Multitech Journal of Science and Technology (MJST)
Vol.3, No.8, 2026:857-876

Bridging Public Policy Theory and Practice in an Age of Complexity: A Synthesis of Policy Design, Capacity, Evidence, Collaboration, and Digital Transformation

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A R T I C L E I N F O

Keywords: Public Policy, Policy Design, Policy Capacity, Policy Integration, Collaborative Governance, Evidence-Informed Policy, Policy Evaluation, Policy Learning, Digital Transformation, Indonesia

Received : 3 Juny
Revised : 20 July
Accepted: 20 August

A B S T R A C T

This article looks at how contemporary public policy theory can be linked more practically to government practices in an environment characterized by complex problems, cross-sector connections, evidence-based demands, and digital transformation. Using a critical and thematic qualitative literature review, the article synthesizes reputable journal articles since 2020 on policy design and instruments, policy capacity, integration and collaboration, the use of knowledge and evaluation, as well as data governance and artificial intelligence. The synthesis results show that policy effectiveness can't be explained by a single theory or a linear policy cycle. It's more accurate to understand effectiveness as the result of interactions between how well the design fits the problem, analytical-operational-political capacity, cross-organizational coordination, legitimacy and stakeholder inclusion, learning mechanisms, and the quality of data governance and technology. Indonesian literature shows that analytical capacity, the role of knowledge intermediaries, and multilevel coordination are critical points that determine whether a policy design can be translated into adaptive implementation. This article offers a synthesis framework that positions theory as a tool for diagnosis and design, while practice is seen as an arena for adaptation, negotiation, learning, and correction. The implication is that strengthening public policy should focus on a mix of capacity, integration, evidence, collaboration, and digital governance, rather than choosing a single policy model separately

DOI: https://doi.org/10.59890/mjst.v3i8.309
E-ISSN: 3089-9966
https://slamultitechpublisher.my.id/index.php/mjst/index

INTRODUCTION

Public policy in the 21st century is increasingly facing problems that cross sectors, change quickly, are full of uncertainty, and involve multiple centers of authority. Issues like health, climate, social protection, economic transformation, and digitalization aren't easy to solve with a single tool or one government agency. Recent literature, therefore, has shifted from viewing policy as a single decision to understanding policy mixes, substantive and procedural instruments, policy integration, and the capacity to adjust designs throughout the implementation process. This shift emphasizes that the quality of policy is not just determined by good intentions, but also by the fit between the problem, the instruments, governance, and the capacity of implementers (Capano & Howlett, 2020; Bali et al., 2021; van Geet et al., 2021).

The urgency to connect theory and practice has grown even more after the global crisis and digital acceleration showed that governments have to make decisions under time pressure, with imperfect information, and changing public behavior. Studies on responses to COVID-19 show that the ability to mobilize policy capacity, integrate cross-sector responses, and adjust institutional routines determines the quality of government response. At the same time, the use of artificial intelligence, algorithmic modeling, and large-scale data expands analytical capacity but also brings risks of bias, opacity, accountability, and public acceptance. Therefore, public policy theory needs to be read alongside literature on capacity, legitimacy, coordination, learning, and the governance of technology (Capano et al., 2020; Knill & Steinebach, 2022; Janssen et al., 2020; Zuiderwijk et al., 2021).

One of the basic problems in policy studies is the gap between the conceptual framework that explains policy processes and the organizational conditions where policies are created and implemented. The policy cycle model is still useful as a heuristic to map out agenda setting, formulation, adoption, implementation, and evaluation, but in practice, policies don’t always follow a sequential path. Agendas can change when implementation generates feedback; instruments may be adjusted due to resistance; and evaluations can be used instrumentally, conceptually, or politically. For this reason, theory should act as a diagnostic tool to help identify mechanisms, actors, resources, and trade-offs, rather than as a linear recipe assumed to apply universally (Bundi & Trein, 2022; Polman & Alons, 2021; Maggetti & Trein, 2022).

In the context of Indonesia, the issue of connecting theory and practice has a real institutional dimension. Studies on policy analysts in the West Java Provincial Government found pretty strong analytical activities, but also highlighted the importance of organizational support, resources, and space for influence in the decision-making process. Research on Indonesian think tanks shows that knowledge actors can act as policy entrepreneurs and influence policy development, while studies on crisis management in Lampung show the importance of multilevel coordination, policy communication, and trust. Asian literature during the pandemic also points out that analytical, operational, and political capacities complement each other in policy responses (Newman et al., 2022; Fatonie, 2022; Kurniawan et al., 2023; Mardiyanta & Wijaya, 2023).

