

NORDIS Digital Information Literacy: Theory of Change for fact-checkers

Minna Aslama

NORDIS Digital Information Literacy:	1
Theory of Change for fact-checkers	1
What is a Theory of Change (ToC)?	2
ToC for NORDIS literacy activities	3
Identification of NORDIS DIL goals	3
Identification of the requirements, contexts, and concrete activities	5
What do we need?	5
What is our context?	6
What are our activities?	7
Developing impact indicators	7
In sum: NORDIS DIL ToC	9

What is a Theory of Change (ToC)?

A Theory of Change (ToC) is an evidence-based analysis to systematically describe and explain how actions geared toward societal change are expected to lead to a specific development change.¹ ToC is widely used in strategy creation and as a roadmap for setting benchmarks for monitoring and evaluating concrete activities. The core purpose is to “make thinking behind activities visible”² for change organizations and their stakeholders. Consequently, a ToC also helps in institutional learning in that it can be used to reflect on both overall strategies and specific actions and point to possible adjustments needed.

While there are numerous variations and reiterations of ToC for different fields and sectors, ranging from the United Nations to small social change non-profits, the basic elements are as follows (Figure 1):³

1. Identifying one’s goals (short- and long-term)
2. Identifying the requirements necessary to achieve the goals
3. Identifying basic assumptions about the context
4. Identifying one’s activities that contribute to the desired change
5. Developing indicators to measure outcomes and progress toward change

Elements 1.-5. are then described as a compact and coherent plan, or the specific ToC for the organization and activities.

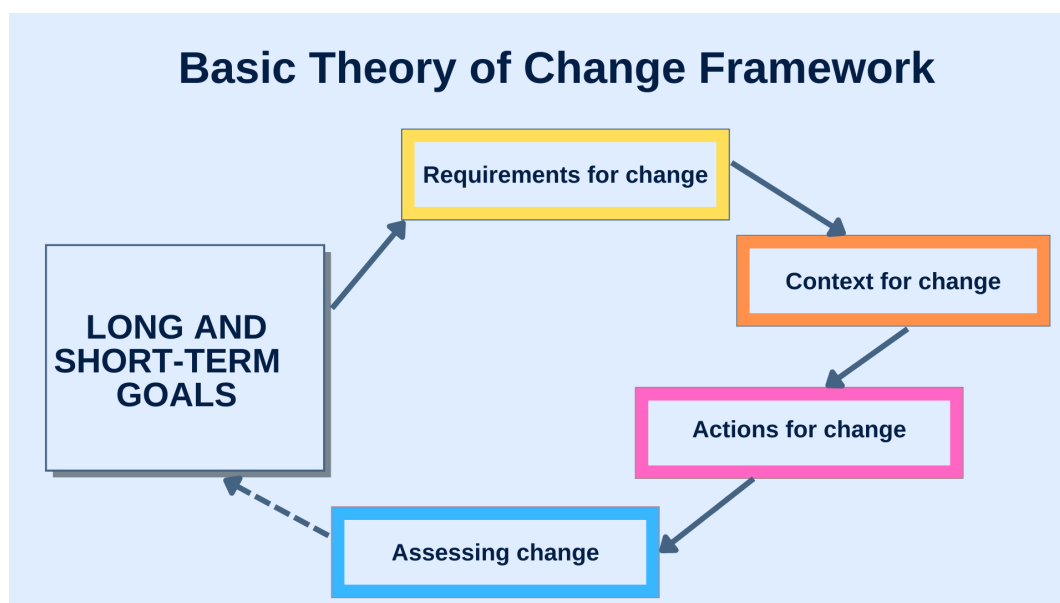


Figure 1. A Basic Theory of Change Framework

¹ See, e.g., UNDAF Companion Guidance; <https://unsdg.un.org/sites/default/files/UNDG-UNDAF-Companion-Pieces-7-Theory-of-Change.pdf>

² Developing a Theory of Change. Practical Theory of Change Guidance, Templates and Examples. <https://assets.aecf.org/m/resourcedoc/aecf-theoryofchange-guidance-2022.pdf#page=4>

³ See, e.g., <https://www.theoryofchange.org/what-is-theory-of-change/how-does-theory-of-change-work/>

ToC for NORDIS literacy activities

This document serves as a framework for a Theory of Change for NORDIS Digital Information Literacy (DIL) activities. It is meant to accompany the NORDIS DIL toolkit as a baseline for DIL activities and evaluation.

