

**Research Article**

**Series I - Foundations of Institutional Cognition**

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# **How Public Policies Learn**



**IDHUS Institute**

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# Index

|                                                                 |    |
|-----------------------------------------------------------------|----|
| Introduction .....                                              | 4  |
| Public Policy as a Continuous Learning Process .....            | 5  |
| Experimentation, Evaluation and Adaptive Policy Evolution ..... | 8  |
| Conclusion .....                                                | 11 |

# Introduction

Public policy is frequently described as the principal instrument through which governments seek to influence society. Whether addressing education, healthcare, environmental protection, economic development or digital transformation, public policies provide the frameworks that organise collective action and translate political priorities into practical interventions. For decades, policy-making has commonly been represented as a structured sequence of activities beginning with the identification of a problem, continuing through policy formulation and implementation and concluding with evaluation once the policy has been applied. Although different theoretical models describe this sequence in various ways, they generally share the assumption that policy development progresses through identifiable stages arranged in a relatively linear order.

This understanding has contributed significantly to the professionalisation of public administration by encouraging systematic planning, evidence-based decision-making and greater accountability throughout the policy process. Yet the accelerating complexity of contemporary societies increasingly exposes the limitations of viewing policy as a product that moves predictably from design to implementation before eventually being evaluated. Modern governance rarely encounters problems that remain stable long enough for such linear processes to unfold without interruption. Social expectations evolve continuously, technological innovation transforms policy environments with unprecedented speed and emerging evidence frequently challenges assumptions upon which earlier decisions were based. Public policy therefore operates within realities that are constantly changing while governance itself is attempting to respond.

From the perspective of Institutional Cognition, these observations invite a fundamentally different interpretation of policy-making. Rather than understanding policies as fixed responses to predefined problems, they can be viewed as adaptive systems of institutional learning. Every policy embodies a provisional interpretation of reality developed from the best knowledge available at a particular moment. Once implementation begins, however, institutions immediately encounter new information generated by operational experience, citizen behaviour, scientific research and changing societal conditions. Policies therefore begin learning from the very moment they are enacted. Implementation becomes simultaneously an intervention and an observation through which institutions discover whether their understanding of reality corresponds sufficiently with the complexity they seek to govern.

This interpretation transforms the relationship between policy and governance. Governments no longer create policies that remain essentially unchanged until a later evaluation determines whether they have succeeded or failed. Instead, policy itself becomes an ongoing cognitive process through which institutions continuously observe outcomes, reinterpret evidence and adjust their interventions accordingly. Learning is no longer confined to periodic reviews conducted after implementation. It becomes permanently embedded within the operation of governance itself. Every interaction between institutions and society generates new understanding capable of improving future public action.

The implications of this perspective become particularly significant in areas characterised by rapid transformation. Artificial intelligence, climate adaptation, demographic change, digital public services and economic resilience all evolve at speeds that make static policy increasingly inadequate. Decisions that appear appropriate when adopted may require adjustment months or even weeks later as technologies develop, social behaviour changes or new forms of evidence emerge. Adaptive governance therefore depends upon policies capable of learning continuously rather than simply being implemented efficiently. Success lies not in creating perfect policies from the outset but in cultivating governance systems capable of refining their understanding as reality evolves.

The previous articles in this series have progressively established the conceptual foundations required to understand this broader interpretation. We have explored institutions as cognitive systems, collective intelligence, interoperability, trust and multi-level governance as mechanisms through which knowledge circulates across increasingly complex governance architectures. Those discussions naturally lead to the question of how this institutional intelligence influences the decisions governments actually make. If institutions are capable of learning, then the policies they develop should also become capable of learning. Adaptive public policy represents the practical expression of Institutional Cognition operating within the everyday processes of governance.

This perspective also redefines the purpose of evaluation. Traditionally, evaluation has often been regarded as a mechanism for measuring success or failure after implementation has concluded. Within adaptive governance, evaluation becomes a continuous source of institutional learning rather than a retrospective judgement. Evidence generated through implementation feeds directly into ongoing policy refinement, allowing governments to adjust their understanding while interventions remain active. Evaluation therefore becomes one of the principal cognitive mechanisms through which Governance Intelligence develops over time.

The purpose of this article is to examine how public policies learn from the perspective of Institutional Cognition. Rather than treating policy-making as a sequence of isolated political decisions, it explores how policies evolve through continuous observation, institutional learning and adaptive governance. By understanding public policy as a living cognitive process, we begin to recognise that the future effectiveness of governance depends not upon designing policies that never change but upon creating institutional systems capable of learning continuously from the societies they are intended to serve.

