants with the skills to understand cultural nuances, respect local traditions, and adapt strategies to resonate with different audiences. By fostering greater cultural awareness, stakeholders can build trust, improve communication, and ensure that misinformation countermeasures are both inclusive and impactful, particularly in multicultural or vulnerable settings.

Customizing strategies to align with local customs, languages, and societal values ensures that interventions are relatable and impactful. Strategies that incorporate local languages, respect traditions, and align with community values are more likely to gain public trust and engagement. For example, incorporating culturally appropriate visuals or community-specific messaging can significantly enhance the reach and effectiveness of campaigns against misinformation.

Applying international best practices while allowing for regional adaptations strikes a balance between leveraging globally proven methods and addressing local realities. While international frameworks offer valuable guidance, they must be flexible enough to accommodate regional differences in infrastructure, literacy levels, and governance structures. This adaptability ensures that global standards do not overshadow local needs.

Fostering regional collaborations and local partnerships to address specific local challenges promotes shared responsibility and resource optimization. Partnerships among neighboring countries, regional organizations, and local stakeholders can address transboundary issues and ensure that solutions are tailored to the specific challenges of the area. These collaborations enhance collective resilience against misinformation while building trust and solidarity across communities.

CULTURAL CONTEXT AND SENSITIVITY

PILLAR	DIMENSION	ACTION

CULTURAL CONTEXT AND SENSITIVITY

Cultural sensitivity and adaptation

Understand how cultural nuances affect information dissemination and perception.

Customize strategies to align with local customs, languages, and societal values.

Establish training programs for stakeholders to enhance cultural competence and sensitivity.

Balancing global standards with local practices

Apply international best practices while allowing for regional adaptations.

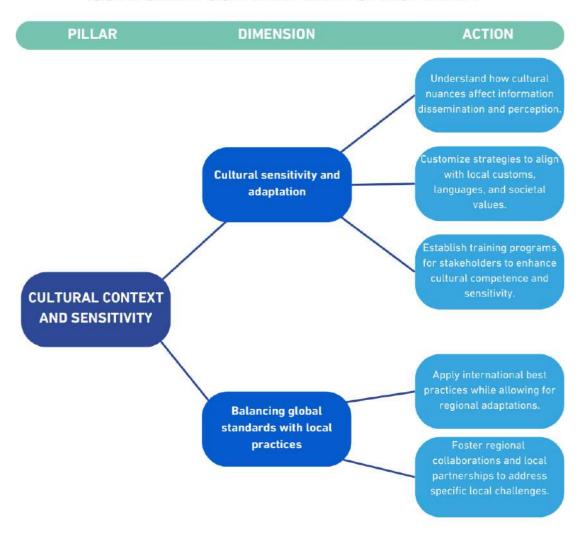Foster regional collaborations and local partnerships to address specific local challenges.

Figure 6: Pillar 2 Dimensions and Actions

3.4.3 Pillar 3: Legal Framework and Ethical Balance

The **pillar of Legal Framework and Ethical Balance** focuses on developing laws and policies that address misinformation while safeguarding fundamental rights and adhering to ethical principles.

The **pillar of Legal Framework and Ethical Balance** focuses on developing laws and policies that address misinformation while safeguarding fundamental rights and adhering to ethical principles, as shown in Figure 7. It emphasizes the delicate balance between regulating harmful content and protecting individual freedoms, ensuring proportionality, fairness, and accountability in enforcement. This pillar provides the structural and ethical foundation necessary for responsible governance in combating misinformation.

Adopting international standards and best practices in content regulation ensures alignment with globally recognized principles and enhances consistency across jurisdictions. Guidelines from organizations like the United Nations (UN), the European Union (EU), and other international bodies provide a robust framework for regulating content responsibly while upholding fundamental rights such as freedom of expression. These standards incorporate mechanisms to address misinformation, hate speech, and harmful content while promoting transparency and accountability. Aligning national or organizational efforts with these global benchmarks fosters collaboration, facilitates interoperability across platforms, and strengthens the credibility of content regulation initiatives.

The pillar has three **dimensions**:

- The **dimension of protecting freedom of speech while regulating content** addresses the challenge of balancing efforts to combat harmful content with the protection of freedom of expression. Policies should avoid suppressing legitimate discourse or stifling democratic engagement by setting clear, ethically aligned boundaries for content moderation.
- The **dimension of proportionate enforcement and penalties** focuses on designing mechanisms and consequences that are fair, effective, and context-sensitive. Overly punitive measures can erode public trust, while lenient approaches risk inefficacy. Proportionality ensures credibility and compliance with legal norms.
- The **dimension of assigning responsibility and ensuring accountability** highlights the need for transparency and clarity in delineating stakeholder roles. All stakeholders should fulfill their responsibilities without overreach, ensuring a balanced and equitable approach to enforcement.

This pillar ensures that legal and ethical safeguards are in place, fostering public trust and accountability. By balancing rights and responsibilities, it lays the groundwork for effective, fair, and sustainable solutions to address misinformation.

The **actions** proposed under Pillar 3 include ensuring that measures respect individual freedoms while promoting transparency and accountability in enforcement processes. Clear guidelines should establish fair penalties for harmful misinformation, distinguishing between intentional and unintentional dissemination, while defining roles and responsibilities across all stakeholders. Additionally, independent oversight committees to review enforcement actions and self-regulation among digital platforms are essential to ensure the integrity and sustainability of these efforts. Together, these actions aim to uphold ethical standards and foster trust in the regulatory framework.

Ensuring that measures respect individual rights and do not suppress legitimate discourse is a cornerstone of ethical regulation. While combating misinformation is critical, it should not come at the expense of freedom of expression. Policies should avoid overreach and focus on addressing harmful content without stifling constructive public dialogue. This balance is essential to maintaining democratic values while countering misinformation.

Promoting transparency and accountability in content moderation and enforcement processes builds public trust and ensures that actions against misinformation are fair and justified. Platforms and regulatory bodies should clearly communicate their decision-making processes, criteria for moderation, and avenues for appeal. Transparent systems help avoid perceptions of bias and foster credibility in enforcement.

Establishing fair and appropriate penalties for the dissemination of harmful misinformation ensures that responses are proportionate to the severity of the impact. Overly harsh penalties may deter participation in public discourse, while lenient measures risk enabling misinformation to persist. A balanced approach, informed by the nature of the content and its consequences, is key to fostering compliance without undermining trust.

Distinguishing between intentional and unintentional spread of misinformation is critical for assigning suitable consequences. Intentional dissemination (disinformation) warrants stricter measures due to its malicious intent, whereas unintentional sharing (misinformation) may require educational interventions to prevent recurrence. This differentiation ensures that responses address the root causes appropriately while maintaining fairness.

Defining clear roles and responsibilities for individuals, organizations, and platforms helps to clarify accountability in combating misinformation. Platforms play a central role in detecting and mitigating harmful content, while governments, civil society, and individuals contribute through regulation, advocacy, and responsible behavior. Clearly outlined responsibilities ensure coordinated and effective action.

Addressing algorithmic bias in digital platforms is critical to preventing the amplification of misinformation. Biased algorithms can unintentionally prioritize false or misleading content, increasing its reach and impact. By collaborating with technology companies, data scientists, and regulatory agencies, stakeholders can identify these biases and develop fair, transparent solutions. This ensures that algorithms promote accurate, credible information, fostering a more trustworthy online environment.