Identification of NORDIS DIL goals

The NORDIS DIL goals are guided by three distinct missions: to establish a solid understanding and practices in promoting Digital Information Literacy, to align those actions with an EU-level approach to digital competencies, and to be responsive to regional contextual needs as well as collaborative opportunities.

First, to create a basis for synergies, the NORDIS DIL ToC follows **a specific understanding of literacy** operationalized in NORDIS, that is, Digital Information Literacy. The idea is to utilize this definition in the DigComp framework as a guiding principle in all literacy activities. Hence, **the final, fundamental goal of NORDIS activities is to foster literacy in digital environments that is both practical and critical and that supports understanding of concrete issues and processes as well as the contexts and stakeholders of the digital environment:**

“Digital information literacy is the ability to think critically and make balanced judgments about any information we find and use - whether or not materials under analysis are valid, accurate, acceptable, reliable, appropriate, useful, and/or persuasive. Digital information literacy allows us to understand the power and the need for accountability of numerous stakeholders who create technologies, platforms, and content for us in the digital age. Critically evaluating the multiple sources of information empowers us as citizens to reach and express informed views and engage with society from an informed point of view. With the tools of digital information literacy, we can assess the accountability of different actors in the field and demand a better digital environment for us as citizens and consumers, both from corporations and decision-makers.”⁴

Second, while NORDIS includes the four largest Nordic countries, Finland, Norway, Sweden, and Denmark, represented by eight partners – a University and the national fact-checker in each country – it contributes to the European Digital Media Observatory (EDMO). In its special report on disinformation affecting the EU, the European Court of Auditors noted that a lack of coherent and cohesive literacy strategy in Europe hampers activities against online harms.⁵ To remedy this, NORDIS utilizes the new Digital Competence Framework DigComp 2.2 of the European Union (see Figure 2) as its roadmap in literacy activities.

⁴ Digital information literacy skills needed to tackle online disinformation.

<https://faktabaari.fi/edu/digital-information-literacy-skills-needed-to-tackle-online-disinformation/>

⁵ European Court of Auditors, Disinformation affecting the EU : tackled but not tamed. Special report No 09, 2021, Publications Office, 2021, <https://data.europa.eu/doi/10.2865/337863>

