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From Niches to the Mainstream: A Computational Review and Research Agenda for Policy Innovation

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ABSTRACT Innovation in public policy is a rapidly expanding field, highlighting its critical role in addressing complex societal challenges. This bibliometric review (n = 17,264) synthesizes over 50 years of scholarship, systematically identifying key gaps, including conceptual fragmentation, limited theoretical engagement, methodological conservatism, and geographic and sectoral imbalance, and underutilization of the comparative perspective. These challenges constrain the field's ability to address pressing global issues such as climate change adaptation, digital transformation, economic inequality, and the energy transition. This study proposes a comprehensive research agenda to bridge these gaps and move the field from niches toward more inclusive, integrative, and rigorous mainstream scholarship.

Keywords: comparative policy analysis; democratic innovation; governance innovation; policy change; policy innovation; public sector innovation; natural language processing (NLP)

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Introduction

Innovation in public policy refers to the adoption or implementation of novel structures, processes, objectives, tools, services, and practices that aim to improve the design, delivery, and outcomes of public policies (Mahroum 2013; Demircioglu and Vivona 2021; Goyal and Howlett 2024). As societies face increasingly complex and grand challenges – ranging from digital transformation and energy transition to addressing democratic legitimacy and economic inequality – public policy innovation has become a critical tool for enabling societies to respond effectively and equitably (UNRISD 2016; Goyal 2019). Illustratively, innovative arrangements such as citizen assemblies, behavioral insight teams, policy innovation labs (Brock 2020; Wellstead et al. 2021), and participatory evaluations have attracted growing scholarly and practical interest (OECD 2017; Link and Scott 2019).

Still, while such innovations are increasingly documented and studied, deriving any systematic lessons about their drivers, processes, designs, and outcomes remains challenging. The wide spread of innovation literatures across various disciplines (e.g. economics, political science, public administration, public policy, and sociology) presents a major obstacle in this regard. In addition to studies specifically focused on policy innovations and using this very term (e.g. Jordan and Huitema 2014), innovations in public policy are also explored in adjacent research areas on policy change (Kingdon 1984; Sabatier 1988; Baumgartner and Jones 1993; Hall 1993), public sector innovation (De Vries et al. 2016; Torfing 2019), governance innovation (Hartley 2005), and democratic innovation (Elstub and Escobar 2019). This fragmentation has hindered opportunities for cross-fertilization and cumulative knowledge-building, leaving scholars writing about policy innovation without a cohesive theoretical framework and lack of connection to similar topics, such as to public sector innovation despite using the same or similar frameworks.

By employing comprehensive computational review, this article aims to contribute to the systematic development of theory and empirical research on policy innovations, by taking stock of the various literatures related to public policy innovation. Drawing on bibliographic data of over 17,000 publications and leveraging natural language processing (NLP) techniques, this study synthesizes trends, gaps, and opportunities across the conceptual, theoretical, methodological, empirical, and comparative dimensions of the field. This study aims to fill that gap by highlighting the synergies and divergences across the fragmented literature. More specifically, it analyzes research areas (e.g. democratic innovation), prominent theories (e.g. institutional theory), policy domains (e.g. health), methods (e.g. case study), and geographies (e.g. Canada). By bridging these silos, it not only offers a comprehensive overview but also proposes recommendations for advancing public policy innovation research. This agenda emphasizes the need to make the field more integrative, inclusive, and impactful in addressing contemporary policy challenges.

The remainder of the article is organized as follows. The following section describes the research design, particularly our approach to data collection and analysis, emphasizing computational techniques to work with a large dataset (n = 17,264). Subsequently, the third section provides findings by synthesizing and examining conceptual engagement, theoretical underpinnings, methodological basis, empirical context, and comparative analysis of public policy innovation research. Thereafter, these findings are contextualized within the broader landscape of policy research, highlighting their implications for

theory, methodology, and practice. The article concludes by outlining a future research agenda to address the identified gaps and advance the field of public policy innovation.

Research Methodology

Data Collection

We created a complex search query that included terms likely to be associated with each of the above-mentioned research areas (see SI: Table S1) related to the study of innovations in public policy, i.e. policy innovation, policy change, public sector innovation, governance innovation, and democratic innovation. The search was conducted on publication titles and abstracts using Dimensions, a comprehensive research database that permits access to a large volume of bibliographic data (Digital Science 2018; Hook et al. 2018). As terms such as "policy" are widely used with different meanings across several research fields, we limited our search to include only the following: human society, law and legal studies, and philosophy and religious studies. Further, book reviews, conference abstracts, correction errata, and preprints were excluded from the search. The search, conducted on June 5, 2024, resulted in a total of 17,264 publications. We downloaded the bibliographic data corresponding to these publications – such as authorship, publication year, title, abstract, and source title – for further analysis.

For in-depth analysis, we created five "innovation subsets" of the complete dataset pertaining to the corresponding research area. A publication was identified as belonging to a subset if the title or the abstract of the publication included a term associated with the research area (SI: Table S2). The subsets were not mutually exclusive; a publication mentioning terms associated with two or more research areas was included in each corresponding subset. In addition, we created a subset of the "comparative" literature, i.e. publications mentioning terms that are likely to be indicative of comparative analysis (SI: Table S3).