Implementing oversight mechanisms (e.g., oversight committee) and encouraging self-regulation among digital

platforms fosters a sustainable and ethical approach to misinformation management. Independent oversight bodies can monitor platform practices and ensure compliance with agreed standards, while self-regulation promotes proactive measures within the industry. Together, these mechanisms create a balanced and adaptive system for addressing misinformation.
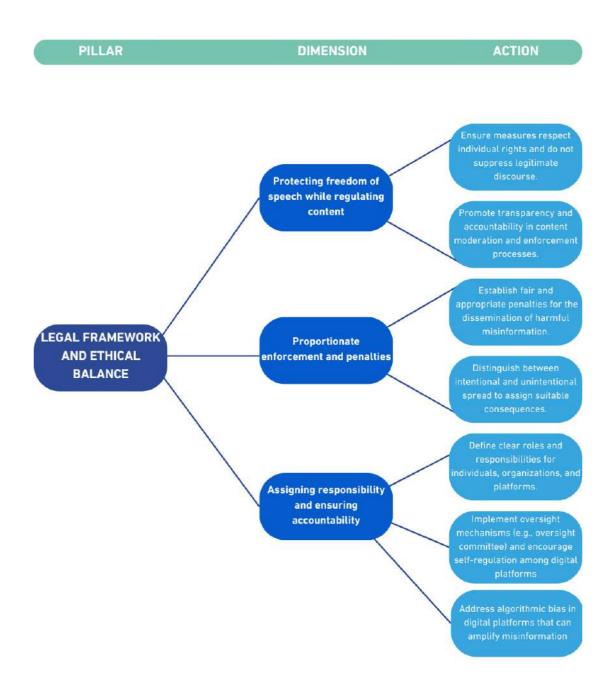
LEGAL FRAMEWORK AND ETHICAL BALANCE

PILLAR	DIMENSION	ACTION
LEGAL FRAMEWORK AND ETHICAL BALANCE	Protecting freedom of speech while regulating content	Ensure measures respect individual rights and do not suppress legitimate discourse.
		Promote transparency and accountability in content moderation and enforcement processes.
	Proportionate enforcement and penalties	Establish fair and appropriate penalties for the dissemination of harmful misinformation.
		Distinguish between intentional and unintentional spread to assign suitable consequences.
	Assigning responsibility and ensuring accountability	Define clear roles and responsibilities for individuals, organizations, and platforms.
		Implement oversight mechanisms (e.g., oversight committee) and encourage self-regulation among digital platforms
		Address algorithmic bias in digital platforms that can amplify misinformation

Figure 7: Pillar 3 Dimensions and Actions

3.4.4 Pillar 4: Education and Empowerment

The **pillar of Education and Empowerment** emphasizes the importance of long-term, sustainable solutions to combat misinformation by equipping individuals and communities with the knowledge and skills to recognize, resist, and counter false or misleading content

The **pillar of Education and Empowerment** emphasizes the importance of long-term, sustainable solutions to combat misinformation by equipping individuals and communities with the knowledge and skills to recognize, resist, and counter false or misleading content, as shown in Figure 8. By prioritizing proactive education over punitive measures, this pillar aims to foster resilience against misinformation and empower communities to actively promote accurate information.

This pillar has three **dimensions**:

- The **dimension of digital literacy and critical thinking** focuses on developing individuals' capacity to critically evaluate information, identify credible sources, and understand how misinformation spreads. By enhancing digital literacy and critical thinking, people are equipped to navigate the information landscape effectively and make informed decisions.
- The **dimension of community engagement and awareness** highlights the importance of outreach efforts that involve local communities in understanding the impact of misinformation, sharing best practices, and building trust. Community-driven initiatives amplify the reach and effectiveness of educational campaigns by

tailoring solutions to local contexts.
- The **dimension of prioritizing education over punishment** underscores the need to focus on empowering individuals through education rather than relying on punitive actions. This approach fosters a culture of informed decision-making, shared responsibility, and proactive resilience against misinformation.

This pillar ensures that communities are informed, empowered, and prepared to counter misinformation, creating a foundation for a well-equipped society capable of making accurate and responsible decisions in the face of false or misleading content.

The **actions** proposed under Pillar 4 include integrating digital literacy into educational systems, equipping individuals with critical thinking skills, and fostering community dialogue. Proactive campaigns should emphasize the societal impact of misinformation, focusing on education rather than punitive measures, and encouraging a culture of informed sharing and responsibility. These **actions** aim to create an informed public capable of identifying and countering misinformation effectively.

Integrating digital literacy programs into educational curricula at all levels, including schools' level, is a foundational

step in preparing future generations to navigate the information landscape. By embedding digital literacy and critical thinking skills into schools, universities, and adult education programs, individuals can learn how to critically evaluate information, identify credible sources, and understand the mechanisms of misinformation. This institutional approach ensures long-term resilience against misinformation.

Equipping individuals with skills to discern credible information from falsehoods empowers them to make informed decisions. Practical skills, such as fact-checking, recognizing bias, and understanding the role of algorithms, enable individuals to confidently engage with diverse information sources. These competencies reduce the spread of misinformation and foster a culture of critical engagement.

Launching proactive educational campaigns highlighting the impact of misinformation raises public awareness of its societal consequences. Campaigns can use accessible media formats to illustrate how misinformation can undermine trust, spread fear, and disrupt communities. Such initiatives encourage vigilance and collective responsibility in combating false information.

Exploring mechanisms to incentivize the creation and dissemination of truthful content is crucial in combating online misinformation. By rewarding content creators, digital platforms, and advertisers who prioritize accuracy and credibility, stakeholders can encourage the production and spread of reliable information.

Mechanisms such as financial incentives, algorithmic prioritization of verified content, and partnerships with sponsors can help create an ecosystem where truthful content thrives, reducing the influence of misinformation.

Fostering open dialogue within communities promotes critical assessment of information in a supportive environment. Community-based discussions and community outreach programs provide platforms for sharing experiences, debunking misinformation, and exploring solutions tailored to local contexts. Open dialogue also builds trust and strengthens communal resilience against misinformation.

Focusing on educating the public rather than imposing punitive measures shifts the emphasis from punishment to prevention. Educational approaches foster understanding and long-term behavior change, empowering individuals to become active participants in combating misinformation. This positive approach encourages collaboration and avoids alienating communities.

Encouraging a culture of informed sharing and personal responsibility instills a sense of accountability among individuals. By promoting thoughtful consumption and sharing of information, this action emphasizes the role everyone plays in preventing the spread of misinformation. A culture of informed engagement ensures that misinformation is challenged at the source.
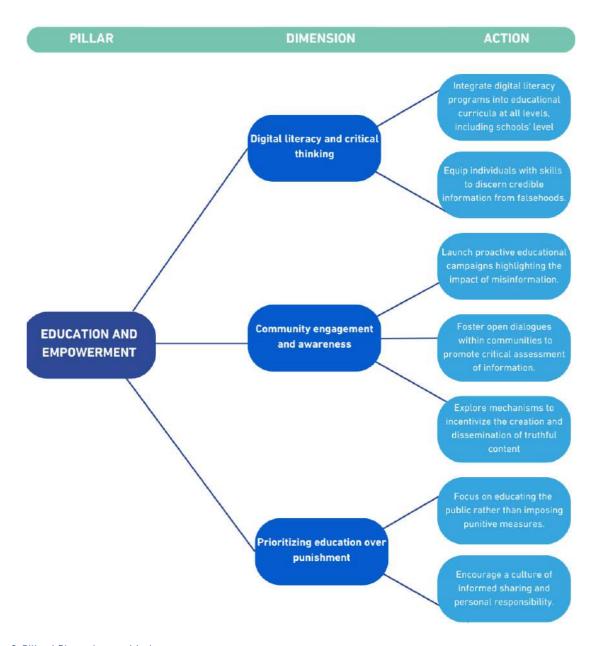
EDUCATION AND EMPOWERMENT

| PILLAR | DIMENSION | ACTION |

EDUCATION AND EMPOWERMENT

Digital literacy and critical thinking
- Integrate digital literacy programs into educational curricula at all levels, including schools' level
- Equip individuals with skills to discern credible information from falsehoods.

Community engagement and awareness
- Launch proactive educational campaigns highlighting the impact of misinformation.
- Foster open dialogues within communities to promote critical assessment of information.
- Explore mechanisms to incentivize the creation and dissemination of truthful content

Prioritizing education over punishment
- Focus on educating the public rather than imposing punitive measures.
- Encourage a culture of informed sharing and personal responsibility.

Figure 8: Pillar 4 Dimensions and Actions

3.4.5 Pillar 5: Technological Innovation

The **pillar of Technological Innovation** emphasizes leveraging advanced technologies to effectively detect, prevent, and counter misinformation.

The **pillar of Technological Innovation** emphasizes leveraging advanced technologies to effectively detect, prevent, and counter misinformation, as shown in Figure 9. Technology plays a dual role as both a challenge and a solution in combating misinformation. This pillar focuses on the development and deployment of innovative tools and systems to stay ahead of evolving threats, highlighting the importance of collaboration, adaptability, and ethical considerations in using technology to address this issue.

