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What Does This Button Do? Departmental Restructurings, Information Processing, and Administrative Errors

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ABSTRACT

In times of political turnover, incoming governments frequently reorganize parts of the central bureaucracy. They not only do so by reshuffling ministerial portfolios, but also by altering the internal design of ministerial departments. This paper problematizes these departmental restructurings from an organizational design perspective, linking them to several unintended consequences or administrative errors. In particular, the theoretical argument notes how some departmental changes increase the likelihood that "errors of omission" will occur (i.e., failing to act on problematic information signals), while other changes lead to "errors of commission" (i.e., acting on the wrong information signals). Theoretically, this paper thus illustrates the importance of changing the formal design for bureaucratic information processing and administrative decision-making. Practically, it demonstrates the implications of too carelessly pressing the buttons of structural design within public organizations.

Introduction

In recent years, scholars have started to map out the structural changes happening within ministerial departments (Bertels & Schulze-Gabrechten, 2021; Carroll et al., 2020). Empirically, such *departmental restructurings* are shown to occur frequently: units and divisions *within* ministries are constantly abolished, created, split up, and submerged. Particularly in times of political turnover the "machinery of government" often gets a makeover (Lichtmannegger & Bach, 2020; White & Dunleavy, 2010). Although sometimes driven by functional considerations (Lichtmannegger, 2019), such intra-ministerial changes often have a political or symbolic purpose (Mortensen & Green-Pedersen, 2015; Sieberer et al., 2021). By reshuffling and reassigning ministerial portfolios and altering the internal design of ministries, incoming governments attempt to reshape governmental policies in line with their preferences (Kuipers et al., 2021; Moe, 1995).

Although such shifts in organizational attention may be desirable from a political point of view (Baumgartner & Jones, 2014), this paper argues they are potentially problematic from an organizational design perspective. Departmental restructurings group and re-group together public officials in different ways, creating new internal and external boundaries for communication and information exchange (Brass et al., 2004).

Although organizational theorists focusing on business firms would worry about what this does to innovation capacity or product development, the implications for public organizations are of a different nature. In ministerial departments, characterized by a formalized hierarchical structures and vertical information flows, it could affect the detection of problematic policy signals and the extent to which they are communicated to those politically responsible at the top of the organization.

For ministries and other public organizations this can lead to problematic situations. Many political debates have been fought out over who in a ministerial department knew what, when, and why on issue X, Y, or Z. Ministers have been forced to resign over not being informed on policy problems that had long been detected by lower-level public officials. The recent childcare benefits scandal surrounding the Dutch tax authority is a case in point in this regard (Commissie Van Dam, 2020). Signals of problematic fraud detection practices had long been noted by lower-level officials, but never reached the public officials with the formal authority to act. Along the way, these signals got lost in the vast streams of information that make up any ministerial department's daily communications. The constant restructuring of the tax authority and its changing relationship with the ministry was an oft-cited cause (see Borstlap & Joustra, 2017).

Although these discussions are for a large part about politics and blame, they are also about the way in which organizations structure (and restructure) information processing. The decision premises ending up on a minister's desk are carefully constructed by lower-level officials who detect and communicate relevant evidence or information. The communication channels by which they do so emerge from the different ways in which individual officials are grouped together in the units and divisions that make up an organization, i.e., its organizational structure. Organizational structure restricts or facilitates the opportunities that organizational members have for communicating with one another, including who has (direct or indirect) access to those with decision-making authority (Brass et al., 2004). Specific design choices in terms of organizational structure thus potentially influence which pieces of information and decisions are prioritized and which are foreclosed (Joseph & Gaba, 2020; Rudalevige, 2005).

This crucial implication of departmental restructurings and organizational structure is often not considered by political scientists and public administration scholars. Those interested in mapping out departmental restructurings are theoretically more concerned with the political drivers of these changes (Kuipers et al., 2021; Sieberer et al., 2021). Moreover, within the broader public administration literature, the role of formal structure is often left implicit (Döhler, 2017, 2020). However, particularly for ministerial departments, the implications of structural design (and redesign) for administrative decision-making should not be underestimated. The typically high degrees of centralization within such departments imply that policy signals will have to climb many treads of the organizational hierarchy, as to inform those with the political responsibility to act. In addition, the formalization characterizing bureaucratic organizations means that public officials are less likely to surpass the formal lines of communication (see Pollitt, 2009).

Because of these characteristics it matters greatly how lower-level officials are grouped together and connected to those higher up the organizational hierarchy: this will determine the *sequential* pattern through which information-processing occurs (see Hammond, 1986). It also implies that frequently grouping and regrouping large numbers of civil servants in different ways has implications for the way in which policy signals travel through the organization and inform (top-level) decision-making. While some structural changes can better align various parts of the organization and create shorter lines of communication (see Balogun, 2007), other changes – particularly when done for political reasons – can create coordination and (knowledge) integration

problems. Departmental restructurings likely have double-edged consequences for the way in which policymakers are informed and this paper theorizes in what way.