## Public Policy as a Continuous Learning Process

The traditional image of public policy often suggests a reassuring sense of completion. A government identifies a societal problem, commissions expert analysis, designs an appropriate intervention, secures political approval and proceeds with implementation. Once the policy has been introduced, attention turns towards its execution until, eventually, an evaluation determines whether the original objectives have been achieved. This sequence presents policy-making as a process that moves from uncertainty towards certainty, as though the principal intellectual challenge were completed once the policy itself had been designed. Reality, however, rarely follows such predictable trajectories.

From the perspective of Institutional Cognition, the approval of a public policy should not be regarded as the conclusion of the learning process but as its true beginning. Every policy is constructed upon assumptions concerning how society functions, how individuals and organisations are likely to respond and how different interventions may influence complex public systems. These assumptions are necessarily provisional because no institution can fully anticipate every consequence of its decisions before implementation begins. A policy therefore represents an informed hypothesis about reality rather than a definitive solution to a public challenge. Its implementation provides the opportunity to examine whether that hypothesis corresponds sufficiently with the complexity of the world it seeks to influence.

This interpretation fundamentally changes the relationship between policy and evidence. In conventional approaches, evidence is often understood primarily as the knowledge used to justify policy before implementation. Research informs the design of interventions, statistical

analysis supports decision-making and expert advice contributes to political deliberation. Once implementation begins, however, the policy itself generates entirely new forms of evidence that frequently prove as valuable as the information originally used to design it. Operational experience, citizen behaviour, institutional responses, unexpected interactions and emerging societal developments all provide continuous feedback that enriches the understanding available to governance. Policies therefore become producers of knowledge as well as instruments of public action.

Implementation consequently acquires a dual function. Governments intervene in society while simultaneously observing the effects of their intervention. Every policy becomes a structured interaction between institutions and the environments they seek to govern, generating new information about the adequacy of existing assumptions. Successes reveal aspects of reality that have been understood correctly, while unexpected outcomes expose relationships that previous analysis failed to anticipate. Rather than treating these discoveries as signs of policy failure, adaptive governance recognises them as indispensable sources of institutional learning. Every implementation enriches the collective understanding upon which future decisions will depend.

This perspective encourages a profound shift in administrative culture. Instead of expecting policies to remain unchanged once they have entered into force, governments increasingly recognise that responsible governance requires the capacity to adapt interventions as new evidence emerges. Stability remains important because citizens and institutions require predictable legal and administrative environments. Yet stability should not be confused with rigidity. Adaptive policy preserves constitutional continuity while allowing operational learning to improve the effectiveness of public action over time. The objective is not continuous change for its own sake but continuous refinement based upon progressively richer understanding.

Learning within public policy rarely occurs through dramatic transformations. More commonly, it develops through the gradual accumulation of numerous small adjustments that collectively improve institutional performance. A digital public service may reveal unexpected patterns of citizen interaction that encourage improvements in administrative procedures. Environmental regulation may produce operational experience that leads to more effective implementation without altering the underlying legislative framework. Educational reforms may generate evidence concerning teaching practices that gradually reshapes professional guidance while preserving the original strategic objectives. In each case, policy evolves because institutions learn from experience rather than because entirely new political decisions replace previous ones.

The cumulative nature of this learning becomes particularly significant in complex policy environments where direct causal relationships are difficult to establish. Public interventions frequently influence multiple aspects of society simultaneously, while social systems themselves continue evolving independently of governmental action. Economic performance may be affected by international developments alongside domestic policy. Public health outcomes may reflect demographic change, technological innovation and behavioural adaptation as well as healthcare reform. Artificial intelligence introduces further complexity by accelerating the pace at which technological environments evolve. Under such conditions, governance cannot rely exclusively upon predetermined policy models. Institutions must continuously compare expectations with observed reality, adjusting their understanding as new patterns emerge.

Evaluation therefore assumes a fundamentally different role within adaptive governance. Rather than functioning solely as an external mechanism for measuring success after implementation has concluded, evaluation becomes an integral component of ongoing institutional cognition. It accompanies policy throughout its operational life, generating continuous opportunities for reflection and refinement. Evidence gathered during implementation informs subsequent decisions almost immediately, allowing governments to respond while interventions remain active rather than waiting until programmes have formally ended. Evaluation thus becomes one of the principal mechanisms through which public policy acquires the capacity to learn.

