

# **Institutions as Executable Systems:**

## **Toward a Falsifiable Theory of Institutional Failure**

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# Chapter 1 Introduction

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## 1.1 Institutional Problem Statement

Contemporary administrative failure is commonly attributed to corruption, inefficiency, lack of capacity, or incomplete digitization. These explanations, while descriptively familiar, misidentify symptoms as causes. They focus on observable pathologies in institutional outcomes without accounting for the structural conditions that make such outcomes recurrent, resilient, and resistant to reform (North, 1990).

At a more fundamental level, administrative institutions fail when they cannot reliably create, execute, and preserve **institutional facts**. An institutional fact exists when a brute fact is successfully recognized as having a specific status within an institutional context (Searle, 1995). Governance and administration consist precisely in the repeated production and maintenance of such facts: licenses issued, registrations granted, obligations recorded, entitlements recognized. When these facts are unstable, inconsistently applied, or non-reconstructible, institutional performance degrades regardless of formal rules, stated policies, or declared reforms (North, 1990).

From this perspective, corruption, delay, opacity, and arbitrariness are not primary failures. They are downstream manifestations of a deeper instability in how institutional statuses are assigned and enforced. When the conditions under which a given action or artifact counts as an institutional outcome are ambiguous, discretionary, or inconsistently executed, institutional facts lose determinacy (Ostrom, 1990). The resulting environment permits divergent outcomes under nominally identical rules, undermining predictability, auditability, and trust.

Importantly, this instability is structural rather than individual. It does not depend on the moral quality, intent, or competence of specific officials. Instead, it arises when institutional systems lack mechanisms that reliably constrain how status assignments are produced, recorded, and verified (North, 1990). In such systems, correct outcomes may occur, but they do so contingently rather than systematically. Failures therefore recur even when personnel change, procedures are rewritten, or digital interfaces are introduced.

This reframing has significant implications. If institutional failure is rooted in the unstable execution of institutional facts, then reforms that target behavior, incentives, or surface-level efficiency cannot address the underlying problem. In institutional theory, the production of institutional outcomes depends on what are termed status functions—formal assignments by which an underlying action or artifact is collectively recognized as having a specific institutional status within a defined rule-governed context (Searle, 1995). Without reliable execution of status-function assignments, improvements remain local, temporary, or symbolic. Administrative systems may appear modernized while retaining the same structural fragilities that generated failure in the first place.

Accordingly, this dissertation treats institutional failure not as a problem of corruption control, organizational design, or technological adoption, but as a problem of executional reliability at the level where institutional facts are produced. This reframing establishes the analytical foundation for the remainder of the chapter and motivates a shift away from symptom-focused explanations toward an execution-centered understanding of governance breakdown.

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## 1.2 Conceptual Foundation: Status Functions as the Ground of Governance

Governance and administration operate through the creation and maintenance of **institutional facts**, not merely through the execution of procedures or the operation of organizations. Institutional facts differ categorically from brute facts. A brute fact exists independently of social recognition, whereas an institutional fact exists only insofar as a collective framework assigns a specific status and effect to some underlying action, artifact, or record (Searle, 1995). This distinction is foundational for understanding how institutions function and why they fail.

Institutional facts arise through **status-function assignments**, commonly expressed in the form “X counts as Y in context C” (Searle, 1995). In administrative settings, X may be a document, declaration, or action; Y is the institutional status produced, such as a registration, license, or entitlement; and C is the rule-governed context in which the assignment is valid. Governance consists in the repeated execution of these assignments across time, cases, and actors. When such assignments are applied consistently, institutional order emerges. When they are not, institutional coherence deteriorates.

This framing shifts attention away from organizations and procedures as primary analytical units. Organizational charts describe who is authorized to act, and procedures describe sequences of actions, but neither specifies what must reliably occur for an institutional fact to be created and recognized. A process may be followed correctly in form while still failing to produce a stable institutional outcome if the conditions under which X counts as Y remain implicit, discretionary, or inconsistently applied. As a result, procedural compliance does not guarantee institutional validity (North, 1990).

The reliability of governance therefore depends not on the existence of rules alone, but on the stability with which status functions are executed. Where the mapping between underlying actions and institutional outcomes is weakly specified or variably enforced, identical cases can yield divergent results without any formal rule violation (Ostrom, 1990). Such divergence undermines predictability and makes institutional behavior difficult to reconstruct after the fact. The problem is not the absence of rules, but the absence of mechanisms that ensure those rules are executed in a determinate and traceable manner.

Conventional models of administrative reform often treat governance as a coordination or optimization problem: improve incentives, streamline workflows, clarify responsibilities, or

increase transparency. While such interventions may improve local performance, they do not address the more basic question of whether institutional facts themselves are being produced in a stable way (Ostrom, 1990). Without a clear analytical account of how status functions are assigned and maintained, reforms risk improving surface efficiency while leaving the core sources of institutional instability intact.

Accordingly, this chapter adopts status functions as the primitive unit of analysis for governance and administration. By grounding institutional analysis in the conditions under which institutional facts come into existence, it becomes possible to explain why similar reforms produce divergent outcomes across contexts, and why failures persist despite repeated procedural or organizational change. This conceptual foundation establishes the basis for evaluating administrative systems in terms of their capacity to execute status-function assignments reliably, rather than in terms of their formal structure or stated intent.

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### 1.3 Limits of Conventional Digitization and E-Government Reforms

Over the past several decades, administrative reform has been closely associated with digitization. Paper records are replaced with databases, manual workflows with online portals, and face-to-face interactions with electronic submissions. These initiatives are frequently justified in terms of efficiency, transparency, and service quality. Yet across many administrative domains, digitization has failed to produce durable improvements in institutional reliability (Heeks, 2006). Delays persist, outcomes remain inconsistent, and discretion continues to shape results behind digital interfaces.

The central limitation of conventional digitization is that it operates primarily at the level of **representation**, not execution. Digital systems record actions, store documents, and transmit information, but they typically do not constrain how institutional facts are produced (Bannister & Connolly, 2014). A form submitted online does not, by itself, determine whether the submission counts as a valid application, nor does a database entry guarantee that a corresponding institutional status has been created. In such systems, the decisive moment—when X is recognized as counting as Y in context C—often remains discretionary, informal, or externally adjudicated.

As a consequence, digitized workflows frequently coexist with unchanged institutional practices. Decisions continue to be made through manual review, informal judgment, or undocumented override, even when surrounded by sophisticated information systems (Heeks, 2006). Digitization may reduce the visibility of such discretion by relocating it to back-office processes or exception handling, but it does not eliminate it. The institutional outcome still depends on how status-function assignments are interpreted and applied, rather than on any execution constraint imposed by the system itself.

Efficiency gains under these conditions can be misleading. Processing times may decrease, transaction volumes may increase, and user-facing services may appear improved, while the underlying instability of institutional facts remains intact. When execution remains

discretionary, faster processes merely propagate indeterminacy more quickly. Divergent outcomes across similar cases persist, and audit reconstruction remains partial or unreliable, despite the presence of digital records (Power, 1997).

This explains why many e-government reforms produce limited or reversible effects. By focusing on automating procedures rather than constraining execution, such reforms address how tasks are performed without addressing what must be true for an institutional outcome to exist (Bannister & Connolly, 2014). The result is a digital veneer over institutions whose core mechanisms remain unchanged. Institutional fragility is therefore preserved, even as administrative systems become more technologically sophisticated.

For these reasons, digitization alone cannot be treated as a solution to institutional failure. Without mechanisms that stabilize the execution of status-function assignments, digital systems function as passive recording tools rather than as sources of institutional reliability. Recognizing this limitation is essential for distinguishing between reforms that modernize appearances and those that address the structural conditions under which governance succeeds or fails.