Even though contemporary literature offers many important concepts, the discussion is often fragmented into subfields like policy design, collaborative governance, policy capacity, policy integration, evidence use, evaluation, or digital government. This fragmentation makes it hard for readers to see a more complete causal relationship: when a theory helps explain a policy problem, what capacity is needed to turn a design into action, how coordination and collaboration affect legitimacy and implementation, and how evidence and technology change the policy learning process. This article fills that gap through a cross-theme qualitative synthesis that explicitly connects these concepts as a single theory-practice explanatory framework (Domorenok et al., 2021a; Douglas et al., 2020a; Capano & Malandrino, 2022; Valle-Cruz et al., 2020).

Based on that background, this article raises two research questions. RQ1: How does the development of contemporary public policy theory explain the process of policy formulation, implementation, evaluation, and change in a complex, multi-actor environment? RQ2: What factors bridge theory and practice to improve the effectiveness, adaptability, legitimacy, and evidence-orientation of public policy, especially in the context of Indonesia and digital transformation? The goal of the article is, first, to synthesize the latest conceptual and theoretical developments relevant for explaining policy as a dynamic, integrated, and multi-actor process; second, to identify the mechanisms that link policy design with implementation and outcomes; and third, to outline the implications for strengthening policy practice in Indonesia. The main contribution of the article is a synthesis framework that organizes the theory-practice relationship into five connectors: policy design fit, policy capacity, integration and collaboration, evidence and learning, and digital-data governance. This framework is then used to assess the effectiveness and challenges of policies and to explicitly answer both research questions.

LITERATURE REVIEW

1. Public Policy as a Dynamic and Multi-Actor Process

Public policy can be understood as a configuration of goals, rules, instruments, resources, and processes used by public authorities to influence social conditions. Contemporary understanding rejects simplifying policy as a single decision because almost every policy area involves a portfolio of interacting instruments. Studies on policy mixes show that effectiveness cannot be analyzed just from the character of one tool, but must consider consistency, coherence, calibration, and interaction between tools over time. Since instruments carry distributional and political consequences, the choice of tools is never completely neutral either (Capano & Howlett, 2020; Mukherjee, 2021).

Besides substantive instruments like regulations, taxes, subsidies, or providing services, the government uses procedural instruments to shape the policy-making process: consultation, providing information, evaluation, public procurement, setting up forums, organizational reforms, and coordination mechanisms. Procedural instruments are important because they can change who participates, what information comes in, how conflicts are managed, and whose capacity is strengthened. Recent literature shows variation in the use of

procedural instruments, ranging from agenda-setting, public inquiries, pension reforms, innovative procurement, to frontline governance (Bali et al., 2021; Bali & Halpin, 2021; Stark & Yates, 2021; Hannah, 2021; Demircioglu & Vivona, 2021).

This perspective changes the role of theory. Theory doesn't just classify policy stages; it also helps explain the mechanisms that connect problems, instrument choices, organizational structures, and actor behavior. Studies on welfare-to-work show that policy tools and governance modes can pair up specifically at the frontline; research on local government shows that procedural devices can be used to push policy changes; while migration governance shows the role of metagovernance in combining tools to guide complex networks. These findings support the view that policy design is an institutional and relational activity, not a standalone technocratic task (Lewis et al., 2021; de Vries, 2021; Fawcett, 2021).

2. Policy Design, Policy Design Fit, and Integration

The concept of policy design fit emphasizes that instruments should align with the nature of the problem, goals, institutional context, and the configuration of implementers. Studies on integration in regional transportation planning show that effectiveness is more likely achieved when design elements complement each other and meet coordination needs. In other words, the quality of a design cannot be measured by the sophistication of individual instruments alone, but by how well the combination of instruments can address the sources of problems and specific implementation barriers (van Geet et al., 2021).

Policy integration is needed when a problem cuts across sectors or jurisdictions. Recent research distinguishes integration as a design ambition, a coordination process, and policy outputs that must be translated at the implementation stage. Pathways to policy integration can emerge through changes in goals, instruments, coordination structures, or relationships between subsystems. Meanwhile, institutional coordination arrangements shape the design space that allows or restricts cross-sector collaboration. This literature is important because it shows that integration isn't just a slogan about whole-of-government approaches, but a concrete configuration that requires structures, resources, mandates, and conflict-resolution mechanisms (Cejudo & Trein, 2023; von Lüpke et al., 2023).

There are also differences between integration at the output level and integration that actually happens in implementation. Policies may seem integrated in official documents but become fragmented when the implementing organization maintains routines, indicators, or sectoral interests. On the other hand, integration can also emerge unintentionally through policy entrepreneurship during the implementation stage when field actors connect programs, networks, and resources that were previously separate. This shows that implementation is part of a continuously evolving design, not just a passive execution stage (Sarti, 2023; Lambelet, 2023).