More specifically, the core argument is that some structural changes will affect the rate at which *errors of omission* occur, in which problematic signals or crucial pieces of information detected at lower levels of the organization never reach high-level decision-makers and are not acted upon, while other changes affect the rate at which *errors of commission* occur, in which too many information signals reach high-level decision makers and they act on the wrong ones. Importantly, changes that reduce the error of omission rate typically increase the error of commission rate and vice versa. In that sense, trade-offs are inevitably involved in departmental restructurings and particular changes to the organizational structure likely have both positive and negative effects. This article provides the theoretical framing to think more concretely how such effects take shape and formulates propositions on the relationship between departmental restructurings and the administrative errors that might occur.

Such an argument has both theoretical and practical relevance. In thinking more clearly about the (problematic) decision-making tendencies that departmental restructurings create, this paper sheds new light on theoretical questions about (the nature of) bureaucratic information-processing and the role that (changing) organizational structures play therein (see Whetsell et al., 2021). In addition, such an analysis demonstrates the practical implications of too carelessly pressing the buttons of structural design within public organizations. Departmental restructurings alter communication flows and hence the way in which (environmental) signals reach top decision-makers. Such considerations should affect the way in which reorganizations are implemented, as it can limit the prevalence of unintended consequences and communications errors (see White & Dunleavy, 2010). Practitioners should be aware of the informational centers of gravity that departmental restructurings can create inside organizations, as well as their potential distorting effects on the decision premises by which upper echelons are informed.

To develop the argument, this paper first describes the theoretical information-processing perspective toward organizations from which departmental restructurings are potentially problematic. After this, a separate section describes the typical ways in which ministerial departments are restructured, focusing on illustrations from the Dutch context. Most prominently, this section notes how ministries often adjust the number of functional units or divisions within the organization (i.e.,

their degree of horizontal specialization), as well as the number of organizational layers (i.e., their degree of vertical differentiation). Moreover, ministries have increasingly incorporated matrix-like elements into their organizational structure, bringing together officials from different units or divisions in (temporary) cross-functional (project or program) teams. From there, an argument is built up on how these specific changes to the organizational structure of ministries affect the rate at which errors of omission or commission are likely to occur.

Why worry about departmental restructurings?

The theoretical argument developed in this paper builds on an information-processing perspective toward organizations. Information processing is the "collecting, assembling, interpreting, and prioritizing [of] signals from the environment" (Jones & Baumgartner, 2005, p. 7). Within the world of government, these signals are about "real-world" policy problems, problem definitions and potential pathways of government action (Workman et al., 2009, p. 76). At the level of central government, a complex set of institutions and policy-making arrangements works to filter, block, and occasionally amplify problematic policy signals (Workman et al., 2009). This paper's theoretical interest is in the role that (changes to) organizational structures of ministerial departments play in this regard.

Within ministerial departments, characterized by formal hierarchy and vertical communication structures, lower-level officials are typically concerned with picking up information signals and communicating them in formats appropriate for higher-level decision-makers (see Hammond, 1986;). Think for instance, about the cover notes or policy memos by which agency heads and department directors are informed. These are likely built up from hundreds of pages of underlying documents. To construct them, lower-level officials filter out information that they deem irrelevant and communicate their interpretation of what their supervisors need to adequately make decisions (Rudalevige, 2005, p. 339). In this way, such decision premises serve to avoid information overload for higher level decision-makers, necessarily filtering out a lot of information and policy considerations along the way.

What is filtered out partly depends on the existing organizational architecture, i.e., the structure of communications, interactions, and authority relationships within the organization (see, Joseph & Ocasio, 2012, pp. 634–635). Such architectures distribute managerial attention throughout the organization, with managers in different subunits and divisions focusing their attention on different aspects of the organization's task environment (see Ocasio, 1997). Particular *governance channels* then serve to aggregate information and attention within the organization, determining which policy signals will reach decision-makers in the upper echelons of the organization, i.e., ministers and top-level bureaucrats. Rather than merely providing a context (or constraint) to individual decision-making, organizational structure is thus an explicit way in which efforts and information are *aggregated* inside the organization (Barney & Felin, 2013; Joseph & Gaba, 2020). It determines which (problematic) signals at lower levels are passed on through the organizational hierarchy, as well as who has the authority to endorse or reject them (see Knudsen & Levinthal, 2007).

A core theoretical assumption underlying this reasoning is the *bounded rationality* of individual officials. This is what makes organizational structure such a crucial consideration: it delimits the responsibilities of individual officials, allowing them to focus their attentional capacities on a single domain or aspect of the task environment (see Fredrickson, 1986, p. 281). Importantly, by decomposing complex problems into many subproblems tackled by individual (or groups of) officials, organizational structure creates the benefits of *parallel processing* (March & Simon, 1958, p. 193). However, such decomposition also creates selective perceptions for individual officials, biasing their search for information (Cyert & March, 1963). In other words, public officials will focus on information that is salient to the interests of their unit or division and communicate their subjective perception of what they perceive as important.