The pillar has three **dimensions**:

- The **dimension of advanced detection and prevention tools** focuses on creating and implementing sophisticated algorithms, AI-driven tools, and machine learning models. These tools enable stakeholders to identify and address misinformation in real-time, allowing for swift and accurate responses that minimize the spread of harmful content.
- The **dimension of proactive and reactive technological measures** emphasizes the integration of both forward-looking and responsive approaches. Proactive measures anticipate and prevent misinformation, while reactive measures address emerging threats effectively.
- The **dimension of collaborative tech development** underscores the value of partnerships among stakeholders. Collaborative efforts create transparent, effective, and scalable technological solutions that align with ethical standards and societal needs.
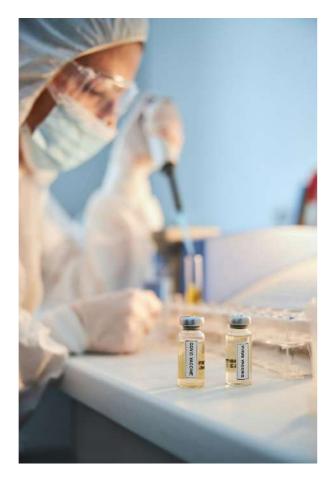
By fostering innovation and collaboration, this pillar ensures that technological advancements are harnessed responsibly and effectively to counter misinformation. It provides a robust foundation for a comprehensive and adaptive technological response to an ever-evolving challenge.

The **actions** proposed under Pillar 5 include investing in cutting-edge technologies such as artificial intelligence (AI) and machine learning, developing accessible tools for content verification, and implementing proactive systems to counter misinformation. Collaborative efforts between tech companies, researchers, and governments are essential for driving innovation, while sharing advancements and best practices ensures global alignment. These actions aim to create a technological ecosystem capable of addressing misinformation swiftly and effectively.

Investing in artificial intelligence and machine learning for real-time detection is a critical step in detecting and mitigating misinformation more effectively. These technologies enable the rapid analysis of large volumes of data to identify patterns, detect false narratives, and flag harmful content. Continued investment ensures that

detection systems remain adaptive to evolving misinformation tactics.

Developing user-friendly tools for content verification and rapid fact-checking empowers individuals and organizations to independently assess the credibility of information. Tools such as browser extensions, mobile apps, and automated fact-checking systems make verification accessible to the general public, fostering widespread engagement in combating misinformation.

Implementing systems that anticipate and counteract misinformation before it spreads focuses on proactive measures. Predictive analytics and scenario modeling can identify vulnerabilities and potential misinformation campaigns in advance, enabling stakeholders to address issues preemptively. A special focus should be placed on novel technologies, such as misinformation generated by AI or deepfakes, to ensure these emerging threats are effectively mitigated. This forward-looking approach minimizes the societal impact of misinformation.

Establishing rapid response protocols to address misinformation post-detection ensures timely and effective action. These protocols can include coordinated responses by platforms, fact-checkers, and authorities to correct misinformation and limit its spread. Rapid responses are essential to mitigate harm and restore trust in information ecosystems. Furthermore, integrating these protocols into a comprehensive **crisis response plan** ensures a structured and prepared approach to addressing misinformation during critical events, enabling swift and coordinated actions to minimize societal impact.

Encouraging partnerships between tech companies, researchers, and governments promotes innovation and accountability. Collaborative platforms can lead to the development of more robust tools, shared datasets, and ethical guidelines for addressing misinformation. These partnerships ensure that technological solutions are informed by diverse expertise and perspectives.

Sharing technological advancements and best practices across platforms and borders fosters global cooperation. By disseminating successful strategies and innovations, stakeholders can learn from one another and adapt effective solutions to their local contexts. This collaborative sharing enhances the collective capacity to address misinformation worldwide.
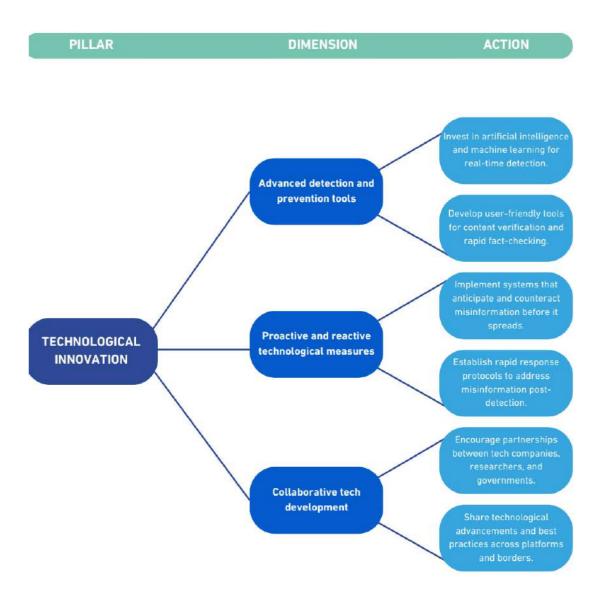
TECHNOLOGICAL INNOVATION

PILLAR	DIMENSION	ACTION
	Advanced detection and prevention tools	Invest in artificial intelligence and machine learning for real-time detection.
		Develop user-friendly tools for content verification and rapid fact-checking.
TECHNOLOGICAL INNOVATION	Proactive and reactive technological measures	Implement systems that anticipate and counteract misinformation before it spreads.
		Establish rapid response protocols to address misinformation post-detection.
	Collaborative tech development	Encourage partnerships between tech companies, researchers, and governments.
		Share technological advancements and best practices across platforms and borders.

Figure 9: Pillar 5 Dimensions and Actions

3.4.6 Pillar 6: Global Collaboration and Partnerships

The **pillar of Global Collaboration and Partnerships** highlights the critical need for collective action across nations, sectors, and disciplines.

The **pillar of Global Collaboration and Partnerships** highlights the critical need for collective action across nations, sectors, and disciplines to address the widespread and borderless nature of misinformation, as shown in Figure 10. This pillar emphasizes coordinated efforts that leverage shared expertise, resources, and perspectives while considering the diverse needs and contexts of local communities. By fostering strong partnerships, it aims to develop unified yet adaptable strategies for combating misinformation on a global scale.

The pillar has three **dimensions**:

- The **dimension of international cooperation** focuses on fostering collaboration between governments, international organizations, and regional bodies. This involves sharing best practices, aligning strategies, and coordinating efforts to address cross-border challenges effectively.
- The **dimension of public-private synergy** emphasizes building partnerships among governments, technology companies, academia, and civil society. By pooling resources, expertise, and technological solutions, this collaboration ensures a balanced and inclusive approach to combating misinformation.
- The **dimension of harmonizing global and local efforts** highlights the importance of aligning global standards with local practices. This dimension promotes the integration of global initiatives with grassroots efforts, ensuring that strategies are both globally aligned and locally relevant to achieve comprehensive and sustainable results. National collaboration should also be emphasized

as a critical need to ensure cohesive efforts within a country, leveraging the strengths of various sectors and stakeholders to combat misinformation effectively.

This pillar ensures that combating misinformation is a shared responsibility, fostering partnerships that bridge gaps across borders and sectors. Through collaboration, it provides a pathway to scalable, sustainable, and inclusive solutions.

The **actions** proposed under Pillar 6 include building alliances among governments and international bodies, fostering resource-sharing, and engaging stakeholders such as tech companies, media organizations, and civil society. Collaborative platforms for information sharing and strategy development further strengthen coordinated efforts. By balancing global objectives with local needs and adapting international strategies to regional contexts, these actions ensure a cohesive yet flexible approach that addresses both global and local challenges of misinformation.

Building alliances among governments and international bodies to coordinate strategies, international agreements or treaties to standardize efforts and build unified front against online misinformation. Through joint commitments, organization of global forums for strategy alignment, and shared objectives, these alliances can streamline efforts, reduce duplication, and maximize impact. Coordinated global strategies are particularly critical for addressing transnational misinformation campaigns and ensuring consistency across borders.

Creating a repository of best practices and case studies provides stakeholders with a centralized resource to learn from successful strategies and adapt them to their own contexts. This repository promotes collaboration by sharing evidence-based approaches, innovative solutions, and lessons learned from combating misinformation across different sectors and regions. By facilitating continuous learning and improvement, it ensures stakeholders can implement more effective and informed measures to address the evolving challenges of misinformation.