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## 1.4 Discretion, Opacity, and Institutional Drift

Discretion enters administrative systems when the execution of status-function assignments is not fully constrained by the rules that formally define them. In such conditions, the determination of whether a given action or artifact counts as an institutional outcome is left partially open to judgment at the point of execution (Ostrom, 1990). This discretion is often treated as an attribute of individual officials, but it is more accurately understood as a structural property of institutional design. Where execution is underspecified or weakly enforced, discretion is not an exception to the system; it is the system.

Over time, discretionary execution produces **institutional drift**. Formal rules continue to exist on paper, but their relationship to actual outcomes becomes increasingly indirect (Mahoney & Thelen, 2010). Identical inputs may yield different institutional statuses depending on timing, interpretation, or informal practice. Conversely, formally distinct cases may be treated as equivalent through ad hoc accommodation. Drift therefore describes a divergence between the rule set that defines institutional intent and the pattern of outcomes that emerges in practice.

Opacity arises as a direct consequence of this divergence. When execution is non-deterministic, institutional outcomes cannot be reconstructed reliably from records alone. Even when documents, timestamps, and procedural logs are available, they fail to explain why a particular outcome occurred, because decisive judgments were applied outside of any stable, recorded rule (Power, 1997). The institutional fact appears as a result without a traceable execution path. In such environments, accountability is weakened not because information is absent, but because the information that exists is insufficient to reconstruct the causal chain that produced the outcome.

This failure of reconstruction has implications for audit and review. Audits presuppose that outcomes can be traced back to inputs through a known sequence of rule-governed steps. Where discretion operates without constraint, audits devolve into narrative exercises that rely on testimony, inference, or retrospective justification (Power, 1997). The inability to reproduce outcomes under identical conditions signals a breakdown in institutional reliability, independent of whether any misconduct can be demonstrated.

Reproducibility therefore serves as a critical criterion for evaluating administrative institutions. A reliable institution is one in which identical inputs, evaluated under the same rules and context, produce identical outcomes, or fail explicitly in recognizable ways. When reproducibility is absent, institutional behavior becomes unpredictable, and confidence in governance erodes. Drift, opacity, and audit failure are thus not isolated problems, but interrelated consequences of discretionary execution at the core of status-function assignment.

Understanding discretion in these terms clarifies why institutional instability persists despite repeated reform efforts. As long as the execution of status functions remains non-deterministic, institutional facts cannot be stabilized, and outcomes cannot be reliably explained or reproduced. This section establishes discretionary execution as the structural mechanism through which institutional drift and opacity arise, setting the stage for examining environments in which these effects become most visible.

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## 1.5 High-Friction States as Stress Environments

Administrative environments vary widely in the degree of friction they exhibit. In some settings, institutional processes operate with relatively low contention, predictable demand, and stable expectations. In others, administrative systems are characterized by congestion, discretionary pressure, inconsistent outcomes, and limited trust. These high-friction environments are often treated as exceptional or pathological cases. In this dissertation, they are treated instead as analytically informative stress environments (North, 1990).

High-friction states function as **stress tests** for institutional design. When administrative demand is high, rules are frequently contested, and discretion is routinely exercised, weaknesses in the execution of status functions become more visible. Under such conditions, the gap between formal rules and executed outcomes widens, and the mechanisms by which institutional facts are produced are placed under sustained load (Ostrom, 1990).

This visibility under load is analytically valuable. In low-friction environments, institutional instability may persist without producing obvious failure, as discretionary practices are absorbed by surplus capacity, informal coordination, or social trust. Outcomes appear stable even when execution is weakly constrained. By contrast, high-friction environments reduce the system's ability to absorb inconsistency. Divergent outcomes, delayed

decisions, and opaque resolutions accumulate, making it possible to observe execution failures directly rather than infer them indirectly.

The use of high-friction contexts in this analysis is therefore methodological rather than explanatory. Such environments are not invoked to attribute failure to national culture, historical contingency, or administrative competence. They are used to amplify structural effects that exist, in attenuated form, across administrative systems more generally. Thailand is referenced illustratively in this capacity, not as a case study, exemplar, or explanatory endpoint.

Patterns observed in high-friction environments are thus not treated as local anomalies. When institutional instability appears under stress, it indicates properties of the underlying execution structure, not idiosyncratic failure. If an institutional design cannot maintain stable status-function execution under adverse conditions, its apparent success in more favorable settings cannot be taken as evidence of robustness. High-friction states therefore provide a stringent test of institutional reliability, allowing structural failure patterns to be identified and generalized without reliance on comparative ranking or narrative explanation.

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## 1.6 Problem Restatement and Analytical Boundary

The preceding sections have reframed institutional failure as a problem rooted in execution rather than intent, design, or formal rulemaking. Administrative breakdown occurs when institutional facts cannot be created, applied, and preserved in a stable and reproducible manner. When the conditions under which actions or artifacts count as institutional outcomes are executed inconsistently or opaquely, institutional systems lose determinacy, regardless of how well their policies are articulated or how extensively their procedures are documented.

Restated formally, the problem addressed in this dissertation is the unreliable execution of status-function assignments. Institutional failure arises when the mapping between underlying actions and institutional statuses cannot be applied deterministically, reconstructed after the fact, or verified independently (North, 1990). Corruption, delay, and arbitrariness are treated here as consequences of this execution failure, not as independent explanatory variables. This perspective isolates the point at which institutional facts either come into existence or fail to do so, and treats that point as analytically primary.

To maintain analytical clarity, this dissertation explicitly brackets several common explanatory layers. Policy content, cultural norms, ethical commitments, and political intent are not treated as primary determinants of institutional reliability. While these factors may influence how institutions are perceived or governed, they do not explain why identical cases yield divergent outcomes within the same formal rule set. Similarly, questions of desirability, fairness, or legitimacy are not addressed at this stage. The focus remains on whether institutional outcomes can be executed consistently under defined conditions.

The scope of the dissertation is therefore deliberately constrained. It does not propose policy reforms, legal amendments, or administrative reorganizations. It does not seek to diagnose cultural pathologies or prescribe behavioral change. Instead, it examines the structural conditions under which institutional facts can be executed reliably, audited meaningfully, and maintained over time. By drawing this boundary explicitly, the analysis avoids conflating execution failures with broader normative or political debates.

This boundary-setting enables a transition to a more precise analytical frame for the remainder of the dissertation. Having established execution instability as the core institutional problem, subsequent chapters will examine how institutions can be evaluated and compared in terms of their capacity to constrain execution and stabilize institutional facts. This transition introduces a computability-oriented framing of institutions without presupposing particular mechanisms or solutions, preserving the distinction between problem diagnosis and institutional design that governs the structure of this work.

# Chapter 2 Literature Review

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## 2.0 Chapter Orientation: Literature Relative to Execution Failure

This chapter reviews existing literature through the analytical lens established in Chapter 1. The purpose of the review is not to evaluate what the literature proves, nor to adjudicate among competing theories, but to clarify how different bodies of work approach institutional failure relative to the problem of execution. The literature is read here as contextual background that illuminates what institutions are commonly understood to be, how they are analyzed, and where prevailing explanations systematically stop short of addressing executional reliability. (Searle, 1995; North, 1990)

Chapter 1 reframed institutional failure as a problem rooted in the unstable execution of institutional facts rather than in corruption control, organizational design, or technological adoption. From this perspective, many familiar explanations appear as partial accounts that operate around the point at which institutional outcomes are actually produced. Economic theories emphasize incentives and enforcement costs; administrative and public management literatures focus on procedures and organizational capacity; digitization and e-government research concentrates on information flow and service delivery; sociotechnical studies describe how human practices and artifacts interact; and algorithmic governance explores formalization and automation. Each of these literatures captures important dimensions of institutional behavior, yet none treats execution itself as a primary analytical object. (North, 1990; Heeks, 2006; Latour, 2005; Yeung, 2018)

Accordingly, this chapter does not attempt a comprehensive survey or enumeration of prior work. Instead, it maps how major strands of literature relate to the execution-centered problem identified earlier. The review is organized to make explicit what each literature explains well, what it presupposes, and what it leaves implicit or unresolved. The objective is not to critique individual authors or to assess empirical adequacy, but to identify structural limits that recur across otherwise diverse approaches.