In that sense, organizational structure has mixed effects on information-processing. On the one hand, it compensates for the bounded rationality of individual decision-makers, helping them to focus on the relevant aspects of the task environment rather than being overwhelmed by its complexity. On the other, the "pre-processed" information ending up at the top is also distorted by these narrowly bounded structural positions that public officials occupy within a broader organizational architecture. This can lead to situations in which problematic signals or crucial pieces of information never reach high-level decision-makers (Csaszar, 2012; Jacobides, 2007), because they are unjustly discarded along the way. Alternatively, decision premises can overemphasize particular pieces of evidence or interests, meaning that the wrong policy signals are communicated. In turn, given the inevitable information asymmetries that exist within hierarchies, higher-level officials only have limited possibilities for control and

must accept the communicated information pretty much as it stands (Hammond, 1986).

Particularly for public organizations, in which decision-making considerations typically reflect a broader range of public values, such potential distortions in administrative decision-making can be problematic. Two types of biases may occur in this process of information aggregation/condensation, which this paper describes as *administrative errors* (see Heimann, 1993; Sah & Stiglitz, 1986). First, organizations can make *errors of omission*. This means that organizations fail to react to policy signals, because those in charge are never made aware of them. Think for instance, about the recent hearings on the Dutch childcare benefits scandal, in which responsible junior ministers noted how problematic signals or crucial pieces of information got stuck somewhere in a "layer of clay" (see Commissie Van Dam, 2020). Such errors are about failing to act, when action is warranted. Problematic policy signals are unjustifiably filtered or blocked out by organizational structures, resulting in a lack of action.

Second, organizations can make *errors of commission*, in which the wrong signals reach high-level decision-makers (see Reitzig & Maciejovsky, 2015). In these situations, too much information is passed up the organizational hierarchy, creating the potential for informational overload at different points in the organization. Rather than missing out problematic policy signals, the risk here is that relevant signals are drowned out by irrelevant ones. Such errors are about making the wrong choices, i.e., choosing to act when it is improper to do so (Heimann, 1993, p. 422). In these instances, too little policy signals are filtered or blocked out by organizational structures, resulting in inappropriate actions. Time and resources are wasted on false diagnoses or explorations.

The crucial difference between these two types of errors is that errors of omission unjustifiably preserve the status quo, while errors of commission change this status quo but in the wrong direction. Although one might argue that errors of commission lead to blocking out other relevant information signals and are thus also some form of omission, errors of commission are not about failing to act, but about acting in the wrong way. Note that differentiating between errors of omission and errors of commission helps to better understand the trade-offs involved in administrative decision making, i.e., doing nothing versus doing the wrong thing. The informational complexity of public policymaking and the informational asymmetries encapsulated in organizational hierarchies make administrative decision-making vulnerable to both types of errors.

The core argument of this paper is that departmental restructurings affect the rate at which either errors of omission or errors of commission will occur. The primary mechanism that facilitates such a relationship, is that organizational structure affects the way in which decision premises are transmitted throughout the organization and hence which information signals reach the political leadership. Sometimes this is too much information, other times it is too little. Departmental restructurings likely have an effect in this regard, as they provide directed changes to parts of the organizational structure. To work out this argument however, it is first required to examine the kind of changes we typically see within central government bureaucracies. By identifying different dimensions of organizational structure that are altered through departmental restructurings, we can then be more concrete on how these dimensions affect administrative errors in different ways.

What do these departmental restructurings look like?

Both practitioners and academics have had a long-standing interest in (changes of) "machinery of government" arrangements (Davis et al., 1999; White & Dunleavy, 2010). At the most general level, such arrangements refer to the distribution of functions between different ministerial portfolios, non-departmental public bodies, and the relations between them (see MacCarthaigh & Roness, 2012). Particularly when a new government takes office, portfolio changes frequently occur. They provide incoming governments with the opportunity to express political priorities and tackle policy challenges with new organizational arrangements.

However, beyond the surface, recent empirical research demonstrates how ministerial changes also happen inside the organization and at lower levels of the organizational hierarchy (Kuipers et al., 2021). Particularly in countries with high degrees of ministerial autonomy, such as the Netherlands, Austria, and Germany, ministers often alter the internal organization of their own departments (Kuipers et al., 2021; Lichtmannegger & Bach, 2020). For instance, Bertels and Schulze-Gabrechten (2021) find that the types of units in the German federal bureaucracy have diversified, in which the use of "project groups" or "task forces" has become increasingly prominent. In addition, Kuipers et al. (2021) report considerable volatility in the number of units that exist within ministerial departments over time.