Sharing resources, intelligence, and methodologies enhances global resilience by pooling expertise and capabilities. The open exchange of tools, research findings, and best practices between nations and organizations fosters innovation and strengthens collective defenses against misinformation. This collaborative approach enables stakeholders to tackle challenges more efficiently and effectively.

Establishing cross-sector partnerships by engaging stakeholders such as tech companies, media organizations, NGOs, academia, and civil society in joint initiatives ensures a comprehensive and inclusive approach to combating misinformation. These stakeholders bring diverse perspectives, resources, and influence, which are crucial for addressing the multifaceted nature of the problem. Collaborative initiatives leverage the strengths of each sector, driving impactful and sustainable solutions.

Developing collaborative platforms for information sharing and strategy development facilitates ongoing dialogue and coordination among stakeholders. These platforms serve as hubs for sharing critical information, such as research findings, best practices, technological advancements, and real-time updates on misinformation trends. Additionally, they enable stakeholders to track progress, align efforts, and refine strategies based on shared insights. By

fostering collaboration in real time, these platforms enhance the adaptability and responsiveness of misinformation strategies, ensuring a cohesive and informed approach to addressing this challenge.

Balancing global objectives with local needs and values ensures that strategies are both effective and culturally sensitive. While global goals\ss provide overarching direction, local contexts must inform the design and implementation of interventions. This balance fosters trust and relevance, making global initiatives more impactful at the local level.

Convening regional roundtables to align global strategies with local needs is a vital step in ensuring the effectiveness of misinformation countermeasures. These roundtables bring together diverse stakeholders to discuss regional challenges, share best practices, and adapt global approaches to fit local contexts. By fostering collaboration and dialogue, they create actionable insights and strengthen partnerships, ensuring that strategies are both culturally sensitive and impactful at the grassroots level.

Adapting international strategies to fit regional contexts without diluting effectiveness recognizes the diversity of challenges and resources across regions. Tailored approaches ensure that strategies remain relevant and actionable, addressing specific local vulnerabilities while upholding the broader principles of the global framework. This adaptability strengthens both regional and global efforts in combating misinformation

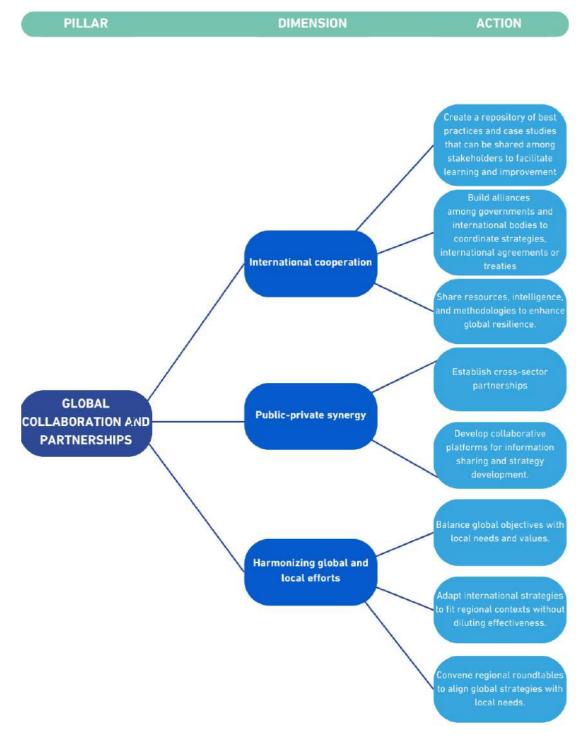# GLOBAL COLLABORATION AND PARTNERSHIPS

PILLAR	DIMENSION	ACTION

GLOBAL COLLABORATION AND PARTNERSHIPS

International cooperation
- Create a repository of best practices and case studies that can be shared among stakeholders to facilitate learning and improvement
- Build alliances among governments and international bodies to coordinate strategies, international agreements or treaties
- Share resources, intelligence, and methodologies to enhance global resilience.

Public-private synergy
- Establish cross-sector partnerships
- Develop collaborative platforms for information sharing and strategy development.

Harmonizing global and local efforts
- Balance global objectives with local needs and values.
- Adapt international strategies to fit regional contexts without diluting effectiveness.
- Convene regional roundtables to align global strategies with local needs.

Figure 10: Pillar 6 Dimensions and Actions

3.4.7 Pillar 7: Assessment and Monitoring

The **pillar of Assessment and Monitoring** highlights the importance of evidence-based, adaptive, and measurable approaches to combating misinformation

The **pillar of Assessment and Monitoring** highlights the importance of evidence-based, adaptive, and measurable approaches to combating misinformation, as shown in Figure 11. Effective monitoring ensures that strategies remain relevant and responsive to evolving challenges, while systematic assessment provides actionable insights to refine interventions. This pillar is crucial for ensuring accountability and sustainability, enabling stakeholders to track progress, identify gaps, and adjust efforts based on robust evidence.

The pillar has three **dimensions**:

- The **dimension of metrics and benchmarks** focuses on developing measurable indicators to evaluate the success of misinformation countermeasures. Metrics such as misinformation spread rates, public awareness levels, and platform compliance serve as a clear foundation for tracking progress. Additionally, sector-specific benchmarks ensure targeted assessments, tailoring strategies to address unique challenges in areas like health, politics, and security.
- The **dimension of data collection and analysis** emphasizes the need for comprehensive systems to gather and interpret data on misinformation trends and impacts. Centralized data systems, supported by partnerships with academic institutions and civil society, enhance the reliability and depth of collected data. Leveraging advanced analytics and collaborative approaches ensures informed decision-making and proactive adaptation of strategies.
- The **dimension of transparency and feedback** ensures that monitoring efforts are open and inclusive. Regularly published reports summarizing findings from assessments enhance accountability and build trust among stakeholders. Feedback channels enable policymakers, platforms, and communities to contribute their experiences and insights, fostering dynamic and participatory assessment processes.

This pillar ensures that efforts to combat misinformation are continuously improved and grounded in evidence. By integrating robust metrics, data-driven insights, and inclusive feedback, it promotes accountability, transparency, and sustained effectiveness.

The **actions** proposed under Pillar 7 focus on establishing clear metrics, implementing robust data collection systems, and fostering transparency and collaboration. Together, they create a comprehensive framework to ensure that efforts to combat misinformation are evidence-driven and continuously improved.

Defining Key Performance Indicators (KPI) and sector-specific benchmarks is vital to enhance the framework's effectiveness. KPIs provide measurable criteria to evaluate the success of interventions, such as reductions in misinformation spread or improvements in public awareness. Sector-specific metrics and benchmarks tailor these assessments to critical areas like health, politics, and security, ensuring that monitoring efforts address the unique challenges of each domain.

Building centralized data systems is crucial for comprehensive and efficient data collection and analysis. These systems aggregate information on misinformation trends, sources, and impacts across platforms and regions. Collaborating with academic institutions and civil society further ensures that the data collected is accurate, reliable, and reflective of real-world dynamics, supporting informed and proactive decision-making.

Using real-time monitoring tools to track misinformation enables swift identification and response, minimizing its impact. Advanced technologies like AI can flag false information and trigger immediate corrective actions. Collaboration among tech companies, government agencies, and fact-checkers ensures effective implementation and rapid mitigation efforts.

Using data analytics to map misinformation patterns in vulnerable areas is a critical step in identifying hotspots where misinformation poses the greatest risks. By analyzing trends, sources, and impacts, stakeholders can better understand the specific challenges faced by these regions. This approach allows for targeted interventions, efficient resource allocation, and the development of tailored strategies to mitigate the spread of false information. Such data-driven insights ensure that efforts are focused where they are needed most, enhancing the overall effectiveness of misinformation countermeasures.

Publishing regular reports and fostering transparency in findings strengthens trust and accountability among stakeholders. These reports summarize progress, highlight challenges, and propose refinements, ensuring that monitoring remains a collaborative and inclusive effort. Transparency also encourages broader participation and alignment across sectors and regions.

Conducting periodic independent audits is essential to ensure the framework's effectiveness and identify areas for improvement. These audits provide an objective evaluation of its implementation, highlighting successes and uncovering gaps or challenges. By involving independent auditors, policy experts, and civil society organizations, the process promotes transparency, accountability, and continual refinement, ensuring the framework remains relevant and impactful in addressing misinformation.

