Scenarios as a Tool to Increase Resilience Against Foreign Influence: A Norwegian Example

L. Bjørgul
S. R. Sellevåg
Instituttveien 20, 2007, Kjeller
NORWAY

Lea-kristina-petronella.bjorgul@ffi.no

ABSTRACT

A current challenge for Norway, and other NATO member states is how to respond to and mitigate cognitive warfare. Arguably, one of the most important measures countries can take is to increase its national resilience and preparedness for acts of CogWar. However, there needs to be an understanding of "what" to respond to and mitigate. Scenario development may assist in this endeavor. The purpose of this paper is to give a brief introduction and description of the method commonly referred to as "Morphological analysis," which can be used to develop scenarios for cognitive warfare – with influence operations in the context of Norwegian elections as an illustrative example. We believe that this method is a plausible way to develop possible scenarios, and that these can serve as useful starting points in a government's preparedness planning, as well as in the development of training and exercises.

1.0 INTRODUCTION

A central aspect of the current threat environment from a Norwegian perspective is that foreign state actors more frequently use a combination of overt and covert military and non-military means to achieve their strategic objectives. Influence in the information environment is an important component in this hybrid threat toolbox, which poses a significant risk for Norway's national security interests below the threshold of armed conflict. NATO emphasizes the potential threat of influence operations through its work and concept development on Cognitive Warfare (henceforth CogWar). NATO ACT has tentatively defined *cognitive attack* as "offensive actions deployed to achieve a specific behavioral effect by deliberately targeting the human mind" [1]. Influence operations, with an intent to influence how a target group perceives and *thinks* about a political issue, and in some cases their *actions* in the context of an election, can thus be *one* example of a cognitive attack.

Foreign interference in the public debates and democratic processes of other countries has in recent years become an increasing threat in line with growing great power rivalry [2]. This type of influence is not a new phenomenon, but recent advancements in cyber technology and social media, have created new opportunities for actors to achieve greater impact compared to effort and risk. A global survey of 97 national elections and 31 referendums in the period from 2016 to 2019 concluded that 20 countries were subjected to information influence and/or cyber-based interference [3]. The most well-known and well-documented example of foreign influence in another country's democratic elections is Russia's attempt to influence the U.S. presidential election in 2016. In the aftermath, U.S. authorities uncovered an extensive influence operation that sought to provoke and amplify political and social discord in the USA, manipulate the electoral system, damage Hillary Clinton's candidacy, and strengthen that of Donald Trump [4]. This resulted in more international attention on foreign influence.

In line with the increased focus on this issue internationally, Norway has also expanded its awareness surrounding the potential threat that influence operations can pose to its national security and democracy [5], [6], [7]. As a result, a study was conducted in 2022 by the Norwegian Defence Research Establishment

(FFI), in cooperation with the Scandinavian analysis agencies Analysis & Numbers and Common Consultancy, on behalf of the Norwegian Ministry of Local Government and Modernisation [8]. The aim of the study was to develop, describe and discuss possible scenarios for information influence in the time leading up to the next Norwegian parliamentary election in 2025 (and during the election), to discuss which consequences the scenarios may have, and what the election authorities may do to prevent and handle them.

This article describes the methodology and results of this study, to demonstrate one possible approach to how NATO member states can develop possible scenarios for cognitive attacks (e.g., influence operations). We begin by describing the method commonly referred to as morphological analysis. This is a method that can help in establishing a complete overview of all possible aspects and solutions for a given problem, and finally to systematically develop scenarios. Second, we present the results of the analysis, which produced three scenario classes based on which goals foreign state actors, foreign non-state actors and domestic non-state actors may have. The scenario classes developed using morphological analysis were "political upheaval", "political change", and "reduced trust in society". Lastly, we conclude by discussing some of the findings with regards to both possibilities and limitations in how the election authorities can prevent and handle influence in the context of elections, as well as reflections concerning generalization, and the reliability and validity of morphological analysis.