To specify these changes more concretely, several theoretical dimensions of organizational structure

should be spelled out. Three dimensions of organizational structure are particularly important in this regard, as they locate public officials within a particular circumscribed physical space (i.e., a unit, division, department, or project group) and specify the formal authority relationships between them (i.e., supervisor and subordinate; Brass et al., 2004; Whetsell et al., 2021). Firstly, *horizontal specialization* refers to the way in which tasks and responsibilities are allocated among different units at the same hierarchical level (Egeberg, 2003). Secondly, *vertical differentiation* describes how tasks and responsibilities are allocated across different hierarchical levels (Bacharach & Aiken, 1976). Thirdly, organizations can vary in the extent to which they allow for *cross-functional linkages* that cut across different units or divisions (Whitford, 2006). The next section explains these dimensions more concretely and argues that departmental restructurings frequently occur along these lines. It does so by providing illustrations from the Dutch context.[1]

Departmental restructurings: illustrations from the Dutch context

To understand the kind of restructurings going on within Dutch central government, a general description of what a typical ministerial department looks like is firstly required. Beyond the political leadership (i.e., ministers and junior ministers), ministries within the Netherlands wield a SG/DG coordination model (Ministry of Interior Affairs & Kingdom Relations, n.d.). Looking at the *line* organization[2] (Figure 1), this means there exists a top-down hierarchical structure with a Secretary-General (SG) on top, under whom

separate directorate-generals (DGs) are responsible for particular policy domains. These DGs are then subdivided into directorates ('directies') for further specialization (within which lower-level divisions and units exist). In terms of functional specialization, the line organization of ministerial departments is thus based on the principle of 'purpose' (Christensen & Lægreid, 2012).

As an illustration, take the Ministry of Education, Culture, and Science (OCW) as it was organized in 2017 (Ministry of Education, Culture, & Science, 2021). This ministry was subdivided in three DG's concerned with policy: one specialized toward "Primary and Secondary Education", one to "Higher Education and Science", and one to "Culture and Media".[3] To then take the DG "Higher Education and Science"; this DG has further specialized separate directorates for "Higher Education", "Vocational Education", "Science Policy", and "Emancipation". The directorate "Vocational Education" is accordingly subdivided into four separate divisions for "Budget and Funding", "System", "Innovation and Information", and "Performance Agreements" (a temporary program division) (see, Rijksoverheid, n.d.a).

Figure 1 provides the general structure of a typical Dutch ministerial department. Importantly, in the Dutch context, part of this structure is formalized through law. For one, it is required that, beyond the political leadership, each ministry is headed by a *Secretary-General*, who is tasked with the administrative leadership of the ministry (Ministry of Interior Affairs & Kingdom Relations, 1988). In addition, the design of a ministry is to be established *by decree*, explaining the different directorate-generals and directorates of the ministerial organization (i.e., the three
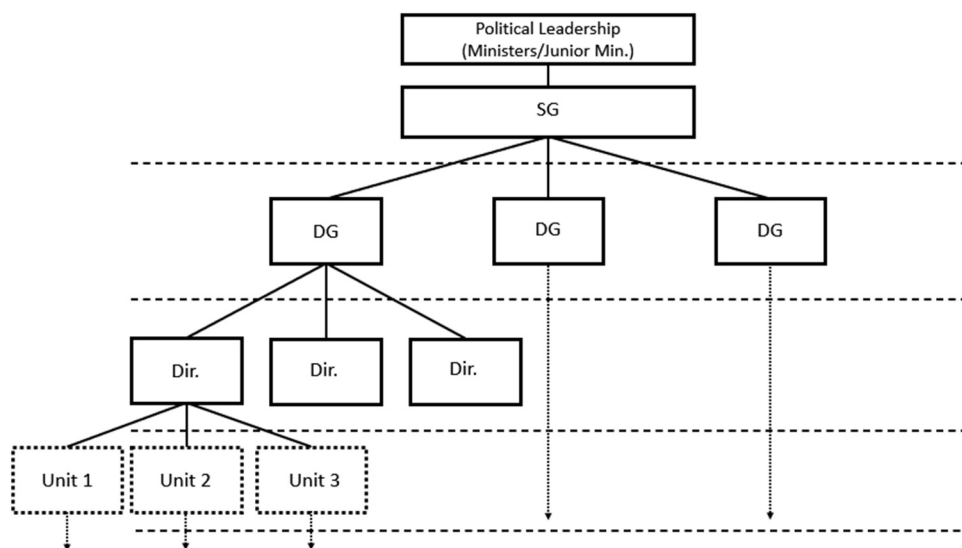

Figure 1. Typical organizational structure ministerial department.

highest hierarchical levels). Changes to this structure, particularly at the higher level, must also be established through such a decree (i.e., an organizational decree, or "organisatiebesluit"), although these are more notifications about changes rather than proposals to be discussed. Still, the Ministry of Interior Affairs has laid down several cadres or guidelines that ministerial departments should consider when reorganizing (Ministry of Interior Affairs & Kingdom Relations, 2011). Moreover, for making administrative changes to the "topfunctions", the Minister of Interior Affairs must be involved.[4]