The review therefore proceeds by contrast and boundary setting rather than synthesis. Literature is examined insofar as it sheds light on institutional rules, discretion, opacity, enforcement, and failure, while remaining silent on the formal execution of status-function assignments. Where relevant, points of convergence and divergence are noted, but no attempt is made to integrate these literatures into a unified theory at this stage. The absence identified is compositional: existing work addresses adjacent aspects of institutional functioning without providing a framework in which execution can be specified, constrained, and reconstructed as a determinate process. (Searle, 1995)

Throughout this chapter, literature is treated as necessary background rather than as constitutive authority. It provides the conceptual and analytical environment in which the dissertation is situated, but it does not supply the solution to the problem under investigation. By making the limits of existing explanations explicit, the chapter establishes

the conditions under which a more formal and methodologically grounded approach becomes necessary. This orientation prepares the transition to subsequent chapters without introducing new constructs, proposing institutional designs, or advancing solutions beyond the analytical boundaries already set.

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## **2.1 Method of Literature Mapping and Analytical Boundary**

This chapter adopts a selective and boundary-driven method of literature review. Rather than surveying prior work exhaustively or organizing it by discipline, the review is structured around a single analytical question: how existing literature explains institutional performance relative to the point at which institutional outcomes are executed. The purpose of this method is to preserve alignment with the execution-centered problem defined in Chapter 1 while avoiding the dilution that accompanies comprehensive enumeration. (Booth, Colomb, & Williams, 2016)

The review is therefore organized by explanatory function rather than by academic field. Literatures are examined according to what they take as their primary object—such as incentives, procedures, technologies, practices, or behavior—and how close their analysis comes to the execution of institutional facts. This approach makes visible a recurring pattern: execution is typically assumed, abstracted away, or treated indirectly, even in accounts that otherwise offer sophisticated explanations of institutional dynamics. (North, 1990; Ostrom, 1990)

Two analytical boundaries govern the selection and treatment of literature in this chapter. First, inclusion is based on conceptual relevance, not prominence or citation frequency. Works are referenced insofar as they exemplify a class of explanation or a recurring analytical move, not to establish authority or completeness. Second, the review refrains from normative evaluation. The goal is not to judge whether particular theories are correct or incorrect, but to identify what they make observable and what they leave structurally unaddressed.

This mapping strategy treats literature as a set of explanatory lenses rather than as competing solutions. Each lens highlights specific dimensions of institutional behavior while presupposing others. By placing these lenses side by side under a consistent analytical frame, the chapter identifies limits that are not tied to individual authors or schools of thought, but that arise from shared assumptions about where institutional action is located. (Ostrom, 1990)

Importantly, this method does not seek synthesis or integration at the level of theory. No attempt is made to reconcile economic, administrative, technological, or sociotechnical accounts into a unified model. Such synthesis would presuppose a stable object of integration, which the chapter aims to show is absent with respect to execution. The absence identified is methodological: existing literatures lack a formal treatment of

execution as a determinate, auditable process through which institutional facts are produced.

The scope of this chapter is therefore deliberately constrained. It does not introduce new constructs, hierarchies, or mechanisms, nor does it anticipate the framework developed in later chapters. Its contribution lies in clarifying the analytical terrain and in making explicit the boundary conditions under which current explanations operate. By the end of the chapter, the reader should understand not only what the literature explains, but also why the execution-centered problem remains unresolved within it.

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## 2.2 Incentive-Based Explanations of Institutional Failure

A substantial body of institutional and economic literature explains institutional performance through the structure of incentives faced by individual actors and organizations. Within this view, institutional failure arises when incentives are misaligned, enforcement is weak, or monitoring is insufficient, leading rational actors to deviate from prescribed rules. Corruption, rent-seeking, shirking, and noncompliance are treated as predictable responses to incentive environments rather than as anomalies or moral failings. (North, 1990; Williamson, 1985)

These accounts provide important insight into why actors exploit discretion when it is available. By modeling behavior as strategic and responsive to payoffs, incentive-based explanations clarify how formal rules can coexist with persistent informal practices and why reforms that alter rewards or penalties can change behavior at the margin. Such work has been influential in shaping policy interventions, emphasizing transparency, accountability mechanisms, and enforcement capacity as levers for institutional improvement. (Becker, 1968; Klitgaard, 1988)

However, within the execution-centered framing established in Chapter 1, incentive-based explanations operate at a level adjacent to, rather than at, execution itself. They typically assume that institutional rules are already executable and that the production of institutional outcomes is well-defined. The analytical focus is placed on whether actors choose to comply with or deviate from rules, not on whether the rules can be executed in a consistent, determinate manner across cases. (North, 1990)

As a result, execution is treated as a background condition. Institutional facts are presumed to be produced reliably, with failure attributed to opportunistic behavior that intervenes after execution has been specified. Even when enforcement costs or information asymmetries are emphasized, the underlying mechanism by which a rule becomes an institutional fact is rarely formalized. Incentives explain behavior within an execution gap, but they do not explain why such gaps persist structurally. (North, 1990)

This limitation becomes evident in reform efforts grounded primarily in incentive adjustment. Changes to compensation schemes, penalties, or oversight structures may reduce certain forms of opportunism, yet they often leave the execution process itself unchanged. Where

execution remains discretionary or opaque, incentive-based reforms tend to produce localized or temporary improvements rather than durable institutional stability. (Klitgaard, 1988)

Accordingly, this literature is treated here as illuminating a necessary but insufficient dimension of institutional failure. Incentive-based explanations clarify how actors respond to discretion and weak enforcement, but they do not address how discretion arises at the level of execution or how it might be constrained as a matter of institutional design. The persistence of failure under repeated incentive reforms thus points to a deeper analytical gap that cannot be resolved by incentive alignment alone.

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## 2.3 Digitization and E-Government Approaches

A parallel body of literature attributes institutional failure to deficiencies in information processing, administrative capacity, and procedural efficiency, proposing digitization and e-government as corrective measures. Within this perspective, institutions fail because records are fragmented, processes are slow or opaque, and information does not flow reliably across organizational boundaries. Digital systems are expected to reduce discretion, improve transparency, and standardize administrative action by replacing manual procedures with electronic workflows. (Heeks, 2006; Dunleavy et al., 2006)

This literature has generated extensive analysis of information systems adoption in the public sector, including studies of e-government platforms, digital service delivery, and administrative modernization. Digitization is commonly framed as a means of reducing corruption and inefficiency by increasing traceability, lowering transaction costs, and limiting opportunities for informal intervention. Empirical findings often show improvements in speed, accessibility, and user satisfaction following digital reforms. (Heeks, 2002; Margetts & Dunleavy, 2013)

Despite these contributions, digitization-focused accounts largely operate at the level of process representation rather than executive determination. Digital systems typically encode existing rules and procedures without formally constraining how institutional facts are produced. Electronic forms, databases, and workflow tools may accelerate administrative activity, but they do not necessarily specify the conditions under which a given input must result in a determinate institutional outcome. (Heeks, 2002; Heeks, 2006)