Morphological analysis is a plausible way to develop possible scenarios, which can serve as useful starting points in a government's preparedness planning, and in the development of training and exercises. Consequently, we believe that disseminating the methodology and findings of the mentioned study can provide other NATO member states with a useful tool to increase their resilience and preparedness for incidents of unwanted influence.

2.0 MORPHOLOGICAL ANALYSIS

Imagining exactly how a future influence operation may be designed and conducted is a difficult task because the space of influence is so vast and complex. Only technological possibilities and the actor's resources and imagination set the limits. Furthermore, because influence will always be contextual, it must be understood in the context of the current societal and political situation. To meet these challenges, we chose to utilize a method commonly referred to as Morphological analysis. This method is well suited to identify the extensive theoretical space for information influence in the context of elections, and to narrow this theoretical space down to a practically feasible solution space, which can be used to develop specific scenarios.

Morphological analysis has become a more widespread method during the last few years and has been applied within a wide range of academic fields, and FFI has extensive experience with this method [9]-[14]. In short, morphological analysis is a method, which can be used to establish a complete overview of all possible aspects and solutions for a given problem, and to systematically develop scenarios.

Briefly summarized, morphological analysis consists of the following steps [15]:

The problem which needs to be solved has to be formulated as precisely as possible.

1) Select a set of parameters that in sum frame the problem at hand. It is important that the parameters are as independent as possible. In our case, this involved developing a set of parameters that together establish a framework for describing information influence in the context of conducting elections in Norway. Each parameter thus represents a factor that is significant in describing an influence operation. An example of a parameter in the context of an influence operation is "actor", and another is "objective". This is because the influence operation necessarily is conducted by *someone* who has a certain goal or objective with conducting the influence operation.

2) Each parameter is assigned x number of parameter values (states that each parameter can have). Examples of values for the parameter "actor" are "foreign state actor" and "non-state actor," as these are two different types of actors which can be thought to engage in influence activities. In general, the values should be exhaustive for each state that each parameter can have. At the same time, the number of values should not be too high, as this would unnecessarily complicate the analysis.
3) Construction of the morphological space, which contains all potential solutions to the problem. The model is represented as a matrix with the parameters in the top row and the corresponding parameter values in columns under each parameter.
4) The complexity of the model is reduced by carrying out a cross-consistency assessment by comparing all the parameter values with each other in a cross-consistency matrix. The consistency matrix is a two-dimensional matrix where the values defined in the morphological space are placed along both axes. Crosses are placed where the combinations are considered inconsistent based on the question "are value A and value B mutually compatible?" (See Table 2). The purpose of this step is to reduce the number of theoretically possible solutions down to a lower number of real solutions (or realistic scenarios). This is followed by the development of scenario classes.

The first four steps are referred to as the *analysis phase*, and the fifth step as the synthesis phase. In the analysis phase, the problem to be solved is defined and formulated, and it is broken down into parameters and parameter values. The analysis produces what we refer to as the morphological space, which contains all theoretically possible solutions to the problem. A "solution" is a specific constellation consisting of one value for each parameter. In the *synthesis phase*, internally consistent solutions to the problem are constructed. The solutions generated depend on the choice of parameters and values (steps 2 and 3 described above). The choices made at this stage of the investigation are consequently crucial for the outcome of the entire analysis. The same applies to each pairwise consistency assessment conducted in the consistency analysis (step 5). This represents a vulnerability in the morphological approach because any "wrong" assessment would lead to incorrect or misleading scenarios. At the same time, the method and analysis involve a range of normative choices and assessments that are inherently context-dependent and can, therefore, be challenged. To address this weakness, several attempts have been made to explore different combinations of parameters and values and then assess their mutual consistency to arrive at the presented result.

The outcome of the morphological analysis is to select solutions for practical application. Therefore, the morphological analysis serves as a useful starting point for developing scenarios (descriptions of possible situations) relevant to the planning and prevention of future challenges related to information influence in the context of Norwegian elections.