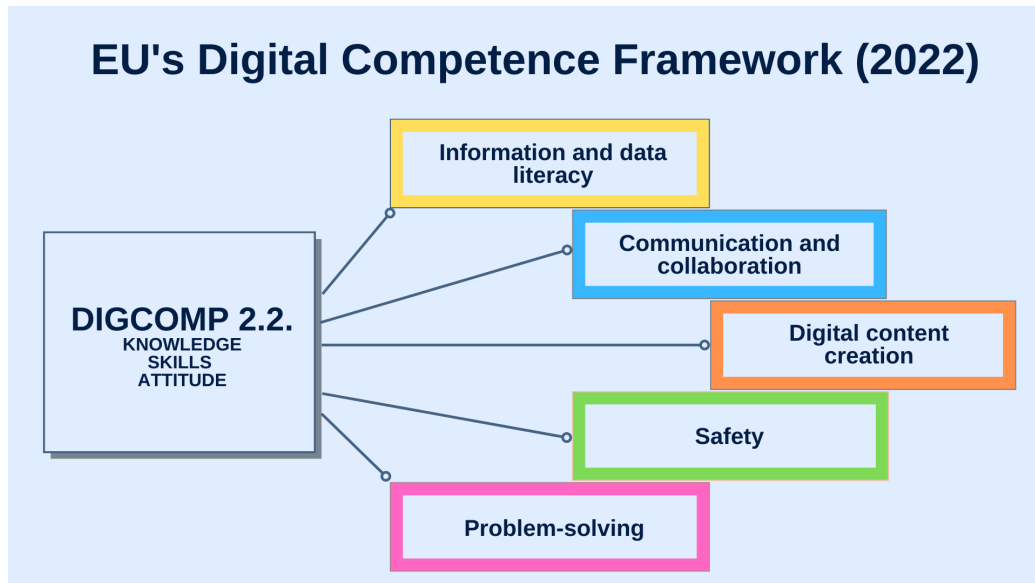


Figure 2. EU's Digital Competence Framework DigComp 2.2⁶

In DigComp 2.2, the different components of competence are divided into specific skills, ranging from researching, evaluating, creating, and managing digital content to interacting via digital media, managing one's digital identity, protecting one's privacy – and understanding the gaps in one's competencies. The concrete **skills** are complemented with the necessary **knowledge** and appropriate **attitudes**. The aspects especially relevant for the NORDIS DIL approach are the following core digital dimensions for holistic digital information literacy:⁷

- Basic information literacy;
- Participatory citizenship;
- AI literacy;
- Digital identity and personal data; and
- Environmental concerns.

The above foci mean that all NORDIS literacy activities aim to improve recipients/stakeholders' digital competencies, focusing on information and data literacy and communication, content creation, and problem-solving competencies. In addition, the goals will include principles as highlighted by the EDMO Board Member Prof. Sonia Livingstone in her work on the impact of media literacy: *inclusiveness, participatory practices, focus on people's actions rather than attitudes, going for long-term, sustainable approaches, and utilizing transparent, user-friendly technologies.*⁸

⁶ Vuorikari, R., Kluzer, S. and Punie, Y., DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes, EUR 31006 EN, Publications Office of the European Union, Luxembourg, 2022;

<https://publications.jrc.ec.europa.eu/repository/handle/JRC128415>

⁷ See, the chapter on DigComp 2.2 in this toolkit.

⁸ Livingstone, S. The vital role of measuring impact in media literacy initiatives.

<https://edmo.eu/2022/07/05/the-vital-role-of-measuring-impact-in-media-literacy-initiatives/>

Third, apart from its European orientation NORDIS is also a consortium of four countries that are very similar in terms of welfare state values, media systems, democratic political systems, and political climates. These countries are characterized by robust trust in organizations, including news media, and high education levels and media literacy. Hence, **another goal of NORDIS is to create synergies across countries and sectors (academics and journalists/fact-checkers/educators) in developing approaches, methods, and tools for digital information literacy.**

Identification of the requirements, contexts, and concrete activities

The empirical groundwork was conducted in a series of NORDIS research activities between Autumn 2021-Spring 2022 in the four NORDIS countries (Denmark, Finland, Norway, and Sweden). The studies included market and policy analyses; fact-checker and stakeholder interviews, including fact-checkers themselves, media literacy experts, policy-makers, journalism professionals, and advocacy organizations; and analyses of literacy activities.⁹

What do we need?

The stakeholder interviews of policy-makers, journalism professionals, and literacy experts identify several needs that pertain to the core goal of NORDIS of improving digital information literacy:

- Agility to respond to, and provide educational insights to different stakeholders, in **sudden changes** in the information landscape, as witnessed in the pandemic and the war in Ukraine.
- Ability to connect current issues, including new and rapid developments, to their **broader contexts and historical trajectories.**
- Ability to understand and address **young people's** literacy needs and respond to them in a manner that speaks for that audience. Awareness of children's and young people's varied circumstances based on their socio-economic backgrounds – as those factors may impact their literacy skills.
- Similarly, the ability to understand, and willingness to address **different groups from their vantage points**, including older generations and various minorities.
- Capacity to support **journalism education**, both basic and continuing education, so that “classic principles” of journalism are enriched with knowledge and tools that fact-checkers can provide.
- Capacity and willingness to act as a hub and **coordinate collaborations**, not only with schools and traditional literacy organizations but also, e.g., with legacy media, libraries, policy think tanks, and the like.