Other studies show that implementing organizations can act as strategic players shaping policy feedback, while the ministry's structure, culture, and control influence public organizations' willingness to contribute to cross-sector programs. Because of that, contemporary implementation theory needs to make

room for organizational discretion, coordination capacity, and feedback that can alter the initial design. Theory and practice meet when designs provide direction but implementation mechanisms offer information for correction and adaptation (Molenveld et al., 2021; Polman & Alons, 2021).

The relationship between instruments and learning is also important. Studies on urban climate policy show that instruments can act as engines of learning by creating opportunities for information exchange, experimentation, and policy revision. So, a strong policy design isn't a rigid design, but rather one that includes mechanisms for observation, evaluation, and adjustment so that uncertainty can be managed iteratively (Domorenok & Zito, 2021).

3. Governance, Networks, and Collaboration

Collaborative governance becomes relevant when the government doesn't have all the knowledge, authority, or resources to solve problems on its own. Case data on collaboration shows that public collaboration varies widely in goals, institutional design, actors, and outcomes. So, collaboration shouldn't be understood as a rule that more participation is always better; what matters is how well the collaborative structure fits the nature of the conflict, resource dependencies, and coordination needs (Douglas et al., 2020a).

In a crisis situation, collaboration needs to be able to combine capacities across organizations without losing clarity of responsibility. Comparative case studies show that the core assumptions of collaborative governance are still relevant, but success heavily depends on patterns of interdependence, trust, leadership, and interaction rules. Collaboration also needs to relate to representative democracy; political boundary spanning is necessary so that network decisions remain connected to political mandates and public accountability (Parker et al., 2020; Sørensen et al., 2020).

Inclusion is a substantive dimension, not just about the number of participants. A forum might be formally open but still produce bias if there's a huge gap in the ability to speak, access information, or influence decisions. Research on inclusion emphasizes designing processes that allow different voices to be meaningfully heard. Other studies show that a mix of institutional design and leadership can boost collaborative innovation by balancing structure and flexibility (Ansell et al., 2020; Torfing et al., 2020).

Collaboration also evolves over time. Changes in actors, rules, beliefs, and learning can alter collective capacity and performance. A medium-N comparison shows diverse evolutionary paths, while configuration analysis of conditions reveals that there isn't a universal combination that produces collaborative performance. The implication is that evaluating collaborative governance needs to look at the process, context, and condition configurations, not just whether a collaborative forum exists or not (Ulibarri et al., 2020; Douglas et al., 2020b).

4. Policy, Coordination, and Implementation Capacity

Policy capacity refers to the ability to turn public goals into effective analysis, decisions, coordination, and action. Capacity literature distinguishes between analytical, operational/managerial, and political dimensions at the individual, organizational, and system levels. The COVID-19 crisis showed that just having formal instruments isn't enough; governments need to mobilize the

right capacities at the right time, connect expertise with authority, and maintain legitimacy when decisions have to be made quickly (Capano et al., 2020; Mardiyanta & Wijaya, 2023).

The literature on policy integration broadens the understanding of capacity by showing that integration requires administrative ability to coordinate units that have different goals, procedures, and information. The framework on institutional capacity links cross-sector design dimensions with the organizational attributes needed for policy formulation and implementation. Evidence from EU cohesion policies shows that capacity is not abstract; it can be mapped through organizational resources, coordination mechanisms, competencies, and the ability to carry out an integrated design (Domorenok et al., 2021a; Domorenok et al., 2021b).

Integration capacity is also influenced by political leadership and coordination structures. Research on climate policy integration in the European Commission shows that a presidential leadership style interacts with institutional capacity; studies on regional policy indicate that coordination can be built in different ways depending on incentives, structures, and context. Changes in government and partisan ideology can also affect the direction of integration reforms, highlighting that administrative capacity cannot be separated from political dynamics (Rietig & Dupont, 2021; Ferry, 2021; Maggetti & Trein, 2021).

At the local implementation level, central instruments and regulations interact with the city's or region's context. Studies on mandatory climate impact assessments show a variety of policy and political consequences, while research on urban climate governance indicates that opportunity structures can lead to unexpected outcomes when local implementation capacity and configurations are lacking. These findings reinforce the idea that policy transfer should take context and implementer capacity into account, rather than assuming that a design that works in one place will work the same way elsewhere (Rilling & Tosun, 2021; van der Heijden, 2021).

