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Understanding Foresight-Policy Interactions: The Role of Institutionalization

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ABSTRACT

Public administration in governments strives to develop forward-looking capacities. Foresight has come to the fore as a set of practices that is mobilized to counter political myopia. Despite this increasing interest in governmental foresight, research suggests that diverging institutional practices, organizational structures, and epistemic cultures between foresight practices and policy-making result in loose coupling. This article aims to contribute to understanding these complicated foresight-policy interactions. To this end, we draw on findings from public administration scholarship. The concept of institutionalization is employed to analyze how foresight aligns with working practices and routines in government. Based on an in-depth case study on the institutionalization of foresight practices within the German Federal Government, we demonstrate that scrutinizing the multiple dimensions of institutionalization helps not only to understand where and why loose ends occur but also provides new insights into some of the causes of the lacking impact. The article does not aim to provide an easy fix. Instead, we want to sensitize foresight practitioners, reduce both disappointment and overstating regarding the role of foresight in policy-making, and provide a nuanced understanding of foresight practices in government.

1 | Introduction

The ways in which the future is produced and enacted in organizations have pluralized (Wenzel et al. 2020). In response to critiques concerning short-termism and prevailing unidirectional planning paradigms in government (Boston 2021; Krznaric 2021; Slaughter 1996), novel formalized anticipatory practices such as foresight have been adopted in the public administration of governments (Boston 2016; Choo and Fergnani 2022). Analysts and scholars have proposed foresight as a means of thinking in alternative futures, dealing with disruptions, uncertainties, and risks, and ultimately contributing to safeguarding long-term policy goals (Boston 2016; Fuerth and Faber 2012). Notwithstanding widespread experimentation with foresight practices in various governments and public

administrations, the question remains how to implement foresight-policy interactions. Several researchers have analyzed foresight-related public sector innovations within the context of the political-administrative system. The term "governmental foresight" is used to describe the integration of foresight into the working practices of the executive branch of government. In conjunction with a set of recently published benchmarking studies, frameworks and recommendations for governmental foresight (Kimbell and Vesnić-Alujević 2020; School of International Futures 2021; Tönurist and Hanson 2020; Warnke, Priebe, and Veit 2022), the long-standing debate in the futures community about the institutionalization of policy-oriented foresight has been reinvigorated (Choo and Fergnani 2022; Fuerth and Faber 2012; Heo and Seo 2021; Schmidt 2015; Erik Solem 2011; van 't Klooster, Cramer, and van Asselt 2024).

A considerable number of accounts in the existing literature present a cautious outlook. In their analysis, Van der Steen and van Twist highlight that despite the extensive body of policy-relevant studies on future developments, anticipatory knowledge remains largely absent in the policy-making process (Van der Steen and van Twist 2013, p. 33). To explain this absence, the foresight literature has oftentimes referred to "mismatches" between foresight and policy (e.g., Day 2013; van Dorsser et al. 2020; Volkery and Ribeiro 2009). In their assessment of a governmental foresight process in South Korea, Heo and Seo formulate it even more drastically: "Indeed, present policy-making has inadequately employed foresight. Sometimes, foresight becomes a mere cliché or an excuse to support power politics and thus turns into a means of deferring urgent and politically arguable decisions and actions." (2021, p. 12). In a similar vein, Da Costa et al. (2008) highlight the "symbolic function" of foresight, i.e., signaling a long term orientation to the public or providing justification for a policy that has already been decided. However, there are also divergent appraisals. Choo and Fergnani (2022) present a case study of the successful adoption and institutionalization of foresight in the Singapore Public Service. The study examines the factors influencing the institutionalization of foresight practices in the Government of Singapore, emphasizing the interplay between various actors and structures. The findings highlight the significance of institutional entrepreneurs in the adoption of foresight practices.

In this article, we want contribute to this thread of research by introducing a conceptual framework that facilitates an examination of the institutional conditions in which foresight-policy interactions take place. While we endorse the collective efforts to advance the ontology, epistemology, and methodology that shape how we aspire to do foresight, we propose that the advancement of our understanding of the situated contexts in which foresight is done represents a crucial backdrop and often-missing piece for the development of the field. On the one hand, futures scholars recurrently reflect the epistemic foundations of foresight and (re-)construct its theoretical fundament (e.g., Dator 2019; Fergnani 2023; Inayatullah 1990; Urueña 2022). Foresight practitioners persistently strive to reflect on methods and design improved tools and approaches (e.g., Cuhls 2020; Schirrmeister, Göhring, and Warnke 2020; Spaniol and Rowland 2019). On the other hand, decades of research on policy advice have taught us that simply providing "better" methods does not necessarily result in "greater" impact (Howlett 2009; Hustedt and Veit 2017a). Indeed, research and practice often appear to be preoccupied with a narrow focus on the supply side, thereby neglecting the role of institutional conditions (Edler, Karaulova, and Barker 2022). Thus, considerations evolving around methods need to be brought together with advancing our understanding of the contexts in which foresight-policy interactions take place.

Our particular research interest evolves around the following related question: How do the institutional conditions, working practices, and routines of public administrations in government shape foresight-policy interactions? Instead of attempting to measure the impact of governmental foresight on policy decisions, we problematize, conceptualize, and illustrate institutionalization as a factor for the administrative capacity to absorb, interpret, and adopt forward-looking insights in the context of government. For the purpose of this paper, the term "institutionalization" is defined as a process that shapes the formation of working practices and routines. We hope to reduce both disappointment and overstatement regarding the role of foresight in policy action and provide a nuanced understanding of foresight practices in government.