Beyond these formalized aspects of organizational design, the ministers heading the different departments have a relatively high degree of autonomy for making structural changes. Although the distribution of ministerial portfolios is an important aspect of the coalition negotiations, once assigned, there exists a strong non-intervention principle within Dutch cabinets (Andeweg, 2000, p. 378). Ministers typically forgo their right to intervene in other portfolios to protect their own autonomy. This includes making the changes they deem necessary within their own departments.[5] Taking the structure in Figure 1 as a starting point, the next question is: what would departmental restructurings along the lines of horizontal specialization, vertical differentiation, and cross-functional linkages look like?

Starting with the dimension of *horizontal specialization*, a first consequence of regularly rearranging and reshuffling portfolio's whenever a new coalitions government takes office (see, Sieberer et al., 2021), is that sometimes entire ministries are terminated or merged. In practice, this means complete policy domains [in the form of a DG] are transferred to a different ministry, including the civil servants that work within that domain. Such a reshuffling of portfolios thus results in a changing degree of horizontal specialization at the DG-level. Detaching a portfolio from a ministry leads to a narrower degree of horizontal specialization. However, these portfolios are then often added to another ministry, resulting in more horizontal specialization in another part of the central government bureaucracy.

Take for instance the history of 'environment' as a policy portfolio within Dutch government (see Kroeze & Keulen, 2015). This portfolio first appeared in 1971 in which it was housed in the Ministry of Public Health and Environmental Hygiene (VoMil). In 1982 this ministry was dismantled, subsequently adding environmental policy to the already existing Ministry of Public Housing & Spatial Planning, forming the Ministry of Public Housing, Spatial Planning, and Environmental Management (VROM). In 2010, this ministry merged with the Ministry of Traffic and Water Management, becoming the Ministry of Infrastructure & Environment (I&M). In 2017, however, environmental policy was detached from this ministry and added to economic affairs, resulting in the Ministry of Economic Affairs & Climate, once again transferring many civil servants from one ministry to another and altering the extent of horizontal specialization in the process.

Within the same ministerial departments, restructurings along the lines of horizontal specialization also frequently occur. A prominent example is the reorganization of the Dutch Ministry of Interior Affairs, which changed its number of policy-DGs from three to two (Ministry of Interior Affairs & Kingdom Relations, 2017),[6] essentially reducing the degree of horizontal specialization at the second highest hierarchical level. However, units are sometimes also *added* to organizational layers, indicating a higher degree of horizontal specialization. Sometimes this is the result of a division or unit that is transferred from a different ministry, as was the case when the directorate "daycare" transferred from the Ministry of Education to the DG "Jobs" within the Ministry of Social Affairs in 2010 (see, Rijksoverheid, n.d. a). Sometimes it is because a new issue emerges on the administrative or political agenda, as was the case in the Ministry of Economic Affairs, where a separate unit for "Administrative Burden and IT" was created in 2012 to attend to issues of red tape for businesses (Ibid.). Changes to *horizontal specialization* can thus occur in both ways, a pattern also demonstrated by Kuipers et al. (2021).

The same goes for the degrees of *vertical differentiation* within ministries, i.e., the way in which tasks and decision-making authority are allocated vertically within the organization (see, also Egeberg, 2003). Within the Dutch context, a decrease in organizational layers or hierarchical levels is often the first recommendation for departmental restructurings, given the oft-cited benefit of shorter lines of communications (e.g., Commissie Wiegel, 1993). In the 1990s, partly as a result of such recommendations (see Tweede Kamer, 1997), several Dutch Ministries experimented with a more board-like structure at the top of the organizational hierarchy. Effectively this reduced the degree of vertical differentiation, as divisions (at the directorate-level) fell directly under a collective decision-making body at the top, without a separate management level in between (i.e., DG-level in Figure 1; see Bekker, 2017). However, the resulting lack of coordination had ministries quickly resort back to the traditional SG-DG model, for instance, at the Ministry of Health in 1997 (Tweede Kamer, 1997) or at the Ministry of Education in 2005 (Ministry of Education, Culture & Science, 2005). Several ministries within the Dutch context have thus moved up and down the scale of vertical differentiation.
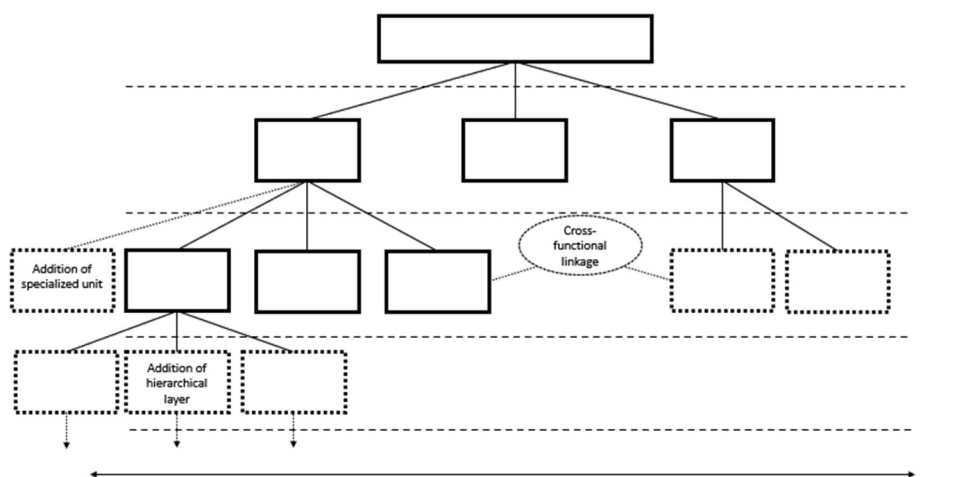
Figure 2. Direction of departmental restructurings.