2.1 The Analysis Phase

In the first step of the analysis, the following problem was formulated, and served as the study's point of departure:

> *How can foreign and/or Norwegian actors use information influence in connection with an election to achieve their goals in the period leading up to the next parliamentary election in 2025?*

To break down the analytical problem into a manageable number of parameters (step 2), we asked ourselves the following questions:

a) What type of actors may have an interest in conducting information influence in the context of Norwegian elections?
b) Which overarching objectives can these actors be thought to have?

c) What effects on the political debate can an actor seek to achieve in order to reach their objective(s)?

d) What target groups can an actor seek to influence to achieve their objective(s)?

e) What type of information can an actor utilize?

f) What language can be used to disseminate/spread the information?

g) On which platforms can the information be spread?

h) Does the actor operate overtly or covertly?

i) What time horizon can the actor be assumed to operate from?

Based on these questions, we chose the following parameters:

- Actor
- Objective
- Effect on the public political debate
- Target group
- Type of information
- Language
- Platform
- Transparency
- Time horizon

Together, these parameters provide a minimum basis for describing potential future threat scenarios. The next step in the method is to assign x number of parameter values to each of the parameters (step 3). This can be a challenging exercise because on the one hand the values should be exhaustive for each state that each parameter can have, but at the same time, the number of values should not be too high, because this will unnecessarily complicate the analysis. In the following, we will go through our thought process in selecting the values for the parameter "actor".

Generally, it can be useful to begin this process by thinking about what the theoretical upper and lower value/limit of a parameter could be.

Because the assignment given to FFI by the Ministry of Local Government and Modernisation explicitly requested the inclusion of both external and internal actors, the parameter "Actor" refers to both external and internal entities that can engage in information influence in the context of Norwegian elections. Regarding external actors, it is natural to start with what is considered the main players in international politics, namely states. A theoretical upper value/limit for the parameter "actor" is thus a coalition of states, while the lower value/limit would be an individual. Between these "extremes", there can be networks of various sizes, etc. [16]. Based on what we know about the strategic interests of current coalitions of states, we considered it unlikely that a known coalition of states would have an interest in engaging in information influence in connection with the next parliamentary election in 2025. Furthermore, it was assumed that *Norwegian* state actors would not attempt to undermine Norwegian democracy. The upper limit we set for this parameter was consequently *foreign* state actors. "Foreign state actors" refers to entities representing or associated with a state. Not only state actors but also non-state actors can potentially attempt to influence Norwegian elections. "Non-state actor" refers to entities not associated with a state. This can range from foreign terrorist organizations and radical groups to Norwegian interest organizations, and individuals. In cases where a non-state actor operates on behalf of a state actor, the actor is considered state-affiliated. In such cases, the non-

state actor acts as a proxy for the state actor. The lower limit for the actor parameter in the study was therefore divided into two values: non-state (Norwegian) and non-state (foreign). Consequently, we ended up with three values for the parameter "Actor": Foreign state, non-state (Norwegian), and non-state (foreign). We then repeated this thought exercise with all the other parameters.

The table below (Table 1) shows our selected parameters and corresponding values. The combined possibilities of all the parameters and values constitute the morphological space (step 4), which represents all the theoretically possible challenges within information influence in connection with elections in Norway. In our analysis, we ended up with 3456 possible combinations of parameters and values. This means that the model presents us with 3456 different ways (i.e., scenarios) in which a Norwegian election can be influenced.

Table 1: The morphological space contains all possible combinations of the various parameter and values.