As a result, discretion is frequently relocated rather than eliminated. Where rules are ambiguous or under-specified, digital systems defer judgment to administrators, embed discretionary checkpoints, or rely on manual overrides. In such cases, execution remains contingent on interpretation, even though it is now mediated by digital artifacts. The appearance of modernization can therefore coexist with persistent variability in outcomes across cases and over time. (Heeks, 2002)

Moreover, digitization is often evaluated in terms of access, efficiency, or transparency rather than executive reliability. Improvements in information availability do not guarantee

that institutional facts are produced consistently, only that deviations may be more visible after the fact. The literature tends to assume that once information systems are in place, execution problems are secondary or derivative, rather than foundational. (Heeks, 2006)

Within the analytical frame of this dissertation, digitization and e-government approaches are thus treated as addressing the informational and procedural environment surrounding execution, not execution itself. They clarify how technology can support administrative functions, but they do not resolve how institutional facts are generated in a non-discretionary, reconstructible manner. The persistence of failure in digitally transformed institutions underscores the distinction between representing institutional processes and formally constraining their execution. (Heeks, 2002)

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## 2.4 Sociotechnical Systems and Institutional Drift

A further strand of literature explains institutional performance by treating institutions as sociotechnical systems composed of formal rules, technological artifacts, and human practices. From this perspective, institutional outcomes emerge through ongoing interaction between people and systems rather than through the mechanical application of rules alone. Drift, workarounds, and informal practices are understood as adaptive responses to complexity, misfit, or changing conditions within these systems. (Orlikowski, 1992; Suchman, 1987)

Sociotechnical accounts provide valuable descriptive insight into how discretion manifests in practice. They document how administrators interpret rules, how digital systems are adapted to local contexts, and how informal routines develop alongside formal procedures. Such analyses help explain why institutional behavior often diverges from formal design, even when rules are clear and technologies are in place. Drift is framed as a product of situated action, organizational learning, and the practical negotiation of constraints. (Suchman, 1987; Orlikowski, 2000)

However, within the execution-centered framing of this dissertation, sociotechnical explanations locate variability at the level of interaction rather than at the level of executional specification. They describe how discretion is exercised and amplified through human–artifact relations, but they do not explain why execution remains open to discretion in the first place. The presence of informal practices presupposes an execution environment in which outcomes are not fully determined by formal rules. (Orlikowski, 1992)

As a result, sociotechnical analyses tend to treat executional indeterminacy as an empirical given rather than as an analytical problem. Drift is observed, categorized, and sometimes managed through training, redesign, or cultural alignment, yet the underlying execution process remains under-specified. Institutional coherence is sought through better coordination between social and technical elements, not through formal constraints on how institutional facts are produced. (Orlikowski, 2000)

This focus has important implications for reform. Efforts grounded in sociotechnical alignment may reduce friction or improve usability, but they cannot eliminate discretionary execution where rules themselves do not determine outcomes. Drift may be mitigated temporarily, but it remains structurally possible as long as execution depends on interpretation at the point of action. (Suchman, 1987)

Accordingly, sociotechnical systems literature is treated here as clarifying the manifestation of institutional drift rather than its structural origin. It explains how discretionary execution unfolds and stabilizes in practice, but it does not provide mechanisms for executional reliability. Within the analytical boundary set in Chapter 1, the persistence of drift under sociotechnical reforms reinforces the distinction between describing institutional behavior and constraining the execution through which institutional facts are generated.

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## 2.5 Algorithmic Governance and Protocol Studies

A growing literature on algorithmic governance and code-based regulation seeks to address institutional failure through the formalization and automation of rules. Within this perspective, governance problems are attributed to inconsistency, human discretion, or enforcement delays, and are addressed by embedding rules directly into computational systems. Algorithms and code are expected to improve predictability, reduce arbitrariness, and ensure uniform application across cases. (Lessig, 1999; Yeung, 2018)

This body of work encompasses studies of automated decision systems, rule-based enforcement mechanisms, and the broader “code is law” discourse. Its central contribution lies in demonstrating how formal rules can be translated into executable logic and applied at scale. By reducing reliance on human judgment, algorithmic systems promise greater consistency and lower transaction costs, particularly in domains characterized by high volume and standardized procedures. (Yeung, 2018)

Within the execution-centered framing of this dissertation, however, algorithmic governance approaches remain analytically distinct from executional reliability. Algorithmic systems necessarily interpret inputs and select outcomes under conditions of ambiguity. Even when rules are formally encoded, algorithms must resolve edge cases, incomplete information, or conflicting criteria. This interpretive function locates decision authority within the system itself, rather than constraining execution as a non-discretionary process. (Pasquale, 2015)

Protocol-oriented approaches emphasize enforcement rather than judgment, but they too are often discussed in ways that conflate execution with decision-making. Code-based enforcement is frequently treated as a substitute for governance rather than as a mechanism that presupposes prior determination of outcomes. As a result, the distinction between deciding what should count as an institutional fact and executing that determination is not consistently maintained in the literature. (De Filippi & Wright, 2018)

Moreover, much of the algorithmic governance literature focuses on optimization, adaptivity, or autonomy. Systems are evaluated based on performance, accuracy, or responsiveness rather than on whether execution is determinate, auditable, and reconstructible. Where adaptive or probabilistic logic is introduced, execution becomes contingent on system behavior rather than fixed by institutional rules. (Pasquale, 2015)

Accordingly, this literature is treated here as addressing the automation of decision-making and enforcement rather than the formal execution of institutional facts. It clarifies the possibilities and limitations of computational governance, but it does not resolve how execution can be specified as a non-interpretive process that preserves institutional authority upstream of code. The persistence of discretion within algorithmic systems underscores the distinction between formalizing decisions and constraining execution, reinforcing the analytical gap identified throughout this chapter. (Lessig, 1999; Yeung, 2018)

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## 2.6 Corruption as Strategic Behavior under Discretion

A further body of literature addresses institutional failure through the analysis of corruption. In this work, corruption is commonly framed not as an aberration or purely moral deviation, but as strategic behavior that arises under conditions of discretion, weak enforcement, and limited accountability. Actors are modeled as responding rationally to opportunities created by opaque or indeterminate administrative processes, coordinating with others where necessary to manage risk and secure predictable outcomes. (Klitgaard, 1988; Rose-Ackerman, 1999)

This literature contributes important insight into how corruption persists across institutional contexts. By emphasizing strategic interaction, it explains why corrupt practices can become stable, routinized, and resistant to reform. Informal payments, preferential treatment, and selective enforcement are understood as mechanisms through which actors navigate uncertainty and compensate for unreliable formal processes. Corruption, in this sense, operates as an alternative coordination mechanism within institutional environments where formal execution is inconsistent. (Klitgaard, 1988)

Within the execution-centered framing of this dissertation, however, corruption literature remains analytically downstream of the problem identified in Chapter 1. It explains how actors behave once discretionary execution is available, but it does not explain why execution is discretionary in the first place. Discretion is treated as a given feature of the institutional environment rather than as a variable to be specified, constrained, or eliminated. (Rose-Ackerman, 1999)

As a result, anti-corruption analyses often focus on deterrence, monitoring, or cultural change without addressing the executional conditions that make corruption viable. Reforms grounded in transparency initiatives, enforcement campaigns, or incentive adjustments may disrupt specific practices, yet they leave intact the underlying indeterminacy through which institutional facts are produced. Where execution remains opaque or negotiable,

opportunities for strategic behavior re-emerge even after repeated interventions. (Klitgaard, 1988)