Establishing feedback channels creates opportunities for stakeholders to contribute their insights and experiences to the assessment process. Policymakers, platforms, and communities can share valuable perspectives that inform the refinement of monitoring strategies. This participatory approach ensures that actions remain responsive to the realities on the ground and fosters continuous improvement in combating misinformation.
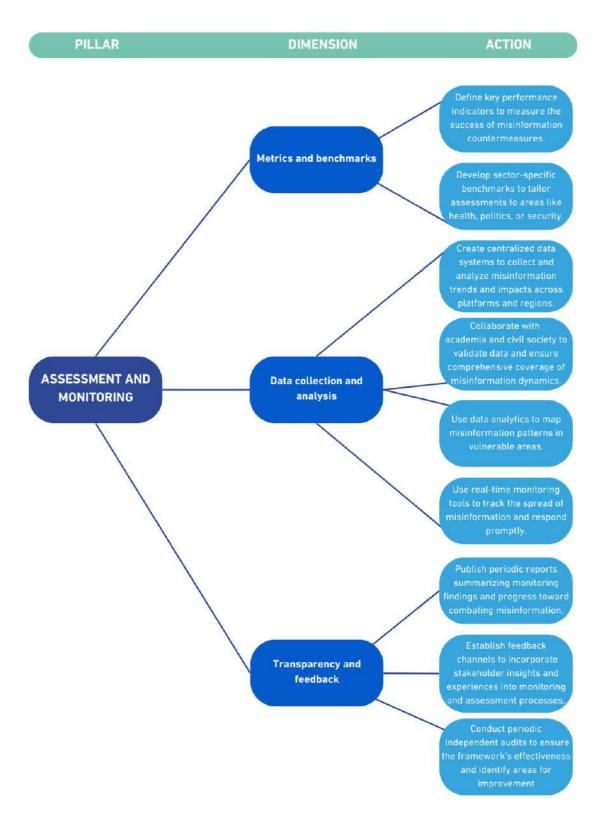
ASSESSMENT AND MONITORING

PILLAR	DIMENSION	ACTION

ASSESSMENT AND MONITORING

Metrics and benchmarks
- Define key performance indicators to measure the success of misinformation countermeasures.
- Develop sector-specific benchmarks to tailor assessments to areas like health, politics, or security.

Data collection and analysis
- Create centralized data systems to collect and analyze misinformation trends and impacts across platforms and regions.
- Collaborate with academia and civil society to validate data and ensure comprehensive coverage of misinformation dynamics.
- Use data analytics to map misinformation patterns in vulnerable areas.
- Use real-time monitoring tools to track the spread of misinformation and respond promptly.

Transparency and feedback
- Publish periodic reports summarizing monitoring findings and progress toward combating misinformation.
- Establish feedback channels to incorporate stakeholder insights and experiences into monitoring and assessment processes.
- Conduct periodic independent audits to ensure the framework's effectiveness and identify areas for improvement

Figure 11: Pillar 7 Dimensions and Actions

4. CONCLUSION

The framework represents a robust and comprehensive strategy to combat online misinformation by addressing its multifaceted challenges through a holistic lens. The seven pillars – **Clear Definitions and Scope, Cultural Context and Sensitivity, Legal Framework and Ethical Balance, Education and Empowerment, Technological Innovation, Global Collaboration and Partnerships, and Assessment and Monitoring** – together offer a structured approach to building resilience against misinformation. Each pillar reflects an integration of evidence-based insights, stakeholder perspectives, and practical actions designed to bridge the gap between policy and implementation.

At its core, the framework emphasizes the necessity of fostering collaboration and adaptability. By recognizing the interplay between global standards and local contexts, the proposed actions ensure that solutions are not only universally informed but also culturally and regionally relevant. This adaptability is further underscored by the focus on **Education and Empowerment**, which aims to cultivate a well-informed society capable of navigating and countering misinformation independently.

The inclusion of advanced technological solutions alongside ethical considerations highlights the delicate balance required to tackle misinformation without compromising fundamental freedoms. Furthermore, the emphasis on **Assessment and Monitoring** ensures that the strategies remain dynamic, evidence-driven, and responsive to the evolving nature of misinformation.

Ultimately, this framework provides a clear pathway for stakeholders to take collective responsibility in fostering an information ecosystem that prioritizes accuracy, trust, and public well-being. It sets a foundation for proactive engagement and continuous innovation, paving the way for sustainable and effective efforts against misinformation.

To ensure the framework's longevity and relevance, a commitment to **continuous improvement** is paramount. Regular updates must be scheduled to reflect emerging challenges, technological advancements, and innovative strategies. Additionally, incorporating robust feedback mechanisms will enable stakeholders to evaluate the framework's effectiveness and provide insights for refinement. **Transparency and accountability** are equally critical to fostering trust and ensuring impactful implementation. Transparent reporting on actions taken and their outcomes, coupled with clearly defined accountability mechanisms, will ensure that stakeholders remain responsible for their commitments. By embedding these elements into the framework's structure, it becomes a dynamic and resilient tool for combating misinformation in an evolving digital landscape.

Appendix: The 10 Aspects in Detail

Detailed explanation of the ten aspects that serve as foundational work for the subject framework pillars.[1]

The ten critical aspects essential for combating online misinformation were identified through a comprehensive methodology that combined extensive desk research, stakeholder engagement, and data collection. An extensive literature review was conducted to gather insights from academic articles, policy papers, and credible institutional reports that helped synthesize best practices and effective measures. This foundational research was complemented by survey data collected during the DCO DSA Roundtables, where policymakers provided valuable input. Additionally, face-to-face discussions with stakeholders, including representatives from academia, business, and civil society, enriched the framework's development by verifying and refining the initial findings. This collaborative approach ensured that the identified aspects were not only evidence-based but also reflective of diverse perspectives, leading to a robust understanding of the multifaceted challenges posed by misinformation.

In this appendix, the top ten aspects critical for combating online misinformation are discussed. These aspects informed the creation of the framework for combating online misinformation.

Proactive vs. Reactive Approaches

A central debate in combating misinformation revolves around whether to adopt proactive or reactive measures. In general, proactive law should be preferred to reactive law because it emphasizes acting in anticipation, taking control, and self-initiation [15]. By being proactive, lawmakers can promote desirable behavior, prevent undesirable outcomes, and keep legal risks from materializing. Proactive law focuses on prevention rather than cure, encourages cooperation between regulators and regulated entities, and aims to achieve regulatory goals through dialogue and self-regulation. Ultimately, proactive law is seen as a more effective and forward-looking approach compared to reactive law, which only responds to issues after they have arisen.

With respect to misinformation, reactive strategies often involve the implementation of stringent laws and penalties in response to specific incidents, such as the proliferation of false information during the COVID-19 pandemic. These reactive measures, while necessary in crises, often fail to address the long-term propagation of misinformation.

Proactive measures, on the other hand, emphasize education and enlightenment to foster a more informed and resilient public. Education initiatives, such as media literacy programs and critical thinking workshops, can equip individuals with the skills needed to discern credible information from falsehoods [16, 17]. For example, national curricula in Austria, China, Finland, and the United Kingdom include media literacy education, teaching students how to critically evaluate online content [18]. This proactive approach reduces reliance on punitive measures by addressing the root causes of misinformation and building

---

[1] A summary of these ten aspects is already presented in the preceding section 3.3.

societal resilience.

Proactive strategies also include the development of technological tools and partnerships with social media platforms to preemptively identify and mitigate misinformation. For example, Meta (formerly Facebook) has implemented fact-checking partnerships and AI-driven tools to flag and reduce the spread of false information [19, 20]. These efforts highlight the importance of continuous innovation and adaptation in the fight against misinformation.

Defining Misinformation and Target Areas

The challenge of defining misinformation is complex and varies across jurisdictions. Misinformation laws reflect different national priorities, targeting areas such as public health, political stability, national security, and economic stability.

A standardized, clear definition of misinformation [21, 22] is essential for fair and effective policy implementation. International collaboration can facilitate the harmonization of these definitions, ensuring consistency and justice across borders. Establishing common criteria for misinformation can enhance global efforts to combat it.