To achieve this purpose, we first introduce core concepts from public administration research and relate them to the discussions concerning policy advice and foresight more specifically. This blending of discourses provides the theoretical grounding for an integrated perspective on the institutionalization of foresight in section three. Subsequently, we present an empirical illustration of the application of this public administration perspective on governmental foresight. To this end, we draw from a case study on the institutionalization of foresight within the German Federal Government, in which we investigate the institutionalization of foresight in multiple ministries and policy sectors. Notwithstanding the particularity of the German case, our objective in the discussion section five is to elucidate issues that are perceived more widely and to elaborate on the relationship between institutionalization and what is been perceived as mismatches. The paper concludes with a consideration of the potential for research on institutionalization to both problematize and help advance foresight-policy interactions.

2 | The Public Administration Perspective on Policy Advice

The coordination and formulation of draft policies is one of the main functions of ministerial bureaucracies. Civil servants in government departments have traditionally been described as prime policy advisers of the minister in parliamentary democracies (Halligan 1995). Even though there is a broad consensus that the era when impartial civil servants were the primary policy advisers has passed (Craft 2015; Diamond 2020; Howlett and Migone 2013; Peters and Savoie 2025), they are still important actors in the policy process (e.g., Schnose 2017). The assumption that impartial civil servants are "speaking truth to power" by providing the best available knowledge base to political decision-makers is, however, much too simplistic. The policy cycle model, for instance, is not considered as a realistic description of the policy process. Instead, it is used as a heuristic for analytical purposes. Real policy processes have been unmasked as being much less rational and linear (Jann and Wegrich 2017).

Policy advice serves two main purposes in the policy process: rationalization and legitimization (Hustedt and Veit 2017b). Rationalization involves enhancing the knowledge base of political decision-making. It assumes that policy-makers seek advice to identify and evaluate policy alternatives, and to finally make evidence-based policy decisions. The legitimizing function of policy advice suggests that policy-makers seek advice to pursue strategic goals, such as gaining time while simultaneously signaling activity or gaining expert support for a policy decision that has already been agreed on to enhance its acceptance by the voters.

Governmental foresight models typically overemphasize the rationalization function and underestimate the legitimization function of policy advice (Da Costa et al. 2008; Monteiro and Dal Borgo 2023; Washington 2023). This is problematic because the causes of a lacking impact of foresight in actual policy-making can only be understood when reflecting on the legitimizing function of policy advice as well. Policy negotiation processes frequently do not occur in an argumentative mode; rather, they entail a balancing of interests. From this perspective, policy actors would only ever select from foresight studies those elements that align with their own position. It is a somewhat idealistic assumption that foresight can lead to a shift in interest-based policy positions through the use of compelling arguments. However, institutionalization of foresight in government can bring about changes in the composition of actors and the mechanisms through which policy solutions are negotiated. For this reason, the way in which foresight is institutionalized affects the likelihood that foresight will influence the design of policies.

Ministerial civil servants are those civil servants who work in government departments (ministries). Ministerial civil servants differ from other bureaucrats in their specific task profile—they are typically less involved in enforcement and implementation tasks and instead engaged in policy formulation and coordination. Their role is more closely linked to politics, which is why they are often described as acting in a highly politicized environment (Aderbach, Putnam, and Rockman 2010; Cooper 2021). As advisers of the minister, they are both on the supply and the demand side of policy advice: They "translate" political advisory demands into concrete consulting assignments, they obtain expertize from subordinated agencies, they interact with a variety of internal and external stakeholders and advisers for the purpose of information gathering and knowledge building. When preparing policy advice to political decision-makers, they are predestined for fulfilling both the rationalization and the legitimatization function of policy advice. Their comprehensive knowledge of the policy-making process in government, their political responsiveness and their ability to anticipate the political implications of policy proposals make them suitable knowledge brokers (e.g., Høydal 2020). In other words: ministerial civil servants have the knowledge, ability, and access to increase the policy impact of foresight. Unlike most external providers of advice, they are able to take political factors such as timing, wording, strategic linking of different policy issues or initiatives or linking of policy solutions with current policy problems into account when giving policy advice.

From this perspective, it may appear surprising that the literature constantly criticizes the inadequate utilization of available knowledge in policy-making (Day 2013; van Dorsser et al. 2020; Volkery and Ribeiro 2009). It becomes evident that the "impact problem" described in the foresight literature is not exclusive to foresight but rather reflects a broader issue: the existence of relevant knowledge does not automatically translate into its incorporation into the policy advice provided by ministerial civil servants, and even when more substantial advice is offered, it does not necessarily have an impact on the final policy decision (e.g., Edler, Karaulova, and Barker 2022).

To better understand these phenomena, it is helpful to reflect on some core characteristics of the government bureaucracy.

Government departments (ministries) are organized along ministerial portfolios, and their internal organization is—as it is typical for bureaucracies in general—characterized by a high degree of functional specialization and a rather strict hierarchy. Those characteristics have often been criticized as cementing established patterns of policy-making, fostering silo-thinking, and hindering innovation (Hustedt and Seyfried 2016; Ritz and Schädeli 2022). Regardless of this criticism, reform attempts are often little successful and lead, at maximum, only to small and incremental changes.