⁹ The 15 background fact-checker and stakeholder interviews have been conducted by John Grönvall with an analysis by Mervi Pantti, and a related market and policy brief by Minna Horowitz, University of Helsinki (NORDIS Task 3.1). The team at the University of Bergen (Task 4.2.) has analyzed user needs of fact-checkers. The special report of NORDIS fact-checkers literacy activities is by Mikko Salo, Faktabaari. NORDIS also co-organized a policy roundtable on adults' digital literacy on 15 February 2022.

- Advocacy of digital information literacy as **one tool, not the tool**, to improve capacities and literacy.
- Advocacy of digital information literacy as **a continuing, overarching theme and systematic practice**; not a series of small and separate projects.

From the perspective of fact-checkers, they have both **funding and human resources needs** that pertain to their abilities to create compelling educational content and to act as trusted knowledge hubs for creating up-to-date literacy material via fact-checking. They must build both repertoire and reputation to respond to stakeholder needs and have a wider impact.

The fact-checkers also still lack **technological solutions** that would better foster rapid responses and the creation of literacy cases in the countries' languages. Given the complex tasks that are a part of the fact-checking realm, ranging from political debate monitoring to social media monitoring, there is a need for tools that take into account the journalistic context, the consideration of ethical principles and human values, the consideration of the transparency of the process at work, and the need for a human-in-the-loop approach – hence providing cases that can feed into DIL educational activities.

What is our context?

NORDIS understands our current digital ecosystem as plagued by information disorder, that is, by different types of information harms that must be addressed with DIL:¹⁰

- Misinformation – false connection or misleading content that can be also unintentional and that is not always harmful. This includes shared content that is believed to be true and should be made public for the common good, even if its veracity has not been checked;
- Disinformation – intentional false context, including intentionally created conspiracy theories or other content that can, in some cases, be harmful; and
- Malinformation – false content that is purposely created to cause harm or the use of the content for malicious purposes.

These harms take different forms in different societies. In European comparisons, Nordic countries are often considered exceptionally robust in their media systems and highly resilient against disinformation. Even so, platformisation—the penetration of infrastructures, economic processes, and governance frameworks of digital platforms in different economic sectors and spheres of life—has enriched opportunities but also caused serious harm in the Nordics.

A strong Nordic digital media welfare state is replicated in Denmark, Finland, Sweden, and Norway. These countries are structurally highly resilient against disinformation and active on many fronts in conducting related literacy education. Nevertheless, challenges already exist, and potential risks loom on the horizon. Apart from the threats brought by the current geopolitical crises, there are signs of political and societal polarization; the narrowing down of diversity in national media systems; siloed approaches to disinformation by stakeholders;

¹⁰ Wardle, C., & Derakhshan, H. (2017). Information Disorder: Toward an interdisciplinary framework for research and policy making. Council of Europe.
<https://rm.coe.int/information-disorder-toward-an-interdisciplinary-framework-for-research/168076277c>

relatively limited resources and tools, as well as the vague institutional standing of fact-checkers; a lack of (shared) data and frameworks to understand the phenomenon of disinformation; and an absence of citizen-centric core standards to assess digital media and information environments.

The contextual premise of NORDIS is that there is an urgent need to rethink the reliance on the Nordic Media Welfare as it once was, and to begin work towards a new Digital Media Welfare State that responds to the current challenges of the communication landscape. One central (if not the only) element is the inclusion of DIL as one of the core competencies of Nordic citizens.

What are our activities?