Accordingly, corruption is treated here as a symptom of executional indeterminacy rather than as its cause. The literature clarifies how strategic behavior exploits execution gaps and how such behavior can stabilize over time, but it does not provide an account of how those gaps arise or how they might be structurally constrained. The persistence of corruption across diverse institutional settings thus reinforces the conclusion that failure cannot be fully explained at the level of behavior, incentives, or enforcement alone, and that execution itself remains analytically unaddressed. (Rose-Ackerman, 1999)

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## 2.7 Literature Gap (Formal Statement)

Taken together, the literatures reviewed in this chapter provide extensive insight into institutional behavior, failure, and reform, yet they converge on a shared limitation. Economic analyses explain how actors respond to incentives and enforcement environments; digitization and e-government studies address information flow and procedural efficiency; sociotechnical accounts describe the interaction of rules, technologies, and practices; algorithmic governance explores formalization and automation; and corruption literature analyzes strategic behavior under discretion. Each strand illuminates important aspects of institutional functioning, but none treats execution itself as a primary analytical object. (North, 1990; Heeks, 2006; Orlitzki, 1992; Yeung, 2018; Klitgaard, 1988)

Across these literatures, execution is consistently assumed rather than specified. Institutional rules are taken to be executable; institutional outcomes are presumed to be producible; and failure is attributed to behavior, incentives, interpretation, or capacity surrounding execution. Where executional variability is acknowledged, it is treated as an empirical condition to be managed rather than as a formal problem requiring definition and constraint. As a result, the process by which institutional facts are produced remains analytically opaque. (Searle, 1995)

This gap is structural rather than disciplinary. It does not arise from the absence of particular theories, methods, or empirical studies, but from a shared set of assumptions about where institutional action is located. Existing frameworks address institutions around execution—before it, after it, or alongside it—without providing a formal account of how execution occurs in a determinate, auditable, and reconstructible manner. No reviewed literature specifies execution as a first-class object subject to systematic constraint.

Importantly, this gap cannot be resolved through synthesis alone. Combining incentive models, technological tools, sociotechnical insights, or enforcement strategies does not yield an account of execution if execution itself is not defined. The absence identified here is therefore not one of integration, but of formalization. Without an explicit treatment of

execution, institutional reforms remain vulnerable to discretion, drift, and strategic exploitation, regardless of their theoretical sophistication. (North, 1990; Heeks, 2002)

This chapter thus concludes that existing literature, while necessary for contextual understanding, does not resolve the execution-centered problem articulated in Chapter 1. The limits identified here establish the analytical conditions under which further methodological development is required, without asserting novelty, proposing solutions, or advancing institutional designs.

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## 2.8 Chapter Boundary and Transition

This chapter has examined existing literature relative to the execution-centered problem articulated in Chapter 1. Rather than surveying prior work for completeness or adjudicating among competing explanations, the review mapped how major strands of institutional analysis approach failure around the point of execution. Across economic, administrative, technological, sociotechnical, algorithmic, and corruption-focused literatures, a consistent pattern emerged: execution is presupposed, mediated, or indirectly managed, but not treated as a formal object of analysis.

The review confirms that no examined literature resolves executional reliability as a determinate, auditable process through which institutional facts are produced. Incentive-based accounts explain strategic behavior under discretion; digitization and e-government approaches improve information flow and procedural efficiency; sociotechnical analyses describe drift arising from human–artifact interaction; algorithmic governance formalizes rules and decisions; and corruption studies model behavior that exploits execution gaps. Each contributes necessary context for understanding institutional performance, yet none specifies execution itself in a way that constrains discretion at its source. (North, 1990; Heeks, 2006; Orlikowski, 1992; Yeung, 2018; Klitgaard, 1988)

These findings reaffirm the analytical limits of the literature without advancing solutions or introducing new constructs. The chapter does not propose institutional designs, systems, or mechanisms, nor does it present empirical validation or case material. Its function is to delineate what existing explanations collectively do not provide, thereby preserving the boundaries established earlier and avoiding premature theoretical or practical claims.

The persistence of the execution-centered gap identified here establishes the procedural necessity for the subsequent chapter. With the limits of existing literature made explicit, the dissertation can proceed to develop a formal and methodological framing capable of addressing execution as an analytical object, while maintaining continuity with the problem definition set in Chapter 1. This transition marks the conclusion of literature mapping and prepares the ground for the methodological work that follows, without anticipation or advocacy beyond the analytical scope already defined.

# Chapter 3 Research Methodology

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## 3.0 Chapter Orientation: From Diagnosed Failure to Formal Inquiry

This chapter establishes the **formal and methodological framing** required to investigate the execution-centered institutional failure identified in Chapter 1 and situated within the literature in Chapter 2. It does not propose solutions, designs, or interventions. Its function is to specify **how** claims about institutional execution can be made precise, testable, and falsifiable without collapsing into interpretation, policy advocacy, or narrative explanation.

Chapters 1 and 2 demonstrate that prevailing approaches to institutional reform and digital governance fail to address the core problem at the level where it originates: the **execution of institutional status functions**. Chapter 1 reframes this failure as an execution problem rather than a deficiency of intent, policy, or digitization. Chapter 2 shows that existing literatures—across institutional economics, digital government, algorithmic governance, and science and technology studies—lack a methodological apparatus capable of adjudicating execution-bound claims without either presuming discretionary interpretation or substituting governance with technology (Searle, 1995; Lessig, 1999; Latour, 2005).

Given this gap, Chapter 3 specifies the **epistemic posture, analytical objects, and methodological constraints** necessary to study institutions whose claims depend on deterministic execution rather than interpretive judgment. The chapter clarifies what constitutes admissible evidence, what counts as falsification, and which domains are methodologically eligible for analysis under the dissertation’s commitments. In doing so, it establishes the conditions under which later empirical and artifact-based chapters can be evaluated without post hoc rationalization (Popper, 1959).

This chapter is deliberately **formal and preparatory**. It introduces no institutional designs, systems, or architectures. It presents no empirical material and advances no evaluative claims about effectiveness. Its sole purpose is to render subsequent analysis **methodologically legible and logically constrained**, ensuring that claims about institutional execution are assessed according to criteria fixed in advance.

Accordingly, Chapter 3 proceeds by: (i) clarifying the epistemic requirements imposed by execution-bound institutional claims; (ii) delimiting the formal object of analysis; (iii) introducing the evidence methodology compatible with those requirements; (iv) specifying falsification and counterfactual structure; and (v) declaring explicit scope and domain boundaries. With these elements in place, the dissertation is positioned to proceed to realization and evaluation without expanding or revising its theoretical commitments.

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### 3.1 Epistemic Positioning and Methodological Requirements

This section clarifies the **epistemic positioning** required to study institutions whose defining properties depend on execution rather than interpretation. It specifies the methodological requirements imposed by claims about institutional execution and delineates why conventional analytical approaches are insufficient under these constraints.

Institutional research traditionally oscillates between descriptive accounts of observed behavior and normative or interpretive explanations of institutional meaning. Such approaches are appropriate where institutional outcomes are mediated by discretionary judgment, cultural norms, or policy intent. However, they are inadequate for analyzing institutions whose validity claims hinge on whether administrative state transitions are executed deterministically according to formally specified rules. In such cases, institutional correctness is not established by narrative coherence, stakeholder perception, or outcome desirability, but by whether execution conforms to defined status-function mappings under explicit contextual constraints (Searle, 1995).

This dissertation therefore adopts an epistemic posture in which institutional claims are treated as **execution-contingent**. An institutional claim is admissible only insofar as it can be expressed as a proposition about the conditions under which a proposed institutional fact either holds or fails to hold, given observable execution traces. This posture rejects interpretive inference as a basis for validation and instead requires that institutional meaning be reconstructible from formally bound evidence, rule context, and execution records.