The main reason for this is that the described features of bureaucracy fulfill important functions as described early on by Max Weber (2009). Functional specialization, for instance, secures professional competence and regulated responsibilities. The other side of the coin is what Herbert A. Simon described as "selective perception" (Simon 1947): each administrative unit is focussing on its own area of responsibility, problems outside this area as well as interdependencies between different areas are not recognized and thus ignored in administrative action (including policy advice). In a similar vein, "negative coordination" is considered a consequence of functional differentiation (Peters 2018). Negative coordination in governmental policy-making means that the initial policy draft is prepared by one single department with primary responsibility for the issue. Other departments get involved later on in the process to check the draft on interferences with their own policy preferences (Radtke, Hustedt, and Klinnert 2016). Conflicts can escalate into "turf wars" (Finke 2020), they are usually solved by negotiating compromises between departments. The final compromise can ignore or even oppose the available knowledge as it is a political compromise based on negotiations in a political environment. Moreover, synergies between different policy proposals are usually not recognized. For cross-cutting policy issues—or "wicked problems"—the established portfolio structure and "negative coordination" as the standard coordination practice in government form severe challenges, and this is also true for overcoming the impact impasse of foresight (Danken, Dribbisch, and Lange 2016).

Public administration scholars and organization researchers underline that attempts to improve the consideration of knowledge of long-term societal developments and (intended and unintended) policy consequences in different areas within government departments require a successful process of institutionalization (e.g., Edler, Karaulova, and Barker 2022). Experiences with the implementation of Impact Assessments show that there are large implementation deficits due to an insufficient institutionalization. In many cases, Impact Assessments are formally implemented to fulfill legitimization purposes but do not change the policy process substantially (Staroňová 2010; Veit 2009; Wanckel 2023). Research on "wicked problems" reveals that the implementation of new organizational structures (e.g., interdepartmental working groups) is not sufficient but has to be accompanied by profound changes in organizational culture and established routines (Alford and Head 2017; Daviter 2017; Radtke, Hustedt, and Klinnert 2016). Thus, a nuanced conception of institutionalization is key to understand (and improve) foresight-policy interactions.

3 | Conceptual Framework

Public administration scholarship has developed manifold concepts for understanding institutionalization. What these perspectives have in common is a focus on the establishment of routinized habits in organizations. This can be explained as the result of rational decisions, imitation, or reproduction (DiMaggio and Powell 1983). Scott (2008), offers an integrated perspective to understand institutions. According to his perspective, institutionalization consists of three pillars: regulative, normative, and cognitive-cultural. In practice, the regulative pillar is often overemphasized, while the two other pillars receive too little consideration. However, a successful institutionalization depends on the interplay of appropriate regulative, cognitive and normative conditions within policy-making organizations (Edler, Karaulova, and Barker 2022).

For the purpose of our study, we slightly adapt Scott's concept by splitting up the regulative pillar of institutionalization in two distinct dimensions: organization and regulation. Consequently, we use four dimensions of institutionalization in our analytical framework (Figure 1): organizational, regulative, normative, and cognitive-cultural. The organizational dimension focuses on the establishment of organizational responsibilities for foresight in government. The regulative dimension focuses on regulative rules to conduct foresight studies in policy-making. The normative dimension focuses on social obligations to act in a distinct, foresight-oriented manner in policy-making. Finally, the cultural-cognitive dimension focuses on the question, in how far foresight thinking is embedded in the existing administrative culture and perception patterns. This includes the question, whether civil servants have an adequate knowledge base for foresight. In the next section, we apply the analytical framework to the case of the German federal government to identify barriers for the use of foresight findings in policy-making and options to better institutionalize foresight in government.

4 | Data and Methods

The findings presented in this article are based on a case study conducted from 2021 to 2022. Studying foresight-policy interactions within the German Federal Government through in-depth expert interviews with 31 civil servants, meetings, and gray literature, proved to be an insightful case for understanding the institutionalization of foresight. The research was carried out during the final phase of Angela Merkel's term in office, when she led a coalition of conservatives and social-democrats. This government may be characterized as relatively traditional in that no reforms were implemented to change the way the government apparatus worked.

The sample of interviewees was selected with great care to align with the specific objectives of our research. Firstly, to transcend the boundaries of specific policy domains, it was decided that a minimum of one civil servant from each ministry should be interviewed. Secondly, to give due consideration to the differing assessments of foresight within the hierarchy, interviews were conducted with civil servants at both the operational (civil servants without management function, section heads) and management levels of the respective ministry (heads of directorate, director-general or administrative state secretary) (see Table A1). Thirdly, the interview partners were selected on the basis of their prior experience engaging with foresight. Indeed, the majority of the officials interviewed had previously commissioned foresight studies or had worked in or managed a foresight group.

It should be noted that, despite the broad range of interview partners, this study does not claim to provide a comprehensive overview of all activities that aim to support governmental foresight. Instead, the interviews focus on questions considering the institutionalization of foresight. In the course of interviewing, we refrained from providing a strict definition of foresight. Instead, we introduced international best practices that exemplarily stand for governmental foresight at large while also leaving room for associations from the side of the interviewed civil servants. The interviews followed a semi-structured guideline, which we developed based on the concept of institutionalization described above. The first part of the interviews comprised three main questions. What is the current status of strategic foresight adoption within your unit, division, and ministry. What existing practices favor or impede the implementation of more anticipatory policy-making? What would you expect from an institutionalization of foresight in the government? In the second part, interviewees were presented with different options for institutionalization of foresight in the government and asked to assess the advantages and potential

FIGURE 1 | Conceptual framework to study the institutionalization of foresight in government (own illustration) based on Scott (2008).

problems of each option. The options addressed the four dimensions of institutionalization outlined in the previous section and had been previously refined in with a group of selected government officials.