The two-year-long EDMO NORDIS project phase gathers researchers, fact-checkers, and media educators relevant for Digital Information Literacy (DIL) development within a specific Nordic context based especially on earlier Faktabaari and University of Helsinki (HU) pilot work. Whereas all NORDIS 4 fact-checking organizations had already, to different degrees, gotten involved in media and information literacy activities before NORDIS next to their journalistic work, the project phase allows 1) Faktabaari and HU to digest and compare the NORDIS findings and partner work to a Faktabaari DIL Guide in August 2022 and 2) test and adopt it for further relevance within all the NORDIS fact-checkers and their wider stakeholders given the joint events in spring and summer 2023.

By the end of the NORDIS project phase lessons learned and potential for scaling up is summarised in the NORDIS Final report(s) and an outreach event in August 2023 hosted by the University of Bergen. Development of DIL both brings together the consortia as evidence of digital information disorders build up while DIL can provide the Nordic media welfare state new perspective and impetus for building on awareness raising required for digital democracy development. The success of the approach is measured in lines of this theory of change including further cooperation within much wider networks including increasingly media education practitioners. NORDIS project phase is but the start of the process to engage and activate citizens for the digital media welfare state model in the making.

Developing impact indicators

Information disorder entails several challenges, even for the NORDIS countries, but DigComp 2.2 framework provides concrete sectors to address with literacy activities and identifies concrete skills to be learned. Accordingly, the NORDIS DIL ToC entails several basic indicators of success:

- **The extent of the awareness and application of DigComp 2.2** are used as a guideline in designing activities, with the focus on the core elements of DIL: Information literacy; Participatory citizenship; AI literacy; Digital identity and personal data; and Environmental concerns.
- **Specific 1) knowledge, 2) skills, and 3) attitudes** can be taught and assessed, as indicated in DigComp 2.2, to reflect the core DIL elements. For example, 1) knowledge of personal data includes teaching/evaluating awareness of datafication

and profiling; 2) skills include teaching/evaluating the ability to modify user configurations that enable, prevent or moderate the racking, collecting or analysing data; and 3) attitudes entail teaching/evaluating the understanding the positive and negative aspects of data collection, especially related to personal data and AI-driven technologies.¹¹

- **The number and extent of joint innovations and collaborations within NORDIS** are actively sought and prioritized.
- **Many various participatory stakeholder engagements** are sought; with different stakeholders by actively bringing different kinds of stakeholders together.

General guidelines for designing concrete evaluation schemes for specific activities include the following:

Pre-event/activity

- Start with stakeholders: spend some time **co-designing the activity**
 - Existing knowledge? Understanding of/Experience with DigComp framework?
 - Desired format?
 - Expectations of impact?
 - Own resources/interest in involvement, e.g., tailored cases/material development?
 - Stakeholders may not be the same as the target groups (e.g., teachers, students); if so, a small *test group* of the target groups should be included.

After event/activity

- Use **quantitative** measures for basics:
 - How many events?
 - How many participants/views/downloads etc.?
- Use (mainly) **qualitative** measures for stakeholder benchmarks:
 - Do they feel their expectations were met in the short term (short questionnaire/interview)?
 - Do they observe the change in the longer-term (follow-up questionnaire/interview)?
 - How did they see their role in the activity; how will they continue the work independently/what kind of support would they need?
 - If the target group is different from stakeholders (e.g., teachers/students), a short evaluation *co-designed with* (and possibly implemented by) the stakeholder. Can be benchmarked against the test group.
- Use (mainly) **qualitative measures for DigComp dimensions**, i.e., describe:
 - What components were addressed in the activity? Why?
 - How were different components addressed? Why?
 - How did the stakeholders' needs and DigComp benchmarks meet?

¹¹ See the chapter on DigComp 2.2 in this toolkit.

