



BEHAVIOURAL AND SOCIETAL ASPECTS OF FIMI

ATHENA DELIVERABLE 1.2

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ABOUT THE PROJECT AND THIS DELIVERABLE

Several countries are exploiting the Internet to wage campaigns of disinformation and interference in Europe to disrupt democratic processes for their perceived political and economic benefit. The EU understands the urgency of combatting such attacks against our infrastructures, economies, values and democracies. ATHENA will contribute to Europe's defence against foreign information manipulation and interference (FIMI). ATHENA will assess and develop countermeasures against TTPs. It will collect and process FIMI data, develop a knowledge graph, a disinformation analysis toolbox and dashboard showing the prevalence of FIMI and the countermeasures in action. ATHENA will conduct a comparative, eight-country analysis of legal and regulatory frameworks against FIMI and their shortcomings and where Member States and the EU should strengthen their policy framework. ATHENA will produce a questionnaire that anyone can easily use to decide whether they are confronted by FIMI. We will go beyond state of the art by scanning the horizon for new instances of FIMI, for signs of the evolution in disinformation. We will disseminate our findings and share knowledge about FIMI within and beyond the EU, including measures to achieve interoperability. From the start of the project, ATHENA will engage stakeholders through interviews, workshops, a Stakeholder Board and a cluster of relevant projects. We will share knowledge with other stakeholders and provide training in countermeasures to universities and schools. Our public awareness activities will focus on raising awareness about FIMI, how to identify it, how to counter it and understanding its risks. The ATHENA consortium comprises experienced partners, including SMEs, universities, cybersecurity companies, fact-checkers and an association, from Ukraine to Ireland, from Sweden to Cyprus.

In ATHENA deliverable D1.1 we have examined 32 manifestations of FIMI in case studies, including the tactics, techniques and procedures (TTP) used by attackers. In this deliverable D1.2 we analysed further the case studies to provide insights on the behavioural, political and societal effects of FIMI. We paid special attention to the persuasive narratives employed in FIMI to influence people's perceptions of reality. We analysed the case studies with theoretically informed content analysis to examine the psychological factors that amplify the impact of FIMI and disinformation narratives. We also conducted interviews with experts in FIMI. Our overall analysis concentrated on the behavioural, political and societal aspects of FIMI, based on our analysis of the case studies, interviews and literature review.

EXECUTIVE SUMMARY

This report examines the behavioural and societal aspects of Foreign Information Manipulation and Interference (FIMI) campaigns. We focus on the psychological mechanisms, persuasive tactics and societal consequences employed by malign actors to manipulate perceptions, undermine trust and destabilise democratic institutions. The analysis is grounded in psychological theories, case studies and structured interviews with experts to provide actionable insights and recommendations.

We underscore the importance of understanding the behavioural impact of FIMI. While disinformation can be both domestic and international, FIMI specifically involves foreign entities deliberately interfering with the political, societal or informational systems of another country. This deliberate manipulation amplifies the gravity of FIMI, distinguishing it from general disinformation by its intent and impact on international relations and national sovereignty.

A variety of actors engage in FIMI campaigns, targeting democracies worldwide. These campaigns leverage emotionally charged narratives to foster distrust, deepen societal divisions and achieve strategic objectives. A significant portion of the analysed campaigns involve authoritarian regimes, such as Russia, China and Saudi Arabia, and they reveal a diverse array of tactics, techniques and procedures (TTPs). These include strategies like framing, repetition, exploiting confirmation bias and appeals to authority, demonstrating the global and multifaceted nature of FIMI.

This deliverable contributes to Task 1.3 of the ATHENA project, forming the foundation for subsequent project tasks. The report begins with an introduction to its objectives and methodology, focusing on the behavioural and societal aspects of FIMI and aligning with the broader goals of the ATHENA project. Chapter 2 then explores the mechanisms of influence in FIMI campaigns, emphasising psychological tactics and persuasion techniques. This section integrates Aristotle's rhetorical appeals (ethos, pathos and logos) with the DISARM framework to examine how FIMI actors manipulate public perceptions.

Chapter 3 presents a theoretically informed content analysis of FIMI campaigns. We use case studies, which were initially provided in ATHENA D1.1¹, enriched by questionnaire responses from authors, to explore target demographics, narratives and emotional triggers. The analysis identifies key persuasive techniques such as framing, repetition and confirmation bias, and examines how these techniques exploit cognitive biases to manipulate public opinion. The chapter focuses on the specific approaches of various actors, including Russia, China, Iran, North Korea, Turkey and Saudi Arabia, each tailoring their strategies to achieve geopolitical objectives. This comprehensive evaluation aims to uncover manipulation mechanisms, providing a framework for understanding and countering FIMI campaigns.

Chapter 4 contains the findings from expert interviews that explore the psychological and societal impacts of FIMI. The interviews highlight how emotional triggers, such as fear and anger, and cognitive vulnerabilities are exploited by FIMI actors to influence individual and group behaviour. The results highlight the importance of coordinated efforts involving multiple stakeholders to combat FIMI. The interview results highlight critical gaps in current responses, including challenges in attribution due to

¹ Wright, David, and Evangelos Markatos (eds.), Alexandre Alaphilippe, Malak Altaeb, Tim Beyer, Annys Braca, Joshua Bronson, Owen Conlan, Arsenio Cuenca, Marios Dikaiakos, Inès Gentil, Alexis Gizikis, Zaur Gouliev, Pablo Hernández, Richa Kumar, Evangelos Markatos, Raquel Miguel, Gary Munnelly, Alina Östling, George Pallis, Emmanouil Papadogiannakis, Demetris Paschalides, Pau Perea, Francesco Poldi, Anna Pomortseva, Marianna Prysiashniuk, Celia Ramos-Vera, Jari Räsänen, Kristian Reeson, Elodie Reuge, Mario Reyes de los Mozos, Joakim Rosell, Maria Giovanna Sessa, Brendan Spillane, Dimosthenis Stefanidis, Niklas Strand, Jaakko Tyni, Ilkka Vuorikuru, David Wright (authors), *Manifestations of Foreign Information Manipulation and Interference*, ATHENA project Deliverable D1.1, 30 November 2024.



online anonymity, insufficient resources for media literacy and public awareness, and the lack of robust frameworks for analysing and addressing the structural impact of FIMI.

Chapter 5 describes the analysis of the behavioural, political and societal consequences of FIMI. It examines the psychological impact of disinformation on individuals' behaviour through experimental research findings. The chapter details the political and societal consequences, including the erosion of trust in institutions, fostering of social divisions, and destabilisation of democratic systems. The Chapter also considers the issues of reduced social cohesion and increased polarisation and provides insights on economic impacts of disinformation on economic activities.

Chapter 6 describes efforts to counter the influence of FIMI and disinformation by mapping stakeholders, including academics, policymakers and civil society representatives, and analysing outputs to develop effective responses. It outlines dissemination strategies, such as targeted emails, webinars, articles and policy briefs, aiming to inform the more than 1000 stakeholders on the project's contact list across the EU and foster collaboration within the counter-disinformation community. The chapter mentions a recently drafted comprehensive guide for policymakers on FIMI narratives, which explores persuasive tactics used to distort public perceptions and undermine trust in governance.

Finally, Chapter 7 synthesises the findings of the report into actionable conclusions and recommendations. A central conclusion is the **importance of enhancing public awareness to build societal resilience. Education and media literacy programs** can equip individuals with **the skills to critically evaluate information and identify manipulative content**, reducing their susceptibility to disinformation. These initiatives should incorporate de-biasing techniques and decision aids to counteract the psychological mechanisms exploited in disinformation.

Another key insight underscores the value of strategic counter-narratives. Since FIMI campaigns heavily rely on emotional and psychological appeals, responses must address these dimensions effectively. **We should aim to resonate with targeted audiences and provide compelling alternatives to disinformation**, as illustrated by the analysis of emotional manipulation tactics and other persuasive tools. The report highlights the value of experimental research in evaluating the behavioural impact of narratives.

Multilateral cooperation is also critical in combating the global nature of FIMI. Governments, international organisations and stakeholders must collaborate to share best practices, develop coordinated strategies and create frameworks for joint action. This cooperation is particularly crucial in addressing the cross-border dynamics of FIMI campaigns and fostering trust among nations.

In conclusion, countering FIMI requires a comprehensive, multidisciplinary approach that integrates public education, international collaboration, understanding of cognitive vulnerabilities and experimental research. By adopting these strategies, stakeholders can strengthen societal resilience and safeguard democratic institutions, and mitigate the economic, political and social consequences of disinformation.

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1 INTRODUCTION

This deliverable presents a comprehensive analysis of the methods and measures employed by adversaries in Foreign Information Manipulation and Interference (FIMI) to achieve their desired outcomes. The definition of FIMI as given by the European External Action Service (EEAS) is “a pattern of behaviour that threatens or has the potential to negatively impact values, procedures, and political processes. Such activity is manipulative in character, conducted in an intentional and coordinated manner. Actors of such activity can be state or non-state actors, including their proxies inside and outside of their own territory.”²

This deliverable focuses on examining the behavioural, political, economic, and societal aspects of FIMI, providing insights into how FIMI campaigns influence public perceptions and trust. The significance of our findings lies in their potential in supporting more informed policymaking and enhancing civil society’s preparedness against disinformation. Additionally, this deliverable may stimulate further academic inquiry into the complex dynamics of FIMI.

We consider FIMI as a form of hybrid threat. According to the European Centre of Excellence for Countering Hybrid Threats (Hybrid CoE), hybrid threats are coordinated and synchronised actions with malign intent targeting the vulnerabilities of democratic states and institutions. The activities aim to influence decision-making processes at local, state or institutional levels to achieve strategic goals while undermining the target.³ When used, FIMI is a crucial element of hybrid threats, as it manipulates public perception, creates confusion and erodes trust in institutions, thereby destabilising societies and weakening their crisis response capabilities.

1.1 Task and deliverable description

Task description: This ATHENA deliverable D1.2 responds to Task 1.3 that has been specified in the Grant Agreement as follows:

Task 1.3: Analyse behavioural and societal aspects of FIMI (Lead: LAU. Contributors: RISE, UCD, MAL & EU-D) M6-M15: The partners will conduct content and network analysis, as well as evaluate the choice architecture and related persuasive methods used in FIMI campaigns, which will help reveal the most targeted emotions (e.g., anger, frustration, apathy) and the most FIMI-targeted types of trust, namely, trust in government institutions and trust in information veracity. Choice architecture as a term refers to the intentional or unintentional design of the environment where people take actions. The behaviour may be influenced systematically by subtle and seemingly insignificant changes designed into the choice architecture (e.g., persuasive tools, nudges or other interventions). We will analyse what psychological factors enhance the impact of FIMI and disinformation narratives. We include an analysis of the behavioural and societal aspects of FIMI, as derived from the case studies in T1.1 and as manifested in several different countries. We will also include interviews with at least 10 experts in FIMI studies, mainly academics. Output: R1.3, Contributes to: WP2, WP4.

² European External Action Service (EEAS). *EEAS Report on Foreign Information Manipulation and Interference Threats*. EEAS, 2023. https://www.eeas.europa.eu/eeas/1st-eeas-report-foreign-information-manipulation-and-interference-threats_en

³ <https://www.hybridcoe.fi/hybrid-threats-as-a-phenomenon/>

Deliverable description: The deliverable D1.2 titled Behavioural and societal aspects of FIMI is described in the Grant agreement as “Analysis of the psychological factors that enhance the impact of FIMI and disinformation narratives”.

Objective and result: The objective of D1.2 is to “analyse behavioural and societal aspects of FIMI”. D1.2 responds to Result 1.3 as defined in the Grant Agreement:

Result 1.3: Analysis of behavioural and societal aspects of FIMI. Wide-scale analysis of methods and measures are used to reveal how adversaries use FIMI in order to gain their wanted effect. The interdisciplinary consortium will bring to bear various social science methodologies (see T1.3), namely, content analysis and choice architecture⁴ approaches, to explore how and why FIMI narratives are so persuasive. The research of FIMI narratives from various disciplines will help identify the most effective response means to stakeholders. We aim to inform 270 policymakers and 270 academics, 10 of each in each Member State, about our findings and seek their support in countering these aspects of FIMI.

Scope and limitations: The scope of this deliverable is defined by Task 1.3 and Result 1.3 described above. We use various approaches to explore what makes FIMI narratives persuasive. We evaluate the choice architecture and related persuasive methods used in the FIMI campaigns reported in ATHENA D1.1.⁵ The partners conduct theoretically informed content analysis of the case studies. In addition, our focus is on state-of-the-art literature and on strengthening the theoretical basis of the content analysis. Network analysis is executed later in WP3, reported in D3.2, and it is thus out of the scope of WP1. We do, however, use network visualisations in highlighting the main findings from the theoretically informed content analysis of ATHENA case studies.

In addition to the insights gained from analysing the ATHENA case studies (D1.1)⁶, we use relevant academic literature to deepen our understanding of the political, behavioural and societal consequences of FIMI. This deliverable, however, does not cover FIMI countermeasure techniques, as the state-of-the-art status of these countermeasures and their further development are investigated in WP2 and will be

⁴ Choice architecture refers to the subtle and seemingly insignificant contextual features that can have a disproportionately large and systematic psychological influence on behaviour.

⁵ Wright, David, and Evangelos Markatos (eds.), Alexandre Alaphilippe, Malak Altaeb, Tim Beyer, Annys Braca, Joshua Bronson, Owen Conlan, Arsenio Cuenca, Marios Dikaiakos, Inès Gentil, Alexis Gizikis, Zaur Gouliev, Pablo Hernández, Richa Kumar, Evangelos Markatos, Raquel Miguel, Gary Munnelly, Alina Östling, George Pallis, Emmanouil Papadogiannakis, Demetris Paschalides, Pau Perea, Francesco Poldi, Anna Pomortseva, Marianna Prysiashniuk, Celia Ramos-Vera, Jari Räsänen, Kristian Reeson, Elodie Reuge, Mario Reyes de los Mozos, Joakim Rosell, Maria Giovanna Sessa, Brendan Spillane, Dimosthenis Stefanidis, Niklas Strand, Jaakko Tyni, Ilkka Vuorikuru, David Wright (authors), *Manifestations of Foreign Information Manipulation and Interference*, ATHENA project Deliverable D1.1, 30 November 2024.

⁶ Ibid.

delivered in D2.1. We also interview experts and academics in FIMI studies. We map and reach out to policymakers, academics and stakeholders to disseminate our results.

Table 1. Relationship to other ATHENA deliverables

Deliverable	Status	Relationship to D1.2
D1.1 Manifestations of FIMI	Submitted M13	D1.1 responds to Task 1.1 on exploring manifestations of foreign information manipulation and interference and Task 1.2 on Countermeasure techniques – state of the art and beyond. D1.1 provided 32 example case studies of foreign information manipulation and interference incidents. D1.2 analyses behavioural and societal aspects of the case studies as well as those of FIMI in the literature.
D2.1 Assessment of existing and development of new FIMI countermeasures	M36	D2.1 responds to Task 2.1 on compiling a taxonomy of FIMI countermeasure techniques and Task 2.2 on assessing new and/or adapt existing countermeasures against FIMI. D1.2 contributes to the impact evaluation of existing countermeasures and development of new countermeasures by providing an analysis of behavioural and societal aspects of FIMI.
D4.1 Questionnaire for evaluating potential FIMI and scanning the horizon for evolving FIMI	M36	D4.1 responds to Task 4.2 on scanning the horizon for the evolution of FIMI and Task 4.3 on developing a questionnaire for evaluating potential FIMI. D1.2 provides an analysis of FIMI case studies and related literature, including the behavioural and societal aspects. D4.1 will develop the questionnaire on evaluating the impact of FIMI as identified and analysed in D1.2.
D4.2 Improve the legal and regulatory frameworks against FIMI, including policy recommendations	M36	D4.2 responds to Task 4.1 on improving the legal and ethical frameworks against FIMI and Task 4.4 on making recommendations within EU policy priorities. D1.2 provides an analysis of the political, societal and economic aspects of FIMI based on which D4.2 will provide legal and policy recommendations.

1.2 Overview of the methodology

We employed various analysis methods and measures to uncover how adversaries used FIMI to achieve their desired outcomes. We used content analysis and choice architecture approaches to explore how and why FIMI narratives are so persuasive. We focused our analysis on the ATHENA case studies as reported in D1.1. For the purposes of the content analysis, we collected further insights from the case study authors on the cultural and social context, narratives and emotional triggering used in the case studies as well as information whether other manipulative tools have been used in the cases. We also conducted a literature review and interviewed experts in FIMI studies to enhance our understanding of the psychological, behavioural and societal consequences that FIMI campaigns may have.

Questionnaire to case study authors: We conducted a questionnaire survey, targeting the authors of ATHENA case studies, to complement the case descriptions provided in ATHENA deliverable D1.1.⁷ The objective of this approach was to deepen our understanding of the FIMI narratives, focusing particularly on their most targeted emotions and their impact on individuals' perceptions of reality, as well as their potential to undermine societal trust in governance and informational veracity. Gathering insights directly from the case study authors, who are the experts of their respective cases, ensures a nuanced and informed analysis of the case studies overall.

The questionnaire, detailed in Annex 8.1, was designed to collect additional data on three critical dimensions of the FIMI campaign process: the target audience, the narratives employed and the emotional triggers used. We undertook this additional data collection to provide a more comprehensive view of the campaigns and their dynamics.

Choice architecture analysis: We conducted an analysis of the choice architecture practices, or psychologically persuasive means used to influence people's perceptions, behaviour and choices. The term 'choice architecture' refers to the deliberate or accidental design of environments where individuals take actions. Behaviour may be systematically influenced by subtle and seemingly minor adjustments in communications using persuasive tools. We employed choice architecture analysis to investigate whether attackers used persuasive techniques in the ATHENA case study narratives. Choice architecture analysis closely relates to the theoretically informed content analysis.

Theoretically informed content analysis: We used content analysis to classify central themes and concepts from the qualitative data describing the ATHENA case studies. A theoretical approach is based on literature on persuasive psychological means and behavioural change literature (including behavioural insights). With this analysis, we were able to identify central themes and concepts from ATHENA case studies.

A significant part of the methodology involved a detailed review of the case studies, followed by a comparison with established taxonomies and manuals on persuasion research. This process ensured a robust analysis and alignment with recognised frameworks in the study of persuasion and disinformation. Additionally, the methodology included annotation and manual labelling of persuasion techniques within the text. As a result, a structured dataset of labelled text was created, providing a valuable resource for further analysis.

Interviews: Conducting semi-structured interviews with academics specialising in FIMI studies. The focus was on behavioural and societal aspects of FIMI, exploring psychological factors that enhance the impact of disinformation narratives. Key themes include emotions most targeted by FIMI actors and the types of trust most affected. The results complemented the ATHENA case studies⁸ and contributed to a deeper understanding of the societal and psychological mechanisms underpinning FIMI campaigns.

⁷ Ibid.

⁸ Ibid., ch. 4.2 - 4.33

1.3 Contribution to sustainable development goals

The ATHENA project supports several United Nations Sustainable Development Goals (SDGs)⁹. All 193 UN Member States have adopted the SDGs as part of the 2030 Agenda for Sustainable Development. The SDGs are universal, applying to all countries, not just developing nations. They emphasise the interconnectedness of social, economic and environmental sustainability, highlighting that progress in one area often depends on progress in others. This task is particularly important from the perspective of SDGs as it concentrates on the behavioural, political, societal and economic dimensions and impact of FIMI.

This report supports SDGs as follows:

SDG 3: Ensure healthy lives and promote well-being for all at all ages – Well-being includes both psychological and physical health. Psychological well-being involves the ability to distinguish between lies and reality. FIMI spreads falsehoods, seeks to deceive people in other countries, undermines democratic practices, and gains power at the expense of the targeted individuals. This report

concentrates on the psychological means used in FIMI to influence others and thus strengthens the basis of understanding when one is being psychologically influenced.

SDG 5: Achieve gender equality and empower all women and girls – FIMI attacks sometimes target specific groups. At other times, FIMI targets entire populations. Gender has been used as a tool in FIMI, as seen in the ATHENA case studies from deliverable D1.1 that we further analyse in this task from behavioural, political, societal and economic dimensions.

SDG 8: Decent work and economic growth – FIMI can affect economic stability and labour markets, for example, by spreading false information about companies or economic policies. Promoting economic growth and decent working conditions can help mitigate the impacts of FIMI. In this deliverable, we discuss the economic dimensions and consequences of FIMI.

SDG 10: Reduce inequality within and among countries – FIMI often targets vulnerable groups, increasing inequality within societies. By analysing how FIMI affects emotions and trust in this deliverable, we can in later ATHENA deliverables develop strategies to counteract it. This helps ensure everyone has access to accurate information, promoting equality and reducing disparities within and among countries.

SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable and inclusive institutions at all levels – Countering FIMI helps promote peace and inclusivity by preventing the spread of harmful disinformation. By analysing FIMI and its consequences at different societal levels, we support the creation of accountable and transparent institutions by exposing the effects of disinformation at the levels of individuals and societies. This creates a basis for creating a more informed and just society in the future.

SDG 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development – Partnerships and international cooperation are crucial in combating FIMI. Collaboration between different countries and organisations can help develop effective strategies and share best practices. In this deliverable, we are making a joined-up, international effort in analysing the impact and consequences of FIMI.

⁹ United Nations, Sustainable Development Goals. <https://sdgs.un.org/goals>

1.4 Structure of the report

The remainder of this deliverable is structured as follows. First, we explore the mechanisms of influence in disinformation campaigns, focusing on the psychological tactics used in FIMI campaigns. In Chapter 2, we concentrate our analysis on the FIMI case studies presented in ATHENA deliverable D1.1 which have been structured by using the DISARM framework. We will further evaluate the case studies according to Aristotle's persuasion appeals. In Chapter 3, we describe the theoretically informed content analysis of case studies, presenting demographic profiles and insights into the values, attitudes and beliefs of the target audience. This is followed by a summary of the persuasive mechanisms identified in FIMI campaigns.

Chapter 4 of this deliverable details the methods and findings from interviews we conducted with experts in FIMI studies (mainly academics). Through the interviews, we examined the psychological impact, behavioural influences and social consequences of FIMI, and concluded with recommendations. Finally, in Chapter 5, we provide an overall analysis of the behavioural, political and societal consequences of FIMI, discussing its impact on behaviour, political dynamics and societal cohesion, trust and democracy. The report concludes with a discussion and further plans on how our findings can inform policymakers, academics and stakeholders.

2 MECHANISMS OF INFLUENCE IN DISINFORMATION CAMPAIGNS

2.1 Introduction to the psychological influence mechanisms used in FIMI

Influencing people's attitudes, beliefs and behaviour is a multifaceted phenomenon. In this chapter, we aim to shed light on the psychological underpinnings of this phenomenon. We argue that the same psychological mechanisms found in disinformation campaigns are present in any other influencing attempts. Therefore, we believe that considering the very basics of cognitive biases and persuasive techniques from other domains can enrich the analysis of contemporary FIMI campaigns.

There is a long history of disinformation campaigns, with examples dating back to Ancient Rome, where falsified information was used to influence the Senate, and catchy slogans were minted on coins to spread the emperor's message as widely as possible. These same methods are still used in today's political information manipulation and propaganda.¹⁰ Even though the tools to spread disinformation have evolved greatly, people's tendency to rely on automatic, intuitive decision-making and their need to make sense of the world have remained quite the same. Therefore, we find it reasonable to apply time-tested frameworks and theories when analysing contemporary FIMI cases. For instance, we apply Aristotle's framework of rhetoric, encompassing ethos, pathos and logos, when categorising persuasion tactics found in modern-day FIMI cases.¹¹

In modern-day studies of the psychology of influence, armed conflicts have often acted as catalysts, propelling research in new directions. After the Second World War, psychologists such as Stanley Milgram were eager to understand what drove people to obey authoritarian regimes and commit horrific actions against humanity. His findings indicated that individuals tend to be more compliant with authority figures than anticipated. Additionally, people are inclined to inflict harm on others if the responsibility is shifted away from them and assigned to another party. Following incidents with

¹⁰ Van der Linden, Sander, *Foolproof: Why Misinformation Infects Our Minds and How to Build Immunity*, W.W. Norton & Company, New York, NY, 2023.

¹¹ Papouli, Eleni, "Aristotle's virtue ethics as a conceptual framework for the study and practice of social work in modern times", *European Journal of Social Work*, Vol. 22, No. 6, 2019, pp. 921-934. doi: 10.1080/13691457.2018.1461072.

captured American soldiers in the Korean War, who upon their release showed much more sympathy towards their captors than their home country, interest grew in discovering whether people could be brainwashed to change their attitudes and ideological worldviews. Despite significant efforts from scientists and technicians, they failed to develop a guaranteed technique of mind control, although belief change can occur.¹²

During the Cold War era, the Soviet Union and its allies honed their skills in psychological warfare and carried out several successful influence campaigns.¹³ In Western countries, similar mechanisms were also identified in commercial contexts, where they were used to entice people into buying more than they needed as factories began producing an overflow of goods. These mechanisms were studied by Robert Cialdini, who became one of the most influential researchers in the psychology of compliance and persuasion. He examined the techniques used by what he calls compliance practitioners, such as salespeople and governments. Cialdini concluded that there are six universal principles of persuasion: reciprocity, consistency, social proof, liking, authority, and scarcity.¹⁴

Shortly before Cialdini published his findings, psychologists Daniel Kahneman and Amos Tversky began their research program, which challenged the assumptions of rationality in human decisionmaking, unravelling the foundations of economic research. Their work, along with contributions from other like-minded economists, led to the emergence of a new field known as behavioural economics.¹⁵ One of the early proponents of this approach was Richard Thaler. Along with legal scholar Cass Sunstein, he applied insights from behavioural economics and other behavioural and social sciences to develop a concept they called “choice architecture”¹⁶.

“Choice architecture” serves as a metaphor to illustrate that every decision is made within a framework filled with contextual and task-related elements. These elements collectively shape an individual’s choices. The concept of choice architecture highlights that there is no such thing as a neutral choice context: every decision—from picking tonight’s meal to choosing a lifelong partner—is influenced by the surrounding context. It is also crucial to note that this concept does not deny the role of personal values, attitudes, goals, and preferences in decision-making; rather, it acknowledges choice architecture as an additional influencing factor.¹⁶

Those who engage in designing the decision-making context are called choice architects. Essentially, anyone can become a choice architect, even without realising it. If you design a form that your employee needs to fill out, you are a choice architect. If you are a parent encouraging your children to eat their greens by cutting the vegetables to look like animal figures, you are a choice architect. The ethos of choice architecture is to help people make better decisions for themselves while always maintaining the freedom to choose. This is most successfully done by understanding how people make judgments and how they behave in different situations according to behavioural science literature. Thaler and Sunstein

¹² Taylor, Kathleen, *Brainwashing: The science of thought control*, Second edition, Oxford University Press, 2017. See also Van der Linden, op. cit.

¹³ Rid, Thomas, *Active Measures: The Secret History of Disinformation and Political Warfare*, Farrar, Straus and Giroux, New York, NY, 2020.

¹⁴ Cialdini, Robert B., *Influence: The Psychology of Persuasion*, Third Edition, Harper, New York, NY, 2007.

¹⁵ Lewis, Michael, *The Undoing Project: A Friendship that Changed the World*, Allen Lane, Great Britain, 2017.

¹⁶ Thaler, Richard H., and Cass R. Sunstein, *Nudge: Improving decisions about health, wealth, and happiness*, Yale University Press, New Haven CT, 2008.