Actor	Objective	Effect on the Public Debate	Target Group	Language	Type of Information	Platform	Transparency	Time Horizon
Foreign state	Political upheaval	Agenda setting	Majority of the population	Foreign	Political information	Traditional media	Overt	Long
Non-state (Norwegian)	Political change	Framing	Specific part of the population	Norwegian	Disinformation	Social media	Covert	Short
Non-state (foreign)	Undermine trust in society				Malinformation	Websites and blogs		

2.2 The Synthesis Phase

The next step in the analysis is to reduce the theoretical space of possibilities to a smaller set of realistically possible solutions. This is done by conducting a so-called consistency analysis, where we systematically go through and assess each value of one parameter against all the values of all the other parameters in a cross-consistency matrix (a two-dimensional matrix where the values defined in the morphological space are placed along both axes). An Excel support tool has been developed to automatically generate the matrix. The analysis is done by employing a Boolean "consistent" or "inconsistent" judgement on each intersectional value pair. Ritchey (2018) refers to three different types of inconsistencies: logical contradictions, empirical constraints, and normative constraints. This step aids in dramatically reducing the number of potential solutions [17]. For each value pair, we ask the question: "are values A and value B mutually compatible?" In many cases, the answer is obvious and logical, but often it is not. In these cases, one must assess degrees of probability or reasonableness. Here, we must make judgements based on both empirical evidence, judgement, and normative choices. The result of the consistency analysis is presented in the consistency matrix shown in Table 2. The x's in the matrix represent inconsistent solutions, whereas the empty spaces indicate consistent solutions. The space covered in black in the consistency matrix (Table 2) is automatically covered by the Excel tool.

Table 2: The consistency matrix is a two-dimensional matrix where the values defined in the morphological space are placed along both axes. Crosses are placed where the combinations are considered inconsistent based on the question "are value A and value B mutually compatible?".

	Foreign state	Non-state (Norwegian)	Non-state (foreign)	Political upheaval	Political change	Undermine trust in society	Agenda setting	Framing	Majority of the population	Specific part of the population	Foreign	Norwegian	Political information	Disinformation	Malinformation	Traditional media	Social media	Websites and blogs	Overt	Covert	Long	Short
Foreign state																						
Non-state (Norwegian)																						
Non-state (foreign)																						
Political upheaval			x																			
Political change																						
Undermine trust in society		x	x																			
Agenda setting					x	x																
Framing				x																		
Majority of the population					x	x																
Specific part of the population				x																		
Foreign				x																		
Norwegian																						
Political information																						
Disinformation																						
Malinformation																						
Traditional media											x			x								
Social media																						
Websites and blogs									x													
Overt																						
Covert																x						
Long					x																	
Short				x		x																

In the following we will describe a few examples of the compatibility judgements we made in the consistency analysis.

One of the more challenging judgements we had to consider was whether the goal "political upheaval" can be achieved through information influence in the context of elections. As previously mentioned, "political upheaval" is understood as changes in governance or other significant changes that can have major and long-term consequences for Norway. In the consistency analysis we assessed the possibility of various scenarios related to this goal, based on the type of actor involved.

A foreign state actor using information influence in a Norwegian election with the intention of causing political upheaval was considered a consistent solution. In other words, the value "Foreign state" and "political upheaval" are mutually compatible, and that space where they intersect is left empty. There are

several reasons for this. Firstly, in recent years, we have seen several examples of states involved in the democratic process of other states to achieve objectives within this parameter. A well-known example is information influence in the context of Brexit [18], [19]. A plausible scenario in the Norwegian context could be an attempt by a foreign state actor to bring the EEA question to the forefront, and subsequently influence Norwegian citizens to vote for Norway to exit the EEA agreement. Another example could be influencing the Norwegian population to withdraw from NATO.

Regarding non-state actors, we considered it likely that a Norwegian non-state actor could have political upheaval as an objective. One example could be a Norwegian interest organization wanting Norway to withdraw from the EEA agreement or NTAO). Consequently, the combination "political upheaval" and "non-state (Norwegian)" is considered consistent. When it comes to non-state foreign actors, our assessment was that this solution is not consistent. This was primarily because we could not identify a purely foreign non-state actor with the objective political upheaval in Norway now or in the time leading up to the next parliamentary election in 2025.