Artificial intelligence is likely to reinforce these adaptive processes by expanding governments' ability to observe policy environments in real time. Advanced analytical systems can detect emerging behavioural patterns, identify unexpected relationships between policy variables and integrate evidence originating from numerous institutional sources simultaneously. Digital twins, predictive simulations and intelligent monitoring platforms may increasingly assist governments in understanding how policies interact with evolving societal conditions. Yet these technological capabilities should not be interpreted as replacing institutional learning. They provide richer observational capacity, but institutions remain responsible for interpreting evidence, balancing competing public interests and exercising democratic judgement. Artificial intelligence strengthens adaptive governance by enhancing the quality of institutional observation rather than by determining policy independently.

An equally important consequence concerns the relationship between uncertainty and decision-making. Traditional administrative thinking often treats uncertainty as a weakness that should be eliminated before policy is implemented. Adaptive governance recognises that uncertainty is an unavoidable characteristic of complex societies. The objective is therefore not to postpone action until perfect knowledge becomes available but to design policies capable of learning while they operate. Decisions remain necessary despite incomplete understanding, yet they are accompanied by institutional mechanisms that continuously improve knowledge through experience. Policy becomes a process of informed adaptation rather than an attempt to predict every future development in advance.

Over time, these continuous cycles of observation, evaluation and refinement transform public policy into an evolving body of institutional knowledge. Individual interventions contribute not only to immediate governance objectives but also to the long-term cognitive development of public administration itself. Lessons generated through one policy inform the design of future initiatives, while accumulated experience gradually strengthens the adaptive capacity of the wider governance ecosystem. Public policy ceases to be viewed as a succession of isolated governmental actions and instead becomes a continuous process through which institutions collectively learn about the societies they govern.

Seen from this broader perspective, the true measure of effective policy is not whether it remains unchanged from its original design but whether it becomes progressively more intelligent through experience. Policies that learn continuously acquire greater capacity to respond to complexity because they evolve alongside the realities they seek to influence. Their greatest strength lies not in their initial design but in the institutional learning that accompanies their implementation. Adaptive public policy therefore represents one of the clearest expressions of Governance Intelligence in practice, demonstrating how institutions transform observation into understanding and understanding into progressively more effective public action.

This naturally leads to a broader question. If public policies learn continuously through institutional observation and evaluation, how can governments deliberately create environments in which this learning becomes faster, more reliable and more systematic?

# Experimentation, Evaluation and Adaptive Policy Evolution

If public policies are understood as continuous learning processes, then experimentation and evaluation cease to occupy peripheral positions within governance. They become central mechanisms through which institutions progressively improve their understanding of society. The purpose of public policy is no longer limited to implementing decisions derived from existing knowledge. It also involves generating new knowledge capable of refining future decisions. Governance therefore evolves into a continuous process of institutional inquiry in which action and learning become inseparable components of the same cognitive system.

This interpretation represents an important departure from traditional assumptions about experimentation in public administration. The term often evokes images of limited pilot projects, temporary innovation programmes or isolated initiatives designed to test specific ideas before wider implementation. While such activities undoubtedly remain valuable, they reflect only one dimension of experimentation. From the perspective of Institutional Cognition, every policy intervention constitutes a form of structured experimentation because every intervention explores how complex public systems respond to institutional action. Governments constantly formulate hypotheses about societal behaviour, implement those hypotheses through policy and observe the resulting interactions. Experimentation is therefore not an exceptional activity undertaken occasionally by innovative administrations. It is an intrinsic characteristic of governance itself.

Recognising this broader role of experimentation changes the way governments approach uncertainty. Conventional administrative cultures frequently seek to minimise uncertainty before implementation begins, investing considerable effort in producing increasingly detailed forecasts and increasingly comprehensive planning documents. These activities remain essential because responsible governance requires careful preparation. Yet no amount of prior analysis can eliminate the uncertainty inherent in complex adaptive systems. Societies continue changing while governments design their interventions, and the interaction between policy and social reality inevitably generates outcomes that could not have been fully anticipated. Adaptive governance therefore complements careful planning with continuous learning, accepting that implementation will reveal dimensions of reality unavailable during the initial stages of policy design.

Governance laboratories provide particularly valuable environments for cultivating this form of institutional learning. Rather than functioning simply as centres for innovation or technological experimentation, they can be understood as structured cognitive spaces where institutions observe the behaviour of public systems under carefully monitored conditions. New approaches may be explored within limited operational environments, alternative policy designs compared and emerging evidence examined collaboratively before wider institutional adoption. The objective is not experimentation for its own sake but the systematic generation of reliable knowledge capable of improving future governance. Laboratories therefore contribute directly to the cognitive evolution of public administration by transforming practical experience into institutional understanding.