¹⁶ Camilleri, Adrian, and Richard P. Larrick, “Choice Architecture”, in Robert A. Scott, Marlis C. Buchmann and Stephen M. Kosslyn (eds.), *Emerging Trends in the Social and Behavioral Sciences*, John Wiley and Sons, Hoboken, NJ, 2015. DOI: 10.1002/9781118900772.etrds0039. <https://ssrn.com/abstract=2929776> ¹⁸ Thaler and Sunstein, op. cit.



use the term “nudge” in relation to choice architecture to illustrate a specific action or intervention purposefully designed to influence people’s actions. They define a nudge as “any aspect of the choice architecture that alters people’s behaviour in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates”.¹⁸

Hansen and Jespersen discuss the claim that the nudging approach introduced by Thaler and Sunstein manipulates people’s choices, including arguments that the “psychological mechanisms that are exploited work best in the dark” and that nudging weakens our autonomy and impairs our ability to make moral choices for ourselves. Hansen and Jespersen argue that characterising nudging as the manipulation of choice is too simplistic. They introduce an epistemic distinction between transparent and non-transparent nudges, which “serves as a basis for distinguishing the manipulative use of nudges from other kinds of uses.” Within this categorisation, a nudge that can be judged to be non-transparent and addresses system 2 thinking (deliberative reasoning, in comparison to system 1 thinking which is automatic and intuitive) is suggested to be labelled as “manipulation of choice”, but not in other cases. An example of this would be a clever framing of wording describing risks associated with different medical treatments. According to the authors, for this type of nudge to be successful, “the reflective system has to be engaged, but it doesn’t happen in a way that by itself gives people epistemic access to the intentions and means by which influence is pursued.”¹⁷

Manipulation of choice-type nudging exemplifies how a malicious choice architect may use the same approach intended to improve people’s well-being and happiness to guide people to make bad decisions. Thaler fully acknowledges this—he adds the phrase “nudge for good” when he signs a copy of *Nudge*. “People can be nudged to save for retirement, but they can also be nudged to take out a second mortgage on their home and use the money on a spending binge. Businesses and governments with bad intentions can use the findings of the behavioural sciences for self-serving purposes, at the expense of the people who have been nudged.”¹⁸

Choice architecture and nudging were introduced by their creators to make public policy interventions more effective while maintaining the freedom to choose. In the original format of nudging, the goal of the choice architect aligns with the subject’s interest.¹⁹ In the case of a disinformation campaign, the disinformation architect can use the same psychological elements that a benevolent choice architect uses to support an individual in improving their life, whereas the disinformation architect’s goal is not in the best interest of the targeted audience, as we will show later in this chapter with the theoretically informed content analysis.

In creating effective choice architecture, we must understand the necessary steps an individual needs to accomplish to achieve a desired behaviour. These steps can be presented in a process format called a decision map.²⁰ In a decision map, there is an implicit, actionable goal at the end of the process, such as filling out a form or making a doctor’s appointment. A disinformation architect often lacks such a concrete action that they want to achieve, but in some cases, it can exist. For example, a disinformation

¹⁷ Hansen, Pelle G., and Andreas M. Jespersen, “Nudge and the Manipulation of Choice: A Framework for the Responsible Use of the Nudge Approach to Behaviour Change in Public Policy”, *European Journal of Risk Regulation*, Vol. 4, Issue 1, 2013. doi:10.1017/S1867299X00002762

¹⁸ Thaler, Richard H., *Misbehaving: The making of behavioral economics*, Allen Lane, Great Britain, 2015.

¹⁹ D1.1, op. cit.

²⁰ Ly, Kim, Nina Mazar, Min Zhao and Dilip Soman, “A practitioner’s guide to nudging”, *Rotman School of Management Working Paper*, No. 2609347, 2013. <https://ssrn.com/abstract=2609347>

campaign may encourage people to vote a certain way (or discourage them from voting at all²¹) or join a public demonstration for a cause, such as a peace walk against nuclear weapons²². When we understand how a disinformation campaign is structured, we can reverse-engineer it with the help of choice architecture thinking and create actionable solutions.

Findings of behavioural sciences most frequently come through experimental setups where volunteering subjects participate in interventions designed and administered by researchers. It is common practice to use randomised controlled trials in these experiments to establish credible causality of actions. Researchers have identified and labelled nearly 200 different types of decision-making-related phenomena commonly referred to as cognitive biases.²³ The effect of a cognitive bias depends on the situation at hand, and many biases are argued to have had a positive evolutionary purpose, e.g., to prevent humans from taking excessive risks, to find shelter in a group by following social norms, or to interpret surroundings using mental shortcuts such as availability heuristics. However, relying too heavily on these biases and heuristics causes us trouble in modern times when we face a flood of information, and many of our decisions should be dealt with more deliberately than our inherent tendency allows. “Ancient psychology and modern technology have created a perfect storm for fake and hyper-partisan news to be perpetuated,” says Van Bavel, a professor of psychology and neural science.²⁴

One example of a bias that exposes us to making non-optimal choices is negativity bias. Adults tend to process positive and negative information differently, often showing a negativity bias. This means that

in various psychological contexts and tasks, they are more likely to focus on, learn from, and utilise negative information rather than positive information.²⁵ Baumeister, Bratslavsky, Finkenauer, and Vohs have found bad to be stronger than good in a “disappointingly relentless pattern” and they stipulate that the lack of positive exceptions suggests how basic and powerful the greater power of bad is. For instance, bad impressions and bad stereotypes are quicker to form and more resistant to disconfirmation than good ones. Baumeister et al. argue “that this difference may be one of the most basic and far-reaching psychological principles” but suggest that “there are several reasons to think that it may be highly adaptive for human beings to respond more strongly to bad than good”.²⁶

We will engage with the rest of the chapter to study the different psychological elements used in FIMI campaigns introduced in the case studies of ATHENA project deliverable D1.1 and later in chapter 3, a choice architecture content analysis of FIMI campaigns of ATHENA project deliverable D1.1.²⁹ But before we get there, we will first examine the DISARM framework used in ATHENA D1.1's analysis of FIMI campaigns and link the TTPs from the DISARM framework to cognitive biases to better understand the psychological mechanisms of TTPs.

²¹ Jain, Yabs, and Trey Walk, Disinformation About US Elections Targets Communities of Color, *Human Rights Watch*, 15 Aug 2024. <https://www.hrw.org/news/2024/08/15/disinformation-about-us-elections-targetscommunities-color>

²² Rid, op. cit.

²³ See, for instance, “List of cognitive biases”. https://en.wikipedia.org/wiki/List_of_cognitive_biases

²⁴ Reynolds, Eileen, “Why Our Brains Love Fake News—and How We Can Resist It”, 5 Jun 2018. <https://www.nyu.edu/about/news-publications/news/2018/june/jay-van-bavel-on-fake-news.html>

²⁵ Vaish, Amrisha, Tobias Grossmann, and Amanda Woodward, “Not all emotions are created equal: The negativity bias in social-emotional development”, *Psychological Bulletin*, Vol. 134, Issue 3, 2008, pp. 383-403. <https://doi.org/10.1037/0033-2909.134.3.383>

²⁶ Baumeister, Roy F., Ellen Bratslavsky, Catrin Finkenauer, and Kathleen D. Vohs, “Bad Is Stronger than Good”, *Review of General Psychology*. Vol. 5, Issue 4, 2001, pp. 323-370. <https://doi.org/10.1037/1089-2680.5.4.3> ²⁹ D1.1, op. cit.



We cannot say for sure to what extent designers of FIMI campaigns and producers of disinformation are deliberately harnessing different cognitive biases and heuristics to achieve their goals. Similarly, there are marketing professionals who intuitively understand what triggers people or who have learned by trial and error how to lure customers, without ever touching a book about judgment and human decision-making or the psychology of motivation. Nevertheless, the psychological elements are the same whether the FIMI actor can label them or not. Understanding the use of these psychological elements will support our aim to create tools and approaches that can protect common people from disinformation.

2.2 DISARM framework in structuring FIMI campaigns

The DISARM framework²⁷ offers an extensive toolbox for analysing disinformation and its dissemination methods. By focusing on tactics, techniques, and procedures (TTPs), DISARM allows researchers to deconstruct the specific TTPs employed in both disinformation campaigns and FIMI campaigns. This approach allows for a granular analysis of the methods used in disinformation campaigns, providing a structured way to identify, understand, and counter these malicious activities.

Notably, the DISARM framework was instrumental in analysing the case studies presented in this deliverable, offering valuable insights into the TTPs employed in real-world FIMI operations. While the DISARM framework details the TTPs employed in disinformation campaigns, it does not explicitly address the psychological mechanisms underlying their effectiveness. The analysis presented in this report aims to bridge this gap by examining how specific DISARM TTPs leverage persuasive techniques and cognitive biases to achieve their manipulative objectives.

To further explore this interplay between these three elements, this study addresses the following research question:

Which specific DISARM TTPs, as observed in selected case studies, exploit which cognitive biases through what persuasive techniques to manipulate online information and influence target audiences?

DISARM categorises disinformation tactics into several types: information manipulation, social engineering, platform manipulation, audience targeting, and suppression and harassment. These categories encompass a wide range of tactics and techniques, from creating fake news websites to manipulating social media algorithms and silencing critics²⁸. DISARM organises these tactics into a series of stages that reflect the lifecycle of a disinformation campaign.

- **Planning:** This phase involves strategic planning to define goals, identify target audiences, and craft narratives.
- **Preparation:** Involves creating fake accounts, websites and content, and building networks for campaign dissemination.
- **Execution:** Concentrates on spreading disinformation by using social media, traditional media, and other channels to engage the target audience.
- **Evaluation:** Assessing campaign effectiveness, measuring impact, and identifying improvement areas.

²⁷ Terp, Sara-Jayne, and Pablo Breuer, *Disarm: A framework for analysis of disinformation campaigns*, IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA), 6 Jun 2022, pp. 1-8.

²⁸ DISARM Foundation, DISARM Navigator. <https://disarmfoundation.github.io/disarm-navigator/>



The framework is further divided into two complementary aspects:

- **DISARM Red:** Analyses the attacker's perspective and outlines the tactics, techniques, and procedures (TTPs) used in disinformation campaigns, helping analysts anticipate potential attacks.
- **DISARM Blue:** Offers guidance for defenders by outlining responses and countermeasures for each stage in DISARM Red, providing a structured approach to mitigate disinformation campaigns.

While the DISARM framework effectively classifies the methods used in disinformation campaigns, its primary focus is not on explaining the manipulative aspects of disinformation. The framework does not explicitly focus on "deception" and "manipulation" in its definitions and descriptions. However, it naturally incorporates these concepts into its purpose and the tactics it categorises. The very nature of disinformation, which DISARM seeks to analyse and counter, relies heavily on deception and manipulation to achieve its goals.

This is illustrated by the TTPs listed in Table 2. Many of these methods, such as manipulating platform algorithms or conducting server redirects, are primarily technical. Others, like mapping the information environments of target audiences or preparing fundraising campaigns, emphasise operational and strategic aspects of disinformation efforts. While these techniques contribute to the overall manipulative nature of disinformation, they do not directly address the psychological vulnerabilities that these campaigns exploit.

Table 2. Examples of DISARM TTPs and their applications

Category	DISARM Technique	Description
Technical Focus	T0121: Manipulate Platform Algorithm	Involves understanding and exploiting the algorithms that control content visibility on social media platforms.
	T0123.004: Conduct Server Redirect	This technique uses technical methods to redirect users to malicious websites without their knowledge.
	T0128: Conceal Information Assets	This category encompasses various techniques to hide the origin and identity of disinformation accounts and content.
Operational and Strategic Level	T0134: Measure Effectiveness Indicators	This focuses on tracking and analysing campaign performance through metrics like message reach and engagement.

Focus on Deception and Manipulation	T0080: Map Target Audience Information Environment	This technique involves systematically analysing the target audience's information consumption patterns to identify vulnerabilities.
	T0014: Prepare Fundraising Campaigns	This outlines methods for raising funds to support disinformation operations, including exploiting unsuspecting donors.
	T0040: Demand Insurmountable Proof	This exploits the burden of proof by constantly escalating demands for evidence, effectively silencing opposing voices.
	T0099: Prepare Assets Impersonating Legitimate Entities	This involves creating fake accounts and websites that mimic trusted sources to spread misinformation.
	T0100: Co-opt Trusted Sources	This technique involves infiltrating or manipulating legitimate sources to spread disinformation through established networks.

2.3 Persuasion appeals and the DISARM framework in FIMI campaigns

Through interviews and analysis conducted by the ATHENA consortium²⁹, we observed certain patterns in personal definitions of FIMI among the ATHENA Stakeholder Board, which comprises disinformation, cybersecurity, and FIMI experts. Notably, FIMI must originate from an external actor deliberately attempting to deceive or extort a third country.

To better understand how FIMI actors manipulate their target audiences, Aristotle's framework, encompassing ethos, pathos, and logos³⁰, provides a structured way to analyse the specific methods and strategies that FIMI actors use to influence or manipulate their target audiences and understand their potential impact.³¹

- **Ethos centres on the credibility of the source of the information.**³² FIMI actors often try to enhance the believability and persuasiveness of their messages by establishing credibility. Actors may exploit pre-existing trust in institutions such as local news outlets or even trusted individuals. Tactics used to enhance credibility include fabricating evidence, using fake experts and cloning websites³³.

²⁹ D1.1, op. cit.

³⁰ Papouli, Eleni, op. cit. See also Weiss, Joshua N., "From Aristotle to Sadat: A Short Strategic Persuasion Framework for Negotiators", *Negotiation Journal*, Vol. 31, No. 3, 2015, pp. 211-222. doi: 10.1111/NEJO.1209. See also Braca, Annys, and Pierpaolo Dondio, "Developing persuasive systems for marketing: The interplay of persuasion techniques, customer traits and persuasive message design", *Italian Journal of Marketing*, Vol. 3, 2023, pp. 369-412.

³¹ Chen, Sijing, Lu Xiao, and Jin Mao, "Persuasion strategies of misinformation-containing posts in the social media", *Information Processing & Management*, Vol. 58, No. 5, 2021, p. 102665.

³² Sichach, Moses, *Ethos, Pathos and Logos As Foundations of Persuasive Writing*, SSRN 4971293, 2024.

³³ Diaz Ruiz, Carlos, and Tomas Nilsson, "Disinformation and echo chambers: How disinformation circulates on social media through identity-driven controversies", *Journal of Public Policy & Marketing*, Vol. 42, Issue 1, 2023, pp. 18-35.

For example, the PAPERWALL campaign,³⁴ a Chinese disinformation operation, used cloned websites disguised as local news sources to spread misleading content. This FIMI campaign targeted the established trust in local news (ethos) to disseminate disinformation and undermine institutions' confidence.

- **Pathos, the appeal to emotion, aims to influence by tapping into shared values or societal anxieties.**³⁵ Emotions such as anger,³⁶ fear, or hate. The Doppelganger campaign in Germany demonstrates how emotional appeals can trigger pathos.³⁷
- **Logos focus on using logic and reason to persuade.**³⁸ While emotional appeals are heavily relied upon in FIMI, a facade of logic is often created to support its claims. This can include distorted facts, reframing events, and fabricating deceptive cause-and-effect relationships. However, this logic usually needs to be revised and based on misleading information.³⁹

An illustrative example is the Wagner campaign targeting the French army in Mali⁴³, which shows how FIMI actors attempted to disregard and misrepresent facts to further pro-Russian narratives. By spreading misinformation, the FIMI attackers sought to undermine trust and support for France's presence in Mali. This example emphasises the use of pathos (evoking negative emotions towards the French) and logos (offering a distorted view of events) to influence perceptions.

Aristotle's Framework offers a high-level categorisation of persuasive appeals. It's important to understand that these are not specific tactics but rather a blueprint for persuasion. Persuasive techniques are the practical methods used to implement these appeals, and they can take various forms, such as verbal, visual, or behavioural tactics.⁴⁰

Unlike Aristotle's framework, the DISARM framework⁴⁵ does not categorise tactics using ethos, pathos, and logos. Instead, it offers a detailed taxonomy of TTPs, focusing on the operational aspects of influence campaigns. However, many of the specific TTPs outlined in DISARM can be understood through the lens of Aristotle's framework. This connection is evident in the case studies examined.

- **Ethos:** DISARM code T0098 (Establish Inauthentic News Sites) describes the creation of websites mimicking legitimate sources, as seen in the case study on Facebook accounts

impersonating Americans⁴¹. This tactic mirrors how ethos (credibility) can be used to exploit the audience's inherent trust in established media.

Another illustration of ethos within DISARM is TTP T00136—Cultivate support. This tactic often involves building credibility for certain narratives or individuals. This aligns with ethos

³⁴ D1.1, op. cit., ch. 4.23.

³⁵ McCormack, Krista C., "Ethos, pathos, and logos: The benefits of Aristotelian rhetoric in the courtroom", *Washington University Jurisprudence Review*, Vol. 7, Issue 1, 2014, pp. 131-155.

³⁶ D1.1, op. cit., ch. 4.16. See also Ostillio, Tommaso, "The trigger effect: Cognitive biases and fake news", *Internetowy Magazyn Filozoficzny Hybris*, Vol. 44, Issue 1, 2018, pp. 86-104.

³⁷ Seref, Michelle, M.H., and Onur Seref, "Rhetoric mining for fake news: identifying moves of persuasion and disinformation", AMCIS, Cancún, 2019. See also Chen et al., op. cit..

³⁸ Higgins, Colin, and Robyn Walker, "Ethos, logos, pathos: Strategies of persuasion in social/environmental reports", *Accounting Forum*, Vol. 36, Issue 3, 2012, pp. 194-208.

³⁹ Grant, A.J., "Ethos, pathos and logos: Rhetorical fixes for an old problem: Fake News", InSITE: Informing Science+ IT Education Conferences, Jerusalem, 2019, pp. 81-91. doi: 10.28945/4154 ⁴³ D1.1, op. cit., ch. 4.10.

⁴⁰ Grant, op. cit. See also Braca and Dondio, op. cit.

⁴⁵ Terp and Breuer, op. cit.

⁴¹ D1.1, op. cit., ch. 4.21.

by seeking to establish trust and make the audience more receptive to the message. Another instance is T0002—Facilitate state propaganda; this technique often leverages the perceived authority of state-controlled media or government sources. FIMI actors attempt to borrow credibility and influence the audience by associating a message with an official source.

- **Pathos:** While establishing false credibility is crucial, disinformation campaigns also rely heavily on manipulating emotions. The DISARM framework identifies TTPs that exploit emotional vulnerabilities (pathos). For example, T0078 (Dismay) refers to the use of threats and intimidation to discourage dissent and sow fear. The Iraqi case study⁴² demonstrates how actors employed dismay tactics to discredit the legitimacy of the 2019-2020 Iraqi protests.

Likewise, T0079 (Divide) seeks to provoke anger and resentment to create division by exploiting people's emotions, which polarises them and undermines social cohesion. T0140 (Cause Harm) also encompasses tactics that leverage emotional manipulation. In the Iranian interference case study⁴³, operatives intimidated voters with threats, aiming to influence the US elections through fear.

The Indian disinformation campaign⁴⁴ following the Pulwama attack provides another example of the use of pathos after the incident that killed 40 Indian security personnel. TTP T0068: Respond to a Breaking News Event or Active Crisis was leveraged to create a narrative that demonised Pakistan and mobilised support for retaliatory action. Emotionally charged hashtags like #PulwamaRevenge and #IndiaWantsRevenge, accompanied by images of the Indian flag, grieving families, and patriotic songs, were used to evoke strong feelings of nationalism and a desire for vengeance.

- **Logos:** Technique T0076 — Distort. This TTP manipulates facts, reframes events, or creates false narratives to support agendas, aligning with logos by simulating logical reasoning. T0019: Generate Information Pollution refers to a technique often mentioned in case studies that seeks to inundate audiences with misleading or irrelevant data, obscuring the distinction between truth and deception.

Although the DISARM framework provides a comprehensive taxonomy of TTPs, integrating Aristotle's framework of persuasive appeals (ethos, pathos, and logos) provides a deeper insight into the psychological mechanisms that drive these manipulative approaches.

Therefore, combining these approaches could enhance our ability to develop more targeted countermeasures. We can move beyond merely identifying disinformation tactics to an understanding of their underlying mechanisms and formulate more effective strategies for countering their influence.

For instance, a campaign heavily reliant on ethos, such as leveraging the authority of state-controlled media (as seen in T0002: Facilitate State Propaganda), might suggest an attempt to control the narrative and enforce a specific ideology. Conversely, a campaign that primarily uses pathos, like exploiting

anxieties through T0078: Dismay, might indicate a goal of destabilising a target society by inciting fear and division.

⁴² Ibid., ch. 4.31.

⁴³ Ibid., ch. 4.28.

⁴⁴ Ibid., ch. 4.32.

The DISARM framework, through its code-based system for analysing disinformation tactics, aligns with these Aristotelian modes. Table 3 highlights the relationship between DISARM TTPs and Aristotle's persuasive strategies, showing manipulative tactics in FIMI that exploit rhetorical techniques unethically. For instance, tactics that establish authority or trustworthiness—such as invoking fake experts or withholding critical information—are directly associated with ethos. Tactics that exploit emotional vulnerabilities, including fearmongering in response to breaking news or threatening critics, correspond to pathos. Finally, tactics that manipulate logical arguments or the flow of information—such as mapping the information environment or altering platform algorithms—are linked to logos.

Table 3. Examples of DISARM codes and the misuse of rhetorical appeals for disinformation

Aristotle's means of persuasion	DISARM tactic code	Description	Connects by	Ethical considerations
Ethos (Credibility)	T0002: Facilitate State Propaganda	Disseminate information that promotes a favourable image of a state actor or its policies.	Falsely establishing credibility through manufactured "facts" and narratives.	Can be used to manipulate public opinion and create false narratives, eroding public trust in information.
	T0066: Degrade Adversary	Undermine the credibility and trustworthiness of an adversary.	Attacking the opponent's ethos, aiming to discredit them and diminish their influence.	Often involves the spread of misinformation and personal attacks, undermining fair discourse.
	T0003: Leverage Existing Narratives	Build credibility by aligning messages with existing audience beliefs and values.	Exploiting preexisting beliefs to establish common ground and gain audience trust, even if the message is deceptive.	Can be used to exploit prejudices and biases, reinforcing harmful stereotypes.
	T0128: Conceal Information Assets	Hide the true origins of information to mask potential biases or conflicts of interest.	Creating a false sense of objectivity and neutrality, hiding potential agendas.	Can involve the use of pseudonyms and sockpuppet accounts to deceive the target audience, preventing informed decisionmaking.
	T0110: Endorsement of Formal Diplomatic Channels	Uses official statements or actions by governments or organisations to bolster the credibility of disinformation.	Leveraging the perceived authority of official sources to lend credibility to false information.	Misuses the public's trust in institutions for manipulative purposes.
	T0075.001: Discredit Credible Sources	Aims to damage the reputation of reliable sources, eroding trust in legitimate information.	Directly attacking the ethos of trustworthy sources to create confusion and doubt.	Undermines the foundation of informed public discourse by destroying trust in reliable information.

	T0098: Establish Inauthentic News Sites	Involves creating fake news websites	Fabricating sources to deceive audiences	Deliberately deceives audiences by presenting
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		to mimic legitimate sources.	by exploiting their trust.	misinformation under the guise of legitimate news, making it difficult to discern truth from falsehood.
Pathos (Emotional Appeal)	T0068: Respond to Breaking News Event or Active Crisis	Exploit the heightened emotional state during crises to manipulate public opinion.	It uses fear and uncertainty to spread false information and promote specific agendas.	Can involve spreading fear and panic, leading to irrational actions and hindering effective crisis response.
	T0078: Dismay	Threaten critics to generate fear and discourage dissent.	Using fear to silence opposition and stifle free speech.	Suppresses legitimate criticism and debate through emotional manipulation.
	T0083: Integrate Target Audience Vulnerabilities into Narrative	Involves crafting narratives that resonate with the target audience's fears, prejudices, or grievances.	Manipulating opinions through emotional vulnerabilities.	Can reinforce harmful stereotypes and prejudices, leading to social division and discrimination.
	T0140: Cause Harm	Aims to incite realworld harm, such as riots or violence, to achieve political goals.	Using emotions like anger or fear to provoke harm.	A dangerous manipulation of emotions that can lead to real-world violence and suffering.
	T0124.002: Goad People into Harmful Action (Stop Hitting Yourself)	Provoke emotional reactions that lead to self-sabotage, discrediting opponents.	Manipulating emotions to provoke actions that damage the opponent's credibility or cause them harm.	Can incite violence and harmful behaviour, contributing to a toxic online environment.
	T0127: Physical Violence	Use or encourage physical violence to advance a narrative.	Using violence or the threat of violence to intimidate and silence opposition, or to evoke fear and outrage in support of a cause.	A clear violation of ethical principles that can lead to serious harm and undermine civil society.

Logos (Logical Appeal)	T0080: Map Target Audience Information Environment	Understand the information landscape to identify vulnerable points for targeted messaging.	Analysing the existing information ecosystem to identify logical weaknesses and exploit them for manipulative purposes.	Can be used to exploit cognitive biases and manipulate information flows, hindering informed decision-making.
	T0076: Distort	This tactic, frequently used in disinformation campaigns, involves twisting facts or presenting misleading information to	Undermining logos by distorting the logical basis of arguments and presenting falsehoods as truths.	Erodes trust in information and makes it difficult to distinguish fact from fiction.
		support a specific narrative.		
	T0079: Divide	This can be linked to logos as it uses logical fallacies like false dilemmas or appeals to emotion to create artificial divisions.	Manipulating logic to create false dichotomies and sow discord, preventing reasoned debate and cooperation.	Can polarise public opinion and hinder constructive dialogue by promoting an "us vs. them" mentality.
	T0121: Manipulate Platform Algorithm	Exploit the logical rules governing online platforms to amplify certain content.	Manipulating the algorithms that control information flow to promote specific narratives and suppress dissenting voices.	Can lead to the spread of misinformation and create echo chambers, limiting exposure to diverse perspectives.

2.4 Persuasion techniques in FIMI case studies

As previously discussed, Aristotle's means of persuasion (logos, ethos, pathos) are a broader categorisation of persuasion mainly focused on the content and delivery of a persuasive message; persuasive techniques, on the other hand, are the specific methods used to appeal to ethos, logos, and pathos⁴⁵.

Persuasive techniques actively leverage psychological principles to trigger cognitive biases, which are mental shortcuts that often lead to irrational judgment and cognitive errors. The Elaboration Likelihood Model (ELM) theory⁴⁶ helps explain how such techniques influence individuals and affect information processing and decision-making.⁴⁷

⁴⁵ Grant, op. cit. See also Braca, Annys, and Pierpaolo Dondio, "Survey data on dysfunctional attitudes, personality traits, and agreement with persuasive techniques", Data in Brief, Vol. 50, 2023. <https://doi.org/10.1016/j.dib.2023.109473>. See also Dove, Martina, *The Psychology of Fraud, Persuasion and Scam Techniques: Understanding What Makes Us Vulnerable*, Routledge, 2020.

⁴⁶ Petty, Richard E., and Pablo Briñol, "The elaboration likelihood model", in Paul A.M. Van Lange, Arie W. Kruglanski and E. Tory Higgins (eds.), *Handbook of theories of social psychology*, Sage Publications Ltd, 2012, pp. 224–245.

⁴⁷ Ostillo, op. cit. See also Braca and Dondio, op. cit..

This model suggests two ways to achieve influence: the central and peripheral routes. The central route requires a careful evaluation of arguments and evidence, motivation, and the ability to process information deeply. The peripheral is less analytical and emotionally driven; it relies on peripheral cues rather than arguments and evidence.⁴⁸

FIMI campaigns frequently target the peripheral route of persuasion by leveraging cognitive biases⁴⁹; these campaigns influence individuals who lack the motivation or capacity for critical thinking and in-depth information processing. Examples of these campaigns leveraging cognitive biases through the peripheral route follow.

2.4.1 Exploiting emotional vulnerability and reducing cognitive effort

FIMI attackers weaponise emotion by using emotionally charged language and imagery to trigger feelings such as fear, anger, or resentment⁵⁵. As a result, individuals tend to react instinctively rather than critically analysing the information presented. These tactics are especially effective on social media platforms, where content is often consumed quickly and without careful consideration.⁵⁰

Examples that highlight emotional manipulation are the "Lisa" rape case⁵¹, where false information about a 13-year-old Russian-German girl incited anger toward refugees, undermined support for Germany's immigration policies, and eroded the trust of the minority Russian-German community in the German majority society and government. The effects of this disinformation campaign are still felt. Similarly, China spread misinformation about the release of treated wastewater from Fukushima to instil fear and damage Japan's reputation, using emotionally charged language to portray it as a public health threat.⁵² Likewise, during the 2023 Spanish election, Russia targeted the Russian-speaking community in Spain with disinformation aimed at creating fear and distrust.⁵⁹ This included false information about safety threats like terrorism and fake websites that mimicked official sources to undermine trust in the Spanish government and the electoral process.

In FIMI campaigns, attackers present simple and repetitive messages that are easy to understand and remember instead of complex arguments. The aim is to reduce cognitive effort and increase the likelihood of the message being accepted without scrutiny. Slogans, catchy phrases, and visually appealing content are standard tools.⁵³ An example of this phenomenon in the case studies is the Iraqi protests, where slogans like "I am Iraqi, and the parliament does not represent me" and "Save the Iraqi

⁴⁸ Suntwal, Sandeep, Susan Brown and Mark Patton, "How does information spread? An exploratory study of true and fake news", Hawaii International Conference on System Sciences, 7 Jan 2020.