Regarding the parameter "target group", the combination of the value "majority of the population" and "foreign" is considered an inconsistent solution. This is because we consider it a necessary condition to communicate content in Norwegian to succeed in reaching the majority of the Norwegian population. Furthermore, "majority of the population" and "websites and blogs" are an inconsistent solution because these platforms alone are considered inadequate if the goal is to reach the majority of the population as the situation stands today and is assessed to be until the parliamentary election in 2025.

The product of the consistency analysis is a list of consistent solutions (which is generated automatically in an Excel support tool), which are configurations of values across the parameters that represent real solutions (or realistic scenarios). Our analysis resulted in a total of 240 consistent solutions, and this constitutes what we refer to as the solution space. Through the morphological analysis, we have therefore reduced the theoretical space of possibilities from 3456 possible configurations to a practically feasible solution space of 240 configurations.

However, these solutions do not provide much value unless we consolidate the content into meaningful categories. In the following, we will explain how we grouped and categorized these solutions to define a set of overarching, general categories referred to as *scenario classes*. As mentioned, the matrix helps us categorize by delineating the boundaries of what can be considered possible. Therefore, the scenario classes fall within the framework of the 240 solutions the analysis produced.

The configurations in the solution space can be categorized in meaningful ways using several criteria. Amer, Daim & Jetter [20] mention the following criteria for categorizing scenario classes:

- *Plausibility:* it must be possible or plausible for the scenarios to occur.
- *Consistency:* the solutions must be consistent.
- *Relevance:* the scenarios/scenario classes must provide concrete insight into the future that can contribute to better decision-making with the relevant subject area.
- *Challenge:* scenario classes should challenge the client's thinking about future challenges.
- *Differentiation:* the classes should represent qualitatively different challenges.

The first two criteria (plausibility and consistency) are met though the consistency analysis. The morphological analysis ensures relevance based on how the analytical problem is formulated and which parameters are chosen. Consequently, we focused on the criteria *challenge* and *differentiation* when developing the scenario classes.

We chose to base the development of scenario classes on the "objective" parameter. The reasoning behind this choice is that because an actor may seek to achieve different objectives though information influence, and the consequences (for Norwegian democracy) of the different objectives will be qualitatively different.

3.0 ANALYSIS RESULTS: SCENARIO CLASSES

3.1 Political Upheaval

This scenario class encompasses the solution space for an actor whose objective is political upheaval, understood as changes of governance or other significant changes that can have substantial and long-term consequences for Norway. An example of a change in governance could be an authoritarian regime instead of the current liberal democracy. Other examples include Norway withdrawing from NATO or the EEA agreement. The prerequisites that must be present for this scenario class are summarized in Table 3, with the parameters horizontally in gray, and the values listed vertically under each parameter.

We assumed that it is unlikely that a non-state, foreign actor would aim to create political upheaval in Norway. Therefore, the actors in this scenario class are exclusively foreign state and non-state Norwegian actors. Furthermore, it is considered a minimum requirement that the actor has the ability to set the agenda. In other words, the actor ensures that the issue in which they seek political upheaval becomes part of the public political debate. It is also considered necessary that the actor reaches a majority of the Norwegian population, and therefore, the information has to primarily be disseminated in Norwegian. Regarding the parameters "information type", "platform" and "transparency", the actor may use one or more of the values. However, it is considered necessary to operate with a long time horizon to achieve the objective of political upheaval. Taking Norwegian EEA membership as an example, there is such high support for Norway's membership among the population [21] that it would likely take a long time to persuade a sufficient portion of the population to change their stance on this issue.

Table 3: Preconditions for the scenario class "Political Upheaval" (highlighted in blue).

Actor	Objective	Effect on the Public Debate	Target Group	Language	Type of Information	Platform	Transparency	Time Horizon
Foreign state	Political upheaval	Agenda setting	Majority of the population	Foreign	Political information	Traditional media	Overt	Long
Non-state (Norwegian)	Political change	Framing	Specific part of the population	Norwegian	Disinformation	Social media	Covert	Short
Non-state (foreign)	Undermine trust in society				Malinformation	Websites and blogs		

3.2 Political Change

This scenario class describes a group of possible scenarios where the actor's objective is political change. By "political change" we mean changes in politics that are less extensive than "political upheaval". Examples could include altering the balance of power in the Norwegian parliament or the positions of the parliament and/or the government on specific issues of in specific policy areas.