Data Analysis

To obtain an overview of the research, first we conducted a bibliometric analysis on the complete dataset. This included an analysis of the volume of scientific production, authorship, institutional affiliation, and sources publishing the literature. Subsequently, we focused on analyzing the following in the complete dataset, innovation subsets, and the "comparative subset": (i) thematic focus; (ii) conceptual engagement; (iii) theoretical underpinnings; (iv) methodological basis; and (v) empirical context.

To identify key themes, we used topic modelling (Blei et al. 2003). Specifically, we employed BERTopic, which combines document embedding, dimensionality reduction, clustering, and key term identification using machine learning and natural language processing (Grootendorst 2022). The publication title and abstract were provided as input to the topic model, after removing non-English sentences in the abstract, converting the text to US English, and marking phrases in the text (by replacing space between the words with underscore). The number of themes in the dataset were determined by the algorithm; where meaningful, we merged highly "similar" themes in the output under one label (based on topic similarity heatmap and manual interpretation). Apart from examining the themes, we reviewed the abstracts of highly cited publications within each

innovation subset to further understand the conceptual focus within each research area. Also, we analyzed the co-occurrence and correlation among the use of terms from different research areas within the dataset.

The theoretical underpinnings and methodological basis in our dataset were estimated using term-frequency analysis. We listed the major theoretical lenses (broadly defined) pertaining to public policy innovation based on our knowledge of the relevant literature, a scan of terms adjacent to theory or framework in the dataset, and the use of ChatGPT. Then, we identified variants that could be used to refer to the theoretical lens (SI: Table S4). If any variant was mentioned in the title or abstract of a publication, the corresponding theoretical lens was added to the list of theories mentioned in the publication. We followed the same process to detect the methods – broadly defined to include research designs, data collection methods, and data analysis techniques – mentioned in the dataset (SI: Table S5). While this approach does not distinguish between the use of a theory or method from its mention, we consider it appropriate to identify trends in the literature.

To establish the empirical setting, we identified the policy domains and geographies that have been covered in the literature. The dictionary-based approach that we use to identify theories and methods is unlikely to work well for policy domains due to the large number of variants within each domain as well as the change in their meaning depending on the context. Instead, we mapped the key themes identified above to policy domains based on the codebook of the Comparative Agendas Project (Bevan 2019) to obtain an approximation of the spread within the literature. Further, a dictionary-based approach is also unlikely to work well for identifying geographies, due to the potentially large number of regions, countries, provinces or states, and cities. Therefore, we used named entity recognition (Devlin et al. 2018) for finding geographic entities in the dataset. Then we cleaned the list to remove incorrectly identified entities, harmonized mentions (for example, replacing "US" with "United States"), and mapped subnational entities to the country/region level (SI: Tables S6 and S7). In addition, we checked for the presence of "subnational" terms (SI: Table S8) in the title or abstract to the extent to which the literature has paid attention to the subnational level.

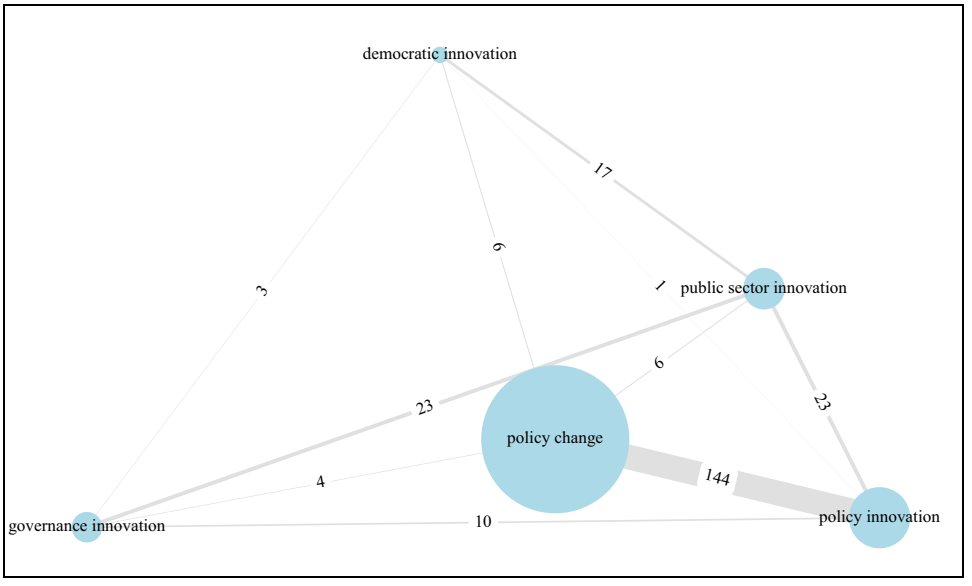
Findings

The number of publications on innovation in public policy has grown exponentially, especially since around the start of this century (SI: Figure S1). The policy change subset is the largest in the literature (*n*: 12,382), followed by the policy innovation subset (*n*: 2,118), the public sector innovation subset (*n*: 979), the governance innovation subset (*n*: 528), and finally the democratic innovation subset (*n*: 151). The most prolific authors, institutions, and sources in the dataset are presented in SI: Tables S9–S11.