⁴⁹ Wang, Xin, Fan Chao, Guang Yu and Kaihang Zhang, "Factors influencing fake news rebuttal acceptance during the COVID-19 pandemic and the moderating effect of cognitive ability", *Computers in Human Behavior*, Vol. 130, 2022. <https://doi.org/10.1016/j.chb.2021.107174>

⁵⁰ Machete, Paul, and Marita Turpin, "The use of critical thinking to identify fake news: A systematic literature review", in Marié Hattingh, Machdel Matthee, Hanlie Smuts, Ilias Pappas, Yogesh K. Dwivedi and Matti Mäntymäki (eds.), *Responsible Design, Implementation and Use of Information and Communication Technology*, Springer International Publishing, 2020, pp. 235-246.

⁵¹ D1.1, op. cit., ch. 4.6.

⁵² D1.1, op. cit., ch. 4.23.

⁵⁹ D1.1, op. cit., ch. 4.12.

⁵³ Corneille, Olivier, Adrien Mierop and Christian Unkelbach, "Repetition increases both the perceived truth and fakeness of information: An ecological account", *Cognition*, Vol. 205, Dec. 2020. <https://doi.org/10.1016/j.cognition.2020.104470>.

people" were distributed on social media.⁵⁴ This repetition fostered a collective identity among protesters, while hashtags amplified their message and strengthened their shared narrative.

2.4.2 Leveraging cognitive biases

Individuals who consistently engage System 2 thinking—the slow, deliberate, and analytical mode of processing—when encountering persuasive messages are generally less susceptible to cognitive biases. This is because they critically evaluate the information presented, rather than relying on the automatic and intuitive judgements of System 1.⁵⁵ This aligns with the central route of persuasion, where individuals actively process information, as opposed to the peripheral route, which relies on heuristics and emotional cues.⁵⁶ Frequently used cognitive biases are:

⁵⁵ McGonagle, Tarlach, “Fake news’: False fears or real concerns?”, *Netherlands Quarterly of Human Rights*, Vol. 35, Issue 4, 2017, pp. 203-209.

- **The appeal to social proof:** This approach leverages people's tendency to conform, especially in uncertain situations.⁶⁴ It relates to the bandwagon effect, where individuals are likely to adopt beliefs or behaviours because they appear to be widely accepted.⁵⁷ For example, disinformation campaigns manipulate perception by flooding online platforms with fabricated content and inauthentic accounts, creating the illusion of widespread support and exploiting the "bandwagon effect". Likewise, a campaign might promote a viral hashtag despite doubts about its accuracy; the sheer number of users discussing it can create pressure to conform.⁵⁸ A clear example of this technique in action is Russia's use of RT and Sputnik to create false and distorted narratives.⁵⁹ Also, using hashtags like #NATOVetoOnSweden in various languages indicates a deliberate effort to create an online echo chamber projecting global opposition to Sweden's NATO membership.⁶⁰
- **Framing technique:** This technique elicits people's cognitive biases that affect individuals' choices based on the presentation of information⁶¹. For instance, a Russian FIMI campaign portrayed the Pfizer vaccine negatively, characterising it as unsafe and unreliable. In contrast,

⁵⁴ D1.1, op. cit., ch. 4.31.

⁵⁵ Phillips, Wendy J., Jennifer M. Fletcher, Anthony D.G. Marks and Donald W. Hine, “Thinking styles and decision making: A meta-analysis”, *Psychological Bulletin*, Vol. 142, Issue 3, 2016, pp. 260-290. See also Witteman, Cilia, John H.L. Van Den Bercken, Laurence Claes and Antonio Godoy Avila, “Assessing rational and intuitive thinking styles”, *European Journal of Psychological Assessment*, Vol. 25, Issue 1, 2009, pp. 39-47. Evans, Jonathan St. B., “In two minds: dual-process accounts of reasoning”, *Trends in Cognitive Sciences*, Vol. 7, Issue 10, 2003, pp. 454-459.

⁵⁶ Petty, Richard E., “Two routes to persuasion: State of the art”, in Gery d’Ydewalle, Paul Eelen and Paul Bertelson (eds.), *International perspectives on psychological science*, Vol. 2, Hillsdale, NJ, 1994, pp. 229-247.

⁵⁷ MacCoun, Robert J., “The burden of social proof: Shared thresholds and social influence”, *Psychological Review*, Vol. 119, Issue 2, 2012, pp. 345-372. See also Bischoff, Ivo, and Henrik Egbert, “Social information and bandwagon behavior in voting: An economic experiment”, *Journal of Economic Psychology*, Vol. 34, 2013, pp. 270-284.

⁵⁸ Jones, Keith S., et al., “How social engineers use persuasion principles during phishing attacks”, *Information and Computer Security*, Vol. 29, Issue 2, 2021, pp. 314-331.

⁵⁹ D1.1, op. cit., ch. 4.9.

⁶⁰ D1.1, op. cit., ch. 4.33.

⁶¹ Adams, Carl, and David E. Avison, “Dangers inherent in the use of techniques: Identifying framing influences”, *Information Technology and People*, Vol. 16, Issue 2, 2003, pp. 203-234. See also Giles, David, and Rachel Louise Shaw, “The psychology of news influence and the development of media framing analysis”, *Social and Personality Psychology Compass*, Vol. 3, Issue 4, 2009, pp. 375-393. ⁷⁰ D1.1, op. cit., ch. 4.19.



it linked the Sputnik V vaccine, which is technologically similar to AstraZeneca, to lower mortality rates, subtly suggesting that it is safer than the Pfizer vaccine.⁷⁰

This approach is often used with ethos to make stories appear credible. A case in point is the PAPERWALL campaign⁶², which effectively positioned its messaging within local media narratives to enhance credibility. In a parallel manner, the Wagner campaign highlighted the French military's involvement in Mali, using framing strategies to portray itself as a protector of Mali's sovereignty and a more dependable ally than France.⁷²

- **Appeals to authority:** Rooted in social conditioning, this technique encourages individuals to easily accept information from authoritative institutions or sources, even when these endorsements may be misleading, manipulated or presented out of context.⁶³ Appeals to authority use expert opinions or celebrity endorsements to exploit authority bias. This bias causes individuals to accept information from authoritative sources, even when misleading or

⁶⁴ Cialdini, Robert B., et al., “Compliance with a request in two cultures: The differential influence of social proof and commitment/consistency on collectivists and individualists”, *Personality and Social Psychology Bulletin*, Vol. 25, Issue 10, 1999, pp. 1242-1253. See also Innes, Martin, Diyana Dobрева, and Helen Innes, “Disinformation and digital influencing after terrorism: Spoofing, truthing and social proofing”, *Contemporary Social Science*, Vol. 16, Issue 2, 2021, pp. 241-255. Naeem, Muhammad, “The role of social media to generate social proof as engaged society for stockpiling behaviour of customers during Covid-19 pandemic”, *Qualitative Market Research: An International Journal*, Vol. 24, Issue 3, 2021, pp. 281-301.

taken out of context.⁷⁴ This bias manifests when people excessively trust information from perceived authority figures or well-established, reputable sources.⁷⁵ An illustration of this are Russian campaigns that often make use of state-controlled media such as RT and Sputnik to enhance the legitimacy of their narratives.⁶⁴ They portray these outlets as authoritative voices, frequently featuring experts who support their views to boost the credibility of their messages, despite questionable facts. Fake experts and manipulated media, such as doctored images and videos, also exploit this authority bias.

- **Confirmation bias:** This bias refers to the tendency for people to accept false information as long as it supports their currently held beliefs. It involves searching for, interpreting, and recalling information that aligns with one's existing beliefs.⁶⁵ This biased approach to processing information can cause individuals to overlook and dismiss evidence that contradicts their views, even when that evidence is strong and valid. Confirmation bias is frequently seen on social media and online communities, where echo chambers and filter bubbles exist.⁶⁶ In these environments, individuals are mainly exposed to information that aligns with their existing

⁶² Ibid., ch. 4.22.

⁷² Ibid., ch. 4.10.

⁶³ Goodwin, Jean, “Accounting for the appeal to the authority of experts”, *Argumentation*, Vol. 25, Issue 3, 2011, pp. 285-296. See also Mizrahi, Moti, “Take my advice—I am not following it: Ad hominem arguments as legitimate rebuttals to appeals to authority”, *Informal Logic*, Vol. 30, Issue 4, 2010. <https://doi.org/10.22329/il.v30i4.2990>.

⁶⁴ D1.1, op. cit., ch. 4.9.

⁶⁵ Peters, Uwe, “What is the function of confirmation bias?”, *Erkenntnis*, Vol. 87, Issue 3, 2022, pp. 1351-1376. See also Del Vicario, Michela, Antonio Scala, Guido Caldarelli, H. Eugene Stanley and Walter Quattrociocchi, “Modeling confirmation bias and polarization”, *Scientific Reports*, Vol. 7, Issue 1, 2017.

⁶⁶ Dahlgren, Peter M., “Media echo chambers: Selective exposure and confirmation bias in media use, and its consequences for political polarization”, PhD thesis, University of Gothenburg, 2020. See also Del Vicario, Michela, “The role of confirmation bias in the emergence of echo chambers: A data-driven approach”, PhD thesis, IMT, 2016.

beliefs. For instance, Russian FIMI actors frequently use Telegram⁶⁷, a platform with a significant Russian user base, to disseminate disinformation within these echo chambers and limit exposure to alternative perspectives. In the case of the altered photo of Zelenskyy⁶⁸, associating him with a swastika exploited pre-existing negative perceptions of Nazism, thereby reinforcing existing biases against Ukraine. For example, the Doppelganger campaign⁶⁹ targeted individuals in Germany with narratives that aligned with their desires for a peaceful relationship with Russia and their concerns about economic stability due to energy dependence.

In addition to the persuasive techniques identified in the aforementioned case studies, other techniques were observed as less relevant or infrequently used. For example, in Northern Cyprus, disinformation campaigns⁸² aimed to highlight potential real estate business opportunities to attract economic interests.⁷⁰ The studies also revealed the illusion of superiority⁷¹ as a prevalent cognitive bias. FIMI actors actively exploited this bias by appealing to a sense of superiority, as exemplified in the UAE and Saudi attacks against Qatar.⁷² In these campaigns, the attackers portrayed themselves as morally superior and framed their actions as necessary for regional stability.

⁷⁴ Walton, Douglas, *Appeal to Expert Opinion: Arguments from Authority*, Penn State Press, University Park, PA, 2010.

⁷⁵ Danet, Brenda, "The language of persuasion in bureaucracy: 'Modern' and 'traditional' appeals to the Israel Customs authorities", *American Sociological Review*, Vol. 36, No. 5, Oct. 1971, pp. 847-859.

Table 4 elaborates on the connection between DISARM TTPs, persuasion techniques, and cognitive biases by detailing specific TTPs and the biases they exploit. Additionally, it offers a comparative analysis of how these cognitive biases are used through persuasive techniques in the DISARM framework.

This distinction between DISARM and persuasive techniques highlights a crucial conceptual difference: DISARM excels at categorising and identifying the methods used in disinformation campaigns, providing a practical taxonomy of TTPs and recognising the importance of technical manipulation and platform exploitation. However, **it does not provide a thorough explanation of the psychological mechanisms behind these manipulative tactics.**

The alignment between the DISARM framework and cognitive biases is not absolute. While some TTPs explicitly leverage pre-existing cognitive biases to achieve their objectives, others may operate through different mechanisms. **To fully understand and counter disinformation, researchers and practitioners must combine DISARM's insights with a deeper exploration of persuasive techniques and cognitive biases revealing the manipulative nature of disinformation campaigns.**

⁶⁷ D1.1, op. cit., ch. 4.12.

⁶⁸ Ibid., ch. 4.13.

⁶⁹ Ibid., ch. 4.16.

⁸² Ibid., ch. 4.26.

⁷⁰ Aguirre-Rodriguez, Alexandra, "The effect of consumer persuasion knowledge on scarcity appeal persuasiveness", *Journal of Advertising*, Vol. 42, Issue 4, 2013, pp. 371-379.

⁷¹ Dunning, David, "False moral superiority", in Arthur G. Miller (ed.), *The Social Psychology of Good and Evil*, Guilford Press, 2016, pp. 171-184. See also Pietroni, Davide, and Sibylla V. Hughes, "Nudge to the future: Capitalizing on illusory superiority bias to mitigate temporal discounting", *Mind & Society*, Vol. 15, 2016, pp. 247-264.

⁷² D1.1, op. cit., ch. 4.30.

Table 4. Examples of DISARM TTPs and the exploitation of cognitive biases

DISARM TTP	Cognitive Bias Exploited	Description	Example
T0003: Leverage existing Narratives	Confirmation Bias	Reinforces pre-existing beliefs by presenting aligned information.	Targeting a group with strong religious beliefs with disinformation that supports those beliefs.
T0072: Psychographic and Political Segmentation	Confirmation Bias	Tailors messages to specific psychological profiles and political affiliations.	Sending different disinformation messages to conservative and liberal groups.
T0075.001: Discredit Credible Sources	Dunning-Kruger Effect	Discredits experts and credible sources.	Creating a website that mimics a scientific journal to publish fabricated studies.
T0076: Distort	Anchoring Bias	Presents misleading information early on to influence interpretation of later information.	Sharing a fake quote from a politician to create a negative impression.
T0079: Divide	In-group Bias	Creates or highlights divisions within a community.	Spreading rumours about a minority group to incite prejudice.
T0081: Identifying Existing Prejudices and Fissures	Confirmation Bias	Exploits existing prejudices and societal divisions.	Targeting a community with economic anxieties with disinformation about job losses due to immigration.
T0083: Integrate Target Audience Vulnerabilities into Narrative	Confirmation Bias	Crafts narratives that resonate with the target audience's fears and prejudices.	Spreading false information about a disease outbreak to amplify existing health concerns.
T0098: Establish Inauthentic News Sites	Bandwagon Effect, Authority Bias, Social Proof	Creates fake news websites that mimic legitimate sources to create a false sense of consensus, leveraging the influence of perceived authority and the desire to conform with the majority.	Creating a fake news website that promotes a specific conspiracy theory, using a design similar to a wellknown news outlet and displaying fabricated testimonials or endorsements.

T0102: Leverage Existing Echo Chambers and Filter Bubbles	Confirmation Bias, Repetition	Uses online communities where individuals encounter information that reinforces their views, strengthening their beliefs through repeated exposure.	Spreading disinformation within closed Facebook groups with shared political ideologies.
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3 THEORETICALLY INFORMED CONTENT ANALYSIS OF CASE STUDIES

3.1 Methods of the theoretically informed content analysis

This analysis employs a mixed-methods approach. We analyse the case studies as described in ATHENA deliverable D1.1⁷³, and we collected further insights from the case study authors with a questionnaire (Annex 8.1). We decided to complement the earlier case study descriptions with further data collection to have a more complete view on the campaigns. The questionnaire provides insights into the authors' viewpoints on three critical dimensions of the FIMI campaign process, i.e. the target audience, narratives employed, and emotional triggers.

To identify the persuasive techniques used in FIMI campaigns, the partners focused on specific questions in the questionnaire that directly relate to persuasive psychological means and behavioural influence (see Annex 8.1 for the full list of questions). The case study authors' answers are then compared and analysed as a whole with the case studies. Comparing these responses with case studies ensures a systematic and detailed examination of the techniques used. This enables precise identification and mapping of persuasive methods, even though the process inherently involves some level of subjectivity.

The study acknowledges a key limitation in identifying the overall emotional tone and persuasive techniques within the case studies. The analysis inevitably reflects the author's writing style, not necessarily the sentiment of the target population under study. Automated sentiment analysis tools or NLP techniques are also unsuitable in this case, as these tools cannot reliably distinguish between the author's tone and the intended emotional impact on the target audience. Therefore, this analysis relies on a close, manual review of each case study, systematically mapping the identified persuasive techniques. A partial dataset of questionnaire responses and analysis is available online.⁷⁴ The dataset has been filtered to remove responses to the questionnaire for which permission to publish was not given by respondents.

3.2 Results of the theoretically informed content analysis

This section provides a comprehensive analysis of case studies designed to identify the persuasive techniques and cognitive biases used in various campaigns. We investigated the methods employed by FIMI threat actors to weaponise disinformation in pursuit of strategic objectives, with particular emphasis on Russian initiatives targeting democratic institutions and public perceptions in Europe, the

⁷³ Ibid., chs. 4.1 - 4.33.

⁷⁴ A partial dataset is available at <http://project-athena.eu/wp-content/uploads/2025/01/T1.3-questionnaire-dataredacted.xlsx> and analysis table can be found at <http://project-athena.eu/wp-content/uploads/2025/01/T1.3-Questionnaire-curated.xlsx>

United States, and Ukraine through the dissemination of fabricated scandals and distorted narratives. Furthermore, we scrutinised the tactics of China and Turkey, which include cyber operations and media cloning. Additionally, specific cases exemplify regional power dynamics, such as Saudi Arabia's anti-Iran narratives during the first months of President Trump's first administration, and Turkey's disinformation campaigns opposing Sweden's NATO bid.

The objective is to uncover persuasive techniques and cognitive biases that influence and manipulate individuals. The analysis uses Aristotle's framework of rhetoric to categorise and interpret the observed manipulation mechanisms. The findings are systematically organised into a data matrix, facilitating

quantitative analysis of the prevalence and interplay of different persuasive techniques and cognitive biases.

3.2.1 Demographic profile of the target audience

FIMI campaigns, particularly those launched by Russia, specifically target polarised groups and conservative audiences within Western democracies. For instance, in the United States, FIMI aims to influence conservative voters to deepen divisions and undermine trust in democratic institutions. Russia customises its FIMI campaigns to reach specific demographics. The Doppelganger operation has targeted various countries, including Estonia, Latvia, Lithuania, France, Germany, Israel, Italy, Poland, Ukraine, the United Kingdom, and the United States. Additionally, Russia seeks to influence audiences in Africa and the Middle East by discrediting Western military interventions and shaping narratives around conflicts, such as the French presence in Mali.

Chinese FIMI efforts aim to influence a wide range of populations globally. The PAPERWALL campaign, for example, targeted audiences in various countries across Europe, Asia, and Latin America, with a notable focus on Russia, Central Asia, Europe, and Latin America.

Turkey's FIMI targeting also strategically uses language and messaging tailored to specific demographics. It leverages multiple languages, including Turkish, English, Arabic, Swedish, and Finnish. Iran and Saudi Arabia focus on voters in the Middle East and the U.S., using electoral and geopolitical messaging to advance their agendas.

While India targets anti-Pakistan sentiments, North Korea targets East Asian audiences with antiwestern propaganda. Throughout these campaigns, disinformation often exploits emotionally sensitive topics, such as vaccine scepticism, religious sensitivity and ethnic tensions, to target vulnerable groups and exacerbate societal divisions. Figure 1 illustrates the relationship between FIMI attackers and geographical audiences. Blue colour nodes pertain to FIMI attackers, while the green colours represent the FIMI targets.

Network Visualization of Threat Actors and FIMI Targets

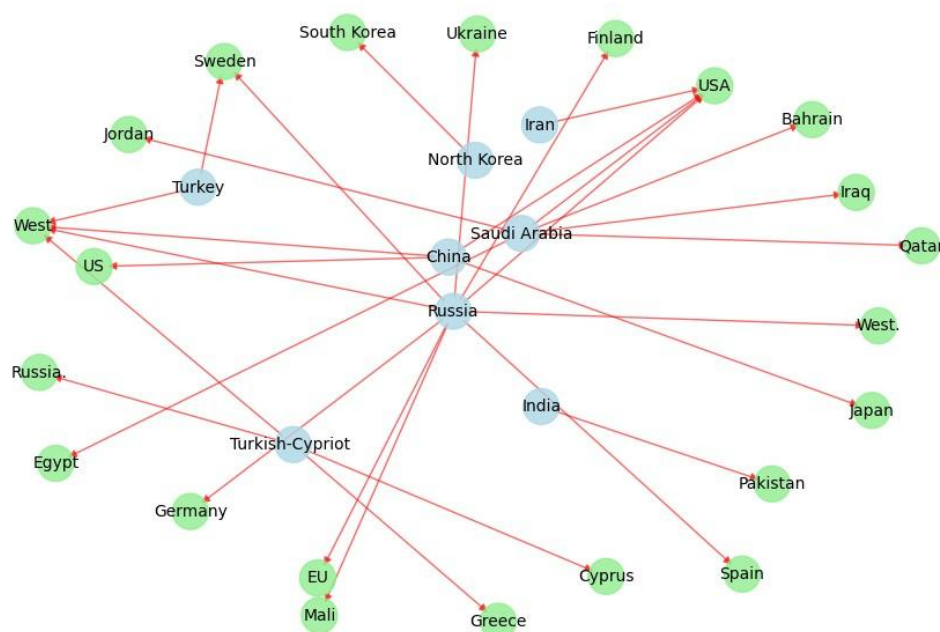
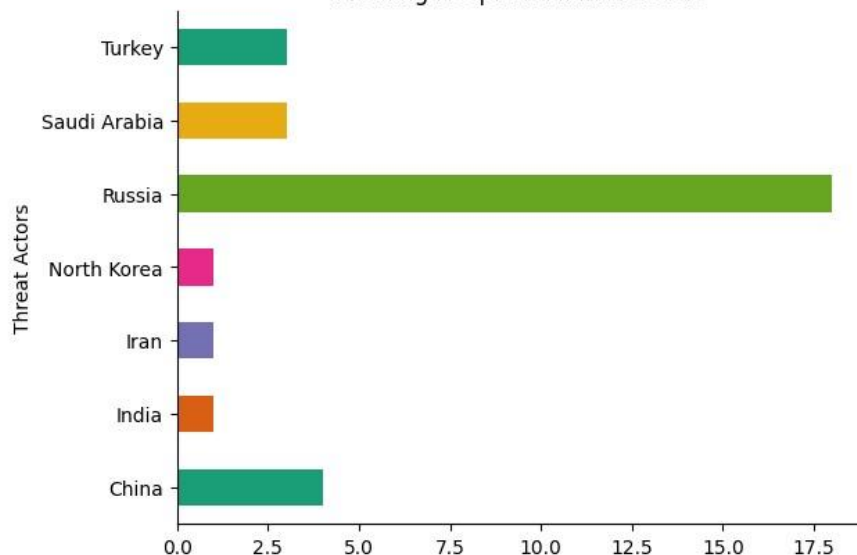
**Figure 1.** FIMI attackers and geographical target audiences

Figure 2 illustrates the distribution of identified threat actors responsible for FIMI campaigns across the analysed case studies. Russia emerges as the most frequent perpetrator, accounting for 18 out of the 32 total cases. China represents the second most frequent source of FIMI campaigns with four cases. Saudi Arabia and Turkey each have three cases, while India, Iran and North Korea have one case each.

Profiling Frequent FIMI Attackers

**Figure 2.** Most frequent perpetrators of FIMI campaigns identified within the analysed case studies.

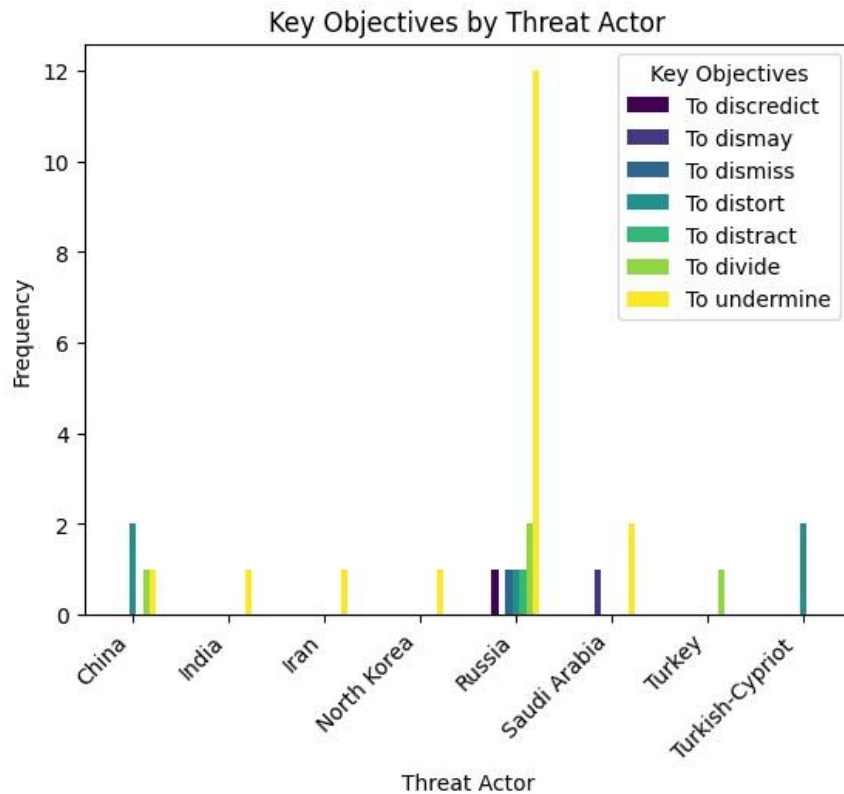


Figure 3. Distribution of objectives employed by FIMI threat actors

Figure 3 presents the distribution of objectives employed by different threat actors in FIMI campaigns. The analysis categorised these objectives as "Discredit," "Dismay," "Dismiss," "Distort," "Distract," "Divide," and "Undermine."

Figure 3 shows that "Undermine" is the most prevalent objective across all threat actors, with Russia demonstrating a particularly high frequency of its use. Table 5 outlines the methods used by Russian FIMI, which use a blend of rhetorical devices and persuasive strategies to influence public opinion, destabilise political environments, and foster discord globally. Each example demonstrates a deliberate use of pathos, ethos, and logos to exploit audiences' vulnerabilities, tailoring narratives to resonate with their existing biases and anxieties.

Table 5. Case studies where Russia's main objective is to *undermine* the FIMI target

Case Study	Pathos	Ethos	Logos	Persuasive Techniques
Did the Russians dupe the US Republican Party? ⁷⁵	Anger, distrust, anti-establishment sentiments, anxieties about political elites.	Smirnov's background with the FBI built trust and credibility, while deflecting scrutiny.	The campaign created misleading evidence and built a deceptive narrative presented as logical reasoning to mislead the public.	Framing, Confirmation Bias, Appeal to Authority, Repetition

⁷⁵ Ibid., ch. 4.2. ⁸⁹

Ibid., ch. 4.2. ⁹⁰

Ibid., ch. 4.5.

How Russian FIMI actors reacted to the US aid package⁸⁹	Fear, anxiety, resentment, anger, national pride, patriotism, resentment towards the West.	Statements from Russian officials and Western sources amplified by state media.	Selective use of facts and data, it distorted the truth by selectively presenting information and misinterpreting events.	Repetition, Framing, Social Proof
Russian FIMI about the Quran burning in Sweden⁹⁰	Fear, anger, resentment, outrage among Muslim communities, anxieties about immigration.	Disinformation disseminated via state-run media channels such as RT and Sputnik gives credibility.	Had a minor role in strategy.	Framing, Illusion of Superiority, Social Proof, Availability Heuristic
Russian FIMI about the (fabricated) "Lisa" rape case⁷⁶	Fear, anger, resentment towards refugees.	Leveraging Russian media to enhance influence within the Russian-German community.	Offering a seemingly logical and believable storyline, using selective facts or skewed statistics	Emotional Appeals, Appeals to authority, Repetition, Social Proof, Availability Heuristic
Framing the President – How Russia creates negative press about a Head of State⁷⁷	Fear, mistrust, societal divisions, anxieties, distrust of the Finnish government.	The campaign placed significant emphasis on ethos, using credible authoritative	Had a minor role in strategy.	Framing, Repetition, Confirmation Bias

		sources to enhance its trustworthiness claims.		
Russia Today (RT): its narratives and ideological biases⁷⁸	Anger, resentment, fear.	Despite being state-funded, RT aims to portray an unbiased image to enhance its credibility.	RT distorts logical reasoning, diverts critical scrutiny from Russia, and undermines narratives originating from the West.	Framing, Repetition, Confirmation Bias
Russia uses bribery to spread disinformation⁷⁹	Fear, anger, resentment, anxieties about terrorism.	Platforms such as "Voice of Europe" and MEP interviews are used to legitimise narratives.	Had a minor role in strategy.	Framing, Social Proof, Appeals to Authority

⁷⁶ Ibid., ch. 4.6.

⁷⁷ Ibid., ch. 4.7.

⁷⁸ Ibid., ch. 4.9.

⁷⁹ Ibid., ch. 4.11.

⁹⁵ Ibid., ch. 4.12.

