

Balanços Bibliográficos

Analyzing the Thematic Evolution of Policy Design Research^I

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Introduction

Governments seek to efficiently achieve their goals by employing knowledge and empirical data to assess the appropriateness of policy means (Howlett; Lejano, 2013). Policy design (PD) aims and expects to provide such means. PD is an activity undertaken to formulate policy options with an eye toward effective implementation (Howlett, 2020). It also involves analysts' and advisors' conscious efforts to scrutinize, learn, and apply lessons from the best available practices, minding past policy successes (or failures) in crafting policy alternatives to achieve expected government aims and ambitions (Howlett, 2020; Howlett; Mukherjee, 2017, 2018).

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Despite its prominence, the existing dominant literature on policymaking underestimates the potential of policy design to solve problems (Ferretti; Pluchinotta; Tsoukiàs, 2019), focusing on it as part of the political process happening in a “black box” (Birkland, 2015). However, the capacity of public policies “to respond effectively to complex contemporary social problems could be significantly enriched by a shift in policy analysis, away from methods emphasizing the assessment of pre-ordained and well-defined alternatives, and towards policy design” (Dryzek, 1983, p. 345). In this regard, designs would aim to reduce the “randomness” of policy formulation by structuring and giving rationality to the process. Thus, design analysis enables us to explore how it can improve formulation practices and assist policy analysts.

Tracking the history of PD, three waves are worth emphasizing. Although PD studies have been undertaken since at least the 1950s, in the 1980s and 1990s, the “first wave” of PD studies engendered a vast literature within the American, Canadian, European, and Australian communities (e.g., Patricia Ingraham, John Dryzek, Helen Ingram, Anne Schneider, Stephen Linder, B. Guy Peters, and Eugene Bardach, among others) (Howlett, 2014). Most “first wave” studies “attempted to mimic the technocratic style of engineering, and perhaps also some elements of architecture, and develop algorithms for solving policy problems by linking those problems with an array of instruments” (Peters, 2020, p. 133).

The “second wave” of these studies characterizes the resurface of PD. It occurred parallel with the first wave, emphasizing the nature of policy instruments. It involved a greater concern with public administration, partly because it conceptualized instruments as implementation aspects via public sector organizations and their allies in the private sector (Peters, 2020). Moreover, its interest moved from dealing with individual instruments *ad seriatim* to thinking about instrument portfolios that could be implemented (Howlett; Rayner, 2006; Howlett; Mukherjee; Woo, 2015). This orientation toward policy studies declined after 1990.

The “third wave” of studies on policy design occurred with the rise of globalization in the late 1990s and early 2000s, which promoted shifting from “government to governance” (Howlett, 2014), as their central feature shifted to the actors involved in its design. According to Clarke and Craft (2019, p. 4), this renewed interest in the role of the state as a policy actor and “the new design orientation has since revived the policy design tradition by embracing the diversity of potential designers and design inputs and spaces that now exist inside and outside of government proper”.

Even though PD has received increasing attention over the last few decades (Turnbull, 2018), a significant research agenda remains in this “new policy design orientation” (Junginger, 2013). Contributing to this agenda, this review shows the thematic evolution of PD, from 1945 to 2020, by systematizing the extant literature and grouping its scientific knowledge. This systematization is important “to advance the understanding of both designs themselves and the processes which lead to their adoption, implementation, evaluation, and reform” (Howlett, 2014, p. 190). A lack of such systematization can compromise the identification of its main attributes, limit the disclosure of the relevant issues and tensions in the literature, and obscure the motivation for further studies (Micheli *et al.*, 2019). Also, “this dearth of clarity risks hindering the process of scientific cumulation in public policy studies because the presence of so many conceptual options leads to persistent fragmentation of the field” (Acciai; Capano, 2020, p. 1).

Based on these observations, we claim that a rigorous examination of the thematic evolution of PD is required to achieve a broader and deeper conceptualization of

the topic. This study complements existing ones (Howlett; Lejano, 2013; Howlett; Mukherjee; Woo, 2015; Lima; Aguiar; Lui, 2021, 2022) by providing a full-scale bibliometric analysis of the intellectual structure of PD. A discerning deployment of appropriate bibliometric tools also offers researchers a quantitative basis to conduct objective analyses of the intellectual *status quo* (Zha *et al.*, 2020). So far, an analysis of the intellectual structure of PD from a bibliometric perspective remains unavailable. Therefore, to help reinvigorate design orientations (Howlett; Mukherjee; Woo, 2015), this review traces the thematic evolution of PD, assessing its state in recent years.

Following this rationale: *how has policy design evolved?*, this study aims to provide an overall and comprehensive picture of studies on policy design, summarizing and classifying existing research via bibliometric and systematic reviews. Our main contributions are threefold: i) quantify the research field and describe its main outputs and evolution; ii) identify the past and the current trends; and iii) propose future avenues for research.