All interviews were recorded and transcribed. Following an open coding approach for a qualitative content analysis (Corbin, Strauss 2008), two researchers developed codes and sub-codes independently from each other to classify and condense statements. We used the MaxQDA software to conduct this analysis. Recurring themes in our data set included: arguments depicting the necessity of governmental foresight; descriptions of barriers to anticipatory policy-making; information regarding the status-quo of institutionalization of foresight in government; thoughts concerning central actors and their respective roles; recommendations for the continued institutionalization of foresight-policy interactions and perceived risks of introducing new institutional designs. The research team discussed and compared the assigned codes and merged the codes in a comprehensive code-book that comprises 65 codes. Subsequently, the interview data was triangulated through an assessment of statements identified in government reports and assessments pertaining to foresight. Moreover, the preliminary findings were presented first to a group of 16 civil servants from all ministries in a meeting and then in a separate meeting to foresight practitioners. The key statements from both events were used for validating findings. For this article, our particular interest is to analyze, to track and to construct relations between the code set "barriers to anticipatory policy-making" and the set "institutionalization."

5 | The Context: Development of Foresight-Policy Interactions in the German Government

Before turning to the case study, some context information on the German federal government is necessary. Germany is a parliamentary democracy. General elections take place every 4 years and the federal government is typically formed as coalition government of two or three political parties. The federal government consists of the federal chancellor and federal ministers. Federal ministries in Germany exhibit a strict hierarchical and linear structure as a result of the constitutional principle of ministerial responsibility. Each ministry is led by a single minister. Despite the requirement for a cabinet majority to pass laws and significant policy programs ("cabinet principle") and the federal chancellor's responsibility for setting general policy guidelines ("chancellor principle"), German federal ministers possess a relatively strong position compared to their counterparts in many other countries. They exercise independent control over their ministries and policy domains ("departmental principle"). As a result, ministers are not subordinate to the head of government and cannot be instructed on how to handle specific matters within their ministries. In the process of policy-making, the departmental principle grants significant autonomy to the lead ministry in making procedural decisions and consulting interest groups (see, e.g., Kuhlmann and Veit 2021).

Germany has a long tradition in attempts at strengthening future-oriented government. Today, contemporary historians and public administration scholars classify the period between 1963 and 1973 as the "planning decade" (Ruck 2020) or the phase of "planning euphoria" (Jann 2009). The early history of the institutionalization of strategic foresight in Germany also falls into this period. First futures and foresight think-tanks who claimed to shape politics occurred in the 1960s (Kreibich 1991; Pausch 2016; Steinmüller 2012). Pioneers such as Robert Jungk, Ossip Flechtheim, Rolf Kreibich, and many others founded the first institutions, especially in the non-university research sector. The aim of these institutes was to support decision-makers in policy, administration, research, and business with anticipatory knowledge. In this early phase of its institutionalization, strategic foresight quickly gained in importance. For example, the literature mentions that the planning staff of the Federal Chancellery under Willy Brandt called in foresight practitioners as consultants (Kreibich 1991, 85 f. after Steinmüller 2012). An institutionalization within the German government was however not visible. In the course of the 1970s, observers attested to an increasing loss of significance of futures and foresight (ibid.).

It was not until the turn of the millennium that futures and foresight received more attention in Germany again. The field of science, technology, and innovation policy was one of the first to establish foresight activities and commence with institutionalization. With the opening-up of innovation policy in the 2000s, innovation policy-oriented foresight broadened its scope from merely scrutinizing technological developments, to include societal change and environmental transitions, thereby also diffusing to other policy fields (Daimer, Hufnagl, and Warnke 2012; Smits and Kuhlmann 2004). In 2013, the newly elected German government committed itself to strengthening foresight in their coalition treaty. As a consequence, new foresight units were founded in some departments. New units, for example, aimed at supporting foreign and security policy with early crisis detection, or social policy with research on the future of work and value creation. Additionally, interdepartmental foresight capacity building has recently been strengthened by the foresight methods seminar at the Federal Academy for Security Policy and by strategic foresight interdepartmental working group. According to the federal government answering an interpellation from the German parliament at the end of 2022, most ministries had the aspiration to increase their budgets for strategic foresight (from over 10 Mio € per year to requested 12,6 Mio € for 2023) (Deutscher Bundestag 2022).

6 | Results: Institutionalization of Foresight in the German Government

In this section, we present our findings along the four dimensions of institutionalization. We analyze the interviewees' descriptions of the status quo of the institutionalization of foresight in the German Federal Government as well as their perceptions concerning deficits and expectations.

6.1 | Organizational Institutionalization

The Federal German Government has established a number of units whose primary objective is to engage in strategic foresight.

At the time of the interviews, a total of 35 civil servants were primarily responsible for foresight-related topics. Some ministries had dedicated foresight units, including the Ministries of Defense, Foreign Affairs, and Education and Research. Another foresight unit within the Chancellery functioned as an inter-departmental platform for exchange and provided support for foresight work within the departments. In addition to these dedicated foresight units, interviewees emphasized that governmental foresight in Germany is typically organized at the staff level. In this context, civil servants in operational units frequently engage external providers to implement foresight processes. In this context, the Federal Ministry for Education and Research, which has a contracting budget of €4.26 million for the 2022 fiscal year, is particularly noteworthy. Furthermore, the Ministries of Defense and the Interior are each allocated an annual budget of between two and three million euros.

Another form of organizational institutionalization of foresight that interviewees highlighted is the establishment of think tanks, policy labs, or academies that are linked to single departments but are granted relative independence. Notable examples include a think tank for strategic foresight established by the Federal Ministry of Labour and Social Affairs in 2018 and a small unit within the German Environment Agency, which operates under the jurisdiction of the Ministry of the Environment.