Russian interference in the Spanish election in July 2023⁹⁵	Fear, anxieties about terrorism.	Mimicking the Comunidad de Madrid site, creating a façade of legitimacy.	The campaign exploited logic, spreading disinformation through credible channels to enhance the appearance of rationality and boost the narrative.	Framing, Confirmation Bias, Repetition
Altered photo showing Zelenskyy holding a jersey with a swastika⁸⁰	Fear, anger, disgust, visceral reactions, inflamed negative sentiment towards Zelenskyy.	Doctored photo spread through pro-Russian outlets and influencers, creating false credibility.	The campaign cultivated a misleading sense of reason by inaccurately branding Zelenskyy as a Nazi sympathiser, which supported the Kremlin's narrative regarding Ukraine to rationalise the invasion.	Repetition, Framing, Social Proof, The Availability Heuristic
Disinformation about Zelenskyy's buying a villa in Florida⁸¹	Fear, anger, resentment, distrust, suspicion, uncertainty.	Inauthentic websites and fabricated personas, coopting influential figures for legitimacy.	Superficial narrative coherence, exploiting existing narratives and anxieties	Framing, Social Proof, Repetition, Illusion of Superiority
European Parliament report on FIMI in European elections⁸²	Fear, anger, resentment.	"Voice of Europe" positioned as an independent platform, claiming diverse perspectives to build trust.	The campaign selectively presented information and distorted facts. The arguments created a superficially convincing narrative	Social Proof, Framing, Repetition, Confirmation Bias, Authority Appeal

			that appears to follow a logical progression.	
Russian disinformation about COVID-19 vaccines⁸³	Fear, anxiety.	Fazze influencer platform conceals its Russian roots to seem trustworthy.	The campaign misused sources like a <i>Le Monde</i> article to create a false sense of logic and legitimacy for their baseless arguments.	Confirmation Bias, Bandwagon Effect, Framing, Authority Appeal

Of the 32 case studies analysed, 18 focused specifically on Russia's FIMI attacks. A central element of Russian FIMI is its strategic application of ethos, leveraging authoritative individuals and credible

⁸⁰ Ibid., ch. 4.13.

⁸¹ Ibid., ch. 4.14.

⁸² Ibid., ch. 4.15.

⁸³ 99 Ibid., ch. 4.19.

platforms to enhance the legitimacy of its narratives. Figure 4 represents the frequency of persuasive techniques used in these Russian attacks. The most common technique, "Framing," occurs 15 times. "Repetition" is the second most frequent, appearing 13 times, closely followed by "Confirmation Bias" at 9 instances. These findings suggest a Russian strategy focused on shaping how information is presented ("Framing"), reinforcing pre-existing beliefs ("Confirmation Bias"), and repeating messages for greater impact ("Repetition"). Less frequent techniques include "Authority Appeal," "Social Proof," "Illusion of Superiority," "Availability Heuristic," and "Bandwagon Effect." This distribution highlights the tactics used to influence audiences and spread disinformation in these 18 Russian FIMI cases.

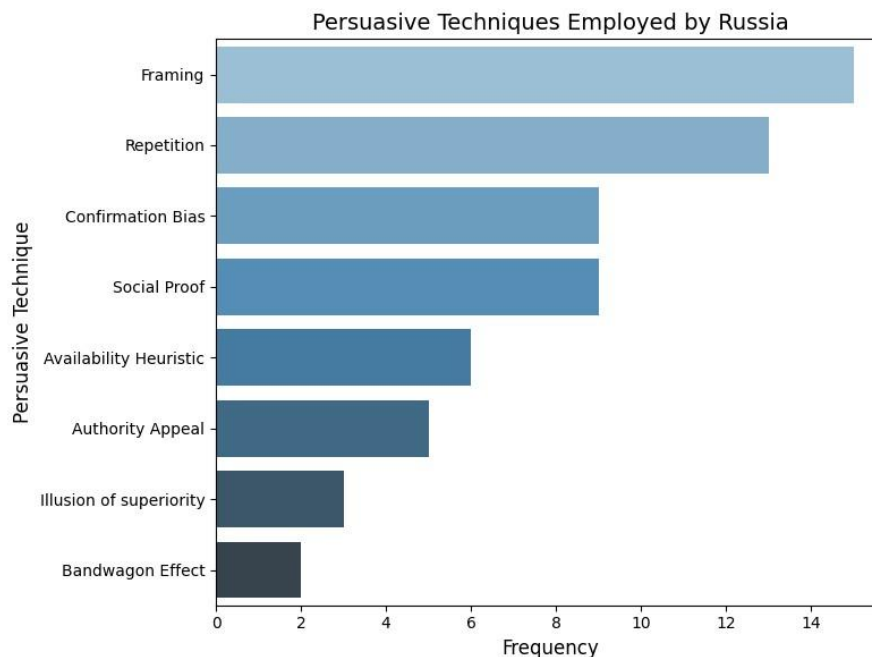


Figure 4. Distribution of usage of persuasive techniques by Russia

The analysis of the 18 Russian FIMI case studies reveals a discernible pattern in the use of persuasive techniques. Framing, confirmation bias, and repetition were commonly used tactics, indicating a strategy to manipulate information and reinforce beliefs through repetition. This pattern aligns with existing research on disinformation campaigns, which highlights the use of framing to shape narratives¹⁰⁰, the exploitation of confirmation bias to increase message receptivity¹⁰¹ and the role of repetition in enhancing message credibility¹⁰².

The case studies highlight multiple actors engaged in FIMI activities, with China emerging as another significant FIMI perpetrator. Table 6 provides an analysis of China's manipulative strategies within the framework of Aristotelian rhetoric. The case studies reveal that China's FIMI campaign predominantly focuses on three core objectives: eroding trust, sowing division, and distorting reality.

Table 6. Case studies of the China FIMI threat actor

Case Study	Pathos	Ethos	Logos	Persuasive Techniques
Meta dismantles large-scale Chinese	Fear, anxiety, and emotionally charged language, grievances.	Websites mimicking local news outlets used to publish pro-Beijing content.	The campaign distorted facts and presented selective information.	Framing, Social Proof, Authority Appeal.

disinformation campaign ⁸⁴				
Facebook accounts in China impersonated Americans, Meta says ⁸⁵	Fear, insecurity, distrust, anti-US sentiments, nationalistic sentiments.	To establish credibility, the campaign employed fake accounts posing as US military families and anti-war activists.	Had a minor role in strategy.	Framing, Repetition, Social Proof, Authority Appeal.
PAPERWALL: Chinese websites pose as local news to target global audiences ⁸⁶	Fear, mistrust, societal divisions, anxieties, distrust of the US government.	fabricates credibility by mimicking legitimate local news outlets.	The campaign misused logos by plagiarising content from legitimate sources.	Framing, Social Proof, Authority Appeal
Chinese disinformation about the release of Fukushima water ⁸⁷	Fear, anxiety, resentment, anger towards Japan, distrust of Japan and partners, national pride, moral superiority.	State-controlled media outlets, amplifying dissenting voices, framing China as responsible.	Had a minor role in strategy.	Emotional Appeals, Authority Appeal, Framing, Social Proof, Availability Heuristic, Bandwagon Effect, Illusion of Superiority.

The strategic use of FIMI is not limited to Russia and China. As Table 7 demonstrates, Turkey (among still others) also employs persuasive tactics to advance its geopolitical agenda by influencing emotions, capitalising on perceived credibility, and distorting logical reasoning.

¹⁰⁰ Boudana, Sandrine, and Elad Segev, “Fake news makes the news: Definitions and framing of fake news in mainstream media”, *Journalism Practice*, 2024, pp. 1-20. See also Hellman, Maria, “Narrative analysis and framing analysis of disinformation”, in Maria Hellman (ed.), *Security, Disinformation and Harmful Narratives: RT and Sputnik News Coverage about Sweden*, Springer Nature Switzerland, 2024, pp. 101-121.

¹⁰¹ Ling, Rich, “Confirmation bias in the era of mobile news consumption: The social and psychological dimensions”, *Digital Journalism*, Vol. 8, Issue 5, 2020, pp. 596-604.

¹⁰² Koch, Thomas, and Thomas Zerback, “Helpful or harmful? How frequent repetition affects perceived statement credibility”, *Journal of Communication*, Vol. 63, Issue 6, 2013, pp. 993-1010. See also Cacioppo, John T., and Richard E. Petty, “Effects of message repetition on argument processing, recall, and persuasion”, *Basic and Applied Social Psychology*, Vol. 10, Issue 1, 1989, pp. 3-12.

Table 7. Case studies of Turkey FIMI threat actor

Case Study	Pathos	Ethos	Logos	Persuasive Techniques
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⁸⁴ D1.1, op. cit., ch. 4.20.

⁸⁵ Ibid., ch. 4.21.

⁸⁶ Ibid., ch. 4.22.

⁸⁷ Ibid., ch. 4.23.

Turkey's disinformation about north Cyprus as an independent state ⁸⁸	Fear, grievances, nationalism, uncertainty.	False credibility through association	Played a minor role in its overall strategy.	Repetition, Framing, Economic appeal, Scarcity, Social Proof.
Varosha to Vegas: The Real Estate Exploitation and Disinformation Tactics by "TRNC" ⁸⁹	Fear, greed, nationalism.	False credibility through association	The campaign employs distorted logic, mixing truth and misinformation to create a false sense of reasoned argumentation.	Framing, Repetition, Social Proof, Authority
Turkey undermines Sweden's bid for NATO membership ⁹⁰	Fear, grievances, nationalism.	Leveraging authority figures	The campaign uses distorted evidence to create a false sense of logic, making its claims seem reasonable despite lacking factual support.	Framing, Repetition, Social Proof
Turkey's disinformation about a clash with the UN in the buffer zone in Cyprus ⁹¹	Nationalism, grievances, fear, anger	Leveraging authority figures	Create a false sense of reason to support their claims by misrepresenting the context of events.	Authority Appeal, Confirmation Bias, Available Heuristic, Social Proof

⁸⁸ Ibid., ch. 4.24.

⁸⁹ Ibid., ch. 4.26.

⁹⁰ Ibid., ch. 4.33.

⁹¹ Ibid., ch. 4.25.

Like Russia, China, and Turkey, Saudi Arabia emerges as a prominent actor in the FIMI landscape. As illustrated in Table 8, Saudi Arabia's strategies, analysed through Aristotle's framework, demonstrate a focus on exploiting biases, using credibility, and distorting logic to achieve its objectives.

Table 8. Case studies of Saudi Arabia FIMI threat actor

Case Study	Pathos	Ethos	Logos	Persuasive Techniques
Saudi Arabia's anti-Iran campaign during the first Trump administration ⁹²	Fear, grievances, nationalism.	Public support from authority figures is used to gain credibility and legitimacy.	The campaign fostered a sense of logic by appealing to existing biases rather than offering genuine logical reasoning argument.	Bandwagon Effect, Repetition, Social Proof, Framing.
Cyberwarfare and the Qatar blockade ⁹³	Anger, resentment, distrust, suspicion, fear, uncertainty.	The credibility of traditional and social media, which encompasses influential figures and television, was leveraged.	The campaign established a narrative that systematically connected Qatar to prevailing threats and concerns in the region.	Authority Appeal, Confirmation Bias, Available Heuristic, Bandwagon Effect, Framing, Repetition, Illusion of Superiority.

⁹² Ibid., ch. 4.29.

⁹³ Ibid., ch. 4.30.



The role of FIMI in Iraq's Tishreen protests ⁹⁴	Fear, anger, patriotism, nationalism.	Prominent social media influencers, leaders of civil society, and youth activists were regarded as relatable and trustworthy by the target audience, who amplified significant messages.	The campaign uses false logic (logos) to blame Iran for Iraq's problems. By creating a cause-and-effect link between Iran's actions and Iraq's struggles, the campaign tries to convince people that Iran is the source of their difficulties.	Repetition, Social Proof, Framing, Emotional Appeals
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Figure 5 shows that framing is the most frequently used technique in the FIMI case studies, followed by Confirmation Bias, Social Proof, Authority Appeal, and Repetition. Threat actors often rely on reframing the narrative, reinforcing existing beliefs, leveraging social influence, and establishing (false) credibility by repetition.

⁹⁴ Ibid., ch. 4.31.

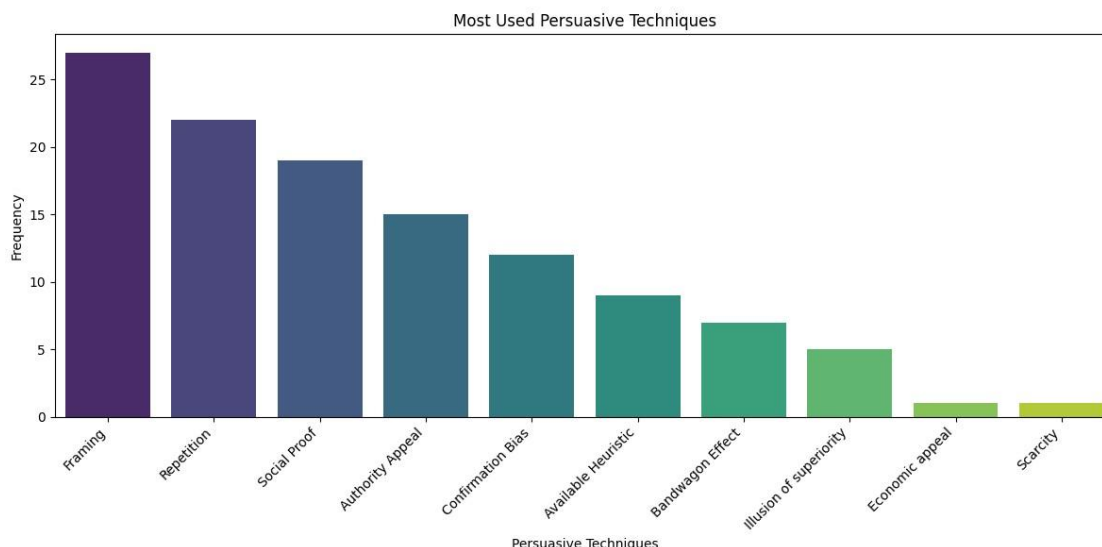


Figure 5. Most used persuasive techniques in FIMI case studies

Figure 6 shows a network graph illustrating the relationships between threat actors and their persuasive techniques, offering an overview of FIMI's manipulative strategies in different geopolitical contexts.

In the graph, threat actors such as Saudi Arabia, China, and Russia are represented by one set of skyblue nodes. Conversely, persuasive techniques—such as Repetition, Framing, and Social Proof—are represented by another set of nodes coloured light coral. These nodes indicate the specific persuasive methods that the threat actors use to achieve their objectives.

The relationships among threat actors and their persuasive methods highlight the strategies used by each one. Edge weights reflect how often or how important a technique is in an actor's campaigns, with thicker edges signifying more frequent usage. The spring layout organises the nodes based on their interconnections, clustering closely related nodes to reveal patterns or key actors within the network.

This network reveals the interplay between threat actors (such as Russia, China, Iran, and Saudi Arabia) and the persuasive techniques used to manipulate perceptions and achieve geopolitical objectives. Certain techniques, such as framing, repetition, and social proof, are consistently used across campaigns, suggesting a common toolkit employed by diverse actors.

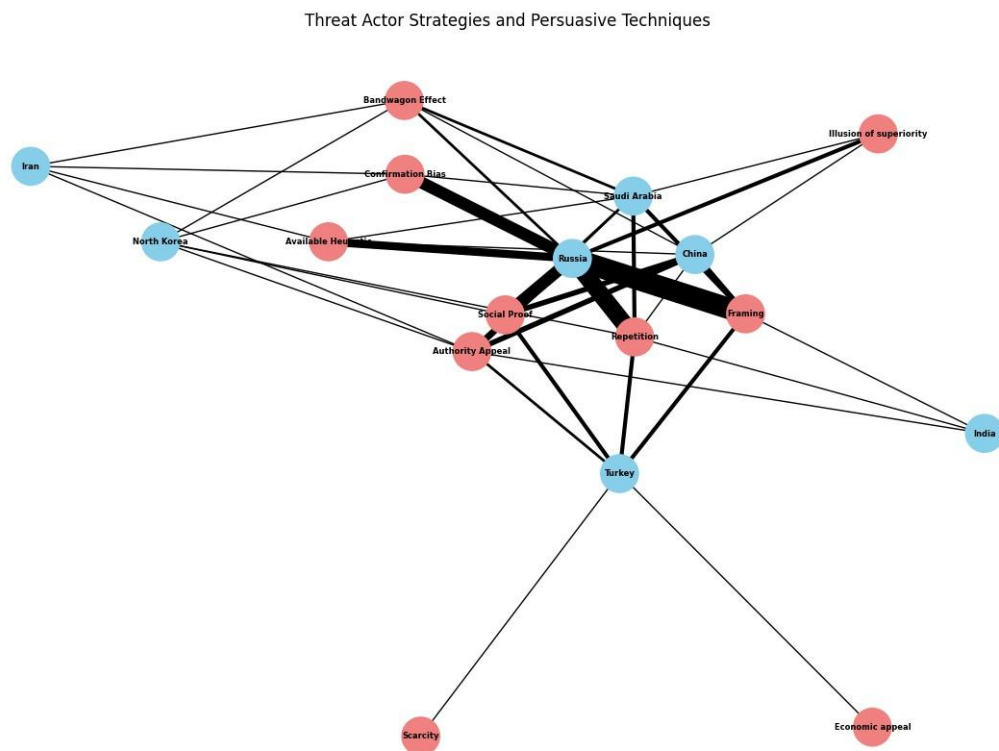


Figure 6. Network visualisation of the persuasive techniques most frequently employed by each threat actor.

3.2.2 Values, attitudes, and beliefs leveraged from the target audience

The analysis of case studies demonstrates that FIMI campaigns actively leverage the target audience's values, attitudes and beliefs to achieve geopolitical goals. The Russian FIMI campaigns, for example, promote distrust in institutions, deepen grievances, and make audiences vulnerable to Russian narratives by creating and fostering echo chambers where individuals encounter information that supports their pre-existing beliefs.⁹⁵

Nationalism is among the most frequently used emotional appeals in many FIMI campaigns. Russia often portrays itself as a defender of traditional values against the West. Another common appeal is emotionally appealing through fear-based narratives. It often preys on fears related to terrorism and economic instability, providing simplistic explanations for complex issues.

Similar to Russian tactics, Chinese FIMI campaigns exploit societal anxieties to achieve their aims. This is evident in the Fukushima⁹⁶ release initiative, where the campaign heightened anti-Japanese sentiment by invoking historical nuclear safety concerns. This strategy effectively triggered nationalist sentiment, fears and anxiety while bolstering support for the Chinese government.

⁹⁵ Ibid., chs. 4.1-19.

⁹⁶ Ibid., ch. 4.23.

Analysis indicates that Chinese FIMI campaigns, exemplified by the PAPERWALL⁹⁷ operation, use deceptive strategies, including the implementation of fictitious accounts, to spread disinformation. These accounts strategically target entities such as US foreign policy, framing them as hypocritical to

cultivate discord among the American populace. This calculated dissemination of disinformation serves to erode trust in Western governments, ultimately advancing China's geopolitical objectives.

Turkish FIMI campaigns exploit distrust of Western institutions among Turkish and Muslim audiences, promoting victimhood and scepticism towards the West. These narratives hinge on national pride and religious identity to engage Muslim audiences and often focus on issues related to Turkey's regional role.⁹⁸

India's disinformation campaign after the Pulwama attack primarily targeted its populace, exploiting nationalism and calling for decisive action against perceived national security threats. Likewise, Saudi Arabia often engages in FIMI campaigns following a similar pattern to that of Russia, China, Turkey, and India. For example, the cyberwarfare campaign aimed at Qatar sought to influence both ArabicGulf citizens and Western English speakers, exploiting anxieties about terrorism and instability in the Gulf and the West.

This exploitation of deep-seated fears and anxieties represents a common thread in FIMI campaigns globally. Threat actors frequently exploit emotional appeals by leveraging universal feelings such as fear, anger, and resentment. Narratives related to Ukraine, NATO, or the West evoke fears of destabilisation and incite anger towards elites or foreign influences.¹¹⁸

Figure 7 displays a word cloud, a visual representation in which the size of each word reflects its frequency or significance. The key themes and sentiments from the analysed FIMI case studies are presented in this word cloud. Words like "fear", "anxiety", "anger", "resentment", and "distrust" stand out, indicating that these emotions are frequently exploited in FIMI campaigns. Additionally, the prevalence of terms such as "nationalism", "patriotism", and "moral superiority" suggests that FIMI actors often appeal to nationalistic sentiments and a sense of moral righteousness to advance their agendas.

⁹⁷ Ibid., ch. 4.22.

⁹⁸ Ibid., ch. 4.24-4.26 and 4.32. ¹¹⁸

Ibid., chs. 4.12-4.14.



Figure 7. Word cloud visualisation of emotional (ethos) appeals in FIMI case studies

3.3 Concluding remarks

In conclusion, the analysis of FIMI case studies demonstrates how threat actors systematically manipulate audiences through emotional and rhetorical appeals. By exploiting pathos, particularly fear, anger and resentment, they disrupt rational thought and increase audiences' susceptibility to manipulation. Fear, the most frequently exploited emotion, appeared in all case studies, often paired with anxiety and patriotism. Threat actors leveraged anger, resentment and distrust to achieve their goals. Threat actors also rely on fabricated sources, state-controlled media and authoritative figures to establish credibility (ethos). Logical appeals (logos) were also present but often distorted or selectively applied.

These case studies reveal the complex interplay of emotional and rhetorical strategies within FIMI campaigns. Persuasive techniques amplified the effectiveness of disinformation. For instance, the use of framing, social proof and authority appeals were observed in the case studies. Recognising these tactics is essential for developing countermeasures to mitigate the spread of disinformation and protect the integrity of public discourse.

4 INTERVIEWS

4.1 Methods

To complement the previous sections, we conducted a series of in-depth interviews with experts, mainly academics, specialising in FIMI. The objectives of the interviews were (1) to gain deeper insights into **behavioural and societal aspects of FIMI** from the experts' perspective, focusing on the psychological factors that amplify the impact of disinformation narratives and their effects on emotions and social trust, and (2) to provide an **informed opinion on the strategies and challenges** associated with mitigating these effects.

Sampling and participant selection

To conduct the interviews, we identified an initial sample of experts in FIMI studies through academic networks, professional contacts and recommendations from ATHENA partners. We then employed purposive and snowball sampling to identify and recruit additional interviewees. The final sample consisted of 12 participants, selected based on their expertise and significant contributions to the field. These interviewees included:

- Professors, associate professors and researchers affiliated with universities (see Table 8).
- Members of high-profile projects and networks, including the **European Digital Media Observatory** (EDMO) and **EU-HYBNET**.
- Heads of research institutions, academics and government representatives with expertise in the field of disinformation and hybrid threats.

To ensure diversity, the sample comprised experts from different disciplines, professional backgrounds and genders.

Data collection

We conducted 12 in-depth interviews using a semi-structured guide⁹⁹ to balance consistency with flexibility to explore emerging themes. Interviews were conducted between June and December 2024, and took place both online, through platforms such as Zoom and Microsoft Teams, and in person, depending on logistical feasibility and participant preferences. Each interview lasted approximately 60

minutes. The interview guide consisted of five main blocks (Annex 8.2) according to the specific research objectives:

- Expertise and background
- Psychological and emotional aspects
- Behavioural impacts
- Social trust
- Recommendations.

The interview guide served as a flexible framework, enabling interviewers to adapt the sequence of questions and probe for deeper insights based on the participant's expertise and responses.

We followed strict ethical guidelines throughout the study. All participants gave informed consent, and interviews were recorded to facilitate transcription and analysis. To ensure confidentiality, we offered participants the option of anonymising their quotes. As some of the interviewees requested anonymity, the quotes collected in this report are attributed using an anonymous identifier (e.g., "P-01") rather than personal data (Table 8).

Table 8. ID and organisations of the experts participating in the interviews

ID	Institution
P-01	Cyprus University of Technology – School of Engineering and Technology
P-02	Dublin City University (DCU) – School of Communications
P-03	University of Vienna – Department of Philosophy
P-04	University of Nicosia – Department of Politics and Governance

⁹⁹ Hernández-Sampieri, Roberto, and Christian Paulina Mendoza Torres, *Metodología de la investigación: las rutas cuantitativa, cualitativa y mixta*, McGraw-Hill, Ciudad de Mexico, 2018.

P-05	Vrije University Amsterdam – Department of Organization Sciences
P-06	Knowledge Media institute (KMi) – Open University (OU)
P-07	University Rey Juan Carlos (URJC) – Department of Communication Sciences and Sociology
P-08	University of Tartu, Centre for Ethics
P-09	King’s College London – Department of Psychology
P-10	Institute for Strategic Dialogue (ISD)
P-11	National University of Political Studies and Public Administration (SNSPA) – College of Communication and Public Relations
P-12	Ministry of Foreign Affairs of Finland

We used artificial intelligence applications to transcribe the interviews and then carefully checked the transcripts for accuracy. We compiled all the responses into a single document, which allowed us to carry out inductive thematic analysis to identify recurring themes and patterns in the data. This approach ensured that themes emerged organically from the data, rather than being imposed. Key recurring themes identified include:

1. Experts pointed to the exploitation of cognitive biases, heuristics and emotional responses such as fear, anger and anxiety. Emotional content has a higher potential for virality, so threat actors often prioritise this type of content.
2. FIMI campaigns exploit local and regional tensions and target sensitive issues ranging from immigration, gender equality, to economic instability, among others, to exacerbate divisions and weaken communities.
3. FIMI undermines trust in democratic institutions, mainstream media and science, often by increasing scepticism and fostering polarisation.
4. While direct causality is difficult to establish, FIMI contributes to changes in social behaviour, including protests, shifts in voting patterns, and doubts about scientific consensus. The lack of consistent longitudinal data complicates efforts to quantify its impact.
5. The design of social media platforms and their algorithmic ranking systems increase the reach and effectiveness of FIMI campaigns, using the attention economy to maximise interaction and virality.
6. Experts identified media literacy, cross-sector collaboration and increased accountability of social media platforms as critical to counteracting FIMI. Experts also emphasised creative approaches and collective efforts to close epistemic gaps.

Table 9 summarises the frequency of the most recurring statements across the 12 interviews. We then elaborate on each of the themes identified, with supporting quotes from all the participants. **Table 9.** Frequency of relevant statements among the 12 experts interviewed

FIMI actors use extreme emotions (fear, anxiety, alarm) to capture attention	8/12
Threat actors use microtargeting to maximise the impact of their campaigns	6/12
Threat actors strategically exploit existing social tensions, prejudices and beliefs	9/12
FIMI campaigns create widespread mistrust, leading to social fragmentation and polarisation	12/12
Measuring the behavioural and social impact of FIMI remains challenging	8/12
FIMI campaigns obstruct the functioning of institutions, initiatives and policies	11/12

Threat actors exploit algorithms and the attention economy	5/12
Disinformation and FIMI affect voter turnout	7/12
The most critical threat posed by FIMI lies in its long-term impact	5/12
Creative strategies and collective participation are needed to bridge epistemic gaps	10/12
Threat actors use heuristics to manipulate cognition	5/12
FIMI campaigns target minorities to silence and coerce them	5/12

4.2 Psychological aspects of FIMI: Cognitive biases and emotional exploitation

The analysis of the interviews reveals a consensus on the psychological impact of disinformation campaigns and FIMI, which is based on the exploitation of extreme emotions, heuristics and cognitive vulnerabilities to manipulate perceptions and fragment communities. According to the interviewees, these strategies go beyond the manipulation of facts and seek to influence people's emotions and attention by creating mistrust and distorting the way individuals interpret reality. As **P-11** pointed out, “the greatest interference caused by FIMI and misinformation is not so much about facts as it is about emotions and attention”; for which malicious actors take advantage of algorithms that prioritise extreme emotions – whether negative, such as fear, anger or disgust, or positive, such as caring – over the accuracy of information (**P-06**).

P-11 stressed the fact that threat actors exploit certain emotions, such as disgust and anger, over others because these are emotions that have “greater potential for viralisation”. This prioritisation of highly emotional content is evidence of an “engineering problem” in digital platforms, whose algorithmic design is optimised to maximise interaction and usage time without considering the quality of the content or mitigating its potential harmful effects. By systematically amplifying the most intense emotions, these algorithms become allies of malicious actors, facilitating the mass dissemination of manipulative messages.