Moreover, targeting specific areas of misinformation can optimize the allocation of resources and efforts. Health-related misinformation, such as false claims about vaccines, poses significant public health risks [23]. During the COVID-19 pandemic, misinformation about the virus and vaccines led to widespread confusion and resistance to health guidelines [24], underscoring the need for targeted interventions. Similarly, misinformation that undermines electoral integrity or incites violence requires focused countermeasures to protect democratic

institutions and societal stability.

Severity of Punishments

The severity of punishments for spreading misinformation varies widely, with some jurisdictions imposing harsh penalties, including long-term imprisonment and hefty fines, while others prefer milder sanctions like content removal and temporary suspensions from platforms.

Critics argue that excessive punishments can infringe on human rights, particularly freedom of speech [25]. The balance between deterrence and free expression is delicate. While punitive measures are necessary to some extent, they should not stifle legitimate discourse or lead to self-censorship. A balanced approach that includes both penalties and rehabilitative measures, such as mandatory misinformation awareness programs, can be more effective. By combining deterrence with education, governments can address the root causes of misinformation rather than merely punishing the symptoms.

Combating Misinformation vs. Freedom of Speech

The tension between combating misinformation and preserving freedom of speech is a fundamental legal and ethical challenge. Strict misinformation laws risk being weaponized by political forces to suppress dissent and control public discourse [26]. This misuse is particularly concerning in authoritarian regimes where freedom of expression is already limited.

Protecting freedom of speech while combating misinformation requires nuanced policies that distinguish between harmful falsehoods and legitimate opinions. Implementing transparent oversight mechanisms and involving

independent bodies in the enforcement of misinformation laws can help prevent abuse [27].

Encouraging platforms to adopt robust self-regulatory measures can also mitigate the spread of misinformation without compromising free speech. Platforms can implement systems for flagging false information and providing accurate corrections, empowering users to make informed decisions. For example, X's (formerly Twitter's) Community Notes program allows users to collaboratively add notes to tweets that they believe are misleading, promoting community-driven fact-checking [28].

Education vs. Punishment

Focusing on empowerment and education is more effective than relying solely on harsh punishments. Enlightenment through education can address the underlying cognitive biases and lack of media literacy that often lead to the spread and belief in misinformation [29]. Educational campaigns can be tailored to different demographics, using relatable content and engaging formats to maximize impact.

For instance, integrating misinformation literacy into school curricula can equip future generations with the skills to critically evaluate information [30]. Public awareness campaigns, utilizing social media and popular influencers, can reach wider audiences and promote skepticism toward dubious claims [31]. For example, during the COVID-19 pandemic, the UK Government and the World Health Organization launched the "Stop the Spread" campaign to disseminate accurate information and debunk myths [32].

By fostering a culture of critical thinking and healthy skepticism, societies can reduce the prevalence of misinformation

organically [33]. This approach not only addresses the immediate spread of false information but also builds long-term resilience against future misinformation threats.

Responsibility and Accountability

The question of who should be held accountable for misinformation – users or platforms – is another critical issue [34]. Different countries have adopted varied approaches, with some placing the focus on individuals and others on platforms.

Holding platforms accountable for the content they host is essential, given their role in amplifying misinformation [35]. Platforms, such as Meta (formerly Facebook) and X (formerly Twitter), due to their vast reach and influence, are often seen as key players in the fight against misinformation. However, overly stringent regulations on platforms can stifle innovation and burden smaller companies. A collaborative approach, involving both public and private sectors, can balance these concerns. Platforms can implement advanced algorithms to detect and flag misinformation, while governments can provide guidelines and support for these efforts.

A balanced approach might involve shared responsibility, where both users and platforms play roles in mitigating misinformation [36]. Users should be educated about the consequences of spreading false information [37] and encouraged to verify facts before sharing [38]. Platforms, on the other hand, should be incentivized to develop and deploy effective misinformation detection and correction tools. For example, Google's Fact Check Explorer tool aggregates fact-checks from reputable organizations, providing users with easy access to verified information [39].

Novel Technologies

The rise of novel technologies, such as deep fakes and AI-generated misinformation, poses new challenges [40]. These technologies can create highly convincing false content, making detection and mitigation more difficult. Existing laws often fail to address these advanced forms of misinformation, highlighting the need for updated policies.

Incorporating novel technologies into misinformation policies is crucial. Governments should invest in research and development of tools to detect and counter AI-generated misinformation. Collaboration with tech companies can expedite the development of these technologies. For example, the Massachusetts Institute of Technology **Detect DeepFakes project** [41] is studying how to detect deep fakes with high accuracy.

Furthermore, public awareness and education about these technologies are essential. People need to understand the potential for AI and deep fakes to create false content and learn to critically evaluate the information they encounter. Initiatives like the Deepfake Detection Challenge, organized by Meta (formerly Facebook) and other tech companies, aim to improve the detection of AI-generated misinformation and raise public awareness about the issue [42].

International Cooperation and Public-Private Partnerships

Combating misinformation effectively requires international collaboration [43] and public-private partnerships [44, 45]. Misinformation is a global issue that transcends national borders, necessitating coordinated efforts among countries.

International bodies, such as the United Nations, can play a leading role in facilitating cooperation and establishing global standards [46, 47]. For instance, the United Nations global principles for information integrity include societal trust and resilience, healthy incentives, public empowerment, independent, free, and pluralistic media as well as transparency and research.

Public-private partnerships are equally important. By working together, public and private sectors can leverage their strengths to create a more comprehensive and effective response to misinformation. Governments can establish regulatory frameworks that encourage innovation while protecting public interests, and tech companies can develop and deploy tools to detect and mitigate misinformation.

Cultural Differences and Values

Cultural differences and societal values play a pivotal role in shaping the effectiveness and reception of misinformation policies. Understanding and integrating these cultural nuances is essential for crafting policies that are both respectful and effective across diverse populations.

Different cultures have varying perceptions of truth, authority, and information dissemination. Research shows that national cultural dimensions, such as power distance, individualism, and indulgence, significantly influence information source use across countries [48]. Trust in information varies across cultures, particularly between societies with greater individual freedoms and more collective ones, affecting perceptions of information value in personal and professional contexts [49].

Language barriers and diverse

communication styles significantly impact misinformation policies and their implementation. In multilingual societies, accurate translation and localization of information are crucial [50]. Language alternation in online communication can contribute to the spread of misinformation, particularly among non-native speakers [51]. For immigrant communities, language barriers, intergenerational divides, and historical traumas compound the impact of misinformation, influencing political engagement and community dynamics [52].

Moreover, communication styles – such as direct versus indirect communication – affect how messages are received and acted upon [53]. Policies should consider these differences by adopting flexible communication strategies that resonate with various cultural groups. For example, using storytelling and culturally relevant narratives can enhance the effectiveness of public awareness campaigns in regions with rich oral traditions [54].

Trust in media and public institutions varies widely across cultures and can influence the success of policies [55, 56]. In societies where trust in mainstream media is low, alternative channels such as community leaders or local influencers may be more effective in combating misinformation. Building trust through transparency, accountability, and consistent messaging is crucial for policy acceptance and effectiveness. Additionally, historical contexts, such as past government actions or media scandals, can shape current trust levels [57].

Ethical and moral values influence how societies perceive the balance between combating misinformation and preserving freedoms such as speech and privacy [58]. For example, cultures that prioritize

individual freedoms may resist policies perceived as restrictive or censorious, while those that emphasize collective well-being may be more accepting of stringent measures.

Cultural differences also extend to digital literacy levels [59]. In regions with lower levels of digital literacy, misinformation can spread more easily due to a lack of tools and skills to verify information.

Balancing Global Standards with Local Adaptations

While combating misinformation is a global challenge, policies must balance the establishment of universal standards with the need for local adaptations.

International collaboration can lead to the development of universal frameworks for misinformation policies, promoting consistency and cooperation across borders. Despite the benefits of universal frameworks, local customization is essential to address unique cultural, legal, and societal contexts [60]. Policies must be flexible enough to allow countries to modify global guidelines to fit their specific needs and values. This customization ensures that policies are relevant and effective within different cultural settings [61]. For example, a global framework might set standards for transparency and accountability, while allowing individual countries to determine the specific mechanisms for enforcement based on their legal systems and cultural norms [62]. Engaging local stakeholders in the adaptation process ensures that policies are culturally sensitive and widely accepted [63].