5. Evidence-Informed Policy, Evaluation, and Learning

The use of evidence in policy isn't a straight path from research to decisions. Evaluation can be used to improve programs, build understanding, strengthen legitimacy, or support political positions. Studies on evaluation use emphasize the relationship between evaluation and policy learning: evidence becomes useful when there's an organizational mechanism for interpreting, discussing, and translating results into changes in tools or practices. So, learning capacity is just as important as having data (Bundi & Trein, 2022).

Mapping the literature on knowledge use shows various barriers and facilitators that are both subjective and institutional. Policymakers select, interpret, and weigh knowledge sources under pressures of time, values, experience, and organizational structure. Studies on knowledge formation in U.S. migration policy also show that the source of evidence affects how knowledge is shaped and used. Because of this, the term evidence-informed policy is more realistic than trying to describe decisions as entirely evidence-based: evidence

has to interact with public values, political feasibility, capacity, and context (Capano & Malandrino, 2022; Pettrachin & Hadj Abdou, 2024).

In the theory-practice framework, evidence acts as a correction mechanism. Theory builds propositions about how mechanisms should work; evaluation and implementation data test whether those mechanisms operate in a specific context. When results differ from assumptions, learning can lead to recalibration, redesign, or changes in implementation strategy. So, a healthy theory-practice relationship is cyclical and reflective, rather than a one-way street from theory to application.

6. Digital Transformation, Data, and Artificial Intelligence

Digitalization expands the government's ability to collect data, perform predictive analysis, automate services, and monitor policy implementation. But those benefits depend on data governance. The trustworthy AI framework emphasizes that data quality, role allocation, access standards, security, transparency, and accountability need to be organized before algorithmic systems can be trusted. Without proper data governance, increased computing power can actually amplify errors, bias, and unclear responsibility (Janssen et al., 2020).

Artificial intelligence also has the potential to change various stages of the policy cycle, from agenda-setting and alternative analysis to implementation and evaluation. That said, the public governance literature warns that adopting AI raises questions about fairness, explainability, privacy, accountability, and the organization's ability to assess impacts. Reviews of AI in governance highlight the need for research agendas and regulations that focus not just on efficiency but also on social and institutional risks (Valle-Cruz et al., 2020; Zuiderwijk et al., 2021).

Empirical evidence shows that AI adoption in the public sector has expanded across various services and functions, but the context of use determines acceptance and outcomes. Mapping AI use in EU governments highlights a range of applications, while experiments on citizen acceptance show that the type of service and reasons for rejection play a key role in shaping acceptance. So, technological feasibility should be distinguished from institutional and social feasibility (van Noordt & Misuraca, 2022; Gesk & Leyer, 2022).

Algorithmic modeling can help with communication and organizing policy analysis, but models also limit what can be seen, measured, and considered feasible. Studies on the use of algorithmic models in government highlight the need for a critical audience and ongoing analytical effort. Blockchain literature shows a similar dilemma: technical decentralization doesn’t automatically lead to legitimacy, effectiveness, or trust. Public institutions still need to regulate accountability, auditability, and the relationship between technology and democratic authority (Kolkman, 2020; Clifton & Pal, 2022; Dimitropoulos, 2022; Bodó & Janssen, 2022).

7. Conceptual Framework of Synthesis

Based on the literature, the relationship between theory and practice is formulated through five connectors. First, policy design fit ensures that goals and instruments match the problem structure. Second, policy capacity provides the analytical, operational, and political ability to turn design into action. Third, integration and collaboration manage cross-sector interdependence and connect the government with non-government actors. Fourth, evidence and learning provide feedback for calibration and change. Fifth, digital-data governance expands information capacity while regulating technological risks. These five elements are interdependent; a weakness in one element can reduce the effectiveness of the others.

This framework doesn't assume that all policies require the same level of collaboration or digitalization. The main principle is contingency and fit: the configuration of mechanisms should be adjusted to the nature of the problem, level of uncertainty, distribution of authority, organizational capacity, and legitimacy needs. The framework is used in the results and discussion section to synthesize findings across the literature and answer RQ1 and RQ2.

METHODOLOGY

This article uses a qualitative literature review, or non-systematic literature review, aimed at producing a conceptual and interpretive synthesis, rather than calculating effects or claiming exhaustive coverage of the literature. This approach is suitable for articles that integrate different theoretical streams and build new explanatory frameworks through critical reading. Literature on writing reviews emphasizes the importance of an explicit review purpose, transparent source selection logic, and a synthesis that adds conceptual value; a good conceptual article should also explain the type of contribution and the relationships between constructs developed (Paul & Criado, 2020; Jaakkola, 2020; Kraus et al., 2022).

