

Come together: Does network management make a difference for collaborative implementation performance in the context of sudden policy growth?

Susanne Hadorn  and Fritz Sager 

KPM Center for Public Management, University of Bern, Bern, Switzerland

Abstract

Cooperative forms of policy implementation bear the promise of being an answer to the policy delivery challenge resulting from policy growth, with the quality of network management often rated as a key success factor. The positive relationship between network management and performance in networks, however, is primarily supported by theoretical reasoning rather than empirical evidence. The present study empirically investigates this relationship in the context of rapid policy growth resulting from a change in the governance structure in the field of smoking prevention in Switzerland. The results of the analyzed 13 Swiss smoking prevention networks and the 187 associated projects show that network management improves the performance of new policy projects by facilitating access to implementing partners and target groups, but has no impact on output delivery in existing interventions. The study shows that networks, if actively managed, can be a means to ensure adequate enforcement in the context of increasing numbers of new policies.

Keywords: network management, network performance, policy growth, policy implementation, policy mix.

1. Introduction

This article studies collaborative policy implementation as an answer to policy growth. We study the case of new policy programs that lead to a surge of policy activity to better understand the significance of network leadership for the success of collaborative implementation. Policy growth, characterized by the expansion in the number and complexity of policies within political systems, has emerged as a contemporary challenge for governments worldwide and can be attributed to multiple factors (Haag et al., 2024; Hinterleitner et al., 2023). First, societal demands play a significant role as citizens increasingly expect governments to address a wide range of social, economic, and environmental issues. With the emergence of new challenges, such as technological advancements or global crises, additional policy responses are demanded, contributing to policy growth. Second, political motivations, such as the need to appease diverse interest groups or gain electoral support, can lead to the proliferation of policies. Third, institutional fragmentation can contribute to policy growth in that “the distribution of policy-making power across various actors, is [...] conducive to producing complex, cobbled-together policies that consist of a multitude of provisions, instruments, and exceptions that are supposed to appease opponents and secure legislative passage” (Hinterleitner et al., 2023, pp. 8–9). Finally, the bureaucratic uptake of policies after their political adoption often requires specification to guide implementation actors, consequently leading to further increase in the number of regulations (Fernández-i-Marín et al., 2023).

The policy growth diagnosis partly resonates with the crisis of government literatures surging in various waves with different normative dyes ever since the 1960s and there are in fact similarities. The consequences of policy growth are multifaceted and can have far-reaching implications. On the one hand, new policies often tackle previously unaddressed societal problems and can therefore contribute to, for example, more equal, healthier or more sustainable societies. On the other hand, policy growth often results in policy fragmentation and increased complexity, which can hinder effective policy implementation and lead to reduced policy effectiveness (Sager &

Correspondence: Susanne Hadorn, KPM Center for Public Management, University of Bern, Schanzenekstrasse 1, CH-3001 Bern, Switzerland. Email: susanne.hadorn@unibe.ch

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Hinterleitner, 2022). In other words, an accumulation of policies can be a major challenge for public administration: the need to implement a rising number of policies, often in the context of unchanged or even decreased resources, can lead to lower performance in policy delivery (Limberg et al., 2023). Research shows that this sometimes forces public agencies to prioritize certain policies and neglect other measures (Knill et al., 2023). This article addresses how collaborative networks composed of state and non-state actors sharing resources, information and responsibilities, can help public administration to cope with rising policy tasks and promote high output performance in the context of policy growth.

The network approach brings together diverse stakeholders, including government agencies, non-profit organizations, businesses, and citizens, fostering collaboration and improving policy coherence (Ansell & Gash, 2008). In this paper, we focus on mandated networks, which, in contrast to self-grown networks, do not arise voluntarily from the network partners but are mandated by a third party, usually a state actor (Sørensen & Torfing, 2009). This typically includes a financial contribution from this actor and a certain influence on the set policy goals. Thereby, networks enable the pooling of resources, expertise, and knowledge from different organizations and sectors, improving policy implementation capacity (Provan & Kenis, 2008). However, the implementation of policies through collaborative networks requires coordination and consensus building among diverse stakeholders (Agranoff & McGuire, 2001; Hadorn, 2024; Rosser et al., 2022). Achieving agreement and coordination can be time-consuming and challenging due to conflicting interests, differing priorities, and varying organizational cultures (Mavrot & Hadorn, 2023). Network management activities aimed at consensus-building mechanisms and effective coordination are essential to overcome these challenges. Therefore, network management is considered a key factor in explaining the policy delivery capacity of collaborative networks (Herranz, 2010), also in the context of policy growth.

A central criticism in research on network management is that the positive relationship between network management activities and an increase in the performance of collaborations has not been empirically investigated, or at least not sufficiently so (Kenis & Provan, 2009; Ysa et al., 2014). This study addresses this issue by examining how network management affects performance within networks in a policy area that experienced strong policy growth due to a governance change.

Based on data from 13 Swiss smoking prevention networks implementing 187 projects, we investigate how network-level characteristics including network management and project features affect the outputs delivered within the networks. A project is a bundle of policy measures directed to a specific goal related to smoking prevention (e.g., protect minors from exposure to smokers and smoke) with a defined timeframe (e.g., 4 years) and scope (e.g., sports clubs in a canton). The introduction of those 13 networks co-funded by the national Tobacco Prevention Fund (TPF) led to an immediate growth of the number of policy measures implemented in the field of smoking prevention and is therefore an ideal case to study implementation arrangements and processes in the context of policy growth.

The paper proceeds as follows: in the next section, we derive an analytical model that does justice to the distinction between network- and project-level to explain output performance of public service provision. After discussing our empirical approach and our data that stem from smoking prevention programs and 187 output producing projects implemented by the 13 networks, we present the results of the Bayesian ordered logistic regression. In the consecutive section, we discuss our findings in the light of our hypotheses, before we conclude that network management in fact is prone to address new policies but not established ones.

2. Implementation performance within networks: A policy mix perspective

We argue that performance of implementation actors should be assessed based on the policy outputs they directly generate (Hadorn, 2022). These relationships are illustrated in a simplified form in Figure 1.