References

[1] S. K. Lee, J. Sun, S. Jang, and S. Connelly, "Misinformation of COVID-19 vaccines and vaccine hesitancy," *Scientific Reports*, vol. 12, no. 1, p. 13681, 2022, doi: 10.1038/s41598-02217430-6.

[2] D. MacFarlane, L. Q. Tay, M. J. Hurlstone, and U. K. Ecker, "Refuting spurious COVID-19 treatment claims reduces demand and misinformation sharing," *Journal of Applied Research in Memory and Cognition*, vol. 10, no. 2, pp. 248–258, 2021, doi: 10.1016/j.jarmac.2020.12.005.

[3] H. Hassanian-Moghaddam, N. Zamani, A. A. Kolahi, R. McDonald, and K. E. Hovda, "Double trouble: Methanol outbreak in the wake of the COVID-19 pandemic in Iran – a cross-sectional assessment," *Critical Care*, vol. 24, pp. 1–3, 2020, doi: 10.1186/s13054-020-03140-w.

[4] M. Reglitz, "Fake news and democracy," *Journal of Ethics & Social Philosophy*, vol. 22, p. 162, 2022. [Online]. Available: https://heinonline.org/HOL/LandingPage?handle=hein.journals/jetshy22&div=13&id=&page=

[5] Y. Dawood, "Combatting foreign election interference: Canada's electoral ecosystem approach to disinformation and cyber threats," *Election Law Journal: Rules, Politics, and Policy*, vol. 20, no. 1, pp. 10–31, 2021, doi: 10.1089/elj.2020.0652.

[6] H. Allcott and M. Gentzkow, "Social media and fake news in the 2016 election," *Journal of Economic Perspectives*, vol. 31, no. 2, pp. 211–236, 2017, doi: 10.1257/jep.31.2.211.

[7] B. Mutai, "Fake images and disinformation on social networking sites: Case study of Kenya's 2017 General Election," Ph.D. dissertation, University of Nairobi, 2021. [Online]. Available: http://erepository.uonbi.ac.ke/handle/11295/160578

[8] N. Komendantova, D. Erokhin, and T. Albano, "Misinformation and its impact on contested policy issues: The example of migration discourses," *Societies*, vol. 13, no. 7, p. 168, 2023, doi: 10.3390/soc13070168.

[9] S. Banaji, R. Bhat, A. Agarwal, N. Passanha, and M. S. Pravin, "WhatsApp vigilantes: An exploration of citizen reception and circulation of WhatsApp misinformation linked to mob violence in India," 2019. [Online]. Available: https://eprints.lse.ac.uk/104316/

[10] J. Whitten-Woodring, M. S. Kleinberg, A. Thawnghmung, and M. T. Thitsar, "Poison if you don't know how to use it: Facebook, democracy, and human rights in Myanmar," *The International Journal of Press/Politics*, vol. 25, no. 3, pp. 407–425, 2020, doi: 10.1177/1940161220919666.

[11] M. C. Arcuri, G. Gandolfi, and I. Russo, "Does fake news impact stock returns? Evidence from US and EU stock markets," *Journal of Economics and Business*, vol. 125, p. 106130, 2023, doi: 10.1016/j.jeconbus.2023.106130.

[12] A. Rangapur, H. Wang, and K. Shu, "Investigating online financial misinformation and its consequences: A computational perspective," *arXiv preprint arXiv:2309.12363*, 2023, doi: 10.48550/arXiv.2309.12363.

[13] K. M. D. I. Treen, H. T. P. Williams, and S. J. O'Neill, "Online misinformation about climate change," *Wiley Interdisciplinary Reviews: Climate Change*, vol. 11, no. 5, e665, 2020, doi: 10.1002/wcc.665.

[14] J. Farrell, K. McConnell, and R. Brulle, "Evidence-based strategies to combat scientific misinformation," *Nature Climate Change*, vol. 9, no. 3, pp. 191–195, 2019, doi: 10.1038/s41558-018-0368-6.

[15] K. Sorsa, "The proactive law approach: A further step towards better regulation," in J. Tala and A. Pakarinen, Eds., 2009, pp. 35–70. [Online]. Available: https://helda.helsinki.fi/server/api/core/bitstreams/6ab9bac6-abc8-4fce-b778-ebe1c70645ad/content

[16] J. McDougall, "Media literacy versus fake news: Critical thinking, resilience and civic engagement," *Media Studies*, vol. 10, no. 19, pp. 29–45, 2019. [Online]. Available: https://hrcak.srce.hr/ojs/index.php/medijske-studije/article/view/8786

[17] E. Georgiadou et al., "Fake news and critical thinking in information evaluation," *Limerick Institute of Technology (Ireland)*, vol. 21, p. 50, 2018. [Online]. Available: https://repository.mdx.ac.uk/item/87qxy

[18] L. Zhang, H. Zhang, and K. Wang, "Media literacy education and curriculum integration: A literature review," *International Journal of Contemporary Education*, vol. 3, no. 1, pp. 55–64, 2020, doi: 10.11114/ijce.v3i1.4769.

[19] Facebook, "Third-party fact-checking: How it works," Facebook, 2021. [Online]. Available: https://www.facebook.com/formedia/blog/third-party-fact-checking-how-it-works

[20] Meta, "Here's how we're using AI to help detect misinformation," Meta, 2020. [Online]. Available: https://ai.meta.com/blog/heres-how-were-using-ai-to-help-detect-misinformation/

[21] S. Van Der Linden, "Misinformation: Susceptibility, spread, and interventions to immunize the public," *Nature Medicine*, vol. 28, no. 3, pp. 460–467, 2022, doi: 10.1038/s41591022017136.

[22] E. Saltz, S. Barari, C. Leibowicz, and C. Wardle, "Misinformation interventions are common, divisive, and poorly understood," *Harvard Kennedy School (HKS) Misinformation Review*, vol. 2, no. 5, 2021, doi: 10.37016/mr-2020-81.

[23] H. J. Larson, "The biggest pandemic risk? Viral misinformation," *Nature*, vol. 562, 2018, doi: 10.1038/d41586-018-07034-4.

[24] J. H. Toney and S. Ishack, "A pandemic of confusion: Conflicting messages have characterized not just COVID-19, but also many past disease outbreaks," *American Scientist*, vol. 108, no. 6, pp. 344–348, 2020. [Online]. Available: https://www.americanscientist.org/article/a-pandemic-of-confusion

[25] D. Vese, "Governing fake news: The regulation of social media and the right to freedom of expression in the era of emergency," *European Journal of Risk Regulation*, vol. 13, no. 3, pp. 477–513, 2022, doi: 10.1017/err.2021.48.

[26] R. Neo, "When would a state crack down on fake news? Explaining variation in the governance of fake news in Asia-Pacific," *Political Studies Review*, vol. 20, no. 3, pp. 390–409, 2022, doi: 10.1177/14789299211013984.

[27] K. Klonick, "The Facebook Oversight Board: Creating an independent institution to adjudicate online free expression," *Yale Law Journal*, vol. 129, p. 2418, 2019. [Online]. Available: https://heinonline.org/HOL/LandingPage?handle=hein.journals/ylr129&div=48&id=&page=

[28] Y. Chuai, M. Pilarski, G. Lenzini, and N.

Pröllochs, "Community notes reduce the spread of misleading posts on X," *OSF Preprint*, 2024, doi: 10.31219/osf.io/3a4fe.

[29] T. Dame Adjin-Tettey, "Combating fake news, disinformation, and misinformation: Experimental evidence for media literacy education," *Cogent Arts & Humanities*, vol. 9, no. 1, p. 2037229, 2022, doi: 10.1080/23311983.2022.2037229.

[30] G. Polizzi and R. Taylor, "Misinformation, digital literacy and the school curriculum," 2019. [Online]. Available:
https://eprints.lse.ac.uk/101083/

[31] S. P. Trethewey, "Strategies to combat medical misinformation on social media," *Postgraduate Medical Journal*, vol. 96, no. 1131, pp. 4–6, 2020, doi: 10.1136/postgradmedj-2019-137201.

[32] World Health Organization, "Fighting misinformation in the time of COVID-19, one click at a time," 2021. [Online]. Available:
https://www.who.int/news-room/feature-stories/detail/fighting-misinformation-in-the-time-of-covid-19-one-click-at-a-time

[33] J. Li, "Not all skepticism is 'healthy' skepticism: Theorizing accuracy- and identity-motivated skepticism toward social media misinformation," *New Media & Society*, 2023, doi: 10.1177/14614448231179941.