The prerequisites for this scenario class are summarized in Table 4. The morphological analysis shows that foreign state and non-state actors (both Norwegian and foreign) can have this objective.

To achieve this objective, it is sufficient for the actor to influence how an issue is discussed (framing) and reach a specific part of the population. In other words, it is not necessary for the actor to reach the majority of the population to achieve this objective. For example, to increase the level of conflict in the American population leading up to the 2016 presidential election, Russia primarily used framing as a method. Instead of trying to set a new agenda item (agenda-setting), they intervened in already contentious and relevant societal issues and influenced how much they were discussed and in what manner (framing) [22].

Depending on the issue the actor wants to influence, "political change" can be achieved by disseminating content in both Norwegian and foreign languages. In cases where the actor spreads information in a language other than Norwegian, it may involve disseminating content in English or another language to reach diaspora groups in Norway.

Furthermore, it is assumed that the actor can use one of more of the information types (political, dis-, or malinformation) and distribute this on one or all the platforms included in this analysis.

The actor- can disseminate the information both openly and covertly. The scenarios in this class differ from classes one and three when it comes to the parameter "time horizon", as it is considered sufficient to have a short time perspective to achieve the objective of political change.

Table 4: Preconditions for the scenario class "Political Change" (highlighted in blue).

Actor	Objective	Effect on the Public Debate	Target Group	Language	Type of Information	Platform	Transparency	Time Horizon
Foreign state	Political upheaval	Agenda setting	Majority of the population	Foreign	Political information	Traditional media	Overt	Long
Non-state (Norwegian)	Political change	Framing	Specific part of the population	Norwegian	Disinformation	Social media	Covert	Short
Non-state (foreign)	Undermine trust in society				Malinformation	Websites and blogs		

3.3 Undermine Trust in Society

The final scenario class describes potential situations where a foreign state actor aims to undermine trust in society. Attempting to undermine trust within a society is considered a crucial element in hybrid interference, as it can be employed as a means to achieve strategic objectives [23], [24]. This can involve eroding the trust that the population has in each other, in politicians, and/or in democratic institutions, including the Norwegian parliament, the judiciary, and traditional media [25], [26]. Reduced trust in the electoral process, for example, can have implications for the legitimacy of the elected government.

The prerequisites for this scenario class are summarized in Table 5. It is considered unlikely that Norwegian or foreign non-state actors would have this as an objective, although it may be an unintended consequence of such actor's influence activities.

In such a scenario, it would be sufficient for the actor to exploit existing polarizing issues to further create polarization and mistrust, either between different segments of the population or between the population and Norwegian authorities and/or traditional/mainstream media. Furthermore, it may be sufficient to reach a specific portion of the population, and this can consequently be done by disseminating content in either Norwegian or in a foreign language. Similar to scenario class number two, the actor can use one or more of the values for the parameters information type, platform, and transparency, and it is a prerequisite that the actor operates with a long time horizon.

The reasoning for considering a long time horizon to be necessary is that Norwegian society is characterized by a high degree of trust and a strong societal contract [27], [28]. It would therefore assumedly take time to undermine this trust.

Table 5: Preconditions for the scenario class "Undermine Trust in Society" (highlighted in blue).