The analytical model explains the service delivery capacity in terms of outputs of projects implemented within networks in the context of policy growth. We employ a policy mix perspective, meaning that programs or, from an actor perspective: networks consist of a variety of distinct, but still (Krogh, 2022) interconnected policy measures (hereafter also called “projects”), implemented by the various network members (Howlett & Rayner, 2007). Therefore, both network-level as well as project-level variables are relevant in examining performance differences between different projects. Figure 1 depicts the different elements that need consideration when evaluating public

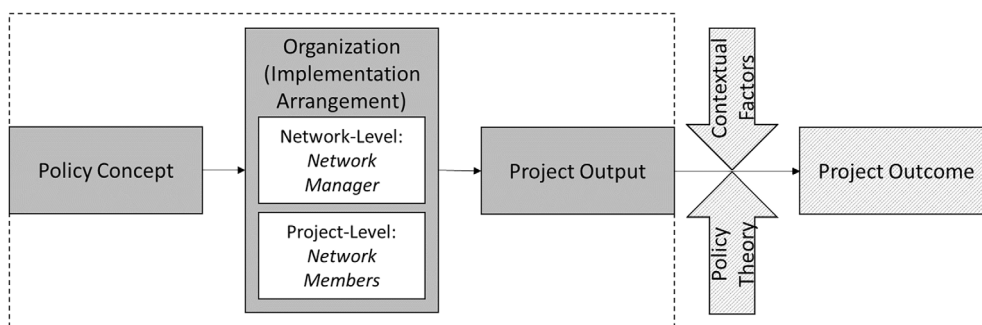


FIGURE 1 Analytical model. This paper focuses on the analysis of policy outputs (the area inside the dashed box) and thus excludes policy outcomes. *Source:* Own figure, based on (Hadorn, 2022) and (Sager & Hinterleitner, 2014).

policies based on well-established policy evaluation literature (Bussmann et al., 1997; Sager et al., 2021). The actors responsible for implementation (cf. “organization”-box in Fig. 1) deliver specific “outputs” that are defined in the given “policy concept.” The policy concept serves as the theoretical foundation of a program prior to its implementation (Rossi et al., 2003) and presents the anticipated causal mechanisms. Outputs represent the products of the policies and “create a direct relationship between the competent implementation actor and the political target group, where the political target group refers to the group of actors whose behavior is seen by public politics as relevant to the problem in question” (Sager et al., 2015, p. 99). Within the framework of policy mixes implemented through networks, multiple actors are responsible to deliver outputs (Howlett & Rayner, 2007). Effective coordination among the actors and projects is crucial to ensure adherence to the planned policy concept. Overall, the capacity of both the coordinating unit, that is, the network manager, and the organizations responsible for the implementation of the single projects, plays a significant role in determining output performance.

If the policy concept, that is, the expected causal mechanisms, is accurate, achieving high performance at the output level is expected to result in the desired “outcomes.” These are the changes in behavior among the target groups addressed by the policy measures. Yet, should the underlying policy theory be flawed, even high output performance may not lead to the desired changes in the behavior of the target population. Authors such as Linder and Peters (1987) or Kaufmann et al. (2020) distinguish between policy failure, when outcomes are not achieved despite successful implementation of planned outputs, and implementation failure, when policy outputs are not delivered as planned and, as a result, outcomes do not materialize. Additionally, target groups are influenced by various contextual factors (e.g., political, socio-cultural factors) that shape their responses to a specific policy intervention (Mavrot et al., 2018). Therefore, it is not feasible to establish a direct link between the actions of implementation actors and the behavior of target groups without considering the accuracy of the policy concept and the impact of contextual factors.

In the following, we discuss the dependent variable, policy outputs, and the explanatory factors in more detail and derive hypotheses.

2.1. The foundation of successful policy implementation: Policy outputs

Services and products realized by the implementation actors to bring about behavior change in the target group are called policy outputs (Patton, 1997). The key criterion in evaluating outputs is “compliance,” referring to the extent to which services are implemented according to the policy plan (Sager, 2007; Sager et al., 2015). When assessing compliance, it is not enough to simply compare the number of goals set with those achieved. It is also important to analyze which specific outputs were accomplished and which were not. Thereby, an analysis of outputs has limited explanatory power in determining the coherence of a policy theory or the actual effects on target groups. To draw conclusions about the effects on the target groups, additional empirical examination of the expected causal mechanisms’ accuracy is necessary. However, evaluating the outputs of implementation actors allows for an assessment of the actual policy delivery capacity of a network, which is crucial for ensuring effective policies.

In the empirical studies that have analyzed the determinants of network performance so far, mostly other performance criteria have been used. With a few exceptions (Cristofoli & Markovic, 2016), either the performance perceived by the network members or, occasionally, the outcomes, that is, the behavioral changes of the target groups, have been used as network performance indicators. We argue that outputs are the more reliable indicator to measure implementation capacity of implementation actors within networks. This is particularly also relevant in the context of policy growth and the ability of public administration to cope with the increasing demands put on it (Limberg et al., 2023). This is because, as shown earlier (see e.g., Fig. 1), outputs are generated directly by implementers and thus represent the most direct measure of their capacities. In contrast, outcomes, as used as an indicator by Raab et al. (2015) for example, are not only influenced by the performance capabilities of implementation actors, but also by various contextual factors as well as by the respective reactions of the target group (Sabatier & Mazmanian, 1979). Thus, poor outcomes are not necessarily due to insufficient performance of the public administration or other implementing actors and are therefore not suitable for a precise analysis of the capacity of these actors. Likewise, perceived performance, as used by e.g., Chen and Graddy (2010) or Verweij et al. (2013) as a network success indicator, is also not a reliable measure of service delivery capacities, as it can be subjectively influenced by the individuals surveyed (Vabo et al., 2011).

2.2. Project-level variables and hypotheses

We argue that policy outputs are influenced by the direct characteristics of individual projects, that is, project-level variables. We will discuss the expected relationships in the following sub-sections.