[34] G. Lima, J. Han, and M. Cha, "Others are to blame: Whom people consider responsible for online misinformation," *Proceedings of the ACM on Human-Computer Interaction*, vol. 6, no. CSCW1, pp. 1–25, 2022, doi: 10.1145/3512953.

[35] V. Pickard, "Confronting the misinformation society: Facebook's 'fake news' is a symptom of unaccountable monopoly power," 2020, in *Confronting the Misinformation Society*. Cambridge, MA: MIT

Press, doi: 10.7551/mitpress/11807.003.0014.

[36] N. Helberger, J. Pierson, and T. Poell, "Governing online platforms: From contested to cooperative responsibility," *The Information Society*, vol. 34, no. 1, pp. 1–14, 2018, doi: 10.1080/01972243.2017.1391913.

[37] O. D. Apuke and B. Omar, "Fake news proliferation in Nigeria: Consequences, motivations, and prevention through awareness strategies," *Humanities & Social Sciences Reviews*, vol. 8, no. 2, pp. 318–327, 2020, doi: 10.18510/hssr.2020.8236.

[38] M. L. Khan and I. K. Idris, "Recognise misinformation and verify before sharing: A reasoned action and information literacy perspective," *Behaviour & Information Technology*, vol. 38, no. 12, pp. 1194–1212, 2019, doi: 10.1080/0144929X.2019.1578828.

[39] Google News Initiative, "Google fact check tools," 2024. [Online]. Available:
https://newsinitiative.withgoogle.com/resources/trainings/google-fact-check-tools/

[40] M. R. Shoaib, Z. Wang, M. T. Ahvanooey, and J. Zhao, "Deepfakes, misinformation, and disinformation in the era of frontier AI, generative AI, and large AI models," in *2023 International Conference on Computer and Applications (ICCA)*, 2023, pp. 1–7, doi: 10.1109/ICCA59364.2023.10401723.

[41] MIT Media Lab, "Detect Fakes: How to counteract misinformation created by AI," 2024. [Online]. Available:
https://www.media.mit.edu/projects/detect-fakes/overview/

[42] Meta, "Deepfake Detection Challenge Dataset," 2020. [Online]. Available:
https://ai.meta.com/datasets/dfdc/

[43] C. Li and A. Callegari, "How AI can also

be used to combat online disinformation," *World Economic Forum*, 2024. [Online]. Available: https://www.weforum.org/agenda/2024/06/ai-combat-online-misinformation-disinformation/

[44] S. K. Tiwari, S. P. Srivastava, B. Rani, and S. Chauhan, "Addressing health misinformation: Promoting accurate and reliable information," *Archives of Medicine and Health Sciences*, 2024, doi: 10.4103/amhs.amhs_314_23.

[45] O. Ramašauskaitė, "The role of collaborative networks in combating digital disinformation," in *2. International Conference on Economics "Regional Development-Digital Economy": Proceedings Book. December 21-23, 2023*. Liberty Academic Publishers, 2023, pp. 432–437. [Online]. Available: https://vb.mruni.eu/object/elaba:184652082/

[46] United Nations, "Global principles for information integrity," 2024. [Online]. Available: https://www.esteri.it/wp-content/uploads/2024/06/un-global-principles-for-information-integrity-en.pdf

[47] P. G. Thompson, "Understanding the global regulation of hate speech, misinformation and disinformation: Arguments for a UN envoy to disinformation," 2022. [Online]. Available: http://hdl.handle.net/10609/146776

[48] M. Khosrowjerdi, A. Sundqvist, and K. Byström, "Cultural patterns of information source use: A global study of 47 countries," *Journal of the Association for Information Science and Technology*, vol. 71, no. 6, pp. 711–724, 2020, doi: 10.1002/asi.24292.

[49] A. Bowen and A. Wilson, "4th global information village plaza – personal and professional trust in information in the 21st century," *Proceedings of the American*

Society for Information Science and Technology, vol. 43, no. 1, pp. 1–4, 2006, doi: 10.1002/meet.1450430139.

[50] K. T. Wilkinson, "Language difference and communication policy in the information age," *The Information Society*, vol. 20, no. 3, pp. 217–229, 2004, doi: 10.1080/01972240490456890.

[51] L. Zhou, J. Lim, H. Alsaleh, J. Wang, and D. Zhang, "Language alternation in online communication with misinformation," in *Smart Business: Technology and Data Enabled Innovative Business Models and Practices: 18th Workshop on e-Business, WeB 2019, Munich, Germany, December 14, 2019, Revised Selected Papers 18*. Cham, Switzerland: Springer International Publishing, 2020, pp. 158–168, doi: 10.1007/978-3-030-67781-7_15.

[52] S. Nguyễn, R. E. Moran, T. A. Nguyen, and L. Bui, "'We never really talked about politics': Race and ethnicity as foundational forces structuring information disorder within the Vietnamese diaspora," *Political Communication*, vol. 40, no. 4, pp. 415–439, 2023, doi: 10.1080/10584609.2023.2201940.

[53] B. Oludaja, "Verbal communication styles: Some implications for intercultural listening," 2000. [Online]. Available: https://eric.ed.gov/?id=ED438585

[54] M. J. Dutta and A. Basu, "Culture, communication, and health: A guiding framework," in *The Routledge Handbook of Health Communication*. London, UK: Routledge, 2011, pp. 346–360, doi: 10.4324/9780203846063-30.

[55] E. Humprecht, "The role of trust and attitudes toward democracy in the dissemination of disinformation – a comparative analysis of six democracies," *Digital Journalism*, pp. 1–18, 2023, doi: 10.1080/21670811.2023.2200196.

[56] J. Alm, "Trust, the pandemic, and public policies," *National Tax Journal*, vol. 75, no. 2, pp. 355–370, 2022, doi: 10.1086/719420.

[57] V. A. Chanley, T. J. Rudolph, and W. M. Rahn, "The origins and consequences of public trust in government: A time series analysis," *Public Opinion Quarterly*, vol. 64, no. 3, pp. 239–256, 2000, doi: 10.1086/317987.

[58] A. Kozyreva et al., "Resolving content moderation dilemmas between free speech and harmful misinformation," *Proceedings of the National Academy of Sciences*, vol. 120, no. 7, e2210666120, 2023, doi: 10.1073/pnas.2210666120.

[59] A. Ali and I. A. Qazi, "Digital literacy and vulnerability to misinformation: Evidence from Facebook users in Pakistan," *Journal of Quantitative Description: Digital Media*, vol. 2, 2022, doi: 10.51685/jqd.2022.025.

[60] J. Zeng and S. B. Brennen, "Misinformation," *Internet Policy Review*, vol. 12, no. 4, 2023, doi: 10.14763/2023.4.1725.

[61] N. Komendantova et al., "A value-driven approach to addressing misinformation in social media," *Humanities and Social Sciences Communications*, vol. 8, no. 1, pp. 1–12, 2021, doi: 10.1057/s41599-020-00702-9.

[62] L. Biukovic, "Selective adaptation of WTO transparency norms and local practices in China and Japan," *Journal of International Economic Law*, vol. 11, no. 4, pp. 803–825, 2008, doi: 10.1093/jiel/jgn028.

[63] B. Lim, E. Spanger-Siegfried, I. Burton, E. Malone, and S. Huq, *Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures.* Cambridge, UK: Cambridge University Press, 2005. [Online]. Available: https://adaptation-undp.org/resources/adaptation-policy-frameworks-climate-change-developing-strategies-policies-and-measures

[64] S. Loomba, A. De Figueiredo, S. J. Piatek, K. De Graaf, and H. J. Larson, "Measuring the impact of COVID-19 vaccine misinformation on vaccination intent in the UK and USA," *Nature Human Behaviour*, vol. 5, no. 3, pp. 337–348, 2021, doi: 10.1038/s41562-021-01056-1.

[65] J. Bollenbacher, F. Menczer, and J. Bryden, "Effects of Antivaccine Tweets on COVID-19 Vaccinations, Cases, and Deaths," *arXiv preprint*, arXiv:2406.09142, 2024, doi: 10.48550/arXiv.2406.09142.