Sources were chosen purposively, prioritizing peer-reviewed articles published since 2020 that are relevant to themes like public policy theory and practice, policy design and instruments, policy integration, policy capacity, collaborative governance, evidence and evaluation, as well as digital and AI governance. The search focused on public policy, public administration, governance, and government information journals with strong academic reputations; studies from Indonesia and Asia were included to test contextual relevance. Selection was based on substantive relevance to the research questions, conceptual or empirical contribution, and the presence of metadata verifiable through DOI or the publisher's website. Since this is not a systematic literature review, the article does not use the PRISMA protocol, does not calculate effect size, and does not claim that all potentially relevant publications have been covered.

The analysis was carried out through critical reading and thematic coding of the concepts, mechanisms, conditions, and implications of recurring practices. The findings were then grouped into five synthesis dimensions: policy design fit; policy capacity; integration and collaboration; evidence and learning; and digital-data governance. The final stage compares the relationships between

dimensions, identifies patterns that explain the success or failure of implementation, and maps their implications for Indonesia. This strategy positions the literature as material for theoretical integration and argumentation, rather than as a study population for statistical estimation (Paul & Criado, 2020; Jaakkola, 2020; Kraus et al., 2022).

RESULTS AND DISCUSSION

1. Public Policy Practice: from the Linear Model to Adaptation

Literature synthesis shows that effective policy practice rarely happens in a straight line. Initial formulation provides orientation, but implementation generates new information about target behavior, organizational capacity, distribution conflicts, and instrument limitations. In these conditions, success depends on the ability to recalibrate without losing the main goal. Findings on policy mixes, procedural tools, and policy feedback show that implementation activities are also a process of policy reshaping (Capano & Howlett, 2020; Bali et al., 2021; Polman & Alons, 2021).

The practical implication is that the government needs to distinguish between fidelity to the goals and rigidity with the instruments. When evidence shows an instrument isn't working, sticking with the same tool just for administrative consistency can lead to policy drift or waste. On the other hand, changing instruments too often without a clear theory of change and indicators can create inconsistency. Adaptive design requires relatively stable goals, monitoring mechanisms, correction thresholds, and accountable discretion (Domorenok & Zito, 2021; Bundi & Trein, 2022).

Crises highlight the need for adaptation. COVID-19 studies show that a pandemic can speed up change, open policy windows, and force cross-sector integration, but not all changes are permanent. The post-crisis path can involve returning to routines, reform, or institutionalizing some innovations. Therefore, post-crisis learning needs to distinguish emergency solutions that should be stopped from new capacities that are worth keeping (Boin & 't Hart, 2022; Knill & Steinebach, 2022; Mintrom & True, 2022).

In cross-sector practice, integration doesn't happen just by forming a coordination team. The structure has to be followed by data exchange, indicator harmonization, division of authority, conflict escalation mechanisms, and shared resources. Integration studies show there's a gap between integrated outputs and implementation; on the other hand, implementation actors can act like entrepreneurs who create integration in an unplanned way. This means the coordination design needs to be formal enough to ensure accountability, but flexible enough to allow problem solving on the ground (Sarti, 2023; Lambelet, 2023; Cejudo & Trein, 2023).

In the context of Indonesia, findings about West Java and Lampung point to the conclusion that strengthening practice isn't enough just by creating technical guidelines. Analysts' capacity needs to be connected with decision-making and implementation processes, while coordination between levels of government requires communication and trust. Think tanks and knowledge actors can boost the agenda and formulation, but that influence will be more

lasting if institutionalized through mechanisms for using evidence and maintaining transparent relationships with decision-makers (Newman et al., 2022; Fatonie, 2022; Kurniawan et al., 2023).

2. The Relationship Between Theory and Practice in Public Policy

The relationship between theory and practice is most productive when theory is used as a tool to pose diagnostic questions. The design perspective asks whether the instruments fit the goals and problems; the capacity perspective asks whether actors have the competence and resources; the network perspective asks about patterns of interdependence and power distribution; the evaluation perspective asks about mechanisms and outcomes; while the digital governance perspective asks about data quality, transparency, and accountability. In this way, theory helps reduce blind spots without imposing a single universal model. Findings on policy design fit show that design theory becomes operational when it's translated into decisions about the mix of instruments, the sequence of interventions, and coordination mechanisms. Fit failures can happen when instruments are too narrow for cross-sector problems, when goals conflict, or when implementers lack the capabilities assumed by the design. So, design theory needs to interact with capacity diagnosis from the formulation stage, not just after implementation problems arise (van Geet et al., 2021; Domorenok et al., 2021b).