The main psychological mechanisms used in FIMI campaigns to influence the population combine cognitive and emotional strategies in an interrelated way. **P-07** explained that, at the cognitive level, they exploit people's limitations of rationality, who often resort to heuristics as shortcuts to process information in contexts of limited time or high complexity in which we cannot devote reasonable time to rigorous examination based on reflection. While useful in these circumstances, “they are a source of error and bias” that malicious actors exploit to reinforce pre-existing beliefs. This dynamic is exacerbated in an environment of information overload, where people tend to turn to sources that align with their prior mental frameworks, limiting their ability to critically analyse content. As **P-09** noted, these campaigns “are particularly good at eliciting emotional reactions without giving people a chance to think critically about what they are seeing”. The interviewee explained that humans tend to make quick decisions based on emotions rather than rational analysis. Disinformation takes advantage of this by triggering strong emotional responses – anger, fear or anxiety – that can circumvent critical thinking. By manipulating these quick responses, campaigns reinforce false narratives and make it difficult to change perspectives, trapping audiences in “information bubbles” (**P-01**) that limit their exposure to opposing views. Moreover, as **P-12** highlighted, “one purpose of information manipulation is to exhaust the target audience”, placing them in a state of “pre-trauma stress”, where “their readiness and alertness to use reason weakens, making them more susceptible to following impulses”. **P-03** added that these campaigns not only distort explicit beliefs, but also influence people's cognitive representations in a more subtle way, a phenomenon he called “sub-doxastic association”, i.e., “an influence that alters cognitive representations without necessarily changing explicit beliefs”.

At the emotional level, interviewees explained that FIMI campaigns exploit both pre-existing beliefs and primary human emotions, especially fear. Other emotions and feelings identified in the interviews as commonly exploited by threat actors include distrust, disorientation, confusion, hyperactivity, insecurity, apathy, anger, anxiety, sense of belonging, assertion of identity and fear of social exclusion. In addition, these campaigns tap into deeply held values and worldviews that are not easily changed. For example, **P-07** highlighted the recurrence of emotions such as fear of the unknown, with narratives that portray “the other” (e.g. refugees, migrants) as a threat that endangers resources, cultural identities or traditional social models. This is also seen in narratives that portray social change, such as feminism or liberal democratic values, as threats to traditions and the natural order, exacerbating feelings of insecurity in the face of rapid social change. According to the same interviewee, these strategies are particularly effective in contexts where segments of the population lack access to higher education or international experience, which predisposes them to perceive the new as hostile and imposed from outside. Moreover, as **P-01** explained, disinformation often combines “a grain of truth” with significant exaggeration to create alarm and makes it difficult for recipients to critically analyse. Other factors, such as affinity with the sender, based on his or her personality or communication style, or the tone and language used, play a crucial role in the acceptance of the content. Finally, these two dimensions, cognitive and emotional, do not operate in isolation, but reinforce each other, profoundly affecting how individuals process information.

The sense of identity and belonging emerges as another key axis in FIMI's strategies. In the words of **P-07**, these campaigns exploit “the affirmation of identity and the desire for recognition by others” by appealing to a sense of belonging to a group as a tool of persuasion (**P-04**). Similarly, **P-12** highlighted how, for some people, the emotional resonance of a narrative can outweigh its factual accuracy. As **P12** explained, “it doesn't seem to matter to some voters whether it's disinformation; it's the same as identifying with some fiction, that this is a good story that touches me.” This is particularly evident in online environments, where the ability to find like-minded individuals globally fosters a “sense of empowerment” and strengthens group identity. This mechanism fosters what **P-07** described as a “tribal mentality”, reinforcing divisions between communities and fuelling the rejection of opposing narratives. For **P-09**, the aim of these campaigns was not to persuade directly, but to “reinforce intergroup biases and create a state of scepticism towards opposing narratives”. These dynamics are closely linked to the ego, since “when someone receives a ‘like’ or a positive comment, a gratification mechanism is activated that reinforces their identity and belonging to something bigger than themselves” (**P-07**), making internal critique of shared narratives difficult.

On the other hand, personalisation appeared as a central theme in the interviews, with several interviewees expressing concern about the advance of new technologies, such as generative artificial intelligence, which allow for the creation of messages that are “individualised and targeted to very specific communities” (**P-01**). This microtargeting makes campaigns more effective and persuasive by targeting audiences that are already predisposed to accept certain issues. According to interviewees, the psychological mechanisms used in these campaigns varied according to the social, historical, political and cultural context of each country, adapting to specific cultural practices to maximise their impact. Though measuring these differences is challenging, **P-09** highlighted that “ethnic and cultural minorities seem to be more vulnerable”, due to factors such as discrimination, lack of a sense of belonging and consumption of information through external networks rather than local media. Similarly, **P-10** gave an example of a narrative tailored to socio-economic status in the UK, where disadvantaged groups are targeted with messages suggesting that immigrants steal jobs, resources or commit crime, while for economic elites, immigrants are portrayed as a threat to their wealth.

Moreover, as **P-07** pointed out, elements such as humour, cultural rituals and accepted or rejected social norms play a crucial role in the effectiveness of these strategies, as they allow messages to resonate emotionally and culturally with target audiences. This is important because FIMI campaigns do not

always achieve their goals, especially if they are based on false assumptions about the target society's own identity dynamics and social tensions. An example is Russia's disinformation campaign in Ukraine after 2014, which wrongly assumed that Russian speakers wanted to join Russia. According to **P-09**, this narrative failed due to the consolidation of a Ukrainian national identity, even among Russian speakers, which led to the rejection of Russia's propaganda efforts by the Ukrainian population. However, when discussing differences in vulnerability to FIMI between demographic groups or countries, interviewees highlighted that while susceptibility varies across contexts, FIMI often targets group identities rather than specific demographic groups, seeking to exacerbate existing tensions within societies, for example, between religious or ethnic groups (**P-09**).

4.3 Influences of FIMI on behaviour: Individual change and group dynamics

Most interviewees emphasised that establishing a direct causal relationship between FIMI campaigns and changes in behaviour is one of the most important gaps in the analysis of this phenomenon. **P-06** and **P-11** stressed that although we know that these campaigns influence attitudes and behaviour, it is methodologically complex to link exposure to specific content with specific decisions. In this sense, most agree that the lack of consistent longitudinal data and the multiplicity of contextual factors influencing behaviour make it difficult to isolate the direct behavioural impact of FIMI. For example, **P-06** and **P-10** explained that while these campaigns undoubtedly act as an input into people's political decision-making processes, such as in electoral processes where there are examples of the funding of disinformation campaigns to influence voting, it remains difficult to directly link exposure to FIMI to changes in voting behaviour.

P-09 and **P-11** reinforced this difficulty by recalling the case of the COVID-19 pandemic, where FIMI campaigns focused on sowing distrust in vaccines by promoting narratives about their lack of safety, which affected acceptance of containment measures, trust in the health system and willingness to be vaccinated. While it is difficult to establish direct causality between these campaigns and the decline in vaccination rates, **P-09** noted that there are clear behavioural “clues” or “footprints” that suggest a significant indirect impact. **P-11** noted that this impact must be considered alongside other factors, such as the quality of government communication, pre-pandemic confidence levels and limited capacity to communicate science and uncertainty.

Despite these challenges, interviewees agreed that the effects of disinformation and FIMI are cumulative and depend on the intensity and regularity of exposure. According to **P-09**, occasional exposure to disinformation content tends to have a limited effect, but sustained repetition can reinforce intergroup biases and entrench misperceptions. **P-11** added that these cumulative effects are not immediate; they occur gradually, shaping attitudes and willingness to accept false narratives over time. **P-07** emphasised that the effects are neither immediate nor guaranteed because “people are active in processing information”.

Interviewees distinguished between short-to-medium-term effects and long-term effects. In the short term, **P-07** stated that these campaigns can affect the predisposition towards certain messages, especially if the content is repeated and denigrating, for example, against women or minorities. At this level, **P-07** explained that campaigns often provoke quick emotional reactions that can influence immediate decisions, such as sharing information without verifying it or participating in protests. **P-10** identified protests and demonstrations as some of the most common examples driven by FIMI actors. **P-09** provided a concrete example in the context of the Southport protests, where a false rumour about an attack by a migrant sparked prolonged protests and riots, even though the disinformation was quickly debunked. Despite this correction, the disinformation spread widely both nationally and internationally and was used by FIMI actors to justify violence against an entire population, in this case Muslims. According to **P-10**, this ability to turn an isolated event into a 'trigger' for wider discontent is one of the most worrying features of these campaigns. **P-10** pointed to a long-term structural narrative in which

migrants are scapegoated for a wide range of domestic problems. This is not unique to FIMI actors, but they are very effective in amplifying these narratives. For example, **P-10** added that in Germany incidents of violence involving migrants have been embellished and exaggerated to promote broader claims about crime, public safety and national security. Similarly, “actors manipulate data on refugee numbers, as seen in countries hosting large numbers of Ukrainian refugees in recent years, to create tensions around immigration” (**P-10**).

The most significant impact of FIMI manifests itself in the long term, with effects including changes in attitudes and trust in democratic, scientific or social institutions. **P-03** and **P-09** agreed that repeated exposure to polarising narratives reinforces social divisions and makes it difficult to change attitudes. This strategy has been evident in debates on issues such as LGBTQ+ rights or immigration. **P-09** stressed that FIMI campaigns reinforce intergroup divisions by highlighting extreme perspectives, even when most people's views lie somewhere in between. As an example, an interviewee said that in Poland there is a deliberate effort to link support for Ukraine with LGBTQ+ rights, a controversial issue in the country. By linking these issues, FIMI campaigns exploit pre-existing cultural tensions to undermine public support for foreign policy by exacerbating internal conflicts.

In addition to exacerbating divisions and reinforcing prejudices, when these campaigns, whether disinformation or FIMI, target vulnerable groups or minorities, they specifically aim to silence and delegitimise them; this is particularly true in the case of people who suffer intersectional discrimination (e.g., ethnic minority women or those with non-normative sexual orientations), as **P-07** pointed out. Interviewees explained that FIMI actors amplify nationally produced harmful content against these groups that seeks to limit their participation in public life, especially women and ethnic minorities. A prominent example is the harassment of women in politics, which, according to **P-10**, aims to reinforce the perception that these spaces of power are inaccessible to them. In the words of **P-07**, such strategies not only limit the exercise of rights, but also reinforce narratives that justify exclusion and perpetuate traditional power structures, such as heteropatriarchy and majority ethnic privilege.

Despite its observable impact, measuring the behavioural effect of FIMI remains difficult. To make progress in this task, interviewees considered it essential to implement consistent measurement tools over time. This means systematically including questions in surveys, public opinion studies and panels that assess not only general perceptions of disinformation, but also the impact of specific political events and the effect of campaigns on attitudes and behaviour. This longitudinal approach would make it possible to identify variations and infer links between campaigns and changes in people's opinions or behaviour. **P-06** suggested that one of the indirect criteria for assessing their influence is to observe the extent of disinformation, suggesting that behaviour related to its dissemination may be a relevant indicator of its behavioural impact. However, **P-07** argued that analysis should not focus exclusively on immediate metrics such as the number of retweets or likes, but on the broader context of exposure to messages and the actual impact on attitudes and behaviours, prioritising long-term effects over momentary reactions. **P-10** added that one of the ways they have tried to address this issue at ISD is by “combining online monitoring and social media analysis with on-the-ground surveys and interviews of what we believe to be the affected groups”.

4.4 Social consequences: Cohesion, trust and democracy

Based on the findings, we observed a consensus that FIMI is a pervasive threat that undermines trust, fragments social relations and delegitimises both institutions and individual rights. Interviewees agreed that these effects are not incidental, but part of a deliberate strategy to undermine democratic principles and foster polarisation in national and international contexts. **P-12** situated this threat within the framework of “strategic competition”, emphasising that authoritarian states systematically use disinformation as a tool, a practice that is unlikely to cease unless systemic changes occur in these regimes.

One of the broader social impacts of disinformation and FIMI is the creation of a state of widespread scepticism. This effect, noted by all interviewees, manifests itself in a distrust of institutions, democratic processes and interpersonal relationships. **P-02** summed up this idea by stating that “the aim is not necessarily that you believe something, but that you believe nothing at all”. This strategy aims to create confusion, undermine trust in legitimate information and destabilise social cohesion. According to **P03**, this creates a “sceptical threat” that leads people to adopt an attitude of disbelief towards any kind of information, regardless of its origin or veracity. **P-11** added that what occurs is a “scepticism displacement” in which a healthy attitude of questioning is instrumentalised to sow widespread mistrust towards political leaders, but also towards key experts and professionals such as scientists, doctors, teachers and emergency personnel. The problem, according to **P-11**, is that fundamental democratic principles such as “freedom of expression and the right to question official information are being used as vehicles to promote unscientific and false narratives”. This effect goes beyond the abstract and has serious practical implications, as can be seen in the context of crisis management, where mistrust of authorities can lead to critical warnings being ignored and lives being put at risk (**P-11, P-10**).

FIMI operates through an anti-establishment rhetoric that adapts to the context. **P-11** explained that the concrete embodiment of the “system” varies according to the setting; for example, during the COVID19 pandemic, the “system” was represented by doctors, academics and scientists, which fuelled an antiscience rhetoric. These narratives seek both to discredit key actors and to destroy confidence in democracy as a principle of governance by promoting narratives that portray it as inefficient, costly and less effective than authoritarian systems run by “strongmen”.

In addition to fostering mistrust, FIMI campaigns exacerbate pre-existing social divisions by exploiting local tensions and grievances. **P-10** noted that the most successful operations are those tailored to specific contexts, using sensitive issues such as immigration, the economy or crime to escalate conflicts. In Western Europe, state actors have focused their efforts on polarising narratives tailored to each country: “In France, campaigns focus on Christian nationalism; in Germany, on the economy, energy and Ukraine; and in the UK and Italy, immigration tends to be the main issue” (**P-10**). These narratives, although based on real events, are amplified and distorted, creating perceptions of crisis that exacerbate social conflict (**P-01**).

Interviewees agreed that malicious actors do not necessarily try to convince everyone of the same narrative, but rather tailor messages to each type of person or group, even spreading contradictory narratives on the same issue, in order to sow widespread distrust of institutions, experts and between citizens (**P-01**). This leads to one of the most damaging effects of FIMI: the breakdown of genuine social dialogue. **P-01** pointed out that this rupture locks people into “bubbles” of opposing beliefs, making mutual understanding difficult and paralysing public debate. It also increases polarisation and undermines the operational capacity of the institutions of governance, because “if there is no dialogue, the parliament does not function well, the ministries do not function well, the press does not function well” (**P-01**). **P-07** shared this view, stating that disinformation is a direct threat to collective thinking. According to him, when public decisions are based on erroneous or deliberately false information, the results are not only harmful but also delegitimise the democratic process as a whole. Examples such as the climate crisis show how the dissemination of conflicting or false narratives hinders understanding of the scientific consensus and consequently delays the implementation of public policy. Similarly, **P10** noted that in conflict contexts, FIMI campaigns exacerbate logistical difficulties such as evacuation processes, putting lives at risk. **P-05** provided a concrete example, describing how the dissemination of false images during a terrorist attack in Munich disoriented both the public and the emergency services.

P-07 emphasised that trust is built through coherent behaviour and honest and consistent relationships. When the actions of institutions or leaders do not match their words, citizens quickly perceive a lack of credibility, which undermines trust and fuels scepticism. According to **P-07**, this scepticism becomes a vulnerability that can be exploited by disinformation. Generalised narratives such as “all politicians are

corrupt" or false claims discredit institutions and question their actions, undermining their legitimacy. This process not only undermines domestic trust, but also creates loopholes that can be exploited by external actors to destabilise entire democracies and gain strategic advantage. **P-12** stressed that trust creates a sense of security, which is essential to counter the effects of disinformation, and added that societies with a high level of trust in institutions, as is the case in Finland, are better protected against these attacks.

Finally, it was commonly agreed that FIMI presents a direct threat to individual rights and freedoms, with a particularly severe impact on minorities or marginalised groups, such as the LGBTQ+ community. According to interviewees, the main aim of campaigns targeting these communities or groups is to silence them and erase their legitimacy as valid actors in the public sphere, thereby hindering their ability to exercise political leadership and express their demands openly and safely. However, the impact of these tactics goes beyond the individual, attacking social cohesion by promoting the perception that certain groups do not have the same rights as others. Indeed, **P-07** noted that these campaigns also lead certain groups to construct imaginary enemies to justify their exclusion, fuelling perceptions of threat based on pre-existing fears and tensions. For example, certain inclusive policies or external values are portrayed as attempts to deprive majority groups of their cultural identity, creating internal conflicts and a sense of disconnection among citizens that, according to **P-07**, can lead people to withdraw from civic participation for fear of reprisals. This cycle perpetuates divisive narratives that further fragment societies, making them more vulnerable to harmful external or internal influences. Social cohesion is weakened, and with it, the ability of societies to respond to global challenges and protect the fundamental rights of all their members.

4.5 Concluding remarks

The interviews highlighted the pressing and complex nature of tackling FIMI in today's world. The swift advancement of disinformation, driven by technological progress, geopolitical developments, and the growing influence of social media, demands coordinated efforts involving multiple stakeholders. FIMI campaigns exploit sociopolitical vulnerabilities, human psychology, and algorithmic amplification to erode trust, deepen polarisation, and destabilise democratic systems. Notably, these campaigns weaponise scepticism, extending distrust beyond governments and institutions to scientific, educational, and media entities, thereby fragmenting societies and fostering a pervasive sense of disconnection.

Interviewees highlighted critical gaps in current responses, including challenges in attribution due to online anonymity, insufficient resources for media literacy and public awareness, and the lack of robust frameworks for analysing and addressing the structural impact of FIMI. **While there is widespread consensus on the importance of collaboration between governments, industry, academia and the media, significant obstacles remain, including resource limitations, funding constraints and the difficulty of aligning objectives.** For example, they pointed out that existing policies, such as the EU's Digital Services Act (DSA), often lack the specificity, funding and international coordination necessary to counter the adaptive tactics of FIMI actors. Effectively addressing FIMI will require a combination of theoretical research and practical, actionable solutions that bring together diverse actors and expertise to counter its detrimental impact on democracy and public trust, while safeguarding democratic principles and human rights such as the right to information.

5 OVERALL ANALYSIS OF BEHAVIOURAL, POLITICAL AND SOCIETAL CONSEQUENCES OF FIMI

FIMI campaigns have multiple aims, forms and characteristics that include a wide range of tactics and techniques. For example, some FIMI campaigns aim at obfuscating some planned and orchestrated action of the campaign architects. Other campaigns, however, are focused on disrupting democratic, social, economic or other aspects of another country including the direct behaviour of people. For

example, the Russian and Iranian FIMI campaign around the Quran burnings in Sweden during 2023 had a partial aim of effecting the behaviour of immigrant populations within the country, encouraging rioting and anti-government actions. That campaign was also designed to impact the behaviour of state actors. In particular, it resulted in the Turkish Government stalling the NATO approval processes that Sweden was going through at the time.

In this section, we take a closer look at the general behavioural, political and societal consequences of the FIMI campaigns investigated in ATHENA project deliverable D1.1. We will also draw on the interviews conducted with 12 experts for informing our analysis. In each subsection, we narrow the scope by highlighting consequences for that area, all the while keeping in mind the haphazard way FIMI campaigns are often conducted. Indeed, as captured in the expression ‘a firehose of falsehood’, campaigns at times have less of a specific aim and are considered a success if they muddy the information water thereby creating epistemic paralysis.¹⁰⁰ Such tactics are not fine-grained, and can lead to a wide range of actions, reactions and changes in behaviour. On the other end of the spectrum are measures or campaigns that are carefully designed and painstakingly laid out for specific objectives, such as the discrediting of an official or covering of a covert operation.¹²¹

FIMI campaigns are not limited to actions in cyberspace or the use of digital tools. Print material, traditional media such as TV or radio can all be used, as well as word of mouth, speeches, rallies and much more. However, there are many advantages to digital tools: they are inexpensive, have wide reach, are constantly evolving and allow for targeted messaging when needed. This combines with several weaknesses in democratic countries making them open to cyber-attacks¹⁰¹

1. The open nature of corporate and academic research in cybersecurity provides adversaries with insight into what weaknesses to exploit.

2. Institutions across the political, industrial and civil society are directly attacked and social trust in their functioning degraded.
3. The dependency of democratic institutions, such as voting, on openness makes features of that process, such as voting machines, citizen databases and so on valuable targets, and due to their complexity often have vulnerabilities in their technical infrastructure. 4.

The relatively low cost of creating significant noise for democratic countries’ intelligence agencies is a way of hampering their defence ability.

Because of this, it is no surprise that most of the FIMI campaigns in the case studies and that were discussed by the experts in our interviews have a cyber dimension. In this chapter, we discuss some of the consequences such campaigns have across behavioural, political, economic and societal levels.

5.1 Behavioural consequences

Some behavioural consequences of FIMI can be understood as collateral, unintended or orthogonal to the FIMI instigator’s main aim. For example, it may be that people in Germany purchase products such as gasmasks in response to Russian disinformation claiming that Ukraine is using chemical weapons. Such a response is clearly not the intention of such a campaign, which is instead designed to cover Russia’s own use of such weapons, not to encourage people in Germany, or anywhere else, to buy

¹⁰⁰ RAND Corporation, “The Future of Warfare in 2030: Project Overview”, 2023. <https://www.rand.org/pubs/perspectives/PE198.html> ¹²¹ Rid, op. cit.

¹⁰¹ Rid, Thomas, and Ben Buchanan, “Hacking Democracy”, *The SAIS Review of International Affairs*, Vol. 38, No. 1, 2018, pp. 3-16. <https://doi.org/10.1353/sais.2018.0001>.

gasmasks.¹⁰² Such tangential behavioural changes are not the aim of the campaign but are still consequences of it, along with many more that are not counted or noticed. The inherent complexity of human individual and group behaviour means there is no possibility of capturing all causal flows from any FIMI campaign, let alone FIMI in general. Regardless of this challenge, we elaborate here how FIMI may impact our behaviour for instance through emotions, declining trust and using social ingroups, and we examine some experimental research on the behavioural impact of misinformation. Thereafter, we move from analysis of behavioural consequences to sketching common consequences seen across the social and political spheres with particular reference to the ATHENA case studies¹²⁴ and informed by the literature.

5.1.1 Changing behaviour through emotions and declining trust

Disinformation may influence the behaviour of various target groups in societies, including the general public and political leaders. A large number of studies indicate that emotions have a significant impact on behaviour¹⁰³ and thus targeting people's emotional responses may be an effective tool for FIMI actors. By evoking specific emotions such as fear, anger or hope, attackers may shape perceptions and decisions of the targets, ultimately influencing their actions. Although it is challenging to determine the behavioural impact of the emotional content in FIMI, comparison of factual news items and news containing misinformation indicates that emotionally laden language is indeed more common when communicating misinformation.¹⁰⁴

By spreading disinformation, FIMI actors can further aim to undermine individuals' trust in democratic processes, governmental institutions¹⁰⁵ or trust in information veracity. For example, in the Doppelganger case study¹²⁸, the campaign aimed to trigger fear for children by fostering deep concerns

about the well-being and safety of younger generations in the face of potential conflict or instability. It also sought to provoke anger and hostility by generating frustration and animosity towards the government for its perceived neglect of citizens' needs, as well as resentment towards refugees, who are viewed by some as exacerbating the country's challenges.

One approach that FIMI actors use is to increase the feeling of uncertainty within society. By undermining trust in information veracity and governmental officials, they create an environment where the structures of everyday living and the functioning of society might deviate from an earlier status quo or become otherwise uncertain. When individuals lose confidence in the reliability of their everyday routines and societal structures, they may become more susceptible to external influences. This susceptibility is rooted in the natural human aversion to risk and uncertainty. People tend to seek out "easy" solutions that promise to reduce the uncertainty they are experiencing. In such circumstances after FIMI actors have created uncertainty in the society, they may be successful in spreading narratives that provide seemingly straightforward solutions and decrease the created uncertainty. One example of creating uncertainty was evident in the Doppelganger case study¹⁰⁶ where the FIMI actors attempted to

¹⁰² <https://www.state.gov/russia-spreads-disinformation-to-cover-up-its-use-of-chemical-weapons-in-ukraine/>

¹²⁴ D1.1, op. cit., chs. 4.2-4.33.

¹⁰³ Lerner, Jennifer S., Ye Li, Piercarlo Valdesolo, and Karim S. Kassam, "Emotion and decision making", *Annual review of psychology*, Vol. 66, 2015, pp. 799-823. doi:10.1146/annurev-psych-010213-115043.

¹⁰⁴ Carrasco-Farré, Carlos, "The fingerprints of misinformation: how deceptive content differs from reliable sources in terms of cognitive effort and appeal to emotions" *Humanities and Social Sciences Communications*, Vol. 9, Issue 162, 2022. <https://doi.org/10.1057/s41599-022-01174-9>.

¹⁰⁵ <https://www.disinformationindex.org/research/2024-10-21-fimi-isac-collective-findings-report-on-2024european-elections/> ¹²⁸ D1.1, op. cit., ch. 4.16.

¹⁰⁶ D1.1, op. cit., ch. 4.16.

¹³⁰ D1.1, op. cit., ch. 4.7.

increase uncertainty about the future. There were indications of efforts to amplify anxiety about the future, especially in terms of stability and security. It also sought to heighten uncertainty by instilling fear of an economic and energy crisis, generating widespread concern about financial difficulties and potential energy shortages. This was further worsened by rising costs and supply chain issues.

5.1.2 The role of social in-groups in enhancing FIMI effectiveness

FIMI actors may also exploit the existence of social ingroups in societies to enhance the effectiveness of their campaigns. Social in-groups are groups of individuals who share common identities or characteristics, such as ethnicity, nationality or political beliefs. People naturally prefer others who resemble themselves and create groups that foster a sense of shared identity. This preference for ingroup members can be leveraged by FIMI actors, for instance, by creating instability within societies through amplifying existing divisions and promoting the creation of new in-groups with conflicting interests. In the ATHENA case studies, the use of polarising narratives to create an 'us vs. them' setting was very common. There was only one case where there were absolutely no signs of using polarisation.¹³⁰

One way that FIMI actors use social in-groups is by crafting messages that resonate with the specific values and beliefs of these groups. By aligning their narratives with the existing sentiments of an ingroup, attackers can increase the likelihood of acceptance and dissemination of their disinformation at later stages. This targeted approach ensures that the messages coming from an "in-group member" are more persuasive and can spread more rapidly within the group, reinforcing the in-group's cohesion and potentially deepening their distrust of out-groups. For instance, in ATHENA case study concerning Turkey's undermining Sweden's bid for NATO membership,¹⁰⁷ the campaign employed polarising narratives to create an 'us vs. them' mentality by portraying Sweden as antagonistic towards Turkey and its national interests. It painted Sweden as a supporter of terrorism and disrespectful of Islamic values, while presenting Turkey as a protector of national security and religious integrity. This approach heightened Turkish nationalist and religious sentiments, clearly contrasting Turkish values with perceived Western threats.

Algorithmic filtering on social media platforms further strengthens the sense of in-group identity. Algorithms are designed to show users content that aligns with their preferences and past behaviours, creating echo chambers where individuals are primarily exposed to information that reinforces their existing beliefs. This filtering effect can intensify in-group solidarity and make members more

susceptible to FIMI campaigns that exploit their shared identity. By continuously feeding tailored content, algorithms help FIMI actors maintain and amplify the influence of their narratives within specific social ingroups.¹⁰⁸

5.1.3 Influence mechanisms and impact of FIMI on behaviour

Determining the impact of spreading disinformation is challenging due to the complexity of the phenomenon and the diversity of the environment. In societies, there are many discourses and communications occurring simultaneously, making it difficult to identify FIMI campaigns and distinguish their effects from other potential changes and behavioural influences. The complex nature of social interactions and the multitude of information sources contribute to the difficulty in isolating and analysing the specific impacts of FIMI activities.¹³³ This difficulty of isolating the impact of FIMI campaigns is also evident in the majority of ATHENA case studies as well as in our interview data (see

¹⁰⁷ D1.1, op. cit., ch. 4.33.

¹⁰⁸ Van der Linden, op. cit.

¹³³

Rid, op. cit.

Chapter 4.3 above). This uncertainty was clearly stated in the effectiveness evaluation of the case study concentrating on farmers' protests in Germany: "The effectiveness of the FIMI attack is debatable at best."¹⁰⁹

Regardless of this difficulty of evaluating the impact of FIMI at an academic level of precision, we are still able to make assessments and analysis based on observable trends and patterns. The methods used by FIMI actors to achieve their goals are diverse and sophisticated and have a good likelihood of having an impact. The FIMI actors may, for instance, employ social media platforms to amplify misleading content, create fake news websites or use deepfake technology to produce convincing but false videos. In these platforms, the FIMI actors can exploit cognitive biases in content design and evoke emotional responses that make individuals more susceptible to manipulation. For instance, in many ATHENA case studies, social media were identified as relevant channels or techniques for spreading disinformation.¹¹⁰

FIMI actors can target societies at different levels from individuals and groups to organisations and governmental agencies with the aim of influencing behaviours of people and institutions. FIMI actors can strategically use disinformation and other deceptive tactics such as psychological persuasive methods to influence the perceptions, decisions and behaviours of individuals or groups. We have discussed and analysed more in depth the persuasive methods used in the ATHENA case studies¹¹¹ in Chapters 2 and 3 of this deliverable document.