At lower levels, such changes to ministerial departments also occur. Although each ministry has formalized the SG, DG, and Directorate-levels, ministerial divisions differ in terms of the degree to which levels beyond that are formalized. Some work with formalized units and subunits (i.e., 'onderafdelingen') and their according managerial positions. Others work more with horizontal teams or thematic clusters. One example is the Directorate *Healthy and Safe Working* at the Ministry of Social Affairs, which installed a more horizontal team-based structure working with "clustercoordinators" (see Uitvoeringsorganisatie Bedrijfsvoering Rijksoverheid, 2021). Another example is the *Vocational* Science-directorate at the Ministry of Education described earlier, which now works with multidisciplinary "thematic teams", rather than the formalized units through which they were formerly organized (Ministry of Education, Culture & Science, 2022). Such types of reorganization essentially merge two separate hierarchical levels into one, making the organization *flatter*. Sometimes, however, management layers are also added, particularly for ministries that have more of an executive function. The underlying rationale is often to shorten the [management] distance to the operational level (see Hegger, 2017; Tweede Kamer, 2017).

And lastly, within Dutch ministerial departments project-based or matrix-like elements are also often incorporated into the intra-organizational structure (see, also Bertels & Schulze-Gabrechten, 2021). The core of such elements is the creation of cross-functional divisions, units, or teams, with either a temporary or more permanent basis. The Dutch government differentiates between "projects," which are temporary work arrangements (max. two years) aimed at realizing a quantifiable goal, and "programmes", which are also temporary but structurally formalized and aimed at more abstract goals (see,

Rijksoverheid, n.d.b). The latter type of cross-functional structure often also brings together public officials from different ministerial departments. For instance, at the Ministry of Interior Affairs, a separate DG is temporarily established to coordinate the implementation of the *Environment and Planning Act* (in Dutch: *Omgevingswet*, see, Rijksoverheid, n.d.c). More often, however, such structures are established at the directorate level, in which a temporary unit is established to fulfill a specified policy goal. An example is the program-directorate "Innovation and Healthcare Renewal" within the ministry of Health, Wellbeing, and Sport (VWS), which brings together civil servants from different units and departments to promote healthcare innovations (see Ministry of Health, 2021). Such structures also exist at lower levels, in which "projecteams" cut through organizational silos, bringing together specialized officials from different divisions or directorates within the organization.

Overall, departmental restructurings thus seemingly occur along the three specified dimensions: (1) degree of *horizontal specialization*, (2) degree of *vertical differentiation*, and (3) the creation of *cross-functional linkages* (see Figure 2 for a visual summary). As noted earlier, these dimensions are important because they locate public officials within the physical space of an organization and specify the formal communication lines between them. The according consequences of these changes for information-processing within ministerial departments is what we turn to next.

What are the implications? Three propositions

In this section, the three lines along which departments can be restructured, are interpreted in terms of their likely effects on the errors of omission or commission
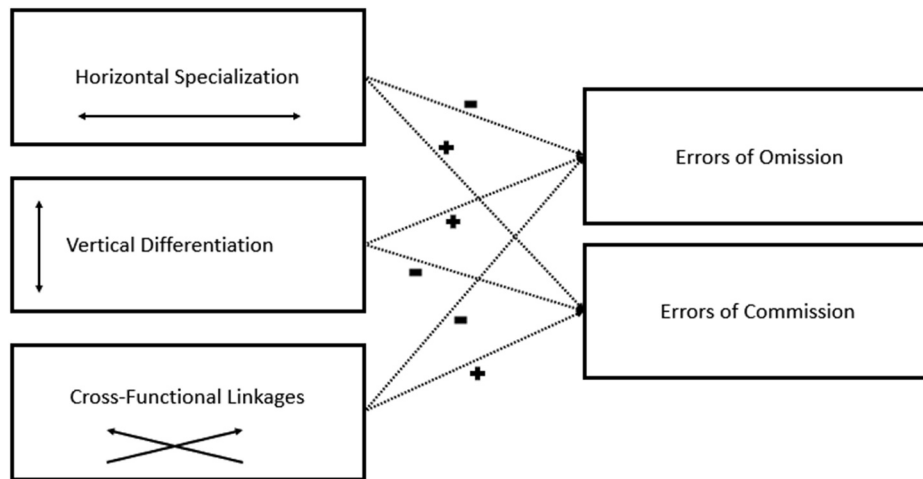
Figure 3. Conceptual model.