The significance of these environments extends well beyond the individual projects they support. Each experiment enriches the collective knowledge available to the wider governance ecosystem. Successful interventions reveal patterns that may inform future policy in different domains, while less successful initiatives often produce equally valuable insights by exposing assumptions that require reconsideration. Adaptive governance recognises that learning arises from understanding why outcomes differ from expectations as much as from confirming existing hypotheses. Evaluation therefore focuses not simply upon measuring success or failure but upon explaining the mechanisms through which policies interact with the complexity of social systems.

This emphasis on explanation represents one of the defining characteristics of cognitive policy evaluation. Traditional evaluation frameworks frequently concentrate upon assessing whether predetermined objectives have been achieved according to measurable indicators. Such analysis remains indispensable because governments must remain accountable for the effectiveness of public interventions. Yet adaptive governance asks additional questions. Why did a policy produce particular outcomes? Which contextual conditions influenced implementation? How did institutional behaviour evolve during the policy process? What unexpected interactions emerged between different elements of the governance ecosystem? These questions transform evaluation into an ongoing process of institutional interpretation through which governance develops progressively richer models of societal complexity.

The recursive nature of this learning process deserves particular attention. Knowledge generated through evaluation does not remain confined to the policy that originally produced it. Instead, it becomes part of the institutional memory available for future decision-making. Lessons learned within environmental policy may influence approaches to public health. Experience acquired through digital transformation may reshape educational reform. Operational innovations developed by local administrations may inspire national strategies or international cooperation. Each completed learning cycle therefore contributes to the wider cognitive architecture of governance, allowing institutions to accumulate understanding across policy domains rather than treating every new challenge as an entirely separate problem.

Artificial intelligence has considerable potential to strengthen these recursive processes by expanding governments' capacity to observe, analyse and interpret policy outcomes continuously. Intelligent analytical platforms can integrate operational data from multiple institutions, detect emerging trends before they become immediately visible to human observers and identify relationships between variables that extend across different policy domains. Digital twins may allow governments to explore the potential consequences of alternative interventions before large-scale implementation, while advanced simulation environments can assist institutions in comparing multiple policy scenarios under changing conditions. These capabilities substantially increase the observational reach of governance, enabling richer forms of institutional learning than have previously been possible.

Nevertheless, the availability of increasingly sophisticated computational tools does not diminish the importance of human institutional judgement. Evaluation ultimately involves questions that extend beyond statistical analysis or predictive modelling. Governments must consider democratic legitimacy, constitutional principles, ethical implications, social equity and the long-term consequences of public action. These dimensions require collective interpretation rather than computational optimisation. Artificial intelligence can enrich the evidence available to policy-makers, but institutions remain responsible for transforming that evidence into legitimate public judgement. Adaptive governance therefore depends upon a productive partnership between computational capability and institutional cognition rather than upon the substitution of one for the other.

An equally important implication concerns organisational culture. Institutions committed to adaptive policy must cultivate environments in which learning is regarded as a sign of responsible governance rather than an admission of previous error. Public administrations operating under conditions of excessive risk aversion may become reluctant to acknowledge unexpected outcomes or modify existing interventions because change is mistakenly interpreted as evidence that earlier decisions were flawed. Cognitive governance encourages a different understanding. Since every policy begins as a provisional interpretation of complex reality, refinement through experience should be expected rather than feared. Institutional maturity is demonstrated not by avoiding change but by improving understanding continuously as new evidence becomes available.

Over time, this culture of experimentation and evaluation transforms governance into a permanently evolving system of institutional intelligence. Policies become increasingly capable of adapting because every intervention contributes to the collective knowledge of the governance ecosystem. Administrative innovation ceases to depend exclusively upon occasional reform

programmes and instead becomes embedded within the everyday operation of public institutions. Governments progressively strengthen their capacity to interpret complexity because learning is integrated into the normal functioning of policy rather than treated as a separate activity conducted after implementation has concluded.

Seen from this broader perspective, experimentation and evaluation should be recognised as constitutional components of adaptive public policy rather than supplementary administrative techniques. They provide the mechanisms through which governance continuously refines its understanding of society, transforms operational experience into institutional knowledge and converts knowledge into progressively more effective public action. Public policies learn because institutions deliberately create environments where observation, reflection and adaptation reinforce one another through continuous cycles of collective intelligence.

# Conclusion

Public policy has traditionally been understood as the principal mechanism through which governments transform political priorities into practical action. From this perspective, policy-making follows a relatively structured progression: public problems are identified, evidence is gathered, decisions are taken, implementation begins and evaluation determines whether the intended objectives have been achieved. This framework has contributed significantly to the development of modern public administration by promoting greater rigour, accountability and evidence-informed decision-making. Yet throughout this article we have argued that such an interpretation remains incomplete because it presents policy as a product rather than as a continuous process of institutional learning.