Actor	Objective	Effect on the Public Debate	Target Group	Language	Type of Information	Platform	Transparency	Time Horizon
Foreign state	Political upheaval	Agenda setting	Majority of the population	Foreign	Political information	Traditional media	Overt	Long
Non-state (Norwegian)	Political change	Framing	Specific part of the population	Norwegian	Disinformation	Social media	Covert	Short
Non-state (foreign)	Undermine trust in society				Malinformation	Websites and blogs		

3.4 Summary

Before conducting the consistency analysis, the morphological model presented us with 3456 possible solutions to the problem:

> *How can foreign and/or Norwegian actors use information influence in connection with an election to achieve their goals in the period leading up to the next parliamentary election in 2025?*

After conducting the consistency analysis, the model presented us with 240 solutions to this problem. In other words, 240 realistic ways in which a foreign and/or Norwegian actor can use information influence in connection with an election to achieve their goals. These 240 solutions were then consolidated into three different categories of scenarios, which represents qualitatively different challenges and consequences for Norwegian democracy depending on which objective the actor seeks to achieve. Different concrete scenarios based on the solution space for each scenario class can be developed for the authorities to assess appropriate and necessary measures to handle the challenges the different scenarios present.

4.0 CONCLUSION, CHALLENGES AND LIMITATIONS

The purpose of this article has been to give a brief introduction and description of a method that can be used to develop scenarios which can help nations with responding to and mitigating cognitive warfare – with influence operations in the context of Norwegian elections as an illustrative example.

There are serval benefits with using morphological analysis for scenario development. First, this method is especially useful when solving problems characterized by high complexity, as it can help us to establish a

complete overview of all possible aspects and solutions for a given problem, and to *systematically* develop scenarios. Second, because the researcher should always carefully describe and explain their choices (both when choosing parameters and values and during the consistency analysis), the method is very transparent, and it makes it easy for others to review and potentially challenge. Third, because influence will always be contextual, and consequently must be understood in the context of a specific societal and political situation, morphological analysis is a good fit because the researcher(s) choses which parameters and values to include in the analysis. In other words, they adjust the parameters and values to fit their nation's societal and political context. This of course implies that the scenario classes developed in the study conducted by FFI cannot necessarily automatically be used and implemented by other NATO member states in their preparedness planning and training. However, the method provides the opportunity to develop country-specific scenarios rather than just developing scenarios based on empirical examples from other countries. For example, it is natural to look to the United States and draw lessons from the Russian election interference in 2016, but the United States is very different from Norway, for example when it comes to voting systems and levels of existing societal trust. Furthermore, countries which have implemented digital voting systems face different challenges regarding election interference than those which have not (such as Norway).

However, as any other method, morphological analysis has its limitations. For example, the choices the researcher(s) makes regarding parameters and values are crucial for the outcome of the entire analysis. The same applies to each pairwise consistency assessment conducted in the consistency analysis. This represents a vulnerability in the morphological approach because any "wrong" assessment would lead to incorrect or misleading scenarios.

In addition to describing possible scenarios for how information influence in the context of Norwegian elections can occur, the study conducted by FFI on behalf of the Norwegian Ministry of Local Government and Modernisation included discussions about which actions the electoral authorities can take to prevent and address them. One of our conclusions was that election influence may take place both directly and indirectly, targeting topics and sectors outside of the election authorities' areas of responsibility. Examples include influence on political issues and degrading of the public's trust in politicians. An important conclusion in the study was therefore that prevention and handling of election influence cannot be done by the election authorities alone, but require a joint effort across sectors, as well as involvement of politicians and political parties.

One way in which election authorities can initiate this process is to conduct risk assessments that are not limited to their own responsibilities and identify areas where there is need for closer collaboration and coordination with other stakeholders. Developing concrete scenarios by using morphological analysis and identify potential gaps in responsibility related to handling these scenarios is one possible approach. One important question for further research is thus how to organize manageable and effective cross-sectional efforts to handle this type of unwanted influence. However, this might not be as challenging in countries were cross-sectoral cooperation is more common and established.

In conclusion, the study summarized in this article contributed to providing the Norwegian authorities with a foundation which can be used to increase Norway's resilience and preparedness for unwanted influence. This is significant because Norway has never previously had specific scenarios upon which to base defensive measures against unwanted election influence. Furthermore, the scenarios can be used in training and exercises. For example, scenarios developed using morphological analysis can be used with the Somulator (a social media simulator training tool developed by FFI) and be implemented in military exercises.

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