2.2.1. Project stage

Policy mixes that are implemented through collaborative networks can consist of both pre-existing and new policy projects. Especially in the context of policy growth, the combination of existing and new measures is an extremely relevant phenomenon. The introduction of new projects is often aimed at exploring innovative approaches to engage the target group effectively or to solve newly emerging societal problems. In this context, it is important to recognize that the implementation process for new projects differs significantly from that of established initiatives (such as broader health promotion policy programs) in terms of stages and dynamics. As McLaughlin (1987, p. 176) highlighted, an analysis of policy implementation should consider the “multi-staged, developmental character of the implementation process,” where “‘outcomes’ will differ depending on the point in the process under study.” Therefore, when assessing policy performance, it is important to keep in mind that projects may have varying output delivery capacities due to their different stages of maturity. Existing projects often enjoy a high level of embeddedness within the broader implementation context, which can facilitate policy delivery through established relationships with intermediaries, for example (Michel, 2024). Conversely, new projects typically need to cultivate support within the implementation system before effectively reaching the target groups with policy outputs. In sum, the maturity status of policy projects becomes a crucial factor to consider when assessing policy outputs, as summarized in the following hypothesis.

Hypothesis 1. New projects have lower output performance than existing projects.

2.2.2. Local embedding (of project managers)

Inherent to the nature of networks is the presence of multiple project leaders managing various projects. The effectiveness of project management plays a significant role in determining the likelihood of achieving set goals. To identify differences in project outputs resulting from variations in project leadership quality, it is important to include variables that capture management capacity in the analysis. One such variable pertains to the embeddedness of project managers within the implementation context. For instance, local project managers, due to their direct involvement in the implementation context, possess contextual knowledge enhancing their access to local partners, intermediaries, and potential target groups. It has been argued that local implementers have a key advantage in policy delivery because of their in-depth knowledge of the local context and processes. Since “they are knowledgeable about their communities, they should be able to modify a program to make it more effective in a specific context” (Durlak & DuPre, 2008, p. 341). In contrast, project managers operating at the national level lack such local anchorage and related benefits. Overall, high embeddedness of project managers

facilitates the development of collaborations with multipliers and target groups needed for delivering the planned outputs. This leads to the following hypothesis.

Hypothesis 2. Projects managed by local project managers have a higher output performance than projects managed by non-local actors.

2.2.3. *Project concept*

Policy concepts serve as the basis for the implementation of public policies. Actors involved in implementation rely on the objectives outlined in these concepts. It is widely recognized that the soundness project concepts directly impact policy performance (Linder & Peters, 1987). Hence, policy outputs can be affected by conceptual challenges. For instance, projects with inadequate or ambiguous goals or inconsistent concepts may result in insufficient outputs. In this vein, Rainey & Jung (2010, p. 53) propose that actors who establish clear goals and performance measures are more likely to achieve higher levels of performance compared to those who do not.

In the specific context of analyzing the performance of policy mixes implemented within networks, the quality of the concepts is also crucial in another aspect. The interactions between the different projects and the coherence of their activities can impact policy outputs. In this sense, key components of an optimal design of policy mixes are “coherent policy goals and a consistent set of policy instruments that support each other in the achievement of the goals” (Howlett & Rayner, 2007, p. 7). This implies that different project concepts need to be aligned to enhance each other’s capacity for service delivery, rather than causing redundancies or inconsistencies. Consequently, we expect that projects based on well-designed concepts will outperform projects facing conceptual problems. This leads us to Hypothesis 5.

Hypothesis 3. Projects with conceptual problems will have lower output performance than projects with well-designed concepts.

2.3. Network-level variables and hypotheses

Taking the outputs of single policy measures as the dependent variable implies that the networks in which they are implemented in represent their context. Thus, besides the before described project-level factors, the management and structural characteristics of the networks are considered as the contextual determinants of policy outputs. We will elaborate their relationship to policy outputs in the subsequent sections and formulate respective hypotheses.

2.3.1. *Network management*

We posit that network management impacts output performance. In a nutshell, the argument behind this proposition is that network management coordinates projects so they produce synergies and reduce inefficient duplications which increases output performance. At the same time, societal problems are complex and are best addressed from more than one side. This means that well-coordinated collective action is best suited to achieve policy goals.

The link between network management and policy outputs has received limited attention in the existing literature, although there are some notable exceptions (Cristofoli & Markovic, 2016). However, a considerable number of primarily theoretical contributions have discussed the association between network management and various other indicators of network performance, suggesting a positive relationship as discussed above (Agranoff & McGuire, 2001; Gage & Mandell, 1990; Klijn, Steijn, & Edelenbos, 2010). Drawing on this existing literature, we propose that the more active a network manager is in managing a network, the better the policy outputs it produces. This proposition is based on the two following claims from previous studies: First, the primary responsibility of network managers is to facilitate interactions among network members (Verweij et al., 2013). This interaction leads to synergies among projects that increase their output performance. Second, societal problems can be solved most effectively through well-coordinated collective action (Graddy & Chen, 2009). Therefore, when network managers take an active role in establishing common goals, identifying possibilities for collaboration between network members, and fostering joint action, the capacity of the network

to deliver policy outputs increases. Additionally, we argue that this is particularly crucial for new projects. As suggested by a study of Nielsen et al. (2013) strong steering actions by a central actor are more important in early stages of new initiatives, for example, by involving the necessary partners and coordinating their demands. Ansell and Gash (2008) have argued that collaborations start with building trust between different actors, while the necessity to do so depends on the prehistory of collaboration. In case of new projects requiring new collaborations, building trust will hence require more time than in case of already existing policy projects implemented by well-established implementation partners. Thereby, network managers can play a key role in building trust between (potential) network members, as “trust can be developed and sustained through network management strategies” (Klijn, Edelenbos, & Steijn, 2010, p. 211). At the same time, the authors found a positive relationship between higher levels of trust and improved policy outcomes. In this vein, we expect that network managers’ actions are of even more value for new projects than for the output delivery capacity of existing projects, since new collaborations and the necessary level of trust need to be established in the initial phase of the policy implementation process. By actively fulfilling its role as the central point of connection, the network managers facilitate the establishment of links to other network members and intermediaries, who play a vital role in policy delivery (Kickbusch & Gleicher, 2012, p. 9). This enables the new project to engage in substantive activities at an earlier stage. Once access to the target group is established, outputs can be delivered. This is also why the service delivery, and with it the outputs, of already established projects are less dependent on active network management.