In addition to debating the behavioural impacts of real-life campaigns and case studies, we can also take another approach and look into the results of experimental research where the behavioural impacts of interventions can be evaluated in more in detail more regularly in laboratory conditions. For instance, a study by Bastick demonstrates that disinformation can significantly and unconsciously impact actual behaviour.¹¹² This research explored the unconscious effects of disinformation in a randomised controlled lab experiment, revealing that even brief exposure to false information can alter an individual's performance in a task without their awareness. Participants were divided into three random groups, each group receiving either a positive, negative or neutral fake news article related to the task. The study found that positive fake news improved task performance, while receiving false information did not affect participants' self-assessment of their abilities. These results highlight the importance of considering psychological dimensions when combating disinformation. Simply sharing accurate

information and correcting errors may not be sufficient, as the information we receive can subconsciously influence our actions and beliefs. It is noteworthy, however, that the experimental setting was much simpler than real-world scenarios, where numerous other factors, such as the social environment, also play a role.

Social environment and the opinions of others surrounding us has a significant effect on our opinions, as has been well-known already for decades since the pioneering work of Solomon Asch on conformity experiments¹¹³ and numerous replications thereafter.¹¹⁴ Neuroscientific experiments indicate that the

¹⁰⁹ D1.1, op. cit., ch. 4.4.

¹¹⁰ Ibid., chs. 4.2-4.6, 4.9-4.21, negligible amplification of disinformation on social media in ch. 4.22, chs. 4.23-4.33.

¹¹¹ Ibid., chs. 4.2-4.33.

¹¹² Bastick, Zach, "Would you notice if fake news changed your behavior? An experiment on the unconscious effects of disinformation", *Computers in human behavior*, Vol. 116, March 2021, 106633. <https://doi.org/10.1016/j.chb.2020.106633>

¹¹³ Asch, Solomon, "Effects of group pressure upon the modification and distortion of judgments", in H. Guetzkow (ed.), *Groups, Leadership and Men Research in Human Relations*, Carnegie Press, Pittsburgh, 1951, pp. 177-190.

¹¹⁴ Cialdini, Robert B., and Noah J. Goldstein, "Social influence: compliance and conformity", *Annual Review of Psychology*, Vol. 55, February 2004, pp. 591-621. <https://doi.org/10.1146/annurev.psych.55.090902.142015> ¹⁴⁰



conformity to the claimed opinions others creates a very basic ‘error-signal’ in the brain that is also linked to fundamental reinforcement learning mechanisms¹⁴⁰ and leads to a true modification of opinion beyond mere social gratification.¹¹⁵ It is noteworthy that the social feedback used in the previous experimental setups was randomly assigned by an algorithm and gave false information on the true opinions of others. In addition to influencing opinions and valuations, social manipulation in the form of erroneous memories of others can modify even our memories, and these modifications are identifiable at the level of memory-related brain activities.¹¹⁶

Considering the impact that misinformation spreading in social networks can have on our behaviour, opinions and memories even on an unconscious level, we need to give more attention to developing mitigation methods that combat behavioural and psychological modifications induced by false information. Based on experimental research, promoting conscious deliberation is one tool for increasing the recognition of misinformation. When participants’ ability to deliberate was restricted, they made more errors in interpreting false news headlines. Participants corrected their initial misclassifications of false news when given time to deliberate, without significant differences based on political orientation. Encouragingly, the study found that people are generally capable of assessing news accuracy neutrally and independently of their personal values.¹¹⁷ This suggests that providing sufficient capacity and time for deliberation helps in preventing the spread of misinformation.

Based on a literature review by Pennycook and Rand,¹¹⁸ the spread of misinformation in social networks is often not a conscious attempt to promote one’s own agenda but simply a result of insufficient deliberation. Individuals who either naturally act deliberatively or are experimentally guided to use conscious deliberation in their assessments are better at recognising texts containing misinformation compared to their less deliberative counterparts. Similarly, the most significant factor in the further dissemination of false information appears to be a lack of conscious deliberation. However, sometimes the sharing is driven by an incorrect assessment of the truthfulness of the news or by the desire to reinforce one’s own value system, regardless of the potential misinformation. Pennycook and Rand suggest that it is possible to prevent or slow the spread of misinformation with simple reminders that

encourage evaluating the reliability of information before sharing it. Since studies show that people, as a large group, perform quite well in recognising false information, organisations can influence the spread of misinformation on their platforms by using prompts and interventions that remind users to deliberate prior to sharing content.

A typical starting point in developing effective interventions is to understand the broader context, identify bottlenecks and create targeted interventions at the identified problem areas. Michael Geers and his colleagues aimed to outline in their literature review the stages of information processing that

Klucharev, Vasily, Kaisa Hytönen, Mark Rijpkema, Ale Smidts and Guillén Fernández, "Reinforcement learning signal predicts social conformity", *Neuron*, Vol. 61, Issue 1, January 2009, pp. 140-151. <https://doi.org/10.1016/j.neuron.2008.11.027>

¹¹⁵ Zaki, Jamil, Jessica Schirmer and Jason P. Mitchell, "Social influence modulates the neural computation of value", *Psychological science*, Vol. 22, Issue 7, July 2011, pp. 894-900. <https://doi.org/10.1177/0956797611411057>

¹¹⁶ Edelson, Micah, Tali Sharot, Raymond J. Dolan, and Yadin Dudai, "Following the Crowd: Brain Substrates of Long-Term Memory Conformity", *Science*, Vol. 333, Issue 6038, July 2011, pp. 108-111. <https://doi.org/10.1126/science.1203557>

¹¹⁷ Bago, Bence, David G. Rand and Gordon Pennycook, "Fake news, fast and slow: Deliberation reduces belief in false (but not true) news headlines", *Journal of experimental psychology: general*, Vol. 149, Issue 8, August 2020, pp. 1608–1613. <https://doi.org/10.1037/xge0000729>

¹¹⁸ Pennycook, Gordon, and David G. Rand, "The psychology of fake news", *Trends in cognitive sciences*, Vol. 25, Issue 5, May 2021, pp. 388-402. <https://doi.org/10.1016/j.tics.2021.02.007>

individuals go through when encountering misinformation in an online environment.¹¹⁹ They create a framework that classifies the processing of (mis)information into four iterative stages: selecting information sources, choosing information for closer examination, or ignoring it, evaluating the accuracy of the information and/or the reliability of the source, and deciding how to react to the information, such as liking or sharing it. The researchers identified psychological factors and examples of interventions that can be applied at each stage. For instance, in the information source selection stage, one proposed solution is self-nudging applications that support media users in avoiding certain apps or information sources. In the information selection stage, various warnings and content labels can be effective interventions, while in the evaluation stage, debunking false claims can be effective. In the reaction stage, prompts that encourage deliberation before sharing information may be effective interventions. The researchers note that the literature mainly focuses on the last two stages, evaluation and reaction. Relatively little research has been conducted on effective interventions related to the initial stages of the process, namely the selection of information sources and information. These types of frameworks, that divide the information processing into stages, should be further developed and utilised to create more targeted and effective interventions to prohibit the spread and unwanted impact of false information in online environments.

The impacts of FIMI on individual behaviour can be profound and multifaceted. Individuals encountering FIMI may for instance experience heightened anxiety, mistrust in institutions, and altered decision-making processes. This manipulation can lead to polarisation within societies, as people are swayed by false narratives that reinforce existing biases or create new divisions. We will discuss such political polarisation further in Chapter 5.2 and polarisation at societal level in Chapter 5.3.

Countering FIMI actions requires a multifaceted approach, including media literacy, cybersecurity measures, and international cooperation. We will discuss and analyse countermeasures further in ATHENA project deliverable D2.1.

5.2 Political consequences

Consequences from FIMI in politics are those that directly impact the functions of the state and its institutions. This limits the scope of this section, which on some approaches to politics may seem too narrow. For example, the Habermasian notion of the public sphere includes features that for our purposes fall into the broader notion of societal consequences.¹²⁰ There are, unsurprisingly, overlapping features, such as the issue of social trust, but in this section, we focus on the political consequences of such phenomenon and the consequences FIMI affects in the official structures of the political sphere.

The contemporary context is one of rapid change, as our case studies clearly details along with the earlier sections of this report. Not only do the technological changes we are seeing open new tactics and techniques for FIMI actors, but they also directly impact political action, behaviour and movements.

This partly explains shifts toward using social media as attack vectors on official political structures, which crystallise out of the political actions and dialogues taking place in democratic countries, many of which take place online. The new actions modern technology enable lead to adapting tactics and techniques for achieving the aims of the countries deploying FIMI.

¹¹⁹ Geers, Michael, Briony Swire-Thompson, Philipp Lorenz-Spreen, Stefan M. Herzog, Anastasia Kozyreva, and Ralph Hertwig, "The online misinformation engagement framework", *Current Opinion in Psychology*, Vol. 55, February 2024, 101739. <https://doi.org/10.1016/j.copsyc.2023.101739>

¹²⁰ Seeliger, Martin, and Sebastian Seignani, "A New Structural Transformation of the Public Sphere? An Introduction", *Theory, Culture & Society*, Vol. 39, No. 4, 2022, pp. 3-16. <https://doi.org/10.1177/02632764221109439>

A current example at the time of writing, which is not in our case studies, is the FIMI campaign called ‘Portal Kombat’, which interfered in the Romanian election processes of 2024. The campaign used various social media platforms and websites, including hundreds of TikTok accounts, Telegram channels and so on, to boost the digital presence of the Kremlin-friendly opposition candidate Calin Georgescu.¹²¹ As a result of the interference, Romania’s constitutional court annulled the results, moving the young democracy into new political waters and forcing a rerun of the campaigns, which saw the incumbent coming in third place.¹²² The multipronged hybrid attack has had significant political consequences, leading to a potential shift in the governing party, drastic action by the highest court and likely further ripple effects in neighbouring EU countries and the wider NATO community of which Romania is a part.

5.2.1 Political polarisation

Polarisation in politics is increasing. The causes of this are varied, but likely disinformation is playing a role, to which we will return below. First, however, the background context of increased polarisation is important to examine. One way of measuring this increased polarisation is by measuring voting behaviour of elected officials. In one study from 2019 that investigated 60 years of voting data from the US Congress. The analysis shows that, in the 30 years from 1985 to 2015, a steady trend of increasing of polarisation is evident. In this case, it means the distance between voting behaviour in Congress between liberal and conservative members has increased. That is to say that there are fewer instances of party members voting in favour of the opposition. Not only has the outer edge moved farther away from the centre but overlap in the middle has also retreated, meaning less compromise around bipartisan legislation.¹²³

An important implication of this research showing a 30-year trend is that it cannot, at least in its inception and for much of the time, have digital tools such as social media and online disinformation as a causal factor. The year 1985, when this polarisation trend began, was the same year that the first website in existence was registered, symbolics.com.¹²⁴ Further, the first social media site, Six Degrees, was not founded until 1997, and the widespread impact on the society of social media only came years later.¹²⁵ This does not, of course, mean that social media users, who often gravitate into echo chambers and are targeted by FIMI operations, are not a key contributing factor to increasing polarisation, but it does show they aren’t alone. As the authors of the study referenced above point out:

“The question arises what are the causes of this increase. To answer this question, we start by observing that a politician needs to be elected to become legislators and repeatedly reelected to continue in this role. Thus, the polarization utility for them lies in its ability to bring votes. This can be accomplished either directly, by representing voters’ opinions, or by gaining resources for election campaign funding.”¹⁵²

The idea here is that, as voter’s opinions shift, the utility of greater polarisation, in terms of voting by representatives in Congress, increases. This is not surprising and might be viewed as the proper functioning of the democratic processes, where representatives are supposed to represent the opinions

¹²¹ <https://edmo.eu/publications/komanda-kremlin-the-russian-machine-behind-calín-georgescu/>

¹²² <https://www.bbc.com/news/articles/cn4x2epppego>

¹²³ See especially Figure 1 in Lu, X., Gao, J., and B.K. Szymanski, “The evolution of polarization in the legislative branch of government”, *Journal of the Royal Society, Interface*, Vol. 16, No. 156, 2019. <https://doi.org/10.1098/rsif.2019.0010>

¹²⁴ Live Science, “The internet: History, evolution and how it works”, [online], 2022. <https://www.livescience.com/20727-internet-history.html>

¹²⁵ History Cooperative, “The history of social media”, [online], 2024. <https://historycooperative.org/the-history-of-social-media/> ¹⁵² Ibid.

and interests of those they represent. However, the picture is likely more complicated as there is an essential role played by politicians in framing the issues about which voters are concerned.¹²⁶ And further, as our case study on Russian attempts to dupe the Republicans shows, framing issues in such a way that favour the FIMI operators is a key and effective tactic.¹⁵⁴

The social trends, some of which are detailed below, are also seen as contributing to the increase of political polarisation. One example of that trend is decreasing voter turnout in elections. For example, a study that measured voter turnout from the 1940s up to the 2010s shows a clear downward trend across all democratic countries. The statistics show a decline from just over 80% engagement in 1940 to 68% in 2010.¹²⁷

Unsurprisingly the suggested reasons for this decline are complex and contested. The study suggests that culprits like the increasing affluence of post-WWII generations, an increasing number of political institutions, a drop in solidarity values while simultaneous increase in values of individualism and independence are partially to blame. In this view, the introduction of social media and the digitalisation of information is just one more step long historical trend. There are, however, some recent examples that might show a countertrend, for example, participation in EU parliamentary elections have increased over the last several years. In 2004, participation levels were at 45.47% but in 2024 those levels rose to 50.7%. Though this is clearly positive, 50.7% is by no means a high percentage.¹⁵⁶

An implication from the case studies and from the interviews we conducted on the psychological tactics contemporary FIMI campaigns employ is that they reinforce political polarisation, for example, by highlighting fear, anger and undermining state actions. As earlier Figure 3, Distribution of objectives employed by FIMI threat actors, shows the most common objectives of FIMI campaigns are to discredit, dismay, dismiss, distort, distract, divide and undermine. If effective, all these objectives will likely lead to increased political polarisation in the targeted country, which benefits the country conducting the operation by weakening the target countries' political resolve and resilience. There is a further political objective, however, shown in our Fukushima use case.¹⁵⁷ In that case, the effect of increasing fear and mistrust of Japanese actions around the nuclear disaster at Fukushima was intended to increase political and social solidarity within China.

Digital platforms have intensified societal polarisation through the algorithmic amplification of divisive content. Disinformation often exploits emotional narratives to deepen divisions within societies, fostering hostility and incivility. Such polarisation erodes the democratic principle of pluralism, as citizens retreat into echo chambers, resistant to differing viewpoints.¹²⁸

5.2.2 Election campaigns

The principle of free elections, enshrined in the Universal Declaration of Human Rights (UDHR) and the International Covenant on Civil and Political Rights (ICCPR), is particularly vulnerable to

¹²⁶ YaleNews, "Polarization in U.S. politics starts with weak political parties", [online], 2020. <https://news.yale.edu/2020/11/17/polarization-us-politics-starts-weak-political-parties>

¹⁵⁴ D1.1, op. cit., ch. 4.2.

¹²⁷ Kostelka, Filip, and André Blais, "The Generational and Institutional Sources of the Global Decline in Voter Turnout", *World Politics*, Vol.73, No. 4, 2021, pp. 629-667. doi:10.1017/S0043887121000149

¹⁵⁶ European Parliament, Turnout, 2024. <https://results.elections.europa.eu/en/turnout/> ¹⁵⁷

D1.1, op. cit., ch. 4.23.

¹²⁸ Colomina, Carme, Héctor Sánchez Margalef and Richard Youngs, , *The impact of disinformation on democratic processes and human rights in the world*, European Parliament Directorate-General for External Policies of the Union, 2021. <https://data.europa.eu/doi/10.2861/59161>



disinformation. These falsehoods impede the ability of citizens to form independent opinions, thereby violating their right to participate in public affairs.¹²⁹

One of the most severe impacts of disinformation is its interference in electoral processes. False narratives are designed to mislead voters, disrupt campaigns and delegitimise elections. Micro-targeting strategies and deepfake technologies amplify these efforts, presenting manipulated content as credible information. Such tactics not only distort voter perceptions but also suppress participation, ultimately compromising the integrity of electoral outcomes.¹³⁰

FIMI can affect campaigns in multiple ways. One way, as mentioned above in the case of Romania, echoing some features of the 2016 election in the United States, FIMI is deployed to actively support a candidate perceived by the aggressing country as positive of supportive of their interests in some way. The actions taken by the FIMI operation can include funnelling money directly to campaign activities, boosting messaging for a campaign, and much more, some of which is pointed out in our use case that details the widespread Doppelganger operation.¹³¹

Within democratic countries, an election campaign will always have at least one opponent if not several. A FIMI operation may target one campaign or multiple campaigns. For campaigns that are targeted with disinformation, they need to respond to that messaging in one way or another. For example, during the 2024 presidential campaign in the US a fake video was spread on social media claiming to show illegal Haitian immigrants voting in multiple counties.¹³² The impact this single video had on the overall election is unclear, but disinformation clearly impacted voter perception on several issues, including immigration.¹³³ A response to such a campaign can take several forms, such as correcting the record, trying to get ahead of the disinformation with pre-bunking or some other countermeasure. Regardless of how this is done, it requires resources and thus impacts the behaviour of the campaign in terms of where it spends time, money and personnel. Depending on how widespread the disinformation story is, a campaign might be forced to address the issues because the electorate, or some significant part of it, are concerned about the issues highlighted by the FIMI operation.

5.2.3 Foreign policy

Foreign policy is the strategic, diplomatic, economic and cultural means by which a country interacts with other countries. Depending on the country, or supranational entities such as the EU, differing approaches will hold sway. Foreign policy, unlike constitutional law, is flexible and evolves quickly, often responding to changing situations on the ground. Because of this, we see many instances of consequences in foreign policy deriving from FIMI campaigns. Those consequences are not necessarily negative and, at times, are part of countermeasures.

An example from our use cases showing the complex relationship between FIMI and foreign policy is that of Finland's NATO application processes and the ensuing hybrid attacks conducted by Russia.¹⁶⁴ These attacks included attempts to stoke tensions between Russian-speaking immigrants and native Finns, using asylum seekers along the border, and putting political pressure via official channels on Finland for closing its border. Indeed, the tighter security at the border was a foreign policy response

¹²⁹ Ibid.

¹³⁰ Ibid.

¹³¹ D1.1, op. cit., ch. 4.8.

¹³² Sardarizadeh, Shayan, and Olga Robinson, "US officials say Russians faked 'Haitian voters' video", BBC Verify, 1 Nov 2024. <https://www.bbc.com/news/articles/c9vnyl2jnpjo>

¹³³ West, Darrell, "How disinformation defined the 2024 election narrative", *Brookings Institution*, 7 Nov 2024. <https://www.brookings.edu/articles/how-disinformation-defined-the-2024-election-narrative/> ¹⁶⁴ D1.1, op. cit., ch. 4.23.

generated by the increased number of asylum seekers and tensions with Russia. Border security is a foreign policy issue as it deals directly with migration, asylum seekers, international image and

diplomatic relations. The hybrid actions that included false news stories of mistreatment of Russian- and Arabic-speaking immigrants in Finland, diplomatic pressure by Kremlin spokeswoman Maria Zakharova, and at least facilitating people to the border had direct consequences in changes of foreign policy of the Finnish state.

5.3 Societal consequences

This section delves into the multifaceted impacts of FIMI on society. We explore how FIMI fosters distrust in institutions, exacerbates social polarisation and undermines public health responses. Additionally, we examine the threats it poses to democratic processes, the erosion of trust and the deterioration of community relations. The section also addresses how FIMI weakens crisis response cohesion and impacts human rights, highlighting the broad and significant consequences of disinformation on societal stability and governance. We also examine the economic costs to society borne by disinformation.

5.3.1 Trust in institutions and governments

One possible consequence of disinformation and FIMI is the erosion of trust in democratic institutions, including the media, electoral bodies and government agencies. As citizens encounter conflicting narratives and struggle to distinguish credible sources from deceptive ones, their confidence in the information ecosystem that underpins democratic decision-making diminishes. Research on misinformation during the COVID-19 pandemic revealed that a significant portion of identified false claims concerned the actions or policies of public authorities.¹³⁴ This may erode trust in public health authorities and lead to long-lasting societal implications. FIMI can thus affect public confidence in institutions leading towards instability in societies. This deliberate manipulation aims to weaken public reliance on essential societal structures, setting the stage for deeper discontent and alienation.

Attempts to undermine trust in government institutions was evident also in the great majority of ATHENA case studies, and our interview data indicated FIMI's relevance in undermining trust and delegitimising institutions (see section 4.4). In many of the case studies, we further observed attempts to undermine trust in information veracity. Altogether, all the case studies included features of either undermining trust in government institutions, trust in information veracity or both.¹⁶⁶ For instance, the ATHENA case study concerning the European elections¹³⁵ describes FIMI actors' attempts to erode trust in government institutions and information veracity by depicting EU institutions and pro-EU governments as disconnected or even detrimental to national interests. The observables include numerous examples where attackers portrayed mainstream media and official sources as biased or unreliable, fostering scepticism towards traditional information channels. This strategy aims to instil doubt about the intentions and dependability of these institutions, pushing supporters towards alternative, often partisan, sources of information. Interestingly, in our case study on Russian propaganda against Finland's transition to NATO member¹⁶⁸, we also observed attempts to undermine trust in government institutions, but the efforts failed because of swift political decision-making and the public's strong trust in government officials.

¹³⁴ Brennen, J. Scott, Simon, Felix M., Howard, Philip N., and Nielsen, Rasmus Kleis, "Types, sources, and claims of COVID-19 misinformation", Reuters Institute, 2020. <https://reutersinstitute.politics.ox.ac.uk/types-sourcesand-claims-covid-19-misinformation> ¹⁶⁶ D1.1, op. cit., chs. 4.2-4.33.

¹³⁵ D1.1, op. cit., ch. 4.15.

¹⁶⁸ D1.1, op. cit., ch. 4.7.

Building on this, disinformation not only erodes trust but also threatens societal cohesion by manipulating public opinion through false narratives, often amplified via social media algorithms optimised for engagement rather than truth. Studies reveal that these dynamics reduce public trust in governments, media and electoral systems. Coordinated campaigns leveraging fabricated stories further

deepen this distrust, undermining the credibility of political figures and institutions. This creates an environment conducive to authoritarian tendencies and weakens democratic resilience, highlighting the urgent need for strategies to counter the spread and impact of disinformation.¹³⁶

FIMI actors often use the latest digital and traditional media channels to spread false information about institutions to undermine their credibility. Such efforts are highly effective in democratic societies, where trust in institutions forms the bedrock of governance and civic participation.¹³⁷ For instance, false claims of voter fraud have been successfully used in a coordinated manner to undermine the credibility of the electoral process.¹⁷¹ Such tactics may not only weaken faith in democratic mechanisms but also discourage the public to participate in the political process.

Disinformation campaigns have sought to disrupt democratic processes, including elections, legislative communications, and public discussions on various issues. The hybrid warfare tactics have encompassed coordinated actions by troll factories, hackers and bots to influence the outcomes of elections. Decreasing public trust in institutions and in credibility of official information encourages people to seek knowledge from alternative sources.¹³⁸ Our ATHENA case studies also include examples of interference in elections with attempts to create distrust in free and fair elections.¹⁷³

The media are specially targeted by the attackers because they provide a key communication channel to the public. Instead of being the reliable sources of information established news brands have been occasionally spreading disinformation.¹³⁹ This may lead to decreasing trust in information veracity and traditional information sources. For instance, Pew Research Center survey found that growing numbers of people viewed news coverage as inaccurate, biased, or influenced by powerful organizations.¹⁷⁵ Due to lack of trust in mainstream media or insufficient information, the public may rely heavily on unverified sources that often spread further misinformation.¹⁷⁶ Typical examples of unverified media are online social media such as TikTok, WhatsApp and Facebook.

5.3.2 Social polarisation

We discussed political polarisation in section 5.2.1 above, and we observed the relevance of polarisation in our interview data (see section 4.4). Here, we turn our attention to broader issues of polarisation within societies. Campaigns can aim to exploit existing divisions within societies as we have observed in a majority of the ATHENA case studies. FIMI campaigns may target ethically sensitive issues of the society as was the case in our case study on Turkey's undermining Sweden's bid for NATO

¹³⁶ European Parliament: Directorate-General for External Policies of the Union, op. cit.

¹³⁷ Colomina, Carme, Héctor Sánchez Margalef, Richard Youngs, and Kate Jones, "The impact of disinformation on democratic processes and human rights in the world", Brussels: European Parliament, 2021, pp. 1-19. ¹⁷¹ Benkler, Yochai, Casey Tilton, Bruce Etling, Hal Roberts, Justin Clark, Robert Faris, Jonas Kaiser and Carolyn Schmitt, "Mail-In Voter Fraud: Anatomy of a Disinformation Campaign", *Berkman Center Research Publication*, No. 2020-6, October 2020. <http://dx.doi.org/10.2139/ssrn.3703701>

¹³⁸ Bennett, W. Lance, and Steven Livingston, "The disinformation order: Disruptive communication and the decline of democratic institutions", *European Journal of Communication*, Vol. 33, Issue 2, April 2018, pp. 122–139. <https://doi.org/10.1177/0267323118760317> ¹⁷³ D1.1, op. cit., chs. 4.12 and 4.28.

¹³⁹ EU DisinfoLab, *The role of "media" in producing and spreading disinformation campaigns*, October 2021. <https://www.disinfo.eu/publications/the-role-of-media-in-producing-and-spreading-disinformation-campaigns/>

¹⁷⁵ Kavanagh Jennifer and Michael Rich, *Truth Decay: An Initial Exploration of the Diminishing Role of Facts and Analysis in American Public Life*, Rand Corporation, January 2018. <https://doi.org/10.7249/RR2314> ¹⁷⁶ Brennen, et al., op. cit.

membership¹⁴⁰ where religious imagery, particularly the Quran burning incident near the Turkish embassy in Sweden, served as a key symbol aimed at provoking anger among Muslim audiences in Turkey and the MENA region, portraying Sweden as hostile to Islamic values. The examples include but are not limited to politics, religion and ethnicity. This can enhance distrust and hostility among communities.

FIMI campaigns can attempt to benefit from societal divides. Campaigns use emotionally charged narratives, inducing emotions such as anger, hate or fear to impact the attitudes or behaviours of people in the society.¹⁴¹ The Brexit referendum is an example of widespread misinformation campaigns that used both existing societal divides and emotional appeal. The UK public was clearly divided and had exaggerated fears about immigration policies.

Polarisation has a huge impact because it extends to social discourse and real-life behaviours. Social media contribute to increased polarisation by amplifying and escalating social dynamics.¹⁴² Major societal trends, such as decreasing social capital, rising inequality and heightened polarisation, contribute to the emergence of a post-truth era. The consequences and the extend of polarisation is such that when inhabitants relocate, they tend to move into communities that are ideologically aligned with themselves.¹⁴³ In politically diverse societies, this dynamic can lead to gridlock. The reason is that finding common ground for different stakeholders becomes impossible.

FIMI campaigns create cultural and social divisions and fragmentation. During the 2017 Catalanian independence referendum, disinformation campaigns inflamed tensions between political parties in the country. This contributed to long-lasting divisions in Spain, undermining societal unity and straining intergroup relations. In the ATHENA case study on Russian interference in the Spanish election in July 2023¹⁸¹, we infer that the campaign's narratives likely intensified social divisions, increased uncertainty and undermined confidence in Spanish institutions. This resulted in the Russian-speaking community becoming more isolated and a decline in voter turnout.

The long-term consequences of this polarisation are profound. Divided societies are less resilient to external threats and struggle to address shared challenges effectively. Collaboration on critical issues such as public health, climate change or economic reform becomes increasingly difficult because of societal polarisation.