in administrative decision-making. The causal mechanism underlying this argument primarily focuses on the modes of information processing that different organizational structures facilitate. The propositions worked out below are summarized in Figure 3.

Horizontal specialization

Departmental restructurings that increase the horizontal specialization within the organization, result in more subunits at the same hierarchical level specializing in particular (policy-)domains. Such specialization provides a division of labor and creates the benefit of *parallel processing*, through which an organization can tackle more (functionally different) tasks at the same time. Regarding information processing, however, this also means there exist more units that take responsibility for the information flows relevant to their area of focus. In other words, additional parallel and independent channels of communication are created. With higher degrees of horizontal specialization, more units are picking up policy signals they believe the organization should address and communicate this up the line (see also Workman et al., 2009). This leads to increased information streams to organizational decision-makers containing (perceptions on) policy problems to be tackled and possible courses for action. This decreases the chances for an error of omission to occur, i.e., highly specialized organizations facilitating parallel processing are likelymore reliable and have a lower chance of missing particular policy signals (see Bendor, 1985; Heimann, 1993). However, the additional channels created through further horizontal specialization also provide an opportunity for faulty policy signals to permeate the organization. Given that organizational decision-makers are likely more overwhelmed by the increased

number of separate information streams they face, chances are they also more easily act on the wrong policy signals. Hence the first proposition is that:

P1: *Departmental restructurings that add units to organizational layers likely decrease the chances of an error of omission occurring. However, such restructurings increase the chances of an error of commission.*

Vertical differentiation

Changes to the degree of vertical differentiation refer to the number of hierarchical or management layers that constitute the organization. Rather than tasks, vertical differentiation is about the distribution of authority. Again, this affects the way in which information is processed inside the organization. More hierarchical layers means that information is likely to be processed *sequentially* (or serially), in which issues or pieces of information are dealt with one at a time and then passed onward along the chain of command (see Workman et al., 2009). Importantly, such additional layers create more of a buffer around higher-level decision-makers, likely reducing the information volume that reaches them. However, this also means that more diverse considerations or information signals are already discarded in earlier stages of organizational information-processing. Budgets scholars have noted how additional organizational layers slow down the response time to budgetary signals (e.g., Carpenter, 1996; Padgett, 1980). The same effect is likely to hold for policy signals more generally. In addition, more hierarchical layers with separate managers create more veto points within the organization that can kill off a particular policy signal. Although this means that organizations with a higher

degree of vertical differentiation are less likely to communicate decision premises with faulty policy signals, it also means policy signals that actually warrant action will have a harder time surviving the different managers that sequentially decide whether this signal should be communicated up the line. The proposition that follows is that:

P2: *Departmental restructurings that add hierarchical layers to the organization likely increase the chances of an error of omission occurring. However, such restructurings decrease the chances of an error of commission.*

Cross-functional linkages

Reorganizations also frequently introduce matrix-like elements to the organization, particularly in the form of cross-functional project teams or programs that bring together officials from different units on a temporary basis. Most importantly, this creates dual- or shared command lines, in which public officials working within such structures typically have multiple supervisors (i.e., a temporary project leader besides their line manager, see, Hammond, 1986). Whitford (2006) argues that such matrix-like structures result in more conflicts being referred to higher levels of the organizational hierarchy. The same argument is likely to hold for the way in which policy signals and information are communicated upward. After all, dual-command structures create multiple pathways for information to reach higher levels of the organizational hierarchy. The lateral layer of communication that a matrix like structure creates results in increased contact between units and departments, meaning that information more easily penetrates the organization (Ford & Randolph, 1992, p. 273). This creates a higher likelihood that problematic policy signals will reach those at the top of the organization. Although this likely reduces the omission error-rate, cross-unit ties do potentially create informational bottlenecks at the managerial level. Top-level decision-makers arguably receive more information to make sense of from different parts of the organization. Chances are higher that such larger volumes of information also contain wrong policy signals that are acted upon. Hence, a reasonable expectation is that:

P3: *Departmental restructurings that create cross-functional linkages likely decrease the chances of an error of omission occurring. However, such restructurings increase the chances of an error of commission.*