The findings of the interview analysis indicate that there is no uniform model of organizational institutionalization of foresight within the German federal government. Some ministries prioritize the development of internal foresight capabilities, while others prioritize the engagement of external providers. The interplay between management levels, operational units, subordinate authorities, and external providers varies across ministries. A few interviewees were unaware of any foresight processes within their department. The decentralized organization of foresight-policy interactions in the German federal government arises from the departmental principle, which entails the relative independence of each ministry.

The interviewees unanimously emphasized the strong departmental principle and the subsequent prominence of silo thinking as the main barrier for future-oriented policy-making. They described how the lack of a "space" for overarching deliberation is inhibiting discussions about novel phenomena that do not yet have an "owner" within the organizational structure. From within one of the "silos" it is almost impossible to overcome this "ownership problem." One interviewee underlined that in coalition governments, policy-making is typically conflictive and not "think tank work." While the small foresight unit at the Federal Chancellery provides a platform for exchange and dialog between governmental foresight actors (roundtable), it has no mandate to truly coordinate foresight activities in government or to intervene in the affairs of single departments.

Within ministries, the interviewees criticized insufficient linkages between foresight units and units steering policy-making and legislative work. The hierarchical standing and power of units engaged in conducting and commissioning foresight were described as relatively low. The majority of these activities are perceived to be oriented towards providing support at the operational level. Tasks are managed through a clearly delineated division of responsibilities and processed along vertical hierarchies. According to one interviewee, large administrative structures are not particularly adept at fostering creativity and idea generation. Instead, they tend to excel in the assignment of responsibilities and the definition of competencies. In the interviewees opinion this serves the comprehensibility of administrative action, but simultaneously constrains the scope for creative thinking. In the case of foresight, with its focus on trends, change processes, and strategy, it is not sufficiently clear to what thematic unit it belongs, how actors develop a sense of shared ownership, and who can claim leadership. Foresight, one interviewee reasoned, always extends over several "allotments," each of which is overseen and safeguarded by their respective "tenants." These tenants, it was observed, are reluctant to tolerate any form of encroachment or intervention. Consequently, foresight is often likened to a "king without a kingdom," necessitating significant effort to align the various stakeholders and secure their buy-in. The interviewee asserted that it is exceedingly challenging to surmount the "ownership problem" within the confines of a single allotment, absent robust backing from the ministry's highest echelons.

In conclusion, the interviews demonstrate that there is a significant effort to institutionalize foresight within the organizational context. This encompasses the formation of specialized units for foresight, the designation of roles with foresight responsibilities, and the allocation of increased budgets for foresight initiatives. However, the organizational institutionalization of foresight does not adhere to a uniform model. Some ministries prioritize the development of internal foresight capabilities, while others engage external consultants to conduct foresight studies. Our interviews reveal great variance between ministries. Furthermore, the interviewees lament an "implementation deficit," i.e., missing links to decision-makers within departments and even more so the lacking inter-ministerial coordination. Table 1 summarizes these findings.

6.2 | Regulative Institutionalization

In their interviews, the officials highlighted the coalition agreement as the principal instrument for securing political commitment and initiating processes within the government. The implementation and referencing of the coalition agreement are regarded as the principal mode of working in the German federal government. While some interviewees perceived this as an unduly restrictive framework and criticized the purely operational and static view of political planning that is disconnected from external events, there was consensus that the coalition agreement determines day-to-day business. The initial mention of foresight in the coalition agreement in 2013 was identified as a primary catalyst for the implementation of processes and the establishment of new units. For foresight to become more than an additional exercise alongside the operationally relevant tasks, the interviewees suggested to not only mention it in the coalition agreement, but to specify concrete processes and objectives.

In addition to the coalition agreement, the German Federal Government has established formal procedures for evaluating

TABLE 1 | Indicator assessment of organizational institutionalization.

Indicators from conceptual framework	Related questions to interviewees (selection)	Key findings
Existence and relevance of units	What foresight activities have there been in your department, and which are in the planning stage? Can you recall any specific foresight publication or process that particularly impressed or influenced you?	Some units dedicated to foresight Variation in standing, typically limited influence
Coordination	With which other processes would foresight need to be aligned with and coordinated? In your experience, what are the most important factors for ensuring that foresight results are used for specific processes?	Missing links to decision-makers Low level of coordination (mainly exchange) through chancellery
Dedicated resources	What resources can you draw upon for foresight (personal and material)?	Staff responsible for foresight in all ministries Only few teams (foresight often the responsibility of one sole person, except in three departments) In some units substantial budgets for contracting (mainly for technical infrastructure and foresight studies)

the impact of legislation. These impact assessment rules are laid down in the Joint Rules of Procedure of Federal Ministries. According to these rules, it is mandatory for all ministries to assess the intended and unintended consequences of each government bill. This includes, among others, an ex-ante assessment of the bill's environmental impact. Nevertheless, despite its future-oriented control mechanisms, our interviewees have noted that it does not represent a fully-fledged example of regulatory institutionalization of foresight. The assessments in question typically rely on predetermined indicators, which is at odds with the majority of foresight approaches that emphasize the necessity for openness and the consideration of alternative scenarios.