Collaborative governance shows a similar theory-practice relationship. In theory, collaboration can bring together resources and knowledge; in practice, performance depends on inclusion, leadership, interdependence, rules, and relationships with democratic accountability. Because the path to collaborative performance is configurational, the design of collaboration should be adjusted to the context. This explains why just creating participatory forums can't be used as an indicator of governance success (Ansell et al., 2020; Torfing et al., 2020; Ulibarri et al., 2020; Douglas et al., 2020b).

The use of evidence is another meeting point. Theories produce expectations about cause and effect, while evaluation provides information to assess whether those expectations are met. But evidence doesn’t speak for itself; organizations need the capacity to judge quality, connect outcomes to decisions, and manage conflicts in interpretation. Literature shows that the selection of sources and use of knowledge are influenced by institutional context and policymakers’ perceptions. Therefore, strengthening evidence-informed policy should include mechanisms for brokerage, deliberation, documenting reasons for decisions, and evaluating the use of evidence (Capano & Malandrino, 2022; Pettrachin & Hadj Abdou, 2024; Bundi & Trein, 2022).

Digital transformation increases the need for theoretical reflection because technology can change information structures and discretion. Algorithmic models can speed up analysis, but they also standardize certain assumptions into code. Governance theory helps place technology as part of institutional systems: who defines the model's goals, who is responsible for the data, how decisions can be explained, and how citizens can challenge the outcomes. So, mature digital practice requires a mix of technical skills and policy-democratic capacity (Janssen et al., 2020; Kolkman, 2020; Zuiderwijk et al., 2021).

3. Effectiveness of Public Policy

The effectiveness of policies in this article is understood as the ability to bring about changes that are relevant to public goals with costs and risks that can be justified, while maintaining legitimacy and adaptability. This definition is broader than just achieving administrative outputs. A program might hit its budget absorption targets but fail to solve the problem; on the other hand, a policy might produce positive short-term results but cause unfairness, dependency, or loss of trust in the long run. Therefore, evaluations need to look at outcomes, impact distribution, process quality, and sustainability.

The first factor is design fit. Goals need to be clear enough to be evaluated, but the instruments should match the causes of the problem and consider interactions with other policies. Incoherent policy mixes can send mixed signals, while too much integration can make coordination more complicated. So, effectiveness requires a balance between sectoral specialization and cross-sector integration (Capano & Howlett, 2020; Cejudo & Trein, 2023; Maggetti & Trein, 2022).

The second factor is capacity. Analytical capacity is needed for diagnosis and evaluation; operational capacity is needed for budgeting, processes, HR, and coordination; political capacity is needed for legitimacy, communication, and conflict management. The three dimensions don't replace each other. Excellent analysis can fail if the organization can't implement it, while a strong organization can carry out interventions efficiently but miss the mark if the diagnosis is weak. COVID-19 literature and studies from Indonesia show the importance of a balanced capacity configuration (Capano et al., 2020; Newman et al., 2022; Mardiyanta & Wijaya, 2023).

The third factor is the quality of governance. Collaboration can improve access to knowledge, legitimacy, and resources, but it also increases transaction costs and the risk of reduced accountability. Collaboration is more effective when roles are clear, actors have real dependencies, the process is inclusive, and there are mechanisms for decision-making and evaluation. In crisis situations, the need for quick coordination must still be balanced with traceable responsibility (Douglas et al., 2020a; Parker et al., 2020; Sørensen et al., 2020).\

The fourth factor is learning infrastructure and technology governance. Evaluation, administrative data, consultation, and experimentation need to be linked to decision-making forums that can make corrections. Digitalization can speed up feedback, but effectiveness only improves if the data is high-quality and the system is auditable. Public acceptance of AI also depends on the service context, not just technical performance. Therefore, digital transformation should be treated as governance reform, not as a separate IT project (Bundi & Trein, 2022; van Noordt & Misuraca, 2022; Gesk & Leyer, 2022).