Conceptual Engagement

The conceptual engagement across the literature indicates a shared focus on understanding the drivers, processes, designs, and outcomes of the different types of public policy innovation. Despite these synergies, the development of this literature in distinct research communities has resulted in significant fragmentation, lack of conceptual clarity, and limited cross-fertilization. For example, very few studies on policy change explicitly

Figure 1. Co-occurrence of concepts in the literature on innovation in public policy

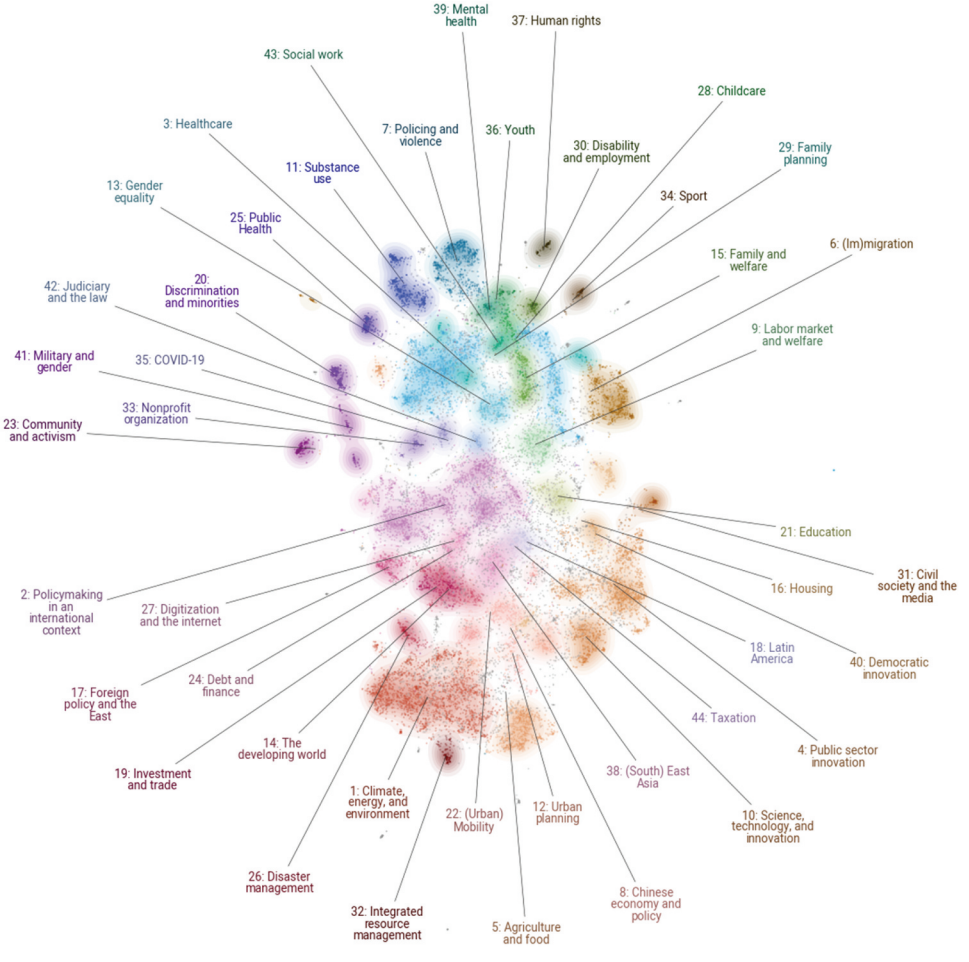


mention policy innovation and very few studies in the policy innovation explicitly mention public sector innovation (Figure 1; for similar findings, see Criado 2009).

Several distinct themes emerge among the different strands of literature. The policy change literature, for example, has been pivotal in examining the politics of policy change (Sabatier 1988; Tsebelis 1995), critically reflecting on policy design (Schneider and Ingram 1993; Lascoumes and Le Gales 2007), and studying the effects of policies (Altonji and Blank 1999; Brenner 2004). However, this research area typically conceptualizes change at the level of a policy jurisdiction, paying limited attention to the trans-jurisdiction influence on and the micro-level dynamics of policy change. In contrast, the research on policy innovation has delved more into the influence of the transnational dimension of the process (Adler and Haas 1992; True and Mintrom 2001) and studied the diffusion or transfer of policy innovation (Berry and Berry 1990; Benson and Jordan 2011). Nevertheless, both rarely intersect with the literature on public sector innovation, as they pay little to no attention to policy innovation.

The research on public sector innovation has focused on the processes and outcomes of innovation within government agencies, emphasizing the role of co-creation (Voorberg et al. 2015) and collaborative governance (Sørensen and Torfing 2011). However, it remains siloed from the broader discussion around policymaking and implementation. Similarly, the literature on governance innovation – while highlighting the importance of multilevel dynamics (Armitage 2007), the role of non-state actors (Moulaert et al. 2005), and the effects of innovation on democratic legitimacy (Swyngedouw 2005) – has witnessed limited integration with other research areas on innovating public policy. Finally, although studies on democratic