Hypothesis 4. An active management of networks leads to better output performance in the projects implemented by the network than non-active network management.

Hypothesis 5. The effect of active network management on output performance is stronger for new projects than for existing projects.

2.3.2. Further network-level variables

Previous research has emphasized the importance of considering structural characteristics of networks when analyzing their performance. One such characteristic is the size of the network, which is typically measured by the number of participants. However, the influence of network size on performance has yielded diverse findings (Turrini et al., 2010). On one hand, studies have indicated a negative relationship between network size and the perceived effectiveness of the network (Hasnain-Wynia et al., 2003). This implies that larger networks may face challenges in achieving their objectives efficiently. On the other hand, it is important for networks to have a certain size in order to be perceived as relevant and credible by external actors (Shortell et al., 2002). This highlights the importance of network size as a potential intervening factor that should be taken into account when explaining network performance. We therefore include the size of the network to allow for a more comprehensive analysis of the factors influencing network effectiveness.

Another important structural characteristic to consider is the age of the network, which refers to the length of time a network has been in existence. Building a solid foundation for cooperation, establishing relationships between network members, defining rules and processes, and developing a shared vision all require sufficient time. Research by Raab et al. (2015) supports the notion that older networks are more likely to be effective in achieving their desired goals compared to newer networks. The scholars claim that it takes time for network partners to establish internal legitimacy and build trust before they can effectively collaborate. Based on the available empirical evidence, we conclude that the duration of a network’s existence plays a significant role in determining the effectiveness and quality of policy outputs that are delivered through the network. Therefore, in the model, the age of the network will be included to account for its potential impact on network performance.

Before turning to the results of the analysis, we will outline our data, method and the operationalization of the variables in the next section.

3. Research design, data, and method

This study analyzes data from 13 sub-national smoking prevention networks in Switzerland.¹ Each of these networks implemented between 6 and 18 projects, amounting to a total of 187 projects. Depending on the canton

(i.e., sub-national units in Switzerland), the networks analyzed consist of various actors such as the health department, the sports department or the security department as well as NGOs such as the Lung League and various local associations. These actors have in turn implemented different policy mixes, that is, bundles of measures (we call them “projects” in this paper), depending on the canton. Such projects range from enforcement measures (e.g., monitoring compliance with smoking bans), the introduction of smoke-free places (e.g., playgrounds or sports facilities), public awareness measures (e.g., campaigns), to stop-smoking advice in various contexts (e.g., telephone advice or face-to-face courses). Various target groups such as children and adolescents, smokers, the general population or specific population groups (e.g., the migrant population) were addressed in various settings (e.g., schools, public spaces, workplaces, etc.).

The here analyzed, new network structure was introduced and mandated by the TPF and adopted by numerous cantons in the years that followed. This national funding agency was founded at national level in Switzerland at the beginning of this millennium due to a still very inadequate smoking prevention policy. The key aims of this new governance form were to enhance cooperation between non-state and state actors on the cantonal (i.e., sub-national) level, where the various actors have worked largely autonomously before the introduction of the mandate as well as to strengthen smoking prevention by closing gaps in the existing cantonal policy mixes resulting in additional projects. To encourage the cantons to cooperate, the TPF established parity financing of the networks, which gave the cantonal authorities a financial incentive to create a network structure. Fourteen of the 26 cantons have taken this opportunity to introduce a network, of which we analyze 13 here (implementation in one canton was not sufficiently advanced at the time of data collection and is therefore excluded) (see also Hadorn, 2022). As a consequence of the additional funding by the TPF, the cantons not only continued to implement existing interventions, but particularly also used the opportunity to design and launch new policies in terms of broader programs. This led to a sudden, strong growth of the numbers of projects implemented by the networks analyzed.

In these newly established networks of cantonal and national state and non-state organizations, one actor was chosen to provide the network manager, that is, a specific person in charge of the respective tasks, in each of the cantons. These central actors were not only responsible for the management of the network, but also held—to different degrees—project management responsibilities, making them a distinct type of network managers operating in so-called lead-organizations (Provan & Kenis, 2008). In this study, the focus is specifically on mandated lead-organization networks comprising a minimum of three interdependent yet autonomous actors working collaboratively to provide public services and accomplish a shared objective (Raab et al., 2015). In this context, we refer to the person who manages the network as the “network manager” and the organization for which they work as the “lead-organization.”

The analysis of this paper is based on a wide range of data including 10 to 15 semi-structured interviews with implementation actors (network managers, project managers, and multipliers) per canton, amounting to a total of 145 interviews. Also, yearly self-evaluation reports (a total of about 600 pages) and the policy programs including data on each of the projects and on network-level achievements as well as the policy concepts underlying the policy programs and the single projects were examined. The data has a multi-level structure. For this reason, the implementation of a multilevel analysis was examined in detail but was ultimately rejected due to the data situation. Specifically, a multilevel analysis requires at least 20 higher-level units in order to obtain robust results (see e.g., De Leeuw & Kreft, 1995; Heck & Thomas, 2020), whereas we only have data from 13 networks (which would represent the higher-level units).