The central argument developed here is that **public policies should be understood as adaptive cognitive systems that continuously refine their understanding of society through observation, evaluation and institutional learning**. Policies are not static responses to fixed problems but evolving interpretations of realities that themselves continue changing. Every intervention begins as a hypothesis about how public systems function, and implementation immediately generates new knowledge that enables institutions to improve that hypothesis over time. Learning therefore becomes inseparable from governance itself. Public policy does not merely apply existing knowledge; it continuously produces new knowledge capable of informing future public action.

Seen from this perspective, implementation acquires a much richer significance than is usually recognised. Governments do not simply execute decisions once they have been approved. They simultaneously observe how those decisions interact with complex social environments, discovering relationships, behaviours and unintended consequences that could not have been fully anticipated during the policy design stage. Every implementation therefore represents both an intervention and an act of institutional observation. Successes confirm aspects of existing understanding, while unexpected outcomes reveal opportunities for further learning. The value of policy lies not solely in the immediate results it achieves but also in the knowledge it generates for the future evolution of governance.

The article has also demonstrated that evaluation performs a fundamentally different role within adaptive public administration. Rather than functioning primarily as a retrospective assessment conducted after implementation has concluded, evaluation becomes a continuous cognitive mechanism through which governance refines its understanding while policies remain active. Evidence generated through operational experience feeds directly into ongoing adaptation, allowing institutions to improve interventions as reality evolves rather than waiting for formal policy cycles to end. Evaluation therefore ceases to be an external activity applied to policy and instead becomes one of the principal ways in which policy itself learns.

Particular attention has been given to the importance of experimentation as a legitimate and necessary characteristic of intelligent governance. Contemporary societies evolve too rapidly for governments to rely exclusively upon static policy designs developed before implementation begins. Adaptive governance recognises that uncertainty cannot be eliminated through increasingly detailed planning alone. Instead, it creates institutional environments in which careful experimentation, continuous observation and collaborative evaluation allow public administrations to refine their understanding progressively. Governance laboratories, pilot initiatives, iterative implementation and evidence-informed adaptation therefore become permanent components of public learning rather than occasional instruments of administrative innovation.

Artificial intelligence is likely to reinforce these developments by expanding the observational and analytical capabilities available to governments. Advanced simulation environments, digital twins, intelligent monitoring systems and increasingly sophisticated

analytical platforms will enable institutions to detect emerging patterns, compare alternative policy scenarios and integrate evidence originating from multiple governance levels with unprecedented speed. Nevertheless, these technologies should not be understood as replacing institutional judgement. Computational systems strengthen adaptive governance by enriching institutional observation, but decisions concerning democratic legitimacy, constitutional responsibility, public values and long-term societal priorities remain fundamentally human and institutional. Artificial intelligence enhances the learning capacity of governance because it supports Institutional Cognition rather than substituting for it.

Perhaps the most significant implication concerns the philosophy of policy-making itself. Governments should no longer aspire to design policies that remain unchanged regardless of how society evolves. Instead, they should cultivate policies capable of learning continuously while preserving constitutional stability, democratic accountability and strategic coherence. Adaptation should not be interpreted as inconsistency or uncertainty as administrative weakness. On the contrary, the willingness to refine public action in response to better understanding represents one of the defining characteristics of mature governance. Policies become more intelligent not because they avoid change but because they improve through experience.

This broader understanding also transforms the relationship between institutions and the societies they govern. Public policy ceases to be a one-directional process in which governments simply intervene in social systems according to predetermined plans. It becomes an ongoing dialogue between institutions and society in which every policy generates new observations, every observation enriches institutional learning and every cycle of learning strengthens future public action. Governance evolves into a recursive process through which institutions continuously improve their capacity to interpret and respond to changing realities. The intelligence of government therefore resides not solely in the quality of its initial decisions but in its ability to learn from the consequences of those decisions over time.

Adaptive public policy should be recognised as one of the clearest operational expressions of Institutional Cognition. It demonstrates how governance transforms observation into understanding, understanding into action and action into new knowledge through continuous cycles of institutional learning. Public policies become living cognitive processes that evolve alongside the societies they seek to serve, allowing governments to respond intelligently to complexity without sacrificing democratic legitimacy or constitutional responsibility. The future of Governance Intelligence will therefore depend increasingly upon the capacity of public institutions to create policies that learn continuously, adapt responsibly and contribute to the long-term cognitive evolution of governance itself.