Table 1. Framework For Linking Theory and Policy Practice

Dimension	Diagnostic question	Practice mechanism	Risks if weak
Policy design fit	Are the objectives and instruments in line with the problem structure?	Combination of instruments, calibration, sequencing, proportionality	Misguided instruments, conflicts between programs, policy drift
Policy capacity	Are individuals, organizations, and systems able to analyze and take action?	Analytical, operational, political capacity; resources; leadership	Implementation gap, decisions without evidence, weak legitimacy
Integration & collaboration	Is the cross-sector/actor interdependence managed?	Coordination, forums, mandate distribution, boundary spanning	Fragmentation, duplication, conflicts of authority, accountability gap
Evidence & learning	Do data and evaluations trigger policy corrections?	Monitoring, evaluation, knowledge sharing, feedback loop	The policy of not learning, symbolic evidence, repeated failures
Digital-data governance	Does technology increase capacity without reducing rights and accountability?	Data standards, audits, transparency, human oversight, safeguards	Bias, opacity, distrust, automation of error

4. Public Policy Challenges in the Modern Era

The first challenge is complexity and interdependence. Governments are often faced with interconnected goals that are managed through sectoral structures. Efforts to integrate can reduce fragmentation but also create new coordination burdens. So, the modern challenge isn't just increasing coordination, but figuring out which issues need integration, at what level, and through what instruments. Institutional coordination arrangements and policy design spaces become important to balance sector autonomy with the need for common goals (von Lüpke et al., 2023; Cejudo & Trein, 2023).

The second challenge is uncertainty and the speed of change. Crises can create opportunities for reform, but they also lead to decisions that heavily depend on the emergency context. Post-COVID literature highlights that policy changes aren’t automatically transformational; some are just temporary adaptations. Governments need the capacity for foresight, scenario planning, and evaluation to figure out which innovations should become standard and which ones should be stopped (Boin & ’t Hart, 2022; Knill & Steinebach, 2022).

The third challenge is legitimacy in increasingly distributed governance. Networks, collaborations, contracts, and digital platforms involve actors beyond the government hierarchy in policymaking. This distribution can boost capacity but raises questions about representation and accountability. Political boundary spanning and inclusive design are needed to connect collaborative spaces with

democratic institutions, and to make sure groups with more resources don't dominate the process (Sørensen et al., 2020; Ansell et al., 2020).

The fourth challenge is using evidence amidst an abundance of information. Modern policy issues are not just about lacking data, but also about competition between indicators, models, and sources of knowledge. Policymakers need to assess the quality, relevance, uncertainty, and source of evidence. Organizations without epistemic capacity might use data symbolically or rely too much on models that are hard to audit. That's why transparency of reasoning, documenting assumptions, and having multiple sources of knowledge are part of good policy (Capano & Malandrino, 2022; Pettrachin & Hadj Abdou, 2024; Kolkman, 2020).

The fifth challenge is technology governance. AI and blockchain are often promoted as solutions to inefficiency, but technology doesn't remove value conflicts or institutional problems. Responsible adoption requires data governance, risk assessment, human oversight mechanisms, clarity on liability, and citizen access to explanations or objection mechanisms. Public trust should be seen as an outcome of governance, not an automatic assumption that comes with innovation (Janssen et al., 2020; Clifton & Pal, 2022; Dimitropoulos, 2022; Bodó & Janssen, 2022).

5. Analysis and Synthesis to Answer Research Question 1

RQ1 asks how contemporary theories explain the development, implementation, evaluation, and change of policies in complex, multi-actor environments. The synthesis shows three shifts. First, from a linear stage approach to a recursive process: formulation, implementation, and evaluation give feedback to each other. Second, from a single instrument to policy mixes and procedural designs that shape the process. Third, from being government-centric to governance that recognizes networks, collaboration, implementing organizations, and knowledge actors as part of the policy process. These shifts don't eliminate the policy cycle but turn it into a heuristic map that should be read alongside cross-stage mechanisms (Bali et al., 2021; Polman & Alons, 2021; Douglas et al., 2020a).

The development of theory also broadens the explanation of policy changes. Changes can happen due to crises, policy feedback, learning, entrepreneurship, or changes in capacity and coordination. COVID-19 studies show crisis-driven acceleration and variations in post-crisis pathways; integration studies show that changes can happen through formal design as well as entrepreneurship in implementation. Therefore, it's more accurate to understand policy change as the result of the interaction between environmental pressures and the institutional capacity to handle those pressures (Knill & Steinebach, 2022; Mintrom & True, 2022; Lambelet, 2023).

So, the answer to RQ1 is that contemporary policy theory explains the policy process through a configuration of mechanisms, not a universal sequence. Formulation requires diagnosis and design; implementation involves discretion, coordination, and feedback; evaluation shapes learning and legitimacy; change happens when information, interests, capacity, or context shift that configuration. The most productive framework is plural and problem-oriented:

theories are chosen based on the mechanisms that need explaining, not because one theory is assumed to cover all stages.

6. Analysis and Synthesis to Answer Research Question 2

RQ2 asks about the factors that bridge theory and practice to improve effectiveness, adaptability, legitimacy, and evidence orientation. The review results identified five mutually reinforcing factors. Policy design fit links diagnosis with instrument choices. Policy capacity connects design with the ability to act. Integration and collaboration tie together dispersed authority and resources. Evidence and learning link implementation with correction. Digital-data governance connects technological capability with accountability. None of these factors is sufficient on its own.