5.3.3 Public health

Another possible negative impact of FIMI is that false and misleading information may undermine public health responses. This erosion of public trust in health authorities is extremely dangerous because it weakens compliance with public health measures. This may create public health crises and hinder effective management. The recent COVID-19 pandemic is a typical example, where misleading narratives motivated many people to avoid vaccination as well as social distancing measures. For instance, in our case study on Russian disinformation about COVID-19 vaccines¹⁸², we noticed efforts

¹⁴⁰ D1.1, op. cit., ch. 4.33.

¹⁴¹ Manfredi, Juan-Luis, Adriana Amado, and Pablo Gómez-Iniesta, "State disinformation: emotions at the service of the cause", *Communication & Society*, April 2022, Vol. 35, Issue 2, pp. 205-221. <https://doi.org/10.15581/003.35.2.205-221>

¹⁴² Iandoli, Luca, Simonetta Primario, and Giuseppe Zollo, "The impact of group polarization on the quality of online debate in social media: A systematic literature review", *Technological Forecasting and Social Change*, Volume 170, September 2021, 120924. <https://doi.org/10.1016/j.techfore.2021.120924>

¹⁴³ Lewandowsky, Stephan, Ullrich K. H. Ecker and John Cook, "Beyond misinformation: Understanding and coping with the "post-truth" era", *Journal of Applied Research in Memory and Cognition*, Vol. 6, Issue 4, 2017, pp. 352–369. <https://doi.org/10.1016/j.jarmac.2017.07.008> ¹⁸¹ D1.1, op. cit., ch. 4.12. ¹⁸² D1.1, op. cit., ch. 4.19.



to undermine trust in official vaccine information and to portray Western vaccines as inferior to their Russian counterparts. As highlighted in the systematic review by Tilli Ripp and Jan Philipp Röer, the proliferation of COVID-19-related conspiracy narratives not only fostered misinformation but also influenced public behaviour in ways that exacerbated the crisis. The review shed light on the profound implications of conspiracy beliefs on infection-preventive measures and vaccination willingness, two pivotal strategies in pandemic management.¹⁴⁴

Conspiracy narratives reduce perceived threats, erode trust in public health measures and foster vaccine hesitancy. The review analysed 17 studies involving over 36,000 participants, consistently found a negative correlation between conspiracy beliefs and adherence to infection-preventive behaviours or willingness to vaccinate. Beliefs such as COVID-19 being a hoax or vaccines causing harm discourage practices like social distancing, mask-wearing and vaccination, thereby hindering efforts to achieve herd immunity.¹⁴⁵

This impact is driven by psychological needs for control and meaning, which conspiracy narratives exploit, and reinforced by social media, where echo chambers amplify these beliefs. Variations in narrative content (such as attributing the virus to government manipulation or portraying vaccines as dangerous) shape their specific effects on behaviour.¹⁴⁶

FIMI campaigns thus can exploit gaps in public understanding of complex health issues. Misleading narratives on complex health issues can be dangerous when they promote fear and uncertainty in society. Further examples of misleading narratives include linking vaccines to infertility and microchip implantation in the body.¹⁴⁷ Such misleading information motivated parts of society to avoid vaccine uptake. Additionally, disinformation fuelled resistance to critical public health guidelines. As a result, health authorities faced serious challenges to cope with the global pandemic.

FIMI campaigns were a threat to public health during the global pandemic in several ways. For instance, some members of the public were hesitant towards vaccination due to misleading information circulated by FIMI campaigns. Vaccine hesitancy delayed the achievement of herd immunity, prolonged the duration and impact of public health emergencies. Public health authorities experienced a big rise in hospitalisations due to preventable illnesses. Indeed, scarce public health resources were used to cope with the false and misleading information. Additionally, distrust in public health authorities extended beyond the immediate crisis, potentially undermining acceptance of medical interventions for future health challenges.

Misinformation in public health can have significant consequences by eroding trust in scientific institutions and influencing individual decision-making. Addressing this challenge requires a multifaceted approach that integrates cognitive science, technological solutions, and strategic communication. Effective countermeasures include fact-checking initiatives, media literacy programs, and interventions based on psychological principles to mitigate the continued influence effect.¹⁴⁸ Wellcoordinated efforts will safeguard and improve public health responses.

¹⁴⁴ Ripp, Tilli, and Jan Philipp Röer, “Systematic review on the association of COVID-19-related conspiracy belief with infection-preventive behavior and vaccination willingness”, *BMC Psychology*, Vol. 10, No. 66, March 2022. <https://doi.org/10.1186/s40359-022-00771-2>

¹⁴⁵ Ibid.

¹⁴⁶ Ibid.

¹⁴⁷ Brennen, et al., op. cit.

¹⁴⁸ Lewandowsky, et al., op. cit.

5.3.4 Community relations

FIMI may intensify divisions within communities, as it exploits ethnic, religious and ideological differences in any society. By disseminating disinformation that fosters mistrust and hostility, these campaigns disrupt social harmony and destabilise relationships between groups, eroding the foundations of societal cohesion. These campaigns mostly use fabricated content to inflame tensions between communities. Manipulated videos, audio and fake stories falsely attribute crimes to minority groups. In the UK, we saw an example where false news of a rape attributed to a minority group caused hate crimes and protests across the country.¹⁴⁹ False narratives can easily incite ethnic violence.

The societal consequences of these deteriorating relations are quite common. The increased mistrust and division among society leaves less room for collective actions. In another example in Eastern Europe, propaganda campaigns inflated ethnic conflicts that caused fragmentation and violence. These divisions not only destabilise communities but also diminish their capacity to address shared challenges,

such as economic recovery or public health crises. As trust erodes, opportunities for cooperation become scarce, further compounding societal vulnerabilities.

Rebuilding cohesion in the wake of a FIMI campaign's divisive effects requires concerted efforts to foster inclusivity and mutual understanding. One way is to focus educational programs on focusing on challenging stereotypes and promoting tolerance. This will play a crucial role in countering the negative narratives causing division. Similarly, governments should promote intergroup dialogue among different communities. Governments, alongside independent fact-checkers and media should encourage strategies to restore trust among different communities.¹⁵⁰ Such anti-FIMI initiatives can help to rebuild friendly relations among different community groups and safeguard against future FIMI campaigns.

5.3.5 Normalisation of misinformation

The normalisation of misinformation poses a threat to the availability of reliable information within societies. Repeated exposure to fake and fabricated information may lead towards acceptance of the false information at the individual level and towards the institutionalisation of FIMI. As a result, FIMI may become an accepted part of social discourse after which the society is unable to distinguish between false and true news. This erosion of truth has long-lasting implications for public awareness, decisionmaking and institutional trust.

FIMI campaigns leverage the repetitive nature of disinformation to desensitise audiences to falsehoods. Continuous exposure to false narratives increases their perceived credibility. The harmful effect may be magnified by online social media platforms as they can create echo chambers, amplifying selective fake narratives and embedding FIMI deeply within different members of society. Over time, this mechanism blurs the line between credible and fabricated news, enabling the normalisation of FIMI. Large populations may stop questioning the credibility of possible misinformation.¹⁵¹

The normalisation of FIMI has severe implications. In an environment, where positive appeals and beliefs overshadow factual accuracy, society does not always ask for credible evidence. A typical example was seen during the COVID-19 pandemic. The repeated disinformation about vaccines

¹⁴⁹ <https://www.theguardian.com/uk-news/2023/mar/14/eleanor-williams-jailed-lying-rapes-trafficking>

¹⁵⁰ Brennen, et al., op. cit.

¹⁵¹ Lewandowsky, et al., op. cit.

undermined public health campaigns. Indeed, some people lost trust in science and fuelled scepticism toward public health institutions.¹⁵² These conditions compromised immediate crisis responses.

Addressing the challenges posed by widespread misinformation requires sustained efforts. As misinformation erodes trust in authoritative sources and creates fragmented realities, resistance to factchecking increases. This environment creates fertile ground for future disinformation campaigns, as audiences habituated to disinformation are more easily manipulated. The cumulative effect is a cycle of mistrust that undermines societal resilience and hinders collective problem-solving.¹⁵³

5.3.6 Crisis response and cohesion

FIMI, as a hybrid threat tool, can significantly disrupt effective crisis response by the public, complicating crisis management efforts. One of the primary ways this occurs is through its impact on shared situational awareness (SSA) that is vital for an effective crisis response. SSA involves the collective understanding of a situation among all stakeholders, including the public and response agencies, which is crucial for coordinating actions and making informed decisions. The digital age, marked by rapid information dissemination and social media, presents both opportunities and challenges for achieving SSA, especially during crises characterised by unpredictability and rapid change. Misinformation disrupts crisis management and response efforts, particularly in achieving SSA. Misinformation can cause widespread confusion and panic among the public, undermining trust in

official sources and authorities. FIMI actors are likely closely monitoring evolving crises. Campaigns that erode trust are particularly damaging during crises, as they can impede effective communication between crisis response agencies and the public. When people are misled by misinformation, they may fail to comply with safety measures, resist public health advisories, or engage in harmful behaviors, exacerbating the crisis situation.¹⁵⁴

Social trust is understood differently across various bodies of literature. One perspective suggests that it is primarily established in childhood and changes only gradually over time through life experiences. From this viewpoint, social trust tends to remain relatively stable during shocks, whereas political trust is more prone to fluctuations. Conversely, another perspective defines social trust as the belief that others will act in a trustworthy manner. Contextual experiences, by providing cues about others' behaviour, can alter individuals' willingness to take the risk of interacting with strangers, and thus their trust in others. During a crisis, providing misleading cues about others' behaviour can be an effective tactic for FIMI actors to undermine trust.¹⁵⁵ This, in turn, may lead to self-regarding coping strategies, such as during a pandemic, which will further diminish generalised trust.

A recent study on social and political trust during crises indicates that dissatisfaction with political responses to a common threat can drive individuals to seek support beyond their immediate networks and institutions, thereby increasing trust in others. Consequently, when perceived risks emerge, social trust may serve as a compensatory mechanism for the lack of political trust. Politically disappointed

¹⁵² Brennen, et al., op. cit.

¹⁵³ Wardle, Claire and Derakhshan, Hossein, "Information disorder: Toward an interdisciplinary framework for research and policymaking", Council of Europe report, September 2019. <https://edoc.coe.int/en/media/7495information-disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html>

¹⁵⁴ Shahbazi, Maryam, and Deborah Bunker, "Social media trust: Fighting misinformation in the time of crisis", *International Journal of Information Management*, Vol. 77, 102780, 2024. <https://doi.org/10.1016/j.ijinfomgt.2024.102780>

¹⁵⁵ Aassve, Arnstein, Tommaso Capezzone, Nicolo Cavalli, Pierluigi Conzo, and Chen Peng, "Social and political trust diverge during a crisis", *Scientific Reports*, Vol. 14, Article No. 331, 2024. <https://doi.org/10.1038/s41598023-50898-4> ¹⁹⁵ Aassve et al., op. cit.

citizens might replace institutional trust with interpersonal trust when seeking support.¹⁹⁵ When people use this compensatory mechanism and seek support beyond their immediate networks, they may become more susceptible to misleading information sources provided by FIMI actors.

A study examining the use of various information sources during the coronavirus crisis found that obtaining information from high-quality news media (e.g., public broadcasting services) fostered a sense of cohesion among people. In contrast, using alternative and hyper partisan news sites had a detrimental effect. Relying on low-quality news media (e.g., tabloids) did not impact people's sense of cohesion, while conversing with private contacts had a limited positive effect. These findings highlight how news media and other information sources in high-choice media environments contribute to either a cohesive or polarised community during disruptive crises.¹⁵⁶

5.3.7 Human rights

FIMI poses potential threats to human rights by manipulating narratives, spreading disinformation and amplifying divisive content. These actions undermine fundamental freedoms, including the rights to free expression, access to information and non-discrimination. By distorting the information ecosystem, disinformation erodes trust in institutions, exacerbates societal inequalities and violates personal dignity. The consequences are far-reaching, exacerbating inequality, restricting civic participation and eroding social cohesion, thereby threatening the foundational principles of human rights.

FIMI campaigns distort the information landscape by disseminating falsehoods, compromising the public's ability to access accurate information. This erosion undermines the right to freedom of opinion

and expression as outlined in Article 19 of the Universal Declaration of Human Rights (UDHR)¹⁵⁷ and the International Covenant on Civil and Political Rights (ICCPR).¹⁵⁸

Disinformation threatens the right to freedom of opinion and expression further by manipulating public discourse and influencing thoughts through deceptive practices. Influence campaigns, such as those employing deepfake technology, exploit individuals' inability to discern truth from falsehood, eroding their ability to form independent opinions. The manipulation of opinions through targeted disinformation campaigns compromises the autonomy of individuals, which is central to democratic societies. By distorting facts, disinformation creates an environment of confusion and distrust, where citizens may unknowingly adopt manipulated viewpoints.¹⁹⁹

Disinformation often involves privacy violations, both for the individuals targeted by false narratives and for audiences subjected to micro-targeted campaigns. Article 17 of the ICCPR and Article 12 of the UDHR guarantee protection against arbitrary interference with privacy. However, data breaches, such as the misuse of personal information in political micro-targeting, demonstrate how disinformation can exploit individuals' private data to manipulate public discourse. For instance, the use of personal data, identity and fake social media profiles in disinformation campaigns compromises not only the right to

¹⁵⁶ Their, Kathryn, and Kang Namkoong, "Identifying Major Components of Solutions-Oriented Journalism: A Review to Guide Future Research", *Journalism Studies*, Vol. 24, Issue 12, 2023, pp. 1557-1574.

<https://doi.org/10.1080/1461670X.2021.1965907>

¹⁵⁷ United Nations, *Universal Declaration of Human Rights*, 1948. <https://www.un.org/en/about-us/universaldeclaration-of-human-rights>

¹⁵⁸ United Nations, *International Covenant on Civil and Political Rights*, 1966. <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>

¹⁹⁹ Colomina, Margalef and Youngs, op. cit.

privacy but also undermines trust in digital ecosystems. This manipulation extends beyond private spaces, affecting public life and democratic participation.¹⁵⁹

Disinformation also poses challenges to freedom of expression, protected under Article 19 of the UDHR and ICCPR. While international human rights frameworks protect the right to impart information and ideas, even controversial or false content, disinformation campaigns often target freedom of expression itself. The proliferation of disinformation, particularly during elections or public crises, undermines the quality of public discourse. It also disproportionately affects marginalised groups, whose voices may be suppressed or overshadowed by the spread of manipulated narratives.¹⁶⁰

Disinformation also impacts economic, social and cultural rights by fostering inequality and mistrust. During the COVID-19 pandemic, disinformation campaigns targeting vaccination programs misled individuals, exacerbating health risks and undermining public health initiatives. Such actions violate the right to health, as articulated in Article 12 of the International Covenant on Economic, Social, and Cultural Rights (ICESCR), which obligates states to ensure the highest attainable standard of physical and mental health for their citizens. The economic repercussions of disinformation, including its ability to disrupt markets or spread false narratives about communities, further erode social cohesion. Cultural rights are similarly impacted when disinformation is used to delegitimise cultural identities or spread divisive narratives.¹⁶¹

Disinformation campaigns often target vulnerable groups, including women, minorities and activists, exacerbating existing societal inequalities. Gender-based disinformation disproportionately affects women journalists and public figures, leading to harassment and silencing. It restricts their ability to participate freely in public life, infringing on their rights to equality and freedom from discrimination.¹⁶² Even though gender has previously been identified as an instrument of FIMI, in the ATHENA case studies we identified gender as a relevant factor in the Lisa case,¹⁶³ where gender played a crucial role in the disinformation campaign by exploiting the vulnerability associated with young female victims to evoke strong emotional reactions and reinforce stereotypes about male immigrants as threats to women.

Otherwise, we did not find gender as a relevant factor in our case studies – but in no way should gender be diminished as a factor in other cases.

Women in public life are frequently subjected to gender-based harassment online. Gendered disinformation campaigns amplify these attacks by spreading false or defamatory narratives that question their credibility, competence or morality. For instance, during the 2020 U.S. presidential elections, Kamala Harris was targeted by gendered disinformation campaigns that used traditional misogynistic narratives to undermine her candidacy. Although disinformation also targeted then candidate Joe Biden, it primarily centred on his age and policy stances rather than gender.¹⁶⁴

The psychological toll of gender-based disinformation includes emotional harm, such as fear, anxiety and withdrawal from public life, limiting women's ability to exercise their rights and participate fully in society. Socially, such campaigns normalise misogyny and gender-based violence, creating

¹⁵⁹ Ibid.

¹⁶⁰ Ibid.

¹⁶¹ Ibid.

¹⁶² Ibid.

¹⁶³ D1.1, op. cit., ch. 4.6.

¹⁶⁴ Halstian, Mariam, "Gendered disinformation is not a 'women-only' issue, it poses a threat to election integrity", *Georgetown Security Studies Review*, 2024. <https://georgetownsecuritystudiesreview.org/2024/03/29/genderedisinformation-is-not-a-women-only-issue/>



environments of hostility and exclusion that disproportionately affect women and marginalised gender groups.¹⁶⁵

Disinformation campaigns also undermine civic participation by targeting democratic institutions and disenfranchising voters. These actions infringe on the right to participate in governance, as outlined in Article 21 of the Universal Declaration of Human Rights. By delegitimising elections and spreading false claims about political candidates, FIMI reduces trust in democratic systems.²⁰⁷

5.3.8 Economic consequences

Estimating the economic costs of FIMI to society is challenging because it is difficult to separate misinformation or disinformation from foreign information manipulation. Therefore, in this section, we scrutinise the impact of any type of false information in economic activity. When estimating the costs, one should consider both non-monetary effects of harm and direct financial harm, including both monetary losses and opportunity costs.¹⁶⁶

Diminished trust is an example of indirect costs. Other indirect costs include the need for continuous vigilance, as well as the energy and resources required to defend against and repair the damage caused by misinformation campaigns. This effort often detracts companies' focus and resources from innovation, training, corporate social responsibility and other crucial economic drivers of growth.¹⁶⁷

A common goal of FIMI campaigns is to erode social trust. In economic theory, trust is considered vital for well-functioning economic systems and markets. For instance, already Adam Smith described that "Of the nations of Europe, the Dutch, the most commercial, are the most faithful to their word."¹⁶⁸ Arrow argues that the presence of trust (among other virtues) plays a significant role in the operation of economic systems. According to Fukuyama, a nation's well-being and its ability to compete depend upon the level of trust inherent in a society. Sen argues that trust is an important ingredient of market

success.¹⁶⁹ According to economic literature, social trust is significantly associated with long-run economic growth.²¹²

Alongside trust, information plays a critical role in economic models. For instance, the concept of market efficiency refers to the degree to which market prices reflect all available, relevant information. Or as Fama originally explained it, "A market in which prices always 'fully reflect' available information is called 'efficient'".¹⁷⁰ Economists have delved into the intricacies of information itself. In

¹⁶⁵ Dunn, Suzie, "Technology-Facilitated Gender-Based Violence: An Overview", *Centre for International Governance Innovation: Supporting a Safer Internet*, Paper No. 1, 2020. <https://ssrn.com/abstract=3772042> ²⁰⁷ Bennett and Livingston, op. cit.

¹⁶⁶ CHEQ, *The economic cost of bad actors on the internet: Fake news*, 2019. <https://s3.amazonaws.com/media.mediapost.com/uploads/EconomicCostOfFakeNews.pdf>.

¹⁶⁷ Ibid.

¹⁶⁸ Bjørnskov, Christian, "Social Trust and Economic Growth", in Eric M. Uslaner (ed.), *The Oxford Handbook of Social and Political Trust*, Oxford Handbooks, 2018, pp. 535–556. <http://dx.doi.org/10.2139/ssrn.2906280>

¹⁶⁹ Roth, Felix. "Does Too Much Trust Hamper Economic Growth?", In Felix Roth (ed.), *Intangible Capital and Growth: Essays on Labor Productivity, Monetary Economics, and Political Economy, Vol. 1*, Cham: Springer International Publishing, 2022, pp. 141-165, https://link.springer.com/chapter/10.1007/978-3-030-86186-5_7 ²¹² Bjørnskov, op. cit.

¹⁷⁰ Fama, Eugene F, "Efficient Capital Markets: A Review of Theory and Empirical Work", *Journal of Finance*, Volume 25, No. 2, May 1970, pp. 383-417, <https://doi.org/10.2307/2325486>



the earlier models of information economics, information was usually assumed to be correct or at least its correctness was not regarded to be important. Updated models recognise that the value of information varies across people, thus the correctness of information becomes important economically because people's personal judgements on its correctness significantly influences its value. This means that if a person judges the correctness of information more accurately, the value the person places on that information will be more accurate. A key point is that the value of information can be manipulated by malicious persons who intentionally disseminate incorrect information to confuse people's personal judgements on the value of information.¹⁷¹

Harashima has examined theoretically misinformation and disinformation from the point of view of ranked information and its impact on economics. In the ranked information model, individuals personally evaluate the importance of each piece of information, in each period for each purpose. He demonstrates how disinformation decreases efficiency by manipulating ranked information on the basis of the model of ranked information. Decreases in efficiency are observed as decreases in total factor productivity, lowered success rates of investment, and costs of bad speculations. Disinformation not only decreases efficiency but also generates economic rents. Because of these economic rents, inequality widens, possibly by a great deal. Furthermore, disinformation can cause large-scale economic fluctuations.¹⁷²

We will now move beyond theoretical considerations and examine the real-world economic impact of disinformation in different domains, starting with financial markets. We have demonstrated in earlier sections of this report that FIMI campaigns frequently use psychological appeals and harness the human tendency to make quick, undeliberated decisions. Because of this human characteristic, financial markets not only reflect correct information, but also false information, which can impact on retail trading and prices.¹⁷³ For instance, an AI-generated image of the Pentagon on fire resulted in a reduction in the value of the stock exchange.¹⁷⁴ Vinci, a French concessions and constructions company, became a target of a false press release in 2016 which caused share price to go down by 19% before recovering by close of trading.¹⁷⁵ Forbes reported in 2018 that \$130 billion in stock value was lost when the Associated Press (AP) Twitter account was hacked and a post was made claiming there was an

“explosion” that injured Barack Obama.²¹⁹ Although stock prices recovered, this points to how disinformation on social media can impact high-frequency trading algorithms that rely on text to make investment calls based on false information.²²⁰

The ripple effects of disinformation extend across multiple sectors, from public administration to private enterprises. In recent times, the renewable energy sector has been a target of Russian disinformation campaigns after Europeans increased the use of renewable energy sources at the expense of Russian gas and other fossil energy sources. For instance, a German right-wing party that sympathises with Russian views has been making inaccurate claims that wind turbines cause harm to residents and wildlife. More

¹⁷¹ Harashima, Taiji, "An Economic Theory of Disinformation", *Theoretical and Practical Research in Economic Fields (TPREF)*, Volume 14, No. 27, Summer 2023, pp. 16-28, [https://doi.org/10.14505/tpref.v14.1\(27\).02](https://doi.org/10.14505/tpref.v14.1(27).02)

¹⁷² Ibid.

¹⁷³ Kogan, Shimon, Tobias J. Moskowitz, and Marina Niessner, "Social media and financial news manipulation", *Review of Finance*, Volume 27, No. 4, July 2023, pp. 1229-1268, <https://doi.org/10.1093/rof/rfac058>

¹⁷⁴ Massie, Graeme, "Fake AI image of Pentagon blast goes viral on Twitter and causes US markets to drop", *The Independent*, May 23, 2023, <https://www.independent.co.uk/news/world/americas/fake-pentagon-explosion-ai-generated-b2344033.html>

¹⁷⁵ Hanot, Clara, Kalina Bontcheva, Alexandre Alaphilippe and Alexis Gizikis, , *Automated tackling of disinformation – Major challenges ahead*, European Parliament: Directorate-General for Parliamentary Research Services, March 2019. <https://data.europa.eu/doi/10.2861/368879>



broadly in the EU, Russian disinformation is using the increasing energy prices in arguing that renewable energy is either too costly or unreliable motivating continuation of using fossil fuels that they produce.²²¹ As another vulnerable sector, travel and tourism is heavily reliant on perceptions of safety and stability, hence, is susceptible to the threats of disinformation campaigns.²²² One example of such campaigns is the bedbug panic before the Paris 2024 Olympic Games. Alleged spread of bedbugs in Paris hotels, trains, metro and airports created an international news frenzy that was amplified by social media accounts that have connections to Russia.²²³ Many industries and economies are also reliant on functioning supply chains that are also highly susceptible to risks related to disinformation.¹⁷⁶

Disinformation also leads to indirect economic consequences. Disinformation campaigns may create widespread uncertainty in society, impacting economic expectations and consumer confidence. The source of uncertainty does not even need to be linked to the economic domain, but unpredictability and anxiety related to public and personal health issues can impact consumers' economic outlook.¹⁷⁷ During the COVID-19 pandemic, disinformation campaigns increased uncertainty in society by undermining public trust in vaccines,¹⁷⁸ which might have affected consumer behaviour and further impacted the economic consequences of the pandemic.¹⁷⁹ Based on a survey experiment, both scientifically-sounding disinformation and conspiracy theory narratives influence views on the effectiveness vaccinations, but they interestingly also affect consumer confidence in general.²²⁸ The impact of disinformation and

²¹⁹ Rapoza, Kenneth, "Can fake news impact the stock market?", *Forbes*, 26 February 2017. <https://www.forbes.com/sites/kenrapoza/2017/02/26/can-fake-news-impact-the-stock-market> ²²⁰

Hanot, Bontcheva, Alaphilippe and Gizikis, op. cit.

²²¹ Ptashnyk, Iryna, *Russian Disinformation and Europe's Renewable Energy Transition: A Battle for the Future*, December 2024, <https://razomwestand.com/russian-disinformation-and-europes-renewable-energy-transition-a-battle-for-the-future/> ²²²

Vasist, Pramukh Nanjundaswamy, and Satish Krishnan, "Disinformation 'gatecrashes' tourism: An empirical study", *Annals of Tourism Research*, Vol. 101, 103575, July 2023. <https://doi.org/10.1016/j.annals.2023.103575> ²²³

See *Le Monde*, "Bedbug panic was stoked by Russia, says France", 1 March 2024. https://www.lemonde.fr/en/france/article/2024/03/01/bedbug-panic-was-stoked-by-russia-saysfrance_6575870_7.html, or Reuters, "Russian 'disinformation' hyped Paris bedbug scare, French minister says", 1 March 2024. <https://www.reuters.com/world/europe/russian-disinformation-hyped-paris-bedbug-scare-french-minister-says2024-03-01/>

uncertainty on consumer confidence, accompanied by the possibility that the spread of disinformation may also disrupt the flow of accurate information, can altogether lead to suboptimal decision-making by consumers.

While people's ability to purchase depends on real income and wealth, decisions to consume or save money depends on consumers' confidence, which, in other words, is subjective perceptions and

¹⁷⁶ Petratos, Pythagoras N., and Alessio Faccia, "Fake news, misinformation, disinformation and supply chain risks and disruptions: risk management and resilience using blockchain", *Annals of Operations Research*, Vol. 327, Issue 2, 2023, pp. 735-762. <https://doi.org/10.1007/s10479-023-05242-4>

¹⁷⁷ Balcaen, Pieter, Caroline Buts, Cind Du Bois and Olesya Tkacheva, "The effect of disinformation about COVID-19 on consumer confidence: Insights from a survey experiment", *Journal of Behavioral and Experimental Economics*, Vol. 102, February 2023. <https://doi.org/10.1016/j.socec.2022.101968>

¹⁷⁸ This issue is discussed in our case study on Russian disinformation about COVID-19 vaccines, see D1.1, op. cit.