As there are sufficient cases for probabilistic analysis, we opted for this approach at the expense of a deterministic approach like QCA (Thomann & Maggetti, 2020). Given the number of conditions and additional controls, a configurational approach tended to result in over-complex solutions not fit for interpretation. To analyze the data, a Bayesian ordered logistic regression was employed using Stata. Bayesian approaches are deemed more appropriate for studies in the field of public administration compared to frequentist statistical approaches (Gill & Witko, 2013). As in the present study, in public administration research the data often encompass the entire population under study, making it impossible to replicate data sets in a manner comparable to experimental designs. Therefore, Gill & Witko (2013, p. 457) argue that “the Bayesian reliance on probability as a description of unknown quantities is a superior paradigm than that borrowed from Frequentist methods in the natural sciences where experimentation is routine.” The choice of an ordered logistic regression was made due to the ordinal

nature of the independent variable “policy output” (three categories: good, medium, poor). The nature of outputs delivered by the analyzed projects is very diverse: Inspections in restaurants to ensure compliance with passive smoking protection laws, tobacco test purchases to check compliance with youth protection law, provision of advisory services for various target groups, implementation of training courses for multipliers such as nursing staff, implementation of stop-smoking courses, dissemination of information as part of awareness campaigns, development and operation of websites, etc.

Qualitative as well as quantitative data from various sources were used to evaluate the output: Interviews, data from the self-evaluation reports but also documentation on the individual projects and, if needed, on the entire programs. The assessment process included three steps: First, the level of ambition of the goals set was critically assessed. Second, the outputs actually delivered were compared to the targets to enable categorization into one of the three performance categories. Third, to ensure consistency of the assessment across projects and networks, the projects were consistently evaluated using a comparative approach, where the performance of each project was assessed in relation to others. Specifically, coding was conducted with regard to projects within the same network (intra-network) and across different networks (inter-network) in order to ensure high consistency. In all three steps, the coding of project outputs into one of the three categories was a collaborative effort involving a group of two to three researchers to ensure high accuracy. Furthermore, the classification of projects in each canton was discussed with the respective network manager to prevent factual errors that could lead to misclassification. This method aimed to maintain a high level of consistency and reliability in the performance assessment process (Hadorn, 2022).²

We operationalized the project-level variables as follows: The variable project stage was coded as “new” or “existing” projects, whereby projects are categorized as “new” if they have not been implemented in the given canton before the analyzed implementation period. In the variable “local embedding,” project managers located within the respective canton were categorized as “cantonal actors,” while those situated outside the canton and also active in other cantons or at the national level were categorized as “extra-cantonal actors.” The variable project concept evaluates whether individual projects have a sound conceptual foundation. It classifies projects into those with “no conceptual problems” and those with “conceptual problems” based on a qualitative assessment of each project concept. Conceptual problems may for instance manifest as too unambitious, vague, or exclusively organizational objectives, or a lack of specificity in the implementation planning or logical problems in the project theory. Hence, the assessment also involved scrutinizing the internal coherence of policy concepts (i.e., logical arrangement of planned activities) and their coherence with other projects (i.e., avoiding unnecessary duplications). To ensure validity, at least two researchers engaged in evaluating cantonal policy programs discussed and validated the quality of each project’s concepts.

Additionally, we included two control variables at the project-level in the models: First, the network managers in some cases managed their own projects and, in these cases, took on a dual role. Specifically, in the respective projects, they acted as both the project manager and the network manager. We have included this as a control variable (variable “role,” coded as “no dual role” or “dual role”) to control for potential effects on project performance. Second, the variable “project manager legal captures the legal status of the respective project manager’s host organization and was coded as either ‘public’ or ‘non-public’ organization.”

The operationalization of the network management variable is also based on a wide range of information, especially derived from interviews and self-evaluations provided by network managers and project managers. All interview partners were systematically asked about the network management activities implemented by the network managers during the whole implementation phase. Similarly, in the self-evaluation reports, all project managers had to report on a yearly basis about their interactions with and support received by the network managers. Also, the network managers themselves had to provide a detailed report on their activities each year. These sources were used to determine the exact activities used by individual network managers throughout the entire implementation phase. Specifically, we systematically screened all the interview transcripts and self-evaluation reports and coded them according to the typology of Klijn, Steijn, and Edelenbos (2010). This includes four types of network management strategies: (1) connecting, (2) arranging, (3) exploring content, and (4) process agreements. According to Klijn, Steijn, and Edelenbos (2010), “connecting” includes activities such as (de)activating different actors, mobilizing resources, and fostering interactions as well as cooperation through the reduction of obstacles, and promoting coalitions. “Arranging” covers activities with the goal of setting up new organizational

arrangements such as thematic working groups. Activities such as seeking goal alignment between network members, shaping (and clarifying) perspectives, gathering information belong to the category of “exploring content” strategies. Finally, “process arrangements” include actions such as, for example, formulating guidelines regarding the entry to or departure from the network, defining processes for managing conflicts and veto rights, and setting rules regarding decision-making processes. In contrast, project management activities such as planning within the project, monitoring the achievement of objectives, implementing specific measures to reach the respective target groups, etc., take place at the level of the individual projects. Network managers may assist project managers if they identify a necessity and chance to do so, yet their primary focus lies in maintaining an overarching perspective.

In the case of the networks analyzed, activities of the network managers included strategies that affected all projects within the given network equally (e.g., setting rules regarding the participation in the network as well as organizing annual network exchange meetings), but also strived at providing support for specific projects (e.g., linking project managers with multipliers or providing specific project-relevant information). Based on the above-described detailed coding, we then assessed each network manager for each of the four strategy types. We then converted these four assessments per network manager into a dichotomous variable (see also Hadorn, 2022). The choice to dichotomize the variable into active versus non-active is, on the one hand, based on the existing literature. It holds that both the intensity of the network management activities, and the diversity of the strategies used are central to whether network management can generate a benefit for the activities implemented (Hovik & Hanssen, 2015; Huang & Provan, 2007; Peters et al., 2017). In this sense, an in-depth qualitative analysis of all the different activities of network managers was made to finally arrive at this theory-driven categorization (Hadorn, 2022). On the other hand, we chose a dichotomization of the network management variable in order to be able to reduce complexity and make a clear statement about the relationship between network management and policy outputs. Our data made such an operationalization possible because there was a very clear distinction between active and non-active network managers in the networks studied (Hadorn, 2022).

Furthermore, we coded the variable network age in two categories: Where the analyzed networks implemented the first smoking prevention program, we coded the variable as “first program,” the remaining as “successor program.” Finally, the “network size” was coded according to the number of project managers active in each of the networks.