Interviewees highlighted a potentially significant ruling by the Federal Constitutional Court. The "climate ruling" mandates that if political goals are set for the future, an explanation must also be provided for how they will be achieved. This ruling may compel government politicians to be more explicit about their plans, roadmaps, or scenarios. It was postulated by the interviewees that this could compel the government to adopt a more forward-thinking approach. In this case, some interviewees posit that institutionalizing foresight would serve to guarantee the implementation of principles such as intergenerational justice and intertemporal freedom. Upon inquiry regarding the proposal to implement binding procedures to enhance the integration of foresight in the formulation of future-oriented policies, such as incorporating foresight into the Joint Rules of Procedure of the Federal Ministries, the interviewees expressed reservations. Many expressed concerns that such a form of regulatory institutionalization could potentially render foresight ineffective and merely symbolic, akin to a "paper tiger." Similarly, interviewees expressed skepticism regarding the implementation of a reporting system, such as the one in Finland, where the Government Report on the Future and the

Parliament Report on the Future requires ministers to prepare, implement, and interpret foresight activities on a yearly basis.

In conclusion, the majority of interviewees indicated that there was no discernible regulatory institutionalization of strategic foresight within the German federal government. The interviewees expressed skepticism about the idea of fostering the institutionalization of foresight through binding procedures. Instead, they viewed the inclusion of foresight activities in the coalition agreement as a potential avenue for regulatory institutionalization. Based on the interviews conducted, it can be concluded that currently, there are no procedures in place to regulate the utilization of foresight or to impose sanctions for the absence of foresight implementation in the German Federal Government. Table 2 provides a summary of these findings.

6.3 | Normative Institutionalization

Government officials underscored the significance of capacity building as a pivotal factor in the establishment of informal networks. The foresight methods seminar at the Federal Academy for Security Policy was perceived as a significant contributor to the formation of interdepartmental networks among civil servants. Although numerous interviewees observed a considerable demand among civil servants to participate in the training, which is perceived as a beneficial opportunity for career advancement, only a limited number of civil servants, approximately a few hundred, had taken part thus far.

A significant number of interviewees expressed a clear need for innovative approaches to collaboration that transcend the boundaries of policy areas, ministries, or even departments. New forms of horizontal coordination, which facilitate the growth of knowledge beyond the sum of individual insights,

TABLE 2 | Indicator assessment of regulative institutionalization.

Indicators from conceptual framework	Related questions to interviewees (selection)	Key findings
Existence of rules	Are there any official rules that oblige or incentivize you to use foresight? Imagine that foresight would be an official requirement in the rules of procedure of the government... How would that shape your working routines? Is it desirable?	Coalition agreement seen as main lever for institutionalization of foresight No formal procedures in place Ruling of constitutional court seen as opportunity for establishment of rules in the future
Existence of sanctions	Are there any sanctions if you do not consider a foresight perspective in your work?	No formal sanctions, constitutional court can force the government to explain how political goals can be met in the future

are required with great urgency. The argument put forth by numerous interviewees is that only through policy strategies that transcend the individual perspectives can the intricate challenges of the future be effectively addressed. One interviewee identified the necessity of "mobilizing swarm intelligence." The interviewees underscored the significance of informal exchange with other departments, beyond mere "co-signing rounds" and formal occasions, such as the interdepartmental foresight working group at the chancellery. The interviewees underscored that the constitutionally enshrined departmental principle provides a foundation for the establishment of more coordinated accompanying processes. Furthermore, it is essential that the collective added value is transparent and accessible to all parties involved. As one civil servant aptly observed, this approach aims to ensure that the sum of the individual contributions exceeds the original expectations. It is noteworthy that this was less discussed in the context of establishing foresight as an institutionalized process, but rather as an anticipated outcome of such a process.

One interviewee posited that the training and socialization of leadership are of paramount importance in the institutionalization of innovative methods. The private sector is regarded as being more advanced in this domain due to the receptivity of managers and younger employees to novel concepts. However, this disposition must be espoused by both current and prospective leaders in the public sector. The perceived efficacy of existing career pathways in fostering an innovative and collaborative leadership culture exhibited considerable variation across departments and ministries. Some respondents observed that individuals who demonstrate commitment and interest beyond their assigned area, including foresight, are rewarded for their efforts. However, other respondents indicated that the expeditious processing of urgent tasks was prioritized over long-term and strategic thinking.

In conclusion, the formation of horizontal networks, the establishment of positive coordination, and the demonstration of leadership commitment for the implementation of foresight are identified as pivotal elements in the institutionalization of foresight. Concurrently, our interviewees perceive no social obligation to engage with foresight, which has resulted in minimal normative institutionalization. At the time of the interviews, the prevailing view was that capacity building represents the primary site for normative institutionalization. Table 3 provides a summary of these findings.

6.4 | Cognitive-Cultural Institutionalization

Against the backdrop of recent events, including the global pandemic, several interviewees underscored the necessity for the establishment of novel modes of working in government. These new modes of working are seen as a means of fostering the anticipatory capacities and resilience of government in the face of growing uncertainties. However, the interviews revealed no discernible consensus regarding the specific implications of this approach, the means of achieving it, or the concrete practices that would be involved. Instead, many of the arguments for institutionalizing foresight in government given by the interviewees in this context were based on international comparison. A common observation was that Germany would benefit from learning from international best practices. In this regard, the United States, the United Kingdom, Finland and Singapore were often mentioned.

According to our interviewees, government politicians are very much caught up in day-to-day business and focus on media resonance. The interviewees characterized this phenomenon as a "fixation on the present," an "adhocracy," and a "tyranny of the urgent over the important." In the absence of an immediate benefit to daily operations, foresight processes are frequently unattractive to decision-makers. Given the limited availability of attention, it was questioned whether government politicians would engage with scenarios. A forward-looking perspective would be regarded as an indulgence rather than a necessity. The counteraction of this fixation on the present was identified as a central function of strategic foresight.