Ongoing

- **For impact analysis** (long-term): Use both secondary (descriptive, statistical, and other) sources for the socio-political, economic, and demographic national context of DIL, including EU-stipulated reporting on media and information literacy. Supplement this with a self-assessment by stakeholders of their competencies and the role of your work (open-ended questionnaire/interviews).
- Create a **database** of cases and formats of your activities and others', including open access, i.e., those suitable for self-study/teaching material. Code them to respond to different DigComp components for easy reference.
- For stakeholders involved in curricula or policy development, organize **roundtables or workshops to generate ideas** for understanding and implementing DigComp 2.2, focusing on collaborative strategies and tactics.

In sum: NORDIS DIL ToC

The Theory of Change framework for NORDIS literacy activities is summarized in Figure 3:

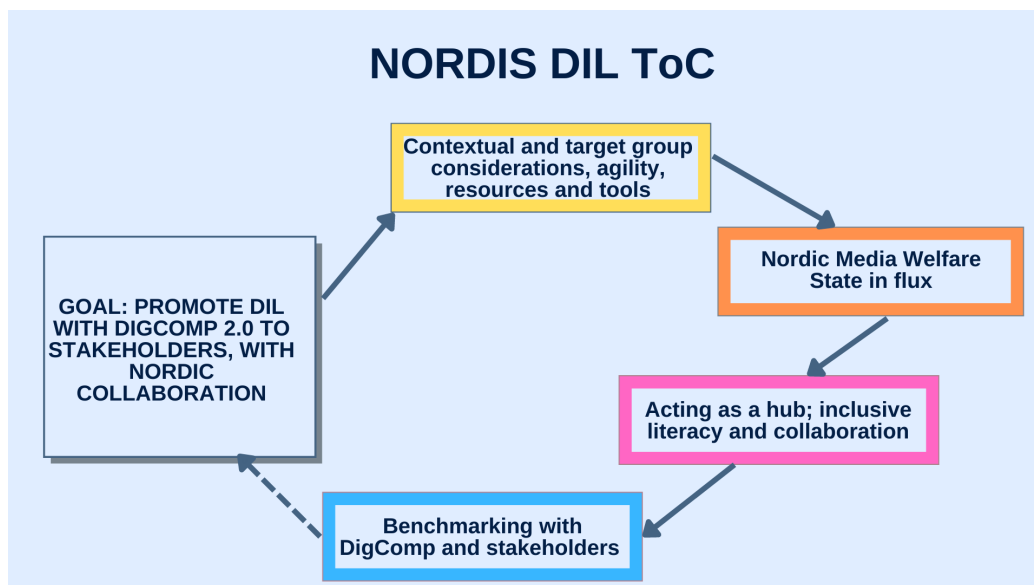


Figure 3. Summary of the Theory of Change for the NORDIS Digital Information Literacy Activities

Broken down into specific features, the ToC entails the following aspects:

Stakeholders: educators and literacy specialists/organizations at all age levels, including lifelong learning; journalists; policy-makers; politicians; research community; technologists (primarily nationally).

Inputs: Implementation of DigComp 2.2 as follows: Both fact-check and literacy/pedagogical expertise, staff and technology resourced accordingly, sustainability of ongoing work, abilities and networks for constant upgrade and development of operations, due to the rapidly changing field.

Activities: Timely and relevant national fact-checks; related publicity; expert opinions and representation in various bodies and projects; general awareness-raising events; targeted educational activities; host of multi-stakeholder dialogues; author of policy briefs; international and national networking, especially Nordic collaboration.

Outputs: NORDIS fact-checkers acting as Nordic experts and national hubs for digital information literacy, including related policy expertise.

Outcomes for stakeholders: *Short-term:* situation-specific support in the form of vetted information and tools to promptly react to any emerging digital information literacy challenge. *Long-term:* Accumulating, ever-evolving, cutting-edge knowledge about addressing central literacy needs in one's field, using DigComp 2.2 as a framework and benchmark.

Impact for stakeholders: Reinforced national resilience by wider awareness and implementation of competencies at all levels: rapid responses to changing contexts and conditions by policy-makers in different fields, educators of all levels, and citizens. Full operationalization and implementation of DigComp 2.2.