The methodological implication is that neither purely qualitative interpretation nor purely quantitative measurement is sufficient. Qualitative approaches privilege narrative sense-making but cannot adjudicate whether an execution-bound claim is satisfied without reintroducing discretion. Quantitative approaches, when detached from execution semantics, risk reducing institutional phenomena to proxy metrics that obscure failure modes rather than expose them. What is required instead is a methodology capable of preserving the distinction between brute facts, institutional facts, and contextual rules while rendering their interaction empirically observable (Hevner et al., 2004).

Accordingly, methodological adequacy in this dissertation is defined by three requirements. First, the method must be **execution-sensitive**, meaning that it treats administrative actions as state transitions governed by explicit rules rather than as behavioral outcomes to be interpreted post hoc. Second, it must be **falsification-oriented**, such that claims can be shown to fail under specified counterconditions rather than being insulated by explanatory flexibility (Popper, 1959). Third, it must be **boundary-preserving**, ensuring that analytical claims do not collapse institutional form, execution substrate, and governance into a single explanatory layer.

This epistemic positioning does not assert superiority over alternative institutional research paradigms. Rather, it reflects a domain-specific necessity arising from the type of claims advanced in this dissertation. Where institutional validity is asserted to depend on execution

correctness, the methodology must be capable of observing and discriminating execution states directly. The remainder of this chapter formalizes the analytical objects and methodological framework that satisfy these requirements, without extending the theoretical commitments established in earlier chapters.

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### 3.2 Formal Object of Analysis: Institutional Execution Units

This section defines the **formal object of analysis** for the dissertation in order to prevent category error and analytical drift. It specifies what is treated as observable, analyzable, and falsifiable when institutional claims are grounded in execution rather than interpretation.

The dissertation does not analyze institutions as abstract rule systems, organizational cultures, or aggregates of individual behavior. Nor does it treat digital systems as proxies for governance or policy intent. Instead, the object of analysis is the **execution of institutional status functions**, understood as formally specified transitions whereby a set of admissible inputs is transformed into an institutional fact under an explicit context. These transitions constitute the minimal unit at which institutional correctness can be evaluated when claims depend on deterministic execution (Searle, 1995).

Formally, an institutional execution unit is defined by three elements: (i) a set of admissible brute facts presented as evidence; (ii) a rule context specifying the conditions under which those facts may count as an institutional fact; and (iii) an execution outcome indicating whether the transition succeeded, failed, or emitted an explicit exception. The dissertation treats the trace of this transition—not the surrounding narrative or organizational justification—as the primary empirical object.

This delimitation requires a strict separation between institutional form and execution substrate. Institutional form specifies what kinds of status functions exist and under what conditions they are valid. The execution substrate specifies how those conditions are enforced and how transitions are recorded. Analytical claims are directed at the interaction between these layers only insofar as it is rendered observable through execution traces. Governance, interpretation, and adjudication are not treated as execution phenomena and are therefore excluded from the object of analysis at this stage.

By fixing the object of analysis in this manner, the dissertation excludes several common but incompatible approaches. It does not infer institutional meaning from outcomes, stakeholder satisfaction, or aggregate performance indicators. It does not treat software systems as institutions in themselves. It does not evaluate correctness by appeal to policy goals or normative expectations. Any claim that cannot be expressed as a proposition about the execution of a defined institutional transition is methodologically inadmissible within this framework.

This formalization is necessary to support later falsification. If institutional claims are not anchored to execution units with explicit success and failure conditions, they cannot be shown to be false without recourse to interpretive discretion (Popper, 1959). By contrast,

when the object of analysis is fixed as an execution unit with reconstructible traces, institutional claims can be evaluated against criteria specified in advance. The following sections build on this definition to introduce the evidence methodology and falsification structure compatible with such objects of analysis.

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### **3.3 Methodological Framework: Digital-Native Methodology (DNM)**

This section introduces **Digital-Native Methodology (DNM)** as the evidence methodology required to evaluate execution-bound institutional claims, without specifying procedures, instruments, or empirical applications. DNM is presented here strictly as a **methodological constraint**, not as a research technique or design prescription.

DNM is required because the institutional claims advanced in this dissertation depend on the correctness of execution rather than on interpretive coherence or outcome desirability. Where institutional validity hinges on whether defined status-function transitions are executed according to explicit rules and context, evidence must be generated in a form that preserves those distinctions (Searle, 1995). Methodologies that rely on narrative reconstruction, researcher interpretation, or proxy indicators are insufficient, as they reintroduce discretion at the point where determinism is claimed.

Under DNM, admissible evidence is limited to artifacts that are **natively produced by institutional execution**. Such evidence must allow an independent observer to reconstruct, without interpretive supplementation, whether a claimed institutional transition occurred, failed, or emitted an exception under a specified rule context. The role of the researcher is not to infer institutional meaning, but to verify whether execution traces satisfy the conditions implied by the claim. Evidence that cannot support such reconstruction is excluded by methodological design, regardless of its descriptive richness.

DNM differs from conventional qualitative and quantitative methodologies in its treatment of interpretation. Qualitative methods privilege contextual understanding but cannot adjudicate execution correctness without substituting interpretation for enforcement. Quantitative methods can measure frequency, latency, or variance, but without execution semantics they risk abstracting away the very conditions under which institutional facts are constituted. DNM constrains both by requiring that any admissible observation be directly traceable to a formally executed transition.

Importantly, DNM does not assert that execution-native evidence is universally superior to other forms of institutional evidence. Its applicability is explicitly bounded to domains in which institutions claim to be digital native in the constitutive sense articulated earlier in the dissertation. Where institutional execution remains discretionary, opaque, or non-computable, DNM is inapplicable and no evaluative claim is made. The methodology therefore derives its force not from generality, but from alignment with the type of institutional claims under examination.

By introducing DNM at this stage, the dissertation fixes the evidentiary standards prior to any empirical or artifact-based analysis. Subsequent chapters are evaluated against these standards, not retrofitted to them. This ordering ensures that later observations can function as genuine tests of the theory rather than as post hoc illustrations.

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### 3.4 Falsification Logic and Counterfactual Structure

This section specifies the **falsification logic** governing execution-bound institutional claims and explains why counterfactual reasoning is structurally required rather than methodologically optional. Its purpose is to fix, in advance, the conditions under which claims made in later chapters would be considered false (Popper, 1959).

When institutional validity is asserted to depend on deterministic execution, falsification cannot be established through interpretive disagreement or outcome dissatisfaction. A claim is falsified only if the execution behavior observed under defined conditions contradicts what the claim requires. This necessitates a falsification framework that operates directly on execution traces and that distinguishes theory failure from implementation failure without recourse to narrative explanation.

Counterfactual structure provides this framework (Lewis, 1973; Pearl, 2009). Execution-bound claims implicitly assert not only what should occur in the observed world, but also what would occur in relevant alternative worlds. These alternatives are not hypothetical narratives; they are formally constrained variations in execution conditions, rule context, or observability. A claim is meaningful only if it implies a detectable difference between the observed world and at least one counterfactual world that is admissible under the same institutional constraints.

Accordingly, this dissertation treats counterfactuals as **structural discriminators** (Pearl, 2009). Each counterfactual class specifies a distinct way in which execution could deviate from what is claimed while remaining within the domain of computable institutions. The purpose of these counterfactuals is not to imagine different policy choices or social outcomes, but to test whether execution-level invariants hold when confronted with alternative but permissible execution conditions. If a claim cannot be differentiated across such counterfactuals, it is not falsifiable and is therefore methodologically invalid (Popper, 1959).