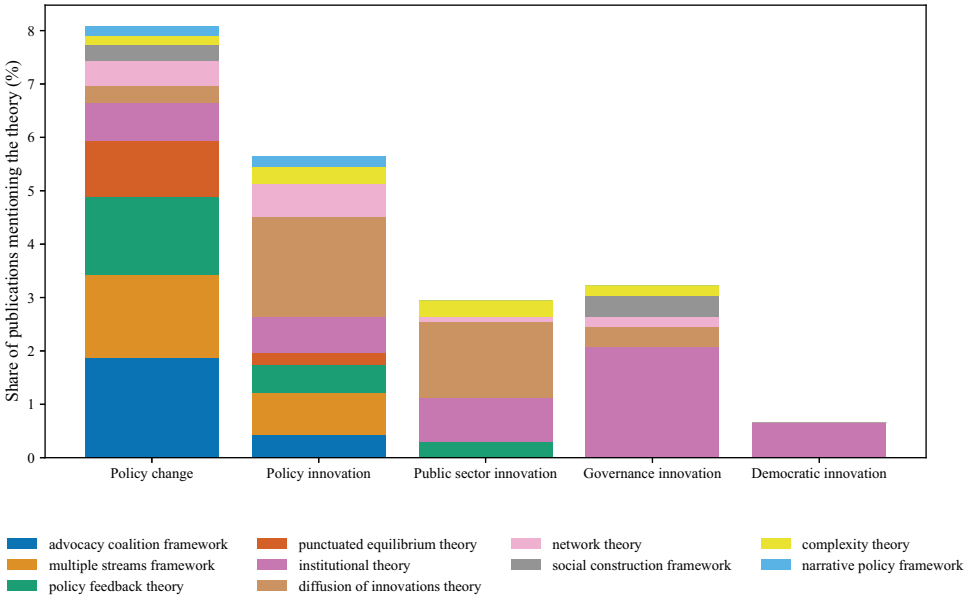
Figure 2. Key themes in the literature on innovation in public policy



innovation offer a unique perspective by addressing the democratic deficit (Elstub and Escobar 2019), they lack sufficient engagement with the literature, on governance innovation for example, despite their shared interest in public participation (Michels 2011).

The fragmentation across these subsets is mirrored in their distinct conceptual vocabularies (Figure 2). For instance, while themes such as "election and parties" and "policy process" are more prominent in the policy change subset (SI: Figure S2), the policy innovation literature and public sector innovation research focus more on themes such as "policy diffusion" or "policy design" (SI: Figure S3) and "digital transformation" or "collaborative innovation" (SI: Figure S4), respectively.

Figure 3. The prevalence of prominent theories in different research areas



Theoretical Underpinnings

Theoretical engagement is both limited and unevenly distributed within the literature on public policy innovation (Figure 3). Surprisingly, less than 10 per cent of the publications in the dataset explicitly reference at least one prominent theoretical perspective in their title or abstract. Even fewer mention multiple theoretical perspectives, with only 111 referring to 2 and just 21 referring to 3 or more. Further, just 4 theories account for 60 per cent of all mentions of theory in the dataset. This paucity of theoretical engagement highlights a major gap in the literature, which remains largely descriptive, atheoretical, and reliant on a narrow set of policy process theories.

Among the theories employed, the Advocacy Coalition Framework (ACF) is the most prevalent, mentioned in 247 publications, followed by the Multiple Streams Framework (MSF; *n*: 210), Policy Feedback Theory (PFT; *n*: 209), and Punctuated Equilibrium Theory (PET; *n*: 140). These frameworks dominate the theoretically informed research within the policy change subset, where they help uncover coalition dynamics (Leifeld 2013), processes during windows of opportunity (Meijerink 2005), feedback mechanisms (Béland 2009), and patterns in government expenditures (Breunig and Koski 2006). In contrast, the diffusion of innovation theory (Walker et al. 2011), the policy network perspective (Sandström and Carlsson 2008), and the MSF (Zahariadis and Allen 1995) have received more attention in the policy innovation subset.

Even more striking is the near-total absence of policy process theories in the research on public sector innovation, governance innovation, and democratic innovation,

indicating that these theories have paid almost no attention to other types of policy innovation. These research areas, instead, draw sporadically on other theoretical perspectives. For example, studies on public sector innovation occasionally employ the diffusion of innovation theory (De Vries et al. 2018) and the institutional perspective. Meanwhile, research on governance innovation and democratic innovation has largely engaged only with the institutional perspective (González and Healey 2005; Wampler and Romão 2018). Moreover, even these are referenced infrequently, and their applications are highly context-specific.

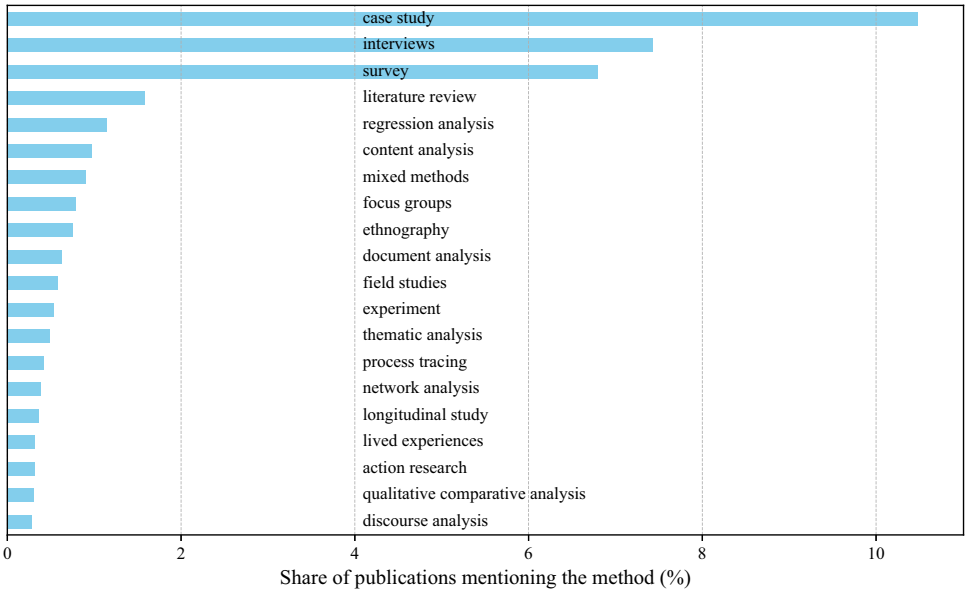
These trends suggest a compartmentalized use of theories, with little cross-application or synthesis across different research areas. This limited theoretical engagement hinders the development of frameworks that capture the multiple types of innovation – encompassing policy structures, processes, and practices – limiting the field's ability to address emerging challenges.