Discussion and conclusion

This paper has theorized on the likely implications of departmental restructurings, primarily in terms of the *administrative errors* that such restructurings potentially create. To summarize, it developed several theoretical propositions in which it was firstly argued that departmental restructurings that increase degrees of *horizontal specialization* make it less likely that ministerial departments will miss problematic information signals (i.e., errors of omission) but do potentially overwhelm higher-level decision-makers (leading to information overload and errors of commission). A same effect was proposed regarding the incorporation of cross-functional linkages into the existing organizational structure, given that such matrix-like elements provide multiple pathways for problematic policy signals to reach the higher levels of the organizational hierarchy. On the contrary, restructurings that add organizational layers (i.e., degrees of vertical differentiation) create more of a buffer around higher-level decision-makers. Although this shields the organizational leadership from unnecessary information and hence decreases errors of commission in administrative decision-making, it *does* make it more likely that problematic policy signals remain undetected (i.e., errors of omission).

This argument potentially has several important implications, particularly when noting that ministerial departments are frequently reorganized (see Kuipers et al., 2021). For one, thinking about the way in which departmental restructurings alter communication channels and potentially create informational bottlenecks, should make practitioners/incoming governments more careful about shaking up the design of government bureaucracies. It is important to emphasize, however, that an optimally designed ministerial department does not exist. The question to ask is whether it is more problematic for ministerial departments to make more errors of omission relative to errors of commission and vice versa. The parallel processing facilitated by functional specialization is likely more reliable, but also more redundant (Bendor, 1985). The sequential processing characterizing vertical differentiation shield decision-makers from information overload, but also means they occasionally miss crucial policy signals (see also Workman et al., 2009). In thinking about how the structural design of ministerial departments affects information-processing, a balance should be sought between the two types of administrative errors (Heimann, 1993). With too little information reaching them, decision-makers will be unresponsive to problematic policy signals and errors of omission become more likely. With too much information, however, decision-makers are

potentially overwhelmed and cannot function effectively, often leading to mistakes.

Notably, the presented argument provides a rather stylized representation of ministerial departments; i.e., in practice, the information-processing of these organizations is highly complex, and dependent on a bundle of systematic and unsystematic factors. Perhaps most importantly, formal organizational design is embedded in already existing *informal* patterns of interaction between organizational members. Both the formal and informal structure of an organization are crucial for its information processing and they likely have reciprocal influences (see McEviley et al., 2014). Given these considerations, the role of (internal) boundary-spanners within an organization is important to consider. These boundary-spanners maintain (informal) relationships with colleagues in different organizational units, facilitating interaction between them. In that sense, they may occupy a brokerage position in between units, accessing and integrating diverse sources of knowledge (Burt, 1992). In doing so, boundary-spanners potentially mitigate some of the unintended consequences and administrative errors created by departmental restructurings. By connecting different information sources and picking out information signals, they can bypass formal communication channels and correct for the errors of omission and commission that organizational structures potentially create.

Ceteris paribus, however, the core argument is merely that certain changes to the organizational structure will affect the probabilities with which errors of omission or commission occur. Such a line of thought helps scholars interested in the role of information processing in government bureaucracies to more clearly theorize on the way in which organizational structures systematically contracts or expands the supply of information to policymakers (Workman et al., 2009, p. 77). A logical next question is then: how to study all this empirically? For a quantitative approach, it seems relatively hard to achieve variation in organizational structure as to facilitate meaningful comparison and in that way answer explanatory research questions/isolate causal relationships. One promising alternative is *agent-based modelling*, which allows one to conduct computational experiments in which variation in various organizational parameters is achieved through simulations (see Chang & Harrington, 2006). This can help assess the theoretical implications of departmental restructurings on information processing and communications patterns within the organization. However, given the limited ecological validity of such an approach, qualitative research in the form of process-tracing and case studies would be a necessary complement.

Notes

1. The goal of this article is not to present a full-fledged case study. The primary goal of the illustrations is to better explain the different ways in which ministerial departments can change and to demonstrate that such changes actually happen. Given the unsystematic nature of the analysis, the generalization goals of this article are limited. The primary goal is to use empirical illustrations to better land the theoretical argument.
2. Note that ministerial departments often have a *line* and a *staff* organization. The latter type of divisions provide generic organizational functions such as communications, HR, financial control. The line organization is typically responsible for particular policy domains, including associated information streams. It is this latter aspect of ministerial departments to which the illustrations and theoretical arguments of this paper apply.
3. And a separate DG for DUO, an executive agency, not considered in this description.
4. Say, the replacement of an SG or the dissolvement of an entire DG.
5. Although they sometimes also leave this to the Secretary-General, as was the case for the reorganization at the Ministry of Interior Affairs in 2015 (see, Bekkers 2016).
6. DG Administration & Kingdom Relations, DG Living & Building, and DG Organization & Business Operations Rijk and its underlying directorates were submerged in two DGs: DG Administration & Living and DG Government Organizations.

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Disclosure statement

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