The following Table 1 provides an overview of the operationalization of these previously described and further core variables and the data available on each variable.

Further specifications of the models will be outlined in the results section.

4. Results

This section presents the results of the Bayesian ordered logistic regression. Models 1 and 2 are displayed in Table 2, while the findings of Model 3 are summarized in Table 3. To eliminate autocorrelation, we increased the number of iterations as the complexity of the models increased. The number of iterations per model is also reported in Tables 2 and 3. Thinning was employed to further reduce autocorrelation, resulting in an acceptable level for all the presented models.³ To ensure the robustness of the models, we conducted additional tests. First, we compared the Deviance Information Criterion (DIC) of the various models. Second, we applied frequentist statistics to calculate the models.⁴ In the frequentist models, the same variables as in the Bayesian models were found to be significant. Although the effects were slightly higher in the frequentist models, we refrain from interpreting them in a substantive manner due to the large confidence intervals (CI) in the Bayesian models caused by the small sample size. Nonetheless, the regressions provide crucial information on the direction and relative magnitude of each variable's effects.

The models were constructed based on the previously presented theory to assess the significance of different categories of variables.⁵ Model 1 specifically focuses on the analysis of project-level features. The variables “project stage,” “local embedding,” and “concept” of the projects are found to be significant in this model, while “legal status” and “role” are not. Hence, as expected in Hypothesis 1, the findings confirm that new projects have a significantly lower probability of attaining a higher output category compared to existing projects, as indicated by the “project stage” variable. The significance of the “local embedding” variable suggests that projects led by a

TABLE 1 Variables: Data sources and operationalization

Variable	Operationalization	Data sources		
		Interviews	Self-evaluation reports	Project- & network documentation
Dependent variable				
Project output	<ul style="list-style-type: none"> • Good • Medium • Poor 	X	X	X
Network-level variables				
Network management	<ul style="list-style-type: none"> • Active • Non-active 	X	X	
Size	<ul style="list-style-type: none"> • Number of network members 			X
Age	<ul style="list-style-type: none"> • First program • Successor program 	X		X
Project-level variables				
Project stage	<ul style="list-style-type: none"> • New project • Existing project 			X
Local embedding (project manager)	<ul style="list-style-type: none"> • Cantonal actor • Extra-cantonal actor 	X		X
Project concept	<ul style="list-style-type: none"> • Conceptual problems • No conceptual problems 			X
<i>Double role</i> ^a	<ul style="list-style-type: none"> • No double role • Double role 	X		X
<i>Legal status (project manager)</i> ^b	<ul style="list-style-type: none"> • Public • Non-public 	X		X

Note: Control variables are displayed in italics. ^aThe variable “double role” captures whether the project manager and the network manager are the identical actor (double role) or not (no double role). ^bThe variable “legal status” captures whether the project manager was affiliated with a public or a non-public organization.

TABLE 2 Models 1 and 2

Variable	Model 1: Project-level variables			Model 2: Network-level variables			
	Mean	S.D.	95% CI	Mean	S.D.	95% CI	
Project stage (Hypothesis 1)	−0.76	0.33	−1.40	−0.12			
<i>New project</i>							
Local embedding (Hypothesis 2)	1.04	0.44	0.18	1.91			
<i>Cantonal project manager</i>							
Role	−0.49	0.34	−1.16	0.19			
<i>Identical (double role)</i>							
Project manager legal status	−0.43	0.36	−1.15	0.27			
<i>Non-state</i>							
Project concept (Hypothesis 3)	1.50	0.32	0.87	2.14			
<i>No conceptual problems</i>							
Network management (Hypothesis 4)				0.29	0.29	−0.28	0.87
<i>Active</i>							
Age of the network							
<i>Successor programs</i>				0.38	0.36	−0.32	1.09
Size of the network				0.04	0.06	−0.07	0.15
Cut 1	−0.98	0.56	−2.08	0.11	−1.09	0.48	−0.16
Cut 2	0.68	0.55	−0.40	1.77	0.36	0.47	−0.57
DIC	350.90			381.33			

Note: Systematic relationships are displayed in bold (=credible interval does not contain zero). Model 1: Thinning = 2, Burn-in 700,000, number of observations = 187, number of iterations = 5,699,999. Model 2: Thinning = 2, Burn-in 50,000, number of observations = 187, number of iterations = 849,999.

TABLE 3 Model 3

Variable	Model 3: All variables incl. interaction term			
	Mean	S.D.	95% CI	
Project stage (Hypothesis 1) <i>New project</i>	-1.41	0.44	-2.28	-0.56
Local embedding (Hypothesis 2) <i>Cantonal project manager</i>	1.21	0.48	0.27	2.17
Role <i>Identical (double role)</i>	-0.60	0.36	-1.31	0.11
Project manager legal status <i>Non-state</i>	-0.54	0.38	-1.30	0.20
Project concept (Hypothesis 3) <i>No conceptual problems</i>	1.49	0.33	0.85	2.15
Network management (Hypothesis 4) <i>Active</i>	-0.48	0.40	-1.27	0.31
Management#project stage (Hypothesis 5) <i>Active network management#new project</i>	1.55	0.67	0.25	2.88
Age of the network <i>Successor programs</i>	0.68	0.40	-0.10	1.48
Size of the network	0.07	0.07	-0.06	0.20
Cut 1	-0.60	0.88	-2.32	1.12
Cut 2	1.14	0.88	-0.57	2.87
DIC	350.57			

Note: Systematic relationships are displayed in bold (=credible interval does not contain zero). Model 3: Thinning = 10, Burn-in 100,000, number of observations = 187, number of iterations = 10,099,991.

cantonal project manager have a significantly greater likelihood of achieving higher performance compared to projects managed by an extra-cantonal actor. This finding thus supports Hypothesis 2 “Projects managed by local project managers have a higher output performance than projects managed by non-local actors.” Furthermore, the quality of a project’s “concept” significantly influences the implementation of planned measures according to Hypothesis 3 stating that “Projects with conceptual problems will have lower output performance than projects with well-designed concepts.” Specifically, projects with incoherent plans, such as insufficiently ambitious or specific goals and unclear project purpose, are consistently less successful in delivering satisfactory outputs than projects with well-designed concepts. Table 1 presents the confidence intervals and estimated means for the variables. In terms of effect magnitude, the findings suggest that the quality of the concept had the most substantial impact on the output performance of the projects.