Furthermore, the interviewees indicated that they perceive a tendency to avoid confronting potential risks and adverse outcomes. A significant number of respondents indicated that a forward-thinking culture of innovation and risk-taking is not yet well established in Germany. Additionally, there seems to be a pervasive reluctance to embrace experimental approaches with uncertain outcomes. In this regard, some interviewees observed that a lack of widespread knowledge of foresight and its methods contributes to low acceptance and even aversion.

A frequently cited obstacle is the concern that politicians, media figures, and the general public may not be equipped to handle unfavorable outcomes. In particular, scenarios with low probability and negative connotations are frequently misinterpreted in terms of predictions or even plans. Consequently, numerous

TABLE 3 | Indicator assessment of normative institutionalization.

Indicators from conceptual framework	Related questions to interviewees (selection)	Key findings
Certification/accreditation	Do you know of foresight capacity trainings in your domain?	High demand for foresight seminar
Informal networks	Where do you discuss foresight?	Several personal networks in place fostered by training activities, meetings and interdepartmental foresight working group
Expectations	In what kind of processes did you find it particularly interesting to use foresight? Why? Can you imagine others? How do you discern success? What are bottlenecks?	Some report foresight-like activities are highly valued and rewarded Some see it as career-obstructing

government officials are purported to be reluctant to disclose their scenarios to the public. What is needed according to our interviewees is a deepened public understanding of what foresight is and what goals it pursues.

In conclusion, foresight is not regarded as an inherent component of German policy-making. There is no shared language or understanding of foresight, which renders it a practice that must be explained and justified. Even if justification is successful, foresight must compete with tasks that are commonly perceived as more urgent and are therefore embedded in organizational logics. Nevertheless, the interviewees anticipate a shift towards novel organizational cultures, public sector innovation, increased experimentation, and a new culture of failure that could be partly propelled by foresight and simultaneously enhance its acceptance. Table 4 provides a summary of these findings.

7 | Discussion of Results: Institutionalization as a Framework for Understanding Foresight-Policy Interactions

The analysis of the interviews indicates that there are several deficiencies in the institutionalization of foresight within the German government. Although the presented statements of the interviewees indicate a growing organizational institutionalization of foresight, the interviews also demonstrate a lack of institutionalization, particularly with regard to the regulative, normative, and cognitive-cultural dimensions. This deficit can be attributed to several factors, including inadequate organizational structures, the absence of formal rules, a lack of social pressure, and insufficient attention given to foresight in policymaking, as described by the interviewed civil servants. Furthermore, it is noted that the concept of foresight does not readily align with the existing structures and procedures of the ministerial bureaucracy. The interviews corroborate the observations made by public administration scholars regarding the existence of certain challenges, such as "selective perception" and "negative coordination" (see Section 2 and empirical illustrations such as "allotments" and "adhocracy" in Section 6).

For public administration scholars these findings are not surprising or new. Functional differentiation and its consequences in state bureaucracies are well studied and understood.

However, what do they imply for our understanding of foresight-policy interactions? The deficits perceived by the interviewees resonate clearly with the notion of "mismatches" often brought to the fore in the foresight literature (e.g., Day 2013; van Dorsser et al. 2020; Volkery and Ribeiro 2009). While our research indicates that foresight practices fail to garner sufficient attention in the political-administrative system, we do not agree with the term "mismatch," which suggest a generic incompatibility. Rather, we propose the term "loose ends" to signify that foresight practices are undertaken, seek to link to the chains of activities within government, but fail to couple due to an absence of sufficient institutionalization.

The interplay between missing regulative institutionalization (i.e., no formal rules and no formalized control or sanctioning procedures), lacking normative institutionalization (i.e., no social pressure) and poor cognitive-cultural institutionalization (i.e., no attention or shared understanding) constitute loose ends in foresight-policy interactions. While governments may allocate material resources to conduct foresight, there are no coercive, nor mimetic, nor epistemic forces to ensure that the results of foresight processes are absorbed in policy-making. This impedes the circulation of foresight practices and results so policy actors do not afford them a high level of importance or serious consideration. A "loose end" has thus to be understood as a result of an incomplete and uneven institutionalization: Organizational institutionalization allows foresight to materialize, but the missing other dimensions of institutionalization make it incommensurable for uptake in the organizational environment. In this context, governmental foresight may be viewed as informative, but it remains largely irrelevant for policy analysts and decision-makers in government.

A rebalancing of uneven institutionalization of foresight in government is not easily achieved. Promoting other institutionalization dimensions of foresight may only shift problems. For instance, many of our interviewees warned of advocating for a stronger regulative institutionalization. In this version of an uneven institutionalization few resources, lacking social obligations, and a missing belief in the value of foresight, in their view, would turn foresight only into a bureaucratic burden. The only option that a majority of interviewees saw as a somewhat realistic way out of this impasse was the installation of a cross-departmental foresight unit within the government (Warnke, Priebe, and Veit 2022). Such a "futures lab," so it was

TABLE 4 | Indicator assessment of cultural-cognitive institutionalization.

Indicators from conceptual framework	Related questions to interviewees (selection)	Key findings
Common beliefs and perceptions	Can you imagine that principles of foresight, such as systemic thinking, long-term thinking, thinking in alternatives and questioning assumptions, could be firmly anchored in the working culture of the ministry?	Shared narrative of increasing uncertainty and risk Perception of overwhelming daily business and urgency Skepticisms towards public understanding of foresight findings (in particular scenarios)
Shared knowledge of foresight	How would you define foresight? Do you know of different understandings?	Confusion about definitions and what practices count as foresight Emerging shared knowledge through training
Mimetic isomorphism	What are best cases of governmental foresight for you?	Strong recognition of practices in other governments, but no direct emulation

argued, could help to overcome many of the barriers mentioned above and contribute substantially also to the cultural-cognitive and normative institutionalization dimensions and thereby strengthen the whole government's reflection and absorption capacity. At the same time, interviewees and discussants expressed skepticism regarding the realistic achievement of all the necessary conditions for this significant organizational innovation. Among these conditions were mentioned the need for high-level support, a clear mandate, shared ownership across ministries, and the sufficient attractiveness of the lab positions as a career incentive.