Methodological Basis

The methodological basis of the literature demonstrates a pronounced reliance on a narrow range of methods, with limited adoption of comparative, advanced, or mixed methods designs. While mentions of methods are more common than theories, nearly two-thirds of publications fail to explicitly state a method in their title or abstract, reflecting a lack of methodological transparency.

Case studies dominate the literature, occurring in over 10 per cent of our dataset (Figure 4). While these create deep, context-specific knowledge, their prevalence also

Figure 4. Methods mentioned most frequently in the literature on innovation in public policy



raises concerns regarding the generalizability of findings. Complementing case studies, interviews (*n*: 1279) and surveys (*n*: 1,170) are the most common methods of data collection. However, surveys are occasionally referenced in the context of literature reviews rather than empirical data collection. These methodological preferences emphasize depth over breadth, offering detailed insights but possibly limiting comparability across cases or units.

For data analysis, regression analysis (*n*: 198) and content analysis (*n*: 168) occur most frequently in the dataset. Regression analysis is often used for policy evaluation (Sendstad et al. 2022) and only occasionally for understanding the determinants of policy innovation (Williams 1990), reflecting an orientation toward policy outcomes rather than processes. Despite its growing use in recent years, Qualitative Comparative Analysis (QCA) remains a niche approach, with studies employing it to research innovation in policy implementation (Pires and Gomide 2016) or the implementation of policy change (Brockhaus et al. 2017). Methods that are explicitly comparative over time (such as ethnography or longitudinal analysis) are even rarer, further underscoring the limited methodological diversity in the field.

Less traditional and non-empirical methods have also witnessed little uptake in the literature. For example, machine learning has been mentioned occasionally in the context of public sector innovation (Henman 2020), but remains underutilized for data analysis (Choi et al. 2024). Similarly, simulation modelling, while occasionally employed for ex ante or ex post policy evaluation (Ballas and Clarke 2001), is rarely applied to explore policy process dynamics. One notable exception is the use of system dynamics by Banks and Sokolowski (2009) to model the evolution of counterinsurgency in Colombia. Action research, despite its potential to simultaneously study and influence policy innovation, is also seldom used.

The adoption of mixed methods is similarly limited, with only 155 publications explicitly referencing the term. Publications that combine multiple methods are relatively rare: fewer than 900 mention more than 1 method, and fewer than 300 employ 3 or more. When mixed methods are used, interviews frequently serve as the common denominator, often combined with case studies (Guldbrandsson and Fossum 2009), surveys (Birkenholtz 2010), focus groups (Gascó 2017), and document analysis (Wilson 1995). While this reliance on interviews as a core method reflects the literature's emphasis on qualitative knowledge, it also highlights the lack of innovation in integrating diverse methods.

Notably, the methods used do not vary significantly across the different research areas, with one exception: surveys are slightly more prevalent in public sector innovation research, reflecting this subset's predominant focus on individuals and organizations as units of analysis. This consistency in methods across research areas, while reflecting methodological homogeneity, also provides an opportunity to explore theoretical triangulation and synthesis.

Empirical Context

The empirical context of the literature on innovation in public policy demonstrates both breadth and imbalance, spanning diverse policy domains and geographies.

Table 1. Policy domains addressed in the literature on innovation in public policy

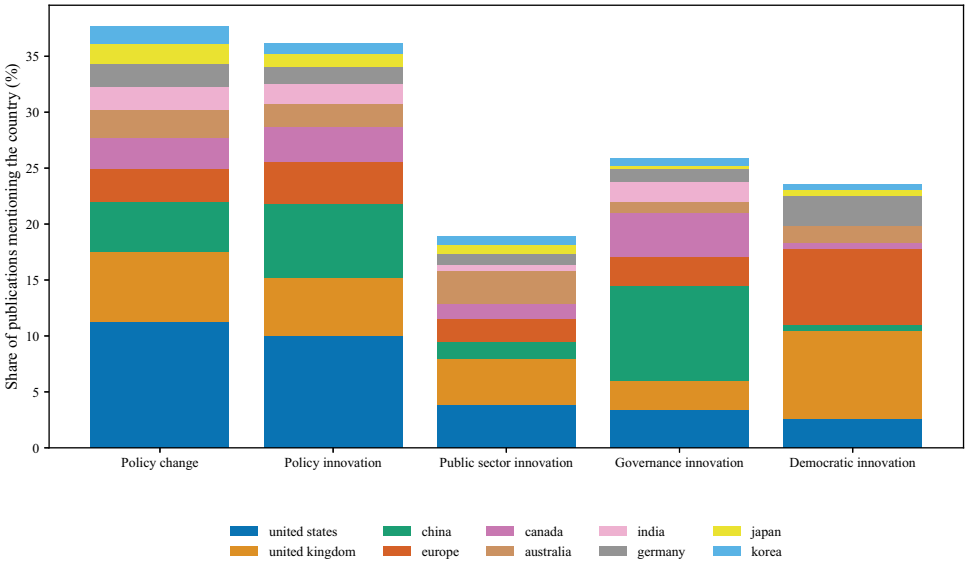
Policy domain	Corresponding theme
Macroeconomics	24: Debt and finance; 44: Taxation
Civil rights	13: Gender equality; 20: Discrimination and minorities; 23: Community and activism
Health	3: Healthcare; 11: Substance use; 25: Public health; 29: Family planning; 39: Mental health
Agriculture	5: Agriculture and food
Labor	9: Labor market and welfare; 15: Family and welfare
Education	21: Education
Environment	1: Climate, energy, and environment; 32: Integrated resource management
Energy	1: Climate, energy, and environment
Immigration	6: (Im)migration
Transportation	22: (Urban) mobility
Law and crime	7: Policing and violence; 42: Judiciary and the law
Social welfare	28: Childcare; 30: Disability and employment; 36: Youth (partially); 43: Social work
Housing	12: Urban planning; 16: Housing; 36: Youth (partially)
Domestic commerce	26: Disaster management; 34: Sport
Defense	41: Military and gender
Technology	10: Science, technology, and innovation; 27: Digitization and the internet
Foreign trade	19: Investment and trade
International affairs	2: Policymaking in an international context; 17: Foreign policy and the East; 37: Human rights
Government operations	4: Public sector innovation
Public lands	–
Culture	–