Model 2, includes the three network-level variables, specifically “network management,” “network age,” and “network size.” “Size of the network” captures the number of project managers involved in delivering the entire policy mix, while “age of the network” indicates whether the network had previously implemented policy programs or if it was the first program implementation phase. However, the results indicate that there is no significant relationship between those variables and the dependent variable. In other words, frequent and diverse management activities by the network managers do not prove to lead to better project outputs. With this, we have to reject Hypothesis 4 that active network management leads to better project outputs. Also, projects in networks with a higher number of project managers involved in the policy mix delivery did not perform significantly better or worse than projects implemented in networks with fewer project managers. The age of the network also did not directly influence the output performance of the projects. Furthermore, comparing the two first two models based on the DIC suggests that Model 1 has a substantially better model fit than Model 2.

In Model 3, we include all the previously tested variables. Moreover, we added an interaction term “management × project stage” to the previous model to examine the relationship between network management and project outputs, specifically focusing on new projects. Model 3 shows a slight improvement in the DIC compared

to the previous models, suggesting a better model fit. The results confirm the findings of the first two models: the project-level variables “local embedding,” “project stage,” and “concept” still have a significant impact on project outputs, while all other variables, including “network management,” do not. The interaction term was found to be significant, suggesting that new projects have a higher likelihood of achieving better performance when network managers actively manage the respective networks compared to projects implemented in the context of non-active network managers. This result confirms Hypothesis 5 that active network management is particularly relevant for new projects to improve their output delivery capacity. This finding provides highly relevant insights into the relevance of network management for public service delivery, especially in the context of policy growth with significant numbers of new policies.

Based on the DIC, Model 3 demonstrates the lowest value among the three models, indicating that it is the preferred model for analysis (Gill & Witko, 2013). Both Models 1 and 2, which include only subsets of the variables analyzed, feature higher DIC values, suggesting that the inclusion of all variables across the two levels (Model 3) improves the fit of the model. The variables “local embedding,” “project stage,” and “concept” consistently showed significant effects across all the models, regardless of other variables included. Moreover, the interaction between “project stage” and “management” revealed a consistent and positive relationship. This finding underscores the importance of effective network management in enhancing the success of new policy projects.

5. Discussion

This paper investigates how network management can contribute to policy implementation in the context of policy growth. The results highlight that networks as a specific implementation arrangement can increase the policy delivery performance of new policy projects if the collaboration among the various partners is managed actively by a central actor. Thereby, active network management did not uniformly influence the performance of all projects within a network, while it did demonstrate a significant positive effect on the service delivery capacity of *newly launched* projects. Hypothesis 4 was not supported, while the analysis confirmed hypothesis 5. On the one hand, this finding challenges the notion that network management universally improves network performance, as suggested by previous research (Meier & O’Toole, 2001). It underscores the importance of considering the specific context and timing of projects within a network, highlighting the differential effects of active network management on different stages of project implementation.

On the other hand, these insights are central to the discussion around the rising problem of policy growth. While public administrations are partly forced to prioritize tasks due to increasing demands from new policies (Limberg et al., 2023), network arrangements can provide a potential solution in this respect. By distributing tasks on different shoulders within collaborative implementation arrangements, the public administration’s resources are less strained. Instead of taking over the implementation of policies themselves, administrations can act as network managers and use specific strategies to support their partners in quickly establishing new projects and bringing their services to the target groups. However, in the context of such mandated networks, network managers may encounter barriers to cross-sector cooperation due to institutional design set by the mandating party (Krogh, 2022; Sager & Gofen, 2022). Unlike voluntarily formed networks, policymakers often determine aspects of network design in mandated networks. As a consequence, if the design of the network does not provide a favorable environment for collaboration, network managers will only have limited room for maneuver in supporting their network partners. Therefore, mandates impact the way network managers manage networks (Hadorn, 2022), limiting the potentially beneficial effects on policy outputs. Lastly, it should be noted that the present study dichotomized network management into “active” and “non-active” network managers, which made it possible to make a clear statement on the connection with policy outputs, but did not allow any conclusions to be drawn on the relevance of individual management strategies. Future studies should therefore opt for a more fine-grained operationalization of this variable and could consequently provide an even more nuanced analysis of the influence of specific network management activities on policy output in the context of policy growth. Also, the existing projects generally demonstrated higher levels of success compared to the new projects in our analysis, as suggested in Hypothesis 1. The performance gap between new and old projects, as indicated by the variable “project stage,” can be attributed to the challenges associated with establishing connections and gaining access to key actors known as multipliers (or intermediaries). Multipliers play a critical role in bridging the gap between

the core implementation structure of the projects and the target groups, operating within various settings. Their engagement is often indispensable for the successful implementation of most projects. Examples of multipliers include street level bureaucrats such as school nurses, teachers, police officers or non-state professionals such as midwives, physicians or social workers if they are not directly state-employed. These multipliers, while anchored in a multitude of settings, play crucial roles in policy implementation. For instance, the World Health Organization (WHO) has emphasized the importance of such intermediaries, “many of which reside in sectors other than health and outside government and must be supported by structures and mechanisms that facilitate collaboration” (Kickbusch & Gleicher, 2012, p. 9). Successfully addressing multipliers is a major challenge for new policy initiatives and can lead to situations where a new project is not even initiated in the context of low resources of the implementation actors. In this case, the phenomenon of policy triage as described by Knill et al. (2023) and Zink et al. (2024) would potentially manifest itself in this way: Existing and well-established projects are continued with the existing resources, while new projects that are costly to start are put aside, at least temporarily. Network management can counteract this tendency by supporting the establishment of relationships between project managers and intermediaries, thus contributing to a faster build-up of central project structures, which ultimately results in higher output performance.