It is an open and pressing question how ideal conditions could precisely look like. To foster the organizational embeddedness, facilitate its regular use and uptake in policy-making, it is essential to address all pillars of institutionalization. While resources, trainings, and networks are important, their effects on institutionalization will remain elusive if no appropriate rules are integrated consistently into the prevailing processes of strategic planning, policy development, and law preparation. If the implementation of novel practices already represents a significant challenge for actors within government than the integration of practices from different levels and scales poses an even greater challenge. The involvement of external actors is likely to result in an intensification of complexity, as demonstrated by research on the interaction between federal and regional arenas (Priebe and Herberg 2024). Conversely, external pressures from parliament, courts, media, science, and civil society have the potential to exert influence and ensure that the outcomes of foresight studies cannot be disregarded in government.

8 | Conclusion

The study presented in this paper emphasizes that the sheer existence of governmental foresight units and dedicated budgets does not necessarily lead to proactive and forward-looking policy-making. We argue that one conducive factor for avoiding loose ends in foresight-policy interactions and facilitating absorption of results consists in its institutionalization along all dimensions (organizational, regulative, normative, and cognitive-cultural). Political attempts to strengthen foresight in policy-making often focus one-sidedly on individual dimensions, especially the organizational dimension, while widely neglecting the other dimensions.

While this perspective helps to explain how prevalent practices, institutional conditions and working routines of public administrations in government shape foresight-policy interactions, it does not provide an easy fix. As decades of public administration scholarship have shown, talk about deficits is always part of administrative reforms and public sector innovations.

With regard to the question of governmental foresight in the German Federal Government, our analysis leads us to conclude that there is a lack of institutionalization that presents an obstacle to the adoption of foresight practices and the absorption of the resulting bodies of knowledge. This deficiency arises from inadequate organizational frameworks, the absence of formal rules, the absence of social obligation, and insufficient attention towards foresight. The interviewed civil servants emphasized that foresight does not align well with the existing structures and procedures of the federal ministerial bureaucracy in Germany which are characterized by a strong departmental principle, resulting in "turf wars" and "negative coordination." To increase the potential forward-looking capacities of the German federal administration, three context-sensitive models of institutionalization were proposed elsewhere (Warnke, Priebe, and Veit 2022). One of these models incorporates the aforementioned futures lab, while the others suggest varying degrees of central coordination through the Federal Chancellery. The models seek to pay attention to all dimensions of institutionalization.

It is not possible to generalize these recommendations beyond the specific context of Germany. Nevertheless, it can be concluded that the application of the conceptual framework developed and illustrated in this article facilitates the assessment of foresight institutionalization and associated barriers for uptake of foresight practices and findings in public administrations. This, in turn, allows for the scoping, fine-tuning, and implementation of foresight processes in a manner appropriate to the specific institutional context. It is our contention that future research aimed at adapting specific methods to

particular institutional contexts will contribute to reducing disappointment in interactions between foresight and policy.

While we think that it is important to put forward proposals for supporting forward-looking policy-making, this paper also advocates for modesty. No single method, institutional design, or reform can guarantee that foresight practices match the workings of an institutional context, or even that it creates an impact on policy-making. The findings of our research suggest that a purely rationalist approach to the adaptation of foresight is inadequate. Instead, we propose that governmental foresight is contingent upon the social, political, and cultural features of the institutions in which it seeks to become embedded. Encouraging research collaboration between the futures community and public administration scholars holds great promise in designing meaningful interactions with policy. Ultimately such a nuanced understanding allows for a reflexive stance, which acknowledges that foresight is not only a sensorium for governments to forecast, assess, preempt, imagine, speculate, cocreate and experiment with futures, but that foresight is also a site of politics.

Data Availability Statement

The authors do not have permission to share data.

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Annex

TABLE A1 | Interviews.

Interviews (all 2021)	
I1	Director-General in a Federal Ministry
I2	Head of Foresight Section
I3	Civil Servant in a Nonmanagerial Position
I4	Civil Servant in a Nonmanagerial Position, Foresight Capacity Training
I5	Head of Political Planning
I6	Head of Section
I7	Head of Foresight Section
I8	Head of Foresight Think Tank
I9	Director-General in a Federal Ministry
I10	Head of Foresight Directorate
I11	Head of Section
I12	Head of Section
I13	Civil Servant in a Nonmanagerial Position
I14	Director-General in a Federal Ministry
I15	Civil Servant in a Nonmanagerial Position
I16	Secretary of State
I17	Head of Section
I18	Head of Section
I19	Director-General in a Federal Ministry
I20	Director-General in a Federal Ministry
I21	Civil Servant in a Nonmanagerial Position
I22	Head of Section
I23	Civil Servant in a Nonmanagerial Position
I24	Civil Servant in a Nonmanagerial Position
I25	Head of Section
I26	Head of Foresight Directorate
I27	Director-General in a Federal Ministry
I28	Director-General in a Federal Ministry
I29	Civil Servant in a Nonmanagerial Position
I30	Civil Servant in a Nonmanagerial Position
I31	Civil Servant in a Nonmanagerial Position, Foresight Capacity Training