A mapping of the key themes to policy domains highlights the varied focus of the literature (Table 1). Policy domains such as healthcare, energy and environment, international affairs, government operations, agriculture, immigration, and law and crime are represented by multiple and/or highly prevalent themes. For example, themes such as "healthcare", "substance use", "family planning", "public health", and "mental health" collectively illustrate the strong emphasis on health-related policy innovation, while themes pertaining to energy and environment ("climate, energy, and environment" and "integrated resource management") underscore the field's responsiveness to the challenge of sustainability.

In contrast, policy domains such as defense, education, and transportation have received comparatively limited attention. For instance, while defense is represented by themes such as "military and gender", its coverage is minimal relative to its potential impact on understanding policy innovation in diverse contexts. Similarly, education and transportation are sparsely covered, despite their significance for societal and urban transformation. Further, the absence of cultural policy as a distinct theme highlights a gap in our understanding of that context, presenting another opportunity to explore innovation in domains that are traditionally overlooked.

The distribution of policy domains also varies significantly across research areas. For instance, government operations, represented by the theme "public sector innovation", is

Figure 5. The prevalence of geographies in different research areas



less prevalent in the policy change subset but receives greater attention in the public sector innovation subset. Similarly, the theme of "science, technology, and innovation" is more prominent in the policy innovation and public sector innovation literature, while housing (specifically, urban planning) features more prominently in studies on governance innovation. Although these differences reflect the unique focus of each subset, they also reinforce the conceptual and methodological silos identified earlier.

The geographic focus of the literature is heavily skewed toward the Global North, with the United States dominating mentions across the dataset for all research areas. Other frequently mentioned countries or regions include the United Kingdom, China, Europe, and Canada. Among countries in the Global South, only China and India rank within the top ten, while regions such as South America and Africa are significantly underrepresented (SI: Figure S8). For example, Brazil and South Africa – the most mentioned countries from these regions – appear in fewer than 250 and 150 publications, respectively.

The distribution of geographies also varies across research areas (Figure 5). In the policy change and policy innovation literature, the geographic pattern mirrors the overall dataset, with the United States, the United Kingdom, and China leading. However, public sector innovation studies exhibit a slightly different pattern, with the United Kingdom and Indonesia appearing more prominently, followed by the United States. Similarly, in governance innovation research, China, Canada, and the United States are mentioned most often, reflecting the focus on multilevel governance dynamics. The literature on democratic innovation, in contrast, is centered on the United Kingdom, Europe, and Brazil, emphasizing their interest in citizen engagement and public participation. In fact,

democratic innovation is the only research area in which European scholars dominate the literature, way more than the scholarship in the United States.

Subnational policy receives less attention too, although this focus has been increasing over the past two decades (SI: Figure S5). Fewer than 1,000 publications explicitly mention a province or state, with North American states such as California, Ontario, British Columbia, Texas, and Florida dominating the dataset. Similarly, city-level mentions are limited to fewer than 750 publications, with American cities such as New York, Chicago, Los Angeles, San Francisco, and Atlanta appearing most frequently. Outside the United States, only a handful of cities – London, Toronto, Shanghai, and Brussels – rank within the top ten. This limited attention to subnational contexts, especially outside North America, restricts the field's ability to capture the nuances of local and regional policy innovation.

Comparative Analysis

Comparative analysis plays a surprisingly minor role in the literature on innovation in public policy, with fewer than 400 publications (less than 5 per cent annually) explicitly referencing comparative terms in their titles or abstracts. This small subset reflects the broader trends identified in the dataset, including limited theoretical engagement, a narrow methodological repertoire, and imbalanced geographic coverage. Despite the potential of comparative research to foster theoretical generalizability and lesson drawing and several journals' explicit focus on comparative analysis (e.g. *Journal of Comparative Policy Analysis*), it remains an underutilized approach in the literature.