This approach also enforces a strict separation between theory failure and implementation failure. Where execution deviates from the claim due to hidden discretion, suppressed failure, or interpretive substitution, the failure is attributed to violation of execution constraints rather than to the underlying theory. Conversely, where execution conforms to all declared constraints but the predicted institutional behavior does not materialize, the theory itself is falsified. Counterfactual structure is what makes this distinction observable rather than rhetorical.

By fixing falsification logic at this stage, the dissertation precludes post hoc adjustment of success criteria. Claims advanced later are evaluated against counterfactual conditions specified in advance, and failure is treated as informative rather than exceptional. This orientation is necessary to preserve the epistemic integrity of execution-centered institutional research and to ensure that subsequent chapters function as tests rather than demonstrations.

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### 3.5 Corruption as an Observable Institutional Variable

This section formalizes the treatment of **corruption** within the dissertation as an execution-observable institutional variable rather than a moral judgment, cultural trait, or outcome proxy. Its purpose is to specify the conditions under which corruption can be meaningfully analyzed within an execution-centered methodological framework.

In conventional institutional research, corruption is often approached as a latent phenomenon inferred from perception surveys, reported incidents, or aggregate outcome discrepancies. Such approaches rely on interpretive inference and are therefore incompatible with claims that depend on deterministic execution. Where institutional correctness is asserted to arise from protocol-bound execution, corruption cannot be treated as an unobservable residue explained post hoc; it must be defined in terms of **where and how institutional rules are violated, bypassed, or selectively enforced** at execution points (Klitgaard, 1988).

Within this dissertation, corruption is treated as a **structural property of institutional execution environments**. It is observable not through intent or motivation, but through deviations in execution behavior relative to formally specified status-function transitions. These deviations may manifest as discretionary overrides, suppressed failures, informal exception handling, or off-protocol actions that alter institutional outcomes without producing corresponding execution traces. What renders such behavior analyzable is not its ethical characterization, but its detectability within an execution-bounded evidentiary regime.

This framing imposes strict constraints on admissible corruption evidence. Evidence must be capable of demonstrating how an institutional outcome was produced or altered relative to the declared execution rules. Indicators that rely solely on reported experience, perceived integrity, or macro-level correlations are excluded, as they cannot discriminate between execution-level failure and governance- or policy-level effects. Corruption is therefore operationalized only insofar as it produces observable distortions in execution traces, exception patterns, or evidentiary lineage.

Importantly, this section does not advance any equilibrium model or predictive claim regarding corruption dynamics. It establishes only the methodological precondition for treating corruption as a variable subject to falsification rather than as an explanatory remainder. By constraining corruption analysis to execution-observable phenomena, the

dissertation ensures that later claims about institutional robustness or failure can be evaluated without recourse to moral interpretation or cultural generalization.

This formalization prepares the ground for subsequent analysis by clarifying what counts as valid corruption evidence and what does not. It ensures that any claim regarding corruption within execution-bound institutions is anchored to observable institutional behavior and evaluated under criteria fixed in advance.

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### 3.6 Scope Conditions and Domain Eligibility

This section specifies the **scope conditions** under which the methodological framework established in this chapter is valid, and delineates the domains to which execution-centered analysis may be applied without category error. Its purpose is to prevent over-extension of the methodology and to make explicit the boundaries within which subsequent claims are evaluated.

The methodology articulated in this dissertation applies only to institutional domains in which status-function claims are asserted to be **formally specifiable and execution-bound**. Such domains are characterized by administrative acts whose validity depends on whether defined conditions are satisfied and recorded, rather than on discretionary judgment or interpretive deliberation. Within these domains, institutional outcomes can be expressed as state transitions with explicit success, failure, or exception conditions, rendering them amenable to execution-level analysis.

By contrast, domains in which institutional meaning is constituted through adjudication, moral reasoning, or political deliberation fall outside the scope of this methodology. In such cases, interpretation is not a methodological defect but a constitutive feature of the institution itself. Applying an execution-centered framework to these domains would conflate enforcement with judgment and would therefore violate the analytical separations established earlier in the dissertation (Latour, 2005). This exclusion is methodological rather than normative: it reflects the limits of what can be rendered falsifiable under execution-bound constraints.

The scope conditions articulated here also constrain generalization. Claims evaluated under this framework do not extend to institutions whose execution remains opaque, discretionary, or informally governed, even if those institutions employ digital tools. The presence of information technology or automated workflows is insufficient to bring an institution within scope; eligibility depends on whether institutional facts are created and maintained through formally constrained execution rather than interpretive mediation.

These boundary conditions are necessary to preserve methodological integrity. Without them, apparent successes or failures could be misattributed to the framework when they in fact arise from domain mismatch. By explicitly declaring where the methodology applies and where it does not, the dissertation ensures that subsequent analysis can be assessed

on its own terms and that failure outside these bounds is not treated as theoretical refutation.

With scope and domain eligibility fixed, the methodological framework is now fully bounded. The following section closes the chapter by summarizing the formal readiness achieved without introducing design commitments or evaluative claims.

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### **3.7 Chapter Closure: Methodological Readiness Without Design Commitment**

This section closes Chapter 3 by confirming that the formal and methodological conditions required for subsequent analysis are in place, without asserting effectiveness, validity, or success. It consolidates the chapter's function as preparatory rather than demonstrative.

Chapters 1 and 2 establish that institutional failure, in the context addressed by this dissertation, arises at the level of execution and that existing literature lacks the methodological means to adjudicate execution-bound institutional claims without reverting to interpretation or policy argument. Chapter 3 responds to this gap by fixing, in advance, the epistemic posture, analytical object, evidentiary constraints, falsification logic, and domain boundaries required for such adjudication. Together, these elements define the conditions under which claims about institutional execution can be evaluated as true or false (Popper, 1959).

Importantly, this chapter does not advance any claim that the methodological framework introduced will succeed in practice. It does not imply that execution-bound institutions are achievable, desirable, or robust. Nor does it introduce any institutional designs, technical systems, or implementation strategies. Its contribution is strictly formal: it establishes the criteria by which later claims will be assessed and the limits beyond which no claim will be made.

By fixing methodological commitments prior to realization or evaluation, the dissertation avoids post hoc adjustment of standards. Subsequent chapters operate under constraints specified here, and failure is treated as epistemically informative rather than exceptional. If later analysis cannot satisfy the conditions articulated in this chapter, the result is not reinterpretation but falsification or methodological exclusion (Popper, 1959).

With this closure, Chapter 3 completes the formal framing of the dissertation. The work is now methodologically bounded and prepared to proceed to subsequent chapters in which execution-bound claims are instantiated and evaluated under the criteria established here, without revision of the theoretical or methodological commitments already fixed.