¹⁷⁹ For the impact of COVID-19 on economy, see Barua, Suborna, "Understanding coronanomics: The economic implications of the COVID-19 pandemic", *The Journal of Developing Areas*, Vol. 55, Issue 3, Summer 2021, pp. 435-450. See also Walmsley, Terrie, Adam Rose and Dan Wei, "The Impacts of the Coronavirus on the Economy of the United States", *Economics of disasters and climate change*, Vol. 5, Issue 1, 2021, pp. 1-52. ²²⁸ Balcaen et al., op. cit.

expectations about national and personal economic conditions. According to research, an increase in the consumer confidence index (CCI) increases the growth of total consumptions and expenditures on durable and semidurable goods and services.¹⁸⁰ Misperceptions of one's economic conditions, which may be due to fake news giving a distorted view of reality, can lead to needlessly postponed consumption thus slowing down economic activity. On the other hand, the uncertainty of the external situation can cause panic buying and excessive purchasing of non-durable goods, as people seek to restore their sense of security by stockpiling food and beverages in preparation for potential tough times.¹⁸¹

Even though evaluations of the economic impact of disinformation is mostly based on anecdotal data, there is available at least one ambitious undertaking that aimed at estimating global annual cost of fake news. CHEQ, a company providing solutions to prevent automated and human-driven threats, commissioned an economist, Professor Roberto Cavazos at the University of Baltimore, to conduct an in-depth economic analysis of the full extent of internet harm. By combining economic analysis with statistical and data analysis, he was able to quantify the global economic cost borne by businesses and society due to issues such as ad fraud, online bullying and fake news. The total cost was estimated to be 78 billion dollars. This includes stock market losses and volatility valued at 38 billion dollars, financial misinformation in the US alone worth 17 billion dollars, reputation management costs at 9.54 billion dollars, costs due to public health misinformation in the U.S. alone at 9 billion dollars, extra expenditure on online platform safety at 3 billion dollars, direct spending on fake news used in elections totaling 400 million dollars, and securing brand value for 250 million dollars. It is worth noticing that the price of disinformation regarding health, politics, economics in much of the developing world in particular are hard to estimate. Similarly, misinformation in some nations such as Russia, China, Iran and others have geopolitical and economic costs that are significant but uncertain at this point.¹⁸²

While disinformation harms public trust and economy, certain entities benefit financially from its spread. Disinformation economy refers to the financial ecosystem that enables the spread of false information online for profit. Fake news websites, often motivated by advertisement revenue rather than ideology, are able to exploit social media algorithms to maximise engagement. During the 2020 US elections, misinformation sources saw a 156% spike in Facebook interactions, outperforming mainstream news. Studies show that false content spreads six times faster than factual news, generating millions in ad revenue. The Global Disinformation Index has found that at least \$235 million in revenue is generated annually from ads running on extremist and disinformation websites. A complex and opaque digital advertising system allows major brands to unknowingly fund disinformation. Key solutions include stricter advertisement policies, increased transparency from platforms such as Google, and proactive action by advertisers to exclude misinformation sites.¹⁸³

¹⁸⁰ Mynaříková, Lenka, and Vít Pošta, "The effect of consumer confidence and subjective well-being on consumers' spending behavior", *Journal of Happiness Studies*, Vol. 24, No. 2, 2023, pp. 429-453. <https://doi.org/10.1007/s10902-022-00603-5>

¹⁸¹ Ibid.

¹⁸² CHEQ, op.cit. See also <https://www.ubalt.edu/news/news-releases.cfm?id=3425>

¹⁸³ Carter Center and McCain Institute, *The Disinformation Economy*, May 2024. https://www.cartercenter.org/resources/pdfs/news/peace_publications/democracy/the-disinformation-economy-mccain-may-2024.pdf. See also CHEQ, op.cit.

6 INFORMING POLICYMAKERS, ACADEMICS AND STAKEHOLDERS

As part of our efforts to counter the influence of FIMI and disinformation and strengthen societal trust in governance, we mapped relevant stakeholders and analysed outputs collected during this task. The stakeholders listed for this task include both academics, policymakers, representatives from civil society organisations and professionals working across various relevant fields. Our research integrates findings from multiple disciplines to better understand FIMI narratives and develop effective responses. The dissemination of this material is central to achieving the task's goals, equipping stakeholders with the tools and knowledge to identify and counteract these challenges. By informing policymakers, academics and stakeholders through targeted emails, webinars, articles, conference presentations and policy briefs, we aim to strengthen collaborative efforts across Member States.

Specifically, we asked the ATHENA partners to contribute to the list of stakeholders by adding names and contacts of policymakers and academics in their respective country. We also drafted an executive summary to recapitulate the principal findings of this deliverable in a more accessible and digestible format. This summary has been designed to effectively convey the key insights and findings to the diverse range of stakeholders we have identified. By distilling the main points into clear, concise language, the executive summary will facilitate a broader understanding and engagement with the deliverable's content. Our aim is to ensure that policymakers, academics, industry representatives and civil society actors can easily grasp the implications of our work and apply the insights to their respective areas of influence. The executive summary will serve as a vital tool for dissemination, helping to bridge the gap between detailed analysis and actionable knowledge. It will be shared through targeted communication channels, including the ATHENA newsletter and other partners newsletters, through different social media posts, targeted emails, webinars, and various events ensuring maximum reach and impact. Additionally, we plan to convert the deliverable into a journal article. The EUDL also recently drafted a comprehensive guide for policymakers, focusing on disinformation trends and key thematic areas, including a dedicated section on FIMI. This guide provides insights into the persuasive narratives employed in FIMI to distort public perceptions and undermine trust in governance and the integrity of information.

For this task, we will organise an online roundtable (webinar) in the Spring 2025 with policymakers focused on one specific case, moderated by our policy specialist Joe McNamee, an ATHENA representative and potentially with a member of the new “special committee on the European Democracy Shield”. Partners will also share the findings of the task during a FIMI cluster meeting with other sister projects and board members in July 2025.

Dissemination efforts will ensure that findings are effectively communicated to and empower key stakeholders. The significance of these efforts lies in empowering stakeholders with a deeper understanding of FIMI mechanisms, enabling evidence-based policymaking and enhanced resilience against manipulative information campaigns across the EU.

8 CONCLUSIONS AND RECOMMENDATIONS

We likened a disinformation message to a nudge categorised as manipulation of choice in section 2.1. This type of nudge engages system 2 thinking (deliberative reasoning) and is non-transparent, meaning that a cognitive vulnerability has been targeted to alter human actions. We conducted a theoretically informed content analysis of FIMI case studies to demonstrate how this happens in real life and we were able to show that threat actors systematically manipulate audiences through emotional and rhetorical appeals.

By exploiting pathos, particularly fear, anger and resentment, FIMI actors disrupt rational thought and increase audiences' susceptibility to manipulation. We found that fear, the most frequently exploited emotion, appeared in all case studies, often paired with anxiety and patriotism. For example, campaigns targeting the French army in Mali capitalised on the Malian population's fear of instability and violence caused by jihadist groups. Threat actors also leveraged anger, resentment and distrust to achieve their goals. For example, disinformation about President Zelenskyy's alleged purchase of a villa in Florida sought to provoke anger and resentment among US citizens by portraying him as misusing war funds. Russian narratives about the burning of the Quran in Sweden incited religious anger among Muslim communities, undermining Sweden's NATO membership bid. India's disinformation campaign after the Pulwama attack exploited nationalistic anger and grief to justify retaliatory actions against Pakistan. It is thus evident that the negativity bias, among other biases, is harnessed by many disinformation architects.

Based on our analysis, we can conclude that relying on fabricated sources, state-controlled media and authoritative figures to establish credibility (ethos) is a commonly used technique by threat actors. For instance, Russia co-opted outlets like Voice of Europe to spread pro-Russian narratives and used bribery to influence politicians. China amplified disinformation about Fukushima water releases through state-controlled media, dismissing scientific consensus. Turkey's campaign concerning Northern Cyprus exploited distrust of Western media to promote the legitimacy of the TRNC. Logical appeals (logos) were present but often distorted or selectively applied. Russian campaigns portrayed Ukraine as a failing state reliant on US aid by misrepresenting statistics. Similarly, a Finnish campaign used distorted logic to demonise President Stubb and justify Russia's actions.

We identified the use of several persuasive techniques when we analysed the content of case studies from a psychological perspective. Although the channels for messages and production techniques have evolved rapidly (e.g., TikTok as a channel and artificial intelligence-powered applications for producing deepfakes), the persuasive appeals in disinformation narratives are "the usual suspects" – techniques widely used in other legitimate domains and familiar from historical cases. Persuasive techniques amplified the effectiveness of disinformation. Framing was evident in campaigns like Doppelgänger/RNN, which mimicked legitimate news websites to spread disinformation about Ukraine. Repetition was employed in Turkey's NATO-related campaigns, repeatedly claiming that "Sweden supports terrorism." Social proof appeared in India's post-Pulwama efforts, leveraging polls and influencer endorsements to create an illusion of widespread public support. Authority appeals, such as Saudi Arabia's anti-Iran campaign during the Trump administration, used endorsements from figures such as Turki Aldakhil to bolster credibility.

We found some similarities within message types and persuasion appeals used by different FIMI actors. However, due to the limited number of cases, we were not able to identify credible patterns that we could use later to identify with a reasonable accuracy what are the origins of campaigns. With more cases, this would be a fascinating endeavour to test if it was possible to identify different actors based on their narratives or chosen psychological appeals and techniques. Even though the number of cases in our sample was low, we found traces how FIMI campaigns address our innate cognitive biases.

Understanding this opens the door to exploring countermeasures for disinformation from domains that have studied ways to correct human misjudgement and flawed reasoning.

The analysis of the interviews reveals a consensus on the psychological impact of disinformation campaigns and FIMI. These campaigns exploit extreme emotions, heuristics and cognitive vulnerabilities to manipulate perceptions and fragment communities. According to the interviewees, these strategies extended beyond the mere manipulation of facts; they aimed to influence people's emotions and attention by creating mistrust and distorting the way individuals interpret reality.

Most interviewees emphasised that one of the most significant gaps in the analysis of this phenomenon is the difficulty in establishing and measuring a direct causal relationship between FIMI campaigns and changes in behaviour. Despite this challenge, there is a clear consensus among the interviewees that FIMI represents a pervasive threat. It undermines trust, fragments social relations and delegitimises both institutions and individual rights. The interviewees agree that these effects are not incidental but part of a deliberate strategy to undermine democratic principles and foster polarisation in both national and international contexts.

This consensus among interviewees highlighted the need for further research to bridge the gap in understanding the direct causal links between FIMI campaigns and behavioural changes. Additionally, it underscored the importance of developing strategies to counteract the psychological manipulation employed in these campaigns to protect democratic values and social cohesion.

The findings from the interviews highlighted the complex and evolving nature of FIMI in today's world. These campaigns, which exploited technological advances and the reach of social media, targeted societal vulnerabilities and algorithmic structures to amplify distrust, polarisation, and the erosion of institutional credibility. Beyond undermining governments and institutions, FIMI weaponises scepticism against science, education and media, increasing fragmentation within societies.

We conducted a literature-based analysis of the consequences of FIMI campaigns where we investigated what are the consequences to behaviour, political activity and society. FIMI campaigns aim to manipulate perceptions and behaviours, often exploiting emotional triggers and cultural fault lines through social media and traditional media to amplify their impact. Such campaigns primarily target political and societal structures by increasing mistrust in institutions, polarisation and eroding information reliability. As a key component of hybrid threats, FIMI blends disinformation with other tactics to exploit vulnerabilities across multiple domains, amplifying its destabilising effects.

These campaigns have significant political repercussions, undermining state institutions, disrupting election processes, and influencing foreign policy through disinformation, psychological tactics and the exploitation of technological advancements. Our findings include that FIMI disrupts collective action and political functions during crises by spreading false narratives, delaying effective management and prolonging recovery times, while its normalisation of disinformation erodes public discernment and fosters a "post-truth" environment.

Societally, FIMI exacerbates divisions by amplifying sensitive issues like politics, religion and ethnicity, fostering hostility, and weakening societal cohesion, democratic processes, and public health responses. The campaigns also infringe on human rights, manipulate public discourse, violate privacy, disrupt political institutions and foster discrimination. Gender-based disinformation disproportionately targets women in public life, amplifying harassment and societal inequalities. FIMI, and disinformation in broader terms, cause both direct and indirect economic harm which makes it challenging to capture the whole impact. Some indication can be found from evaluation of the global annual costs of fake news which was estimated to be 78 billion dollars.

Disinformation is not an isolated challenge to a democratic society. Its prevalence fluctuates over time and is closely linked to the stability, cohesion and prosperity of society. To mitigate the effects of

disinformation, it is crucial to address these underlying factors. In an open society, disinformation will always exist to some extent. Therefore, it is essential to determine a bearable level of disinformation that does not harm societal integrity. By understanding and managing this threshold, we can better protect democratic values and maintain social cohesion in the face of disinformation campaigns directed by foreign actors.

Our different approaches to study FIMI campaigns give a coherent picture where FIMI campaigns exploit human cognitive vulnerabilities, bypassing individuals' capabilities for deliberative and wellinformed reasoning. This understanding should be central when designing remedies for FIMI campaigns, leveraging these same vulnerabilities for positive outcomes. Recognising that everyone is prone to making non-optimal decisions due to cognitive biases shifts the perspective from blaming victims of FIMI campaigns as less educated or less rational, to **seeking solutions that do not require significant cognitive effort from individuals**. By understanding and accepting that cognitive biases are a natural part of human decision-making, we can design interventions that work with these biases rather than against them. For example, nudging techniques can be employed to guide individuals towards making better decisions without requiring extensive cognitive effort.

Behavioural scientists have introduced various **de-biasing techniques** to help individuals make more rational and informed decisions. De-biasing refers to strategies and interventions designed to reduce or eliminate cognitive biases. This approach could prove useful also in mitigating the effects of FIMI campaigns exploiting cognitive biases. These programs include strategies like educating individuals about common biases and providing strategies to counteract them. By integrating de-biasing efforts into educational curricula, workplace training, and public awareness campaigns, we can foster a more informed and resilient populace. De-biasing programs have also used decision aids and tools that help individuals make better choices. These can include checklists, decision trees and algorithms that guide users through a structured decision-making process. This can be carried out with the help of apps and online platforms that provide decision support and feedback to users. By providing a systematic approach, these tools can help mitigate the influence of biases.

It is crucial to recognise that the same psychological means can be used for both good and bad purposes. Therefore, **identifying the intentions behind information and influencing efforts** is essential. For instance, a Finnish study found that young people often believed they were not being targeted for influence or manipulation because they did not see themselves as a group of interest for information operations.¹⁸⁴ This highlights the need for awareness programs that help individuals understand how and why they might be targeted by FIMI campaigns.

A more critical approach to all available information is necessary. This involves **fostering a culture of source criticism**, where individuals are encouraged to question the origins, credibility and motives behind the information they encounter. Educational initiatives should focus on teaching critical thinking skills and media literacy from an early age, empowering individuals to navigate the complex information landscape more effectively. This should be maintained through all adulthood.

The interviews yielded several key recommendations for overcoming the challenges undermining democratic values and social cohesion. To start with, we need to **develop comprehensive and accessible frameworks for analysis**. Frameworks for analysing FIMI need to capture the full spectrum of its impact, from the societal vulnerabilities it exploits to the long-term strategic goals of campaigns. Tailored observatories, such as micro-observatories, focused on specific domains such as health, elections, or security, could provide actionable insights for policymakers. These frameworks should

¹⁸⁴ Meriläinen, Niina, “‘Information operations do not worry me’ – The Role of Credible Information on Digital Platforms”, *Journal of Information Warfare*, Vol. 22, Issue 4, 2023. <https://urn.fi/URN:NBN:fi:tuni202401241757>



incorporate interdisciplinary methodologies that combine technical, sociological and geopolitical expertise to effectively anticipate and mitigate FIMI threats.

Given the transnational nature of FIMI, we should **foster cross-sector and international cooperation**. Responses must prioritise international collaboration and data sharing among governments, industry, academia and civil society. This includes creating interdisciplinary research initiatives and training programs that combine expertise from fields such as political science, social data analysis, security studies and artificial intelligence. Collaborative data-sharing platforms can ensure a unified and proactive response to state-sponsored disinformation campaigns. It is also important to recognise that many narratives and campaigns originate domestically and are subsequently amplified by foreign actors to suit their specific agendas. This overlap calls for approaches that integrate global efforts with actions tailored to national contexts, fostering cooperation between local institutions and actors. In this sense, it is crucial to build bridges to strengthen common goals and avoid divisions that could hinder a cohesive response.

We need **improved transparency and accountability from social media platforms**. Social media platforms should increase the transparency of their operations (and not cut their fact-checking, as Mark Zuckerberg has done at Facebook and Instagram¹⁸⁵), implement stricter verification processes and limit the activity of bots and fake accounts. This includes increasing the cost of creating fake accounts, ensuring transparency in the funding of digital advertising and making coordinated inauthentic behaviour more difficult. These measures should be supported by strengthened regulation, based on the DSA, that specifically addresses the challenges posed by FIMI actors, including transnational coordination to dismantle complex networks funded by state actors. We must also remember that all regulatory frameworks must balance the need to combat FIMI with the preservation of democratic freedoms, including freedom of expression. Policymakers should ensure that interventions are proportionate, transparent and do not inadvertently stifle legitimate discourse. In parallel, public institutions must prioritise coherence between their actions and discourse and engage in sustained interaction with communities through regular channels of consultation and feedback. Building trust requires a relational approach, built through ongoing communication that strengthens institutional bonds and counteracts the long-term damage caused by disinformation.

Understanding the dynamics of how disinformation spreads is as important as analysing its content, therefore **efforts should be equally focused on understanding the mechanisms underlying virality**, engagement and behavioural manipulation on digital platforms. The psychological effects of FIMI are largely due to the structural system of digital amplification, which exploits the attention economy and algorithms designed to maximise interactions. Understanding these mechanisms can help to identify harmful narratives. Focusing on these aspects can provide early warnings and limit the reach of harmful narratives before they gain traction.

We need to **focus public awareness and media literacy initiatives on vulnerabilities**. Building social resilience in the face of FIMI requires going beyond traditional digital literacy and incorporating strategies that identify and address the social, emotional and cognitive vulnerabilities of different demographic groups. Initiatives should focus on tools that enable people to identify their own biases and promote self-reflective critical thinking, while adapting to the specific needs of underserved populations, such as older adults, who lack sufficient access to media literacy programs. Interviewees emphasised the value of more creative methods, such as the use of humour and positive narratives, that

¹⁸⁵ Jingnan, Huo, Shannon Bond and Bobby Allyn, “Meta Says It Will End Fact-Checking as Silicon Valley Prepares for Trump”, NPR, 7 Jan 2025. <https://www.npr.org/2025/01/07/nx-s1-5251151/meta-fact-checkingmark-zuckerberg-trump>.

strengthen elements of social cohesion and highlight what brings communities together rather than deepening divisions. Engaging citizens in participatory processes, such as identifying and dismantling

disinformation through “crowd wisdom”, not only decentralises efforts but could also build trust by reducing the perceived distance between the public and epistemic elites. These initiatives should avoid a paternalistic tone and prioritise collective construction, promoting activities that strengthen a sense of community and collaboration over individualism.

When we studied the consequences of FIMI campaigns, it became apparent that addressing the multifaceted challenges posed by FIMI requires **a coordinated and holistic response that spans societal, political and economic domains**. As a key element of hybrid threats, FIMI leverages disinformation and technological manipulation to exploit vulnerabilities across these areas, undermining stability and resilience. Governments and agencies must take a comprehensive approach to counter FIMI by strengthening public resilience through media literacy programs, transparent communication and fostering trust in institutions. By addressing the structural, psychological and technological dimensions of FIMI, these measures can mitigate its impact and foster resilience in democratic, societal and economic systems. Tailored monitoring focusing on specific domains, such as health, elections and security, can provide valuable insights for policymakers and support targeted responses.

Collaboration with social media platforms is essential for detecting and mitigating FIMI, curbing disinformation and reducing societal polarisation. Pre-emptive measures, such as pre-bunking campaigns, policy changes, education and rapid response systems, alongside robust electoral security policies, can safeguard democratic processes and counter foreign interference in digital spaces. If there is interest in understanding how specific types of communication, platforms and incentive structures truly impact audiences, further research should be conducted using controlled experimental settings to provide deeper insights.

Randomised controlled trials have proven to be highly useful for understanding the impact of different interventions in organisational and public policy¹⁸⁶, and **experimentation could also be useful when evaluating the behavioural and societal consequences of different types of disinformation tactics**. Promoting transparency, engaging with citizens, protecting freedoms and holding digital platforms accountable for the spread of false information are critical to rebuilding societal cohesion and trust.

Public health communication strategies must prioritise transparency, fact-checking and partnerships with digital platforms for combating health-related disinformation and restoring trust in health systems. This should include transparency around corporate interests and influence. **Governments should actively enhance crisis communication**, educate the public on identifying credible information and foster intergroup dialogue for addressing societal divisions and countering stereotypes. Gendersensitive approaches are crucial, including protecting women in public life from targeted harassment and promoting digital literacy for empowering marginalised groups. Social media platforms must enforce stricter policies against gender-based disinformation and hate speech to foster inclusivity and equality.

In the economic realm, **governments should establish legal frameworks to hold FIMI actors accountable** and support businesses with resources for real-time monitoring and counter-disinformation efforts. Strengthening public-private collaboration can mitigate financial losses, rebuild consumer trust, and enhance resilience against FIMI-driven market manipulation. Measures such as financial monitoring systems, transparency in supply chains using digital technologies and international cooperation on trade and intellectual property laws are vital for countering economic destabilisation.

¹⁸⁶ Luca, Michael, and Max H. Bazerman, *The power of experiments: decision making in a data-driven world*, The MIT Press, Cambridge MA, 2020.



Incentives for cybersecurity investments and support for SMEs can further bolster economic and digital resilience.

To counteract FIMI's impact on global tourism and trade, **governments and businesses should invest in crisis communication, digital marketing and traceability technologies.** Public-private partnerships should address systemic inefficiencies, implement penalties for disinformation actors and foster media literacy to support economic stability and growth. By integrating these measures, societies can enhance their resilience against FIMI and safeguard democratic, societal, and economic structures.

Countering FIMI's impact in politics requires multiple and simultaneous action. On the one hand, this includes strengthening the basics of democratic political structures. This means ensuring open, fair and transparent elections, reducing corruption, increasing voter turnout, increasing transparency of political funding, and so on. On the other hand, this includes increasing responsive capabilities, understanding new technology and systems and putting into place policies that enable effective and decisive responses to FIMI and hybrid threats, which also requires cooperation across the many parts of government, from the military outward and inward focused departments.

Responses to FIMI face significant challenges, including difficulties in attribution due to online anonymity, limited resources for media literacy and public awareness and a lack of comprehensive frameworks to assess its structural impacts. Current policies, such as the EU's Digital Services Act, are often criticised for their lack of specificity and resources to effectively counter the adaptive strategies employed by FIMI actors. Addressing these gaps requires collaborative, interdisciplinary approaches that protect democratic principles and human rights while countering FIMI's harmful effects. Collaboration, inclusivity and transparency are essential to countering the evolving threats posed by FIMI and safeguarding public trust in the digital age.

9 ANNEX

9.1 Questionnaire to the case study authors

Persuasive methods used in FIMI – observations from the case studies

In the Grant Agreement, we agreed to use the case studies from R1.1 as the basis of our analysis of the persuasive methods used in FIMI campaigns. The objective of T1.3 includes investigating from the case studies what are the most targeted emotions of FIMI narratives and how FIMI affects people's perceptions of reality and undermines societal trust in governance and its informational veracity.

As the case study author, you are our best expert in evaluating the persuasive methods used in your case studies, and thus your views are of highest importance to T1.3. Your thoughtful responses to the following questions will contribute significantly to the depth and richness of our analysis.

We appreciate the time and effort you are dedicating to this project, and we thank you in advance for your willingness to share your insights. If you have written several case studies, please fill in one form per case study.

Case study

1. The title of your case study:

Questions related to the target audience

2. Please describe the demographics the target audience of your case study
3. Please describe the values, attitudes, beliefs and desires of the target audience that FIMI actors exploit in the campaign.

Questions related to the cultural and social context

4. In the observables were there any specific cultural symbols or references used to resonate with the audience?
5. How did the campaign leverage the target audience's cultural, social and political context to reach its goals?

Questions related to the narratives used the case study

6. How did the campaign's narrative tap into the pre-existing beliefs or anxieties within the target audience to make its message more resonant and persuasive?
7. What specific societal vulnerabilities or uncertainties did the campaign exploit to reach its goals?
8. Did the campaign use polarizing narratives to create an 'us vs. them' setting, and if yes how?
9. How did the campaign seek to mobilize support for a specific cause? Did it for instance demonize a particular group or exploit existing polarizations in the society?
10. How do you evaluate the impact of the narratives used? For instance, did it lead to increased social fragmentation, heightened tensions, increased feeling of uncertainty or the erosion of trust in certain groups or institutions.
11. Did the case study attempt to undermine trust in government institutions or trust in information veracity, and if yes how?
12. In your opinion, did the FIMI actors attempt to affect people's perceptions of reality, and if yes how?
13. What other means of influence did you observe in the narratives?

Questions related to the emotional triggering used in the case studies

14. Please, identify the key emotions or moods the campaign sought to trigger in the target audience.
15. Please describe the context in which emotional triggers were exploited in the case study.
16. Please describe the evidence or observables (text, images etc.) on which you based your responses to the previous questions on emotional triggering (questions 12 and 13). In your opinion, how do they create or induce the emotion?
17. What role did the emotional triggering play in the attempt of reaching the goals of the campaign?

Questions related to the manipulative aspects of the case studies

18. Does the campaign cite experts, celebrities or other authority influencers to lend credibility to its message?
19. Identify any instances where specific phrases or ideas are repeated consistently throughout the campaign. Please describe the context and how repetition appeared in the case study.

9.2 Interview guide

Introductory text [please tailor it as you deem appropriate]

“Thank you for taking the time to be interviewed today. This interview is part of the research we are doing for an EU-funded project called ATHENA. First, let me introduce myself, I am [name], a [title] at [institution], and we are conducting these interviews in order to go through behavioural and social aspects of disinformation, FIMI.

The interview will last for about 30 to 45 minutes. This interview is semi-structured, meaning I have several key questions and themes that I would like to discuss, and not a rigid set of questions. As previously mentioned, we would like to record these interviews so that we have an accurate record of responses. If you agree, I will start the recording now. [Wait for response]

These interviews will be anonymous and confidential, so please refrain from disclosing any personal and confidential information. You will have the opportunity to add any information at the end of the interview. I understand that you may not be able to answer some questions. Please let me know when this happens, and we can move on.

If you do not have any questions, we are going to begin with the interview.

Block 1: Expertise and background

- How do you see FIMI, disinformation and misinformation and what kind of overlaps do you find between these phenomena? (T1.1)
- Can you tell me about your experience in the study and analysis of foreign disinformation? How long have you been working on this field?
- Broadly, what kind of psycho-social impact do you see of this phenomenon?

Block 2: Psychological aspects

Objective: To investigate how FIMI campaigns affect people's perceptions, emotions and psychological vulnerabilities.

- Do you think FIMI or disinformation campaigns have a psychological impact on those conducting FIMI and those being attacked? If so, can you describe the impact?
- What do you think are the main psychological mechanisms that FIMI campaigns attempt to exploit?
- Are there any psychological vulnerabilities that FIMI's campaigns exploit the most?
- Have you noticed differences in psychological vulnerabilities to FIMI across different demographic groups? If so, could you provide examples?
- And across different countries?
- What psychological factors make certain individuals or groups more susceptible to FIMI?
- In your experience, what role do emotions (such as fear, anger, or anxiety) play in the effectiveness of FIMI campaigns? How are these emotions exploited?
- How does FIMI leverage feelings of identity and belonging to make their narratives more persuasive?
- What steps do you think should be taken to counter these psychological impacts of FIMI?
- Is there anything you want to add?

Block 3: Behavioural aspects

Objective: To explore how FIMI campaigns influence observable individual behaviour and group dynamics.

- Can you provide examples of common behavioural changes observed because of specific FIMI campaigns?
- What indicators could be used to measure how FIMI impacts citizen behaviour?

- How do FIMI campaigns affect citizens' political and social participation?
- How do FIMI campaigns use intersectional identities (e.g., gender, culture, ethnicity, socioeconomic status) to maximize their impact?
- What is the role of gender disinformation and hate speech against women in FIMI strategies? How do these tactics influence behaviour?
- What is the role of hate speech against immigrants and foreign population in FIMI strategies? How do these tactics influence behaviour?
- What strategies could be implemented to protect vulnerable groups from the behavioural impacts of FIMI?
- Is there anything you want to add?

Block 4: Societal aspects

Objective: To examine how FIMI campaigns affect social cohesion, trust in institutions, and how they interact with democratic processes.

- How does FIMI affect social cohesion and group dynamics within communities?
- How do you think FIMI affects the relations between different ethnic or cultural groups in a society?
- Which societal fears (migration, economic insecurity) are most exploited by FIMI actors?
- How does disinformation in the context of FIMI affect the functioning of democratic institutions?
- How do you think social trust can be built or maintained in the face of widespread FIMI?
- To what extent is manipulation of information a threat to democracy?
- How can the impact of FIMI on society be measured?
- What strategies do you believe could effectively reduce the societal impact of FIMI?
- Is there anything you want to add?

Block 5: Conclusion

Just a few wrap up questions left

- Will you be interested in attending our one-day workshop on the efficacy of FIMI countermeasures? (T2.2)
- Do you recommend I speak to someone else? Or recommend some event that you think might be useful for us? (T4.2)
- Are there any final points you want to add?