Of the publications that are explicitly comparative, over 250 belong to the policy change subset, and more than 50 appear in the policy innovation subset. By contrast, the public sector innovation, governance innovation, and democratic innovation subsets collectively contain fewer than 50 comparative publications. This imbalance highlights the limited attention given to comparative research in types of innovation that could benefit significantly from cross-case analysis, such as governance and democratic innovation.

The comparative subset exhibits slightly greater engagement with theories, methods, and geographies compared to the complete dataset. For instance, the ACF and MSF are the most referenced theories, each appearing in 15 comparative publications, followed by PFT and PET. These figures, though modest, suggest that comparative studies are more likely to incorporate theories than non-comparative research, possibly due to the additional analytical rigor required for cross-case analysis.

Methodologically, comparative research is distinguished by a slightly higher prevalence of case studies, QCA, and process tracing. While these methods are appropriate for exploring generalizable configurations and causal mechanisms, the potential of comparative research to adopt more medium- or large-*n* designs remains largely untapped. The reliance on qualitative methods, though valuable for depth, reinforces the methodological conservatism observed in the broader literature.

The empirical focus of the comparative subset also diverges from the overall dataset. While the United States remains the most frequently mentioned country (*n*: 44), its dominance is less pronounced, with countries or regions such as China, Europe, and Germany appearing more frequently. This shift indicates that comparative research is somewhat more diverse and inclusive of other geographic and institutional contexts.

Similarly, policy domains such as foreign trade, education, housing, technology, domestic commerce (specifically sport), and energy and environment are better represented in the comparative subset than in the complete dataset. This distribution suggests that comparative research is often concentrated in policy domains with clearer transnational relevance, potentially overlooking less apparent but equally important areas for comparison, such as government operations and transportation.

Discussion

Despite increasing research on policy innovation and its importance to improving policy design and delivery, addressing grand challenges, and enhancing governance, our understanding of policy innovation is still limited due to the fragmentation of literature across multiple disciplines and research areas. By using computational reviews to analyze over 17,000 publications, this study has synthesized trends and gaps in public policy innovation literature across multiple dimensions. More specifically, analyzing research areas, theories, policy domains, methods, and geographies of published studies has provided a comprehensive overview and strategies to make public policy innovation research more integrative, inclusive, and impactful in addressing policy challenges. This computational review sheds light on the field of public policy innovation, revealing both its increasing significance and the challenges that hinder its maturation. Our analysis uncovers five key findings that highlight the fragmented and uneven nature of current research, which collectively limit the field's capacity to address pressing societal challenges effectively.

First, the literature on public policy innovation is distinctly compartmentalized into five research areas: policy change, policy innovation, public sector innovation, governance innovation, and democratic innovation. Despite shared interests in processes, designs, and outcomes of innovation, these areas have developed largely in isolation. This conceptual fragmentation – possibly attributable to silos between policy analysis, public administration, governance, political science, and international relations (Peters 2018; Van De Walle and Brans 2018) – has been observed in other reviews in policy studies as well (Schlager 1997; Saetren 2005; Goyal and Howlett 2018a). Similar concerns have also been raised in the twentieth-anniversary special issue of the *Journal of Comparative Policy Analysis* (Geva-May et al. 2018), which highlighted that such siloes hinder the integration of insights for understanding complex policy phenomena.

Second, our findings point to pronounced theoretical underdevelopment within the field. This lack of theoretical engagement has been observed in other reviews (Saetren 2005; Moore et al. 2021; Goyal et al. 2022; Goyal and Howlett 2023). For example, Demircioglu and Vivona (2021, p. 2) observed that although policy and public sector innovation literature started emerging in the 1960s, "most important theories and typologies of innovation in public organizations have been developed only recently, and we still have a limited number of innovation theories and typologies". A narrow set of policy process theories – such as the ACF, MSF, PFT, and PET – dominates the public policy literature, particularly within the policy change subset. These theories, while valuable for understanding policy stasis and change, do not account for dynamics such as multilevel or transnational

governance, policy integration or spillover, and technological disruption (Lovell 2007; Lovell et al. 2009; Goyal 2021; Goyal et al. 2021), which increasingly influence public policy innovation. Further, they focus on single policy (design) change, neglecting other types of policy innovations as well as changes in policy mixes (Kern and Rogge 2018) and not widely adopted by public administration scholars. The lack of theoretical advancement restricts the field's ability to explain the multifaceted nature of contemporary public policy innovations.

Third, the methodological landscape of public policy innovation research is characterized by conservatism, with a predominant reliance on qualitative designs and methods such as case studies and interviews. The dominance of qualitative case studies, albeit with limited use of interviews, has been noted previously in the field of comparative policy analysis as well (Geva-May et al. 2018). While these methods offer in-depth and within-case knowledge, their dominance – especially in combination with geographic imbalance and limited theoretical engagement – hinders the ability to generalize findings and identify broader lessons across contexts. In the case of machine learning, this methodological conservatism may stem from the limited integration of data science in public policy curricula around the world (El-Taliawi et al. 2021), and the lack of engagement with methodological advancements in other social sciences, such as political science (Grimmer and Stewart 2013).