The relationships between factors are complementary. A good design but low capacity results in an implementation gap; high capacity without evidence can speed up the wrong policies; collaboration without clear mandates can blur accountability; rich data without governance can lead to opacity; and evaluation without a learning forum can just end up as a report. So, policy reform needs to be designed as a connected portfolio of capabilities, not as separate institutional projects (Domorenok et al., 2021a; Bundi & Trein, 2022; Janssen et al., 2020).

For Indonesia, the main implication is strengthening the connection between analysts' capacities and decision-making authorities as well as implementing organizations. Findings from West Java show that analytical practices can grow, but new policy value emerges when there is organizational support and space to use analyses. Think tanks can act as policy entrepreneurs and knowledge intermediaries, while multilevel coordination requires communication and trust. Therefore, institutionalizing the use of evidence, strengthening analysis units, data interoperability, and cross-sector forums with mandates and follow-up mechanisms are a more fundamental agenda than just adding policy documents (Newman et al., 2022; Fatonie, 2022; Kurniawan et al., 2023).

Digitalization in Indonesia also needs to be placed within the framework of capacity and legitimacy. Technology can improve monitoring, targeting, and services, but its success depends on the quality of data, process integration, staff competence, fair access, and accountability mechanisms. AI literature shows that citizen acceptance varies depending on the service context, while data governance determines trustworthiness. Therefore, digital transformation should be evaluated based on public value and decision quality, not just the number of applications or the level of automation (Gesk & Leyer, 2022; van Noordt & Misuraca, 2022; Zuiderwijk et al., 2021).

CONCLUSIONS AND RECOMMENDATIONS

This article shows that the relationship between public policy theory and practice can't be reduced to just applying one theory at the administrative stage. Literature since 2020 has shown a shift toward understanding policy as a dynamic configuration between design, instruments, organizations, networks of actors, capacity, information, and technology. Theory is still important, but its main role is to build diagnoses, explain mechanisms, and reveal trade-offs. Practice then provides the empirical context that tests the theory's assumptions, generates feedback, and forces adjustments when instruments don't work as expected.

The answer to RQ1 confirms that policy formulation, implementation, evaluation, and change happen in a recursive and mutually shaping way. Policy mixes and procedural tools show that substance and process need to be designed together; the literature on policy integration and collaborative governance indicates that dispersed authority requires coordination and boundary spanning; while studies on evaluation use show that evaluation only becomes meaningful when linked to learning. Therefore, the policy cycle is still useful as an organizational analysis tool, but it’s not enough as a causal theory to explain modern policy dynamics.

The answer to RQ2 identifies five main links between theory and practice: policy design fit, policy capacity, integration and collaboration, evidence and learning, and digital-data governance. These five factors complement each other. Effectiveness decreases if the design doesn’t match the problem, capacity is lacking, coordination has no mandate, evidence isn’t used to make corrections, or technology is applied without governance and accountability. Therefore, strengthening public policy needs to shift from a fragmented reform approach to building a capability architecture that connects analysis, decisions, implementation, evaluation, and legitimacy.

For Indonesia, the practical priority is to build institutions that use evidence more consistently, strengthen analytical capacity along with implementation ability, and improve the quality of coordination between central and regional governments as well as across sectors. The experience in West Java, the role of think tanks, and lessons from crisis coordination show that there is capacity that can be developed, but the link between analysis production, decision-making authority, and implementation follow-up needs to be strengthened. Digital transformation should be used to improve the quality of decisions and public value through interoperability, data quality, auditability, human oversight, and citizen access, rather than just being treated as an automation project.

Future research needs to test this five-link framework empirically across different sectors and levels of government in Indonesia. Comparative studies can assess which combinations of capacity and design lead to different outcomes; process tracing can identify integration mechanisms and policy feedback; longitudinal research can look at how the use of evidence and digitalization impacts policy changes over time. Other important agendas include measuring the quality of policy analytical capacity in local governments, evaluating the

effectiveness of knowledge brokerage, and studying fairness, explainability, and accountability of AI in public services. These approaches will help develop more contextual policy theories while producing recommendations that can be tested in practice.

FURTHER STUDY

This research still has limitations, so further studies are needed on the topic of Bridging Public Policy Theory and Practice in an Age of Complexity: A Synthesis of Policy Design, Capacity, Evidence, Collaboration, and Digital Transformation to improve this research and add insights for both the author and readers.

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