Furthermore, the analysis highlights the importance of considering both network-level and project-level factors in understanding network performance. While network management plays a role in high-quality service delivery in some projects, it is not the sole determinant of success. Project-specific characteristics also have a systematic influence on output performance. All the presented models demonstrate that projects led by managers embedded within the local context (“cantonal project managers”) have a consistently higher likelihood of achieving good performance compared to measures led by managers from outside the canton as suggested in Hypothesis 2. One example from the cases analyzed is a project involving the training of multipliers (e.g., nurses) for the prevention of secondhand smoke exposure of young children, which was implemented in two cantons. In one network, the cantonal project manager in charge knew exactly which groups of multipliers might be interested in the training, was able to address them directly on the basis of their personal relationships and successfully implemented the project accordingly. In the other canton, the project was managed by a national player who had no knowledge of the local circumstances, did not know potential interested multiplier groups and therefore spent a long time trying—ultimately unsuccessfully—to recruit interested professionals for the training (Hadorn, 2022). Hence, one main reason for this performance difference is that national project managers are often less familiar with the specific implementation context, while local/cantonal managers can benefit from their context-specific knowledge and adapt projects to the environment to make them more successful (Durlak & DuPre, 2008). Additionally, given the evidence presented here that projects with well-designed concepts are likely to deliver better results than projects with conceptual problems, future research on policy performance should pay more attention to the interaction between policy design and implementation.

We acknowledge a number of limitations of this study that do, however, not substantially hamper its external validity. First, we have a limited sample size that does not allow for interpretation of effect sizes. Second, the limited number of higher-level units prevents us from running a multilevel analysis in spite of the multilevel structure of the data. Third, we have opted for a dichotomization of the network management variable to reduce complexity. Dichotomization goes along with a certain loss of information, but it was unproblematic for our analysis because there was a very clear gap between active and non-active network managers in our data. Fourth, the dependent variable “policy output” includes an assessment that is based on both set performance criteria and project comparison. This does justice to the complexity of policy work but other measurements might have been more parsimonious. Fifth and finally, our venue is limited to one country and one policy. As we argue in the research design and in the conclusion, both settings are well justified and allow for relevant insights beyond the empirical cases at hand.

Summing up, this study presents important new findings on the relationship between network-level and project-level factors on the output delivery capacity of policy projects. Due to the limited sample size, however, it is not possible to interpret the respective effect sizes, which is why this aspect should be investigated in more detail in future studies. Nevertheless, the results show that networks can improve implementation under certain conditions on both the network- and the project-level but networks alone are not the panacea to address the challenge of policy growth.

6. Conclusion

This article set out to empirically test the theory-driven but normative claim that collaborative network implementation provides a solution to the implementation challenges of policy growth. A specific focus is on network management as authors such as Agranoff and McGuire (2001) show that network collaboration requires coordination and consensus. Herranz (2010) underscores the importance of network management for collaborative policy delivery capacity. We test the claim based on data gained from smoking prevention networks in Switzerland. Smoking prevention projects receive funding from a national agency, the TPF, under the condition that they be coordinated within cantonal policy mixes. These policy mixes build actual networks of concrete service delivering policy projects coordinated to varying degrees in the different cantons. We take advantage of this situation for the Bayesian ordered logistic regression analysis of 13 Swiss smoking prevention networks and the 187 projects therein. The results show that network management does in fact improve output performance. However, the effect only applies to new policy projects because network management facilitates access to implementing partners and target groups. In contrast, network management showed no tangible effect on output performance in existing projects.

The present case resides in public health and prevention policy. The question therefore arises whether the findings are valid beyond the studied policy sector. We maintain that we can draw general insights from the present research as the focus is on output delivery rather than policy effects and the studied projects were the actual implementing entities. The projects produced and delivered concrete outputs to their target groups such as information services, consultation visits, campaign material, or events. Output performance is arguably less affected by policy-idiosyncratic effects such as the social construction of target groups than policy effects that depend on the response of these target groups. The studied networks are cases of collaborative policy delivery rather than they are mere cases of prevention policy. We therefore claim our results yield valid insights beyond the empirical policy case.

While the results show that networks, if actively managed, can be a means to support implementation in the face of policy growth, there is another potential benefit of the network approach in this context. As Hinterleitner et al. (2023) point out, one of the reasons for the emergence of policy growth is institutional fragmentation, that is, insufficiently coordinated planning of newly initiated policies between different actors from different sectors and at different levels. It is precisely this problem that the idea of collaborative governance—understood here more broadly across the phase of policy formulation and implementation—addresses. As Ansell and Gash (2008) have argued, collaborative governance is “a governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy” (Ansell & Gash, 2008). The creation of one of the core objectives of this cooperation movement and thus represents to some extent an antipole to the observed growth of policy complexity. In today’s reality, this propagated, increased coordination thus does not yet seem to be consistently successful in creating coherence and reducing complexity, considering Hinterleitner et al.’s (2023) observation. Nevertheless, promoting collaborative governance forms is one of the key levers to counter this trend in the future.

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Data availability statement

The data that support the findings of this study are available in the supplementary material of this article.

Endnotes

- ¹ Additional information on the data is presented in the Supplementary Material in Tables A1, A2, A6, and A7.
- ² A detailed analysis of all projects can be found in the published evaluation reports (in German and French). Link to the reports: <https://www.tpf.admin.ch/tpf/de/home/kant-prog-nav/kantonsuebergreifende-evaluation.html>.
- ³ Model-diagnostics are presented in the Supplementary Material in Figures A1, A2, and A3.

- ⁴ The results of the frequentist models are presented in the Supplementary Material in Tables A3, A4, and A5.
- ⁵ As part of the analyses carried out, various other aspects of the individual projects such as the role of multipliers, the instrument type, the respective target group addressed, the implementation setting or the legal status of the lead-organization were integrated into the models as control variables. These showed no significant relationship with the project outputs, which is why the additionally calculated models were not included in this paper due to lack of space.

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Supporting information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Data S1: Supporting Information.