Fourth, there is a notable geographic and thematic imbalance in the literature. Research is heavily skewed toward the Global North, particularly the North America and Europe, with regions such as Africa and South America significantly underrepresented. Such trends have been documented in nearly every review in policy studies, raising concerns about the inclusivity and generalizability of existing theories (Goyal 2017; Geva-May et al. 2018; Goyal and Howlett 2018b; El-Taliawi et al. 2021). Similarly, most of the public sector innovation studies come from the Western countries, particularly from the United States and the United Kingdom (De Vries et al. 2016, 2018), despite the importance of other contexts (e.g. Asia) due to strategic importance, large population, technological prowess, policy experimentation, and digitization of public services (Van Der Wal and Demircioglu 2020). Apart from limiting the robustness of theories on innovation scholarship, this lack of representation undermines the potential for South–South and South–North learning and knowledge transfer (Kemmerling 2023). While there has been a concerted effort to spread the field in the Global South and feature more countries there, scaling up such initiatives remains a critical challenge.

Finally, our review reveals that comparative research is surprisingly underutilized across all research areas. Despite its potential to foster theoretical generalization and facilitate lesson-drawing, less than 5 per cent of the publications are explicitly comparative. This is consistent with Geva-May et al. (2018), who found only 144 articles (a rather small share) on comparative policy analysis in the EBSCO Academic Search Complete from 1976 to 2016. This scarcity may be partially due to the methodological challenges in comparative research, such as difficulties in aligning contexts and data across geographies or the effort- and time-intensive nature of comparative research (Peters 2010; Pollitt and Bouckaert 2017). Further, avenues for funding research that often prioritize national or regional work also make the proposal and execution of comparative research less rewarding.

Advancing Policy Innovation Scholarship: An Agenda for Future Research

The computational review demonstrated significant gaps in policy innovation research, including compartmentalization across distinct areas, pronounced theoretical underdevelopment, and a reliance on qualitative methods that limit generalizability. Additionally, there is a strong geographic imbalance favoring the Global North, which undermines inclusivity and knowledge sharing, while comparative research remains underutilized despite its potential to enhance science and practice. Addressing these limitations is essential for developing a more rigorous, representative, and impactful policy innovation scholarship.

To move policy innovation research from fragmented niches to a more integrated mainstream, we propose a research agenda structured around five key thematic areas, based on this study and Goyal and Pattyn's (2024) recommendations. Specifically, it focuses on: (i) conceptual and theoretical perspectives; (ii) methods of policy innovation research; (iii) comparative analysis; (iv) emerging phenomena; and (v) outcomes of innovation. This agenda aims to advance conceptual synthesis, foster theoretical development, encourage methodological diversity, and promote more inclusive and comparative research. The following subsections outline key research questions and directions that can help shape a more cohesive and impactful body of knowledge in policy innovation studies.

Conceptual Perspectives

- What are the key similarities and differences among democratic innovation, governance innovation, policy innovation, and public sector innovation in terms of actors, drivers, processes, barriers, and outcomes?
- How do democratic, governance, policy, and public sector innovations interact with one another to shape long-term government performance and institutional change?
- How might transnational influence(s) on policy innovation be integrated into research on public sector and governance innovation research for a more comprehensive understanding of policy dynamics?

Theoretical Frameworks

- To what extent do existing policy change theories (e.g. ACF, PET, MSF) explain democratic, governance, and public sector innovation?
- Which emerging or new theoretical perspectives capture the different types of innovations in policy structures, processes, designs, and practices?
- How might macro-level (e.g. institutionalism), meso-level (e.g. policy networks, policy subsystems), and micro-level (e.g. behavioral public administration) theories be combined to study policy innovation?

Methods of Policy Innovation Research

- Which research designs enable feasible cross-national, cross-domain, and longitudinal policy innovation research?

- How can diverse research approaches, designs, and methods be combined to understand, explain, and evaluate policy innovations?
- How can machine learning and natural language processing advance the study of policy innovation processes, diffusion patterns, and design choices?

Comparative Analysis

- How do policy innovation strategies differ between high-income economies and low- and middle-income economies, which face greater financial and institutional constraints?
- How do different political regimes (democratic, hybrid, authoritarian) structure incentives for policy innovation?
- How does the sustainability, adaptability, and success of policy innovation differ across democratic and authoritarian regimes and the Global South to the Global North?
- How does subnational policy innovation (e.g. grassroots innovation, city-level climate policy) scale up to the national and transnational level?

Emerging Phenomena

- How does technological disruption (e.g. AI, blockchain) reshape policy innovation and impact the accountability and legitimacy of policy innovations?
- How do public–private policy innovations (e.g. data-sharing agreements, fintech regulation, smart cities) reshape state authority and governance?
- How do innovations in public participation (e.g. citizens' assemblies, crowdsourcing, deliberative polling) alter the legitimacy of policy outputs and outcomes?

Innovation Outcomes

- How are the risks and unintended consequences of policy innovation distributed across different actors?
- How do policy innovations affect equity, inclusion, and justice, particularly for marginalized communities?
- What are the ethical implications of policy innovations, and how do these differ across different contexts?
- What role(s) do innovation labs, think tanks, and universities play in shaping and legitimizing policy innovation across different governance systems?
- How do governments institutionalize continuous learning and adaptation in the policy innovation process?

To conclude, this study stresses the critical need for a more integrated approach to studying policy innovation while considering the developments of policy change, public sector innovation, governance innovation, and democratic innovation. The current fragmentation across different fields and thus different scholarship of innovation across various research areas has hindered cross-fertilization and cumulative knowledge-building, resulting in a lack of cohesive theoretical frameworks despite

the use of similar concepts, methods, and approaches. To address these challenges and advance policy innovation research, we propose an agenda emphasizing cross-area conceptual engagement, theoretical synthesis, methodological diversification, and expanded research scope, particularly in the Global South.

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