## References

- Becker, G. S. (1968). Crime and Punishment: An Economic Approach. *Journal of Political Economy*, 76(2), 169–217. <https://doi.org/10.1086/259394>
- Bizup, J., Booth, W. C., Colomb, G. G., Fitzgerald, W. T., & Williams, J. M. (2016). The craft of research. Chicago: The University of Chicago Press.  
[https://toc.library.ethz.ch/objects/pdf03/z01\\_978-0-226-23956-9\\_01.pdf](https://toc.library.ethz.ch/objects/pdf03/z01_978-0-226-23956-9_01.pdf)
- Creary, L. G., & Hill, C. S. (1975). David Lewis. Counterfactuals. Cambridge, Massachusetts: Harvard University Press, 1973. x+ 150 pp. np. *Philosophy of Science*, 42(3), 341–344.
- Dunleavy, P., Margetts, H., Bastow, S., & Tinkler, J. (2006). New public management is dead—Long live digital-era governance. *Journal of Public Administration Research and Theory*, 16(3), 467–494.
- Heeks, R. (2002). Information Systems and Developing Countries: Failure, Success, and Local Improvisations. *The Information Society*, 18(2), 101–112.  
<https://doi.org/10.1080/01972240290075039>
- Heeks, R. (2005). Implementing and managing eGovernment: An international text.  
<https://www.torrossa.com/gs/resourceProxy?an=4912540&publisher=FZ7200>
- Hevner, A. R., March, S. T., Park, J., & Ram, S. (2004). Design science in information systems research. *MIS Quarterly*, 75–105.
- Klitgaard, R. (1988). Controlling corruption. Univ of California Press.  
<https://books.google.com/books?hl=en&lr=&id=8V71EAAAQBAJ&oi=fnd&pg=PP1&dq=Robert+Klitgaard+%22Controlling+Corruption%22+1988+University+of+California+Press&ots=4j17czHEh3&sig=xnu3epAzkyEzyWstHifUmjGKg2Y>
- Lessig, L. (2009). Code: And other laws of cyberspace. ReadHowYouWant.com.  
<https://books.google.com/books?hl=en&lr=&id=tmEpvNIX38C&oi=fnd&pg=PR2&dq=Lawrence+Lessig+%22Code+and+Other+Laws+of+Cyber+space%22+1999+Basic+Books&ots=Gd5woCoyFb&sig=boC1hE8RhOxahJmLpTZE3ZysNAg>
- Mahoney, J., & Thelen, K. (2009). Explaining institutional change: Ambiguity, agency, and power. Cambridge University Press.  
[https://books.google.com/books?hl=en&lr=&id=KqkgAwAAQBAJ&oi=fnd&pg=PR7&dq=James+Mahoney+Kathleen+Thelen+%22Explaining+Institutional+Change%22+2010+Cambridge+University+Press&ots=6pORkxfF-\\_&sig=GCgCP0fPSWJheGzagowHs4YPfW8](https://books.google.com/books?hl=en&lr=&id=KqkgAwAAQBAJ&oi=fnd&pg=PR7&dq=James+Mahoney+Kathleen+Thelen+%22Explaining+Institutional+Change%22+2010+Cambridge+University+Press&ots=6pORkxfF-_&sig=GCgCP0fPSWJheGzagowHs4YPfW8)
- Margetts, H., & Dunleavy, P. (2013). The second wave of digital-era governance: A quasi-paradigm for government on the Web. *Philosophical Transactions of the Royal Society A*:

Mathematical, Physical and Engineering Sciences, 371(1987), 20120382.  
<https://doi.org/10.1098/rsta.2012.0382>

North, D. C. (1990). Institutions, institutional change and economic performance. Cambridge Univ Pr.  
<https://books.google.com/books?hl=en&lr=&id=oFnWbTqgNPYC&oi=fnd&pg=PR6&dq=Do uglass+C+North+%22Institutions+Institutional+Change+and+Economic+Performance%2 2+1990+Cambridge+University+Press&ots=s-nuT9GkO6&sig=J9SVv6eSqm4s6x0Z-xa9boAJVNc>

Orlikowski, W. J. (1992). The Duality of Technology: Rethinking the Concept of Technology in Organizations. Organization Science, 3(3), 398–427.  
<https://doi.org/10.1287/orsc.3.3.398>

Orlikowski, W. J. (2000). Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations. Organization Science, 11(4), 404–428.  
<https://doi.org/10.1287/orsc.11.4.404.14600>

Ostrom, E. (1990). Governing the commons: The evolution of institutions for collective action. Cambridge University Press.  
<https://books.google.com/books?hl=en&lr=&id=4xg6oUobMz4C&oi=fnd&pg=PR11&dq=Eli nor+Ostrom+%22Governing+the+Commons%22+1990+Cambridge+University+Press&ots =aQ9tCGjEXe&sig=PiCrgYf3RqdhWnqBmzUUfzIH4Tk>

Pasquale, F. (2015). The Black Box Society: The Secret Algorithms That Control Money and Information. Harvard University Press. <https://doi.org/10.4159/harvard.9780674736061>

Pearl, J. (2009). Causality. Cambridge University Press.  
<https://books.google.com/books?hl=en&lr=&id=f4nuexsNVZIC&oi=fnd&pg=PR15&dq=Jud ea+Pearl+%22Causality+Models+Reasoning+and+Inference%22+2009+Cambridge+Unive rsity+Press&ots=y4HS-mvBkk&sig=FPQU6mILtYgKH3X0PbOEHZMeSQY>

Popper, K. (2005). The logic of scientific discovery. Routledge.  
<https://www.taylorfrancis.com/books/mono/10.4324/9780203994627/logic-scientific-discovery-karl-popper-karl-popper>

Power, M. (1997). The audit society: Rituals of verification. OUP Oxford.  
<https://books.google.com/books?hl=en&lr=&id=q4U3AwAAQBAJ&oi=fnd&pg=PP1&dq=Mi chael+Power+%22The+Audit+Society+Rituals+of+Verification%22+1997+Oxford+Universit y+Press&ots=DKhLqfBWOb&sig=jFJjhRjWFkbDdp1VlaGqgtYFWJs>

Rose-Ackerman, S., & Palifka, B. J. (2016). Corruption and government: Causes, consequences, and reform. Cambridge University Press.  
[https://books.google.com/books?hl=en&lr=&id=GGSSCwAAQBAJ&oi=fnd&pg=PR17&dq=S usan+Rose+Ackerman+%22Corruption+and+Government%22+1999+Cambridge+Universi ty+Press&ots=PfBYyf\\_RA4&sig=gGp1I4Z0oE75B4TFwqi6mbkrioM](https://books.google.com/books?hl=en&lr=&id=GGSSCwAAQBAJ&oi=fnd&pg=PR17&dq=S usan+Rose+Ackerman+%22Corruption+and+Government%22+1999+Cambridge+Universi ty+Press&ots=PfBYyf_RA4&sig=gGp1I4Z0oE75B4TFwqi6mbkrioM)

Searle, J. R. (1995). The construction of social reality. Simon and Schuster.

- Suchman, L. A. (1987). Plans and situated actions: The problem of human-machine communication. Cambridge University Press.  
[https://books.google.com/books?hl=en&lr=&id=AJ\\_eBJtHxmsC&oi=fnd&pg=PR7&dq=Lucy+Suchman+%22Plans+and+Situated+Actions%22+1987+Cambridge+University+Press&ots=KtMpmFFMIS&sig=9esYNbojOThF7pP4RbksJjzhGLI](https://books.google.com/books?hl=en&lr=&id=AJ_eBJtHxmsC&oi=fnd&pg=PR7&dq=Lucy+Suchman+%22Plans+and+Situated+Actions%22+1987+Cambridge+University+Press&ots=KtMpmFFMIS&sig=9esYNbojOThF7pP4RbksJjzhGLI)
- Williamson, O. E. (2008). The economic institutions of capitalism. The Political Economy Reader: Markets as Institutions, 27.  
[https://www.academia.edu/download/6640260/williamson\\_1985\\_chapter\\_1.pdf](https://www.academia.edu/download/6640260/williamson_1985_chapter_1.pdf)
- Winner, L. (2017). Do artifacts have politics? In Computer ethics (pp. 177–192). Routledge.  
<https://www.taylorfrancis.com/chapters/edit/10.4324/9781315259697-21/artifacts-politics-langdon-winner>
- Yeung, K. (2018). Algorithmic regulation: A critical interrogation. *Regulation & Governance*, 12(4), 505–523. <https://doi.org/10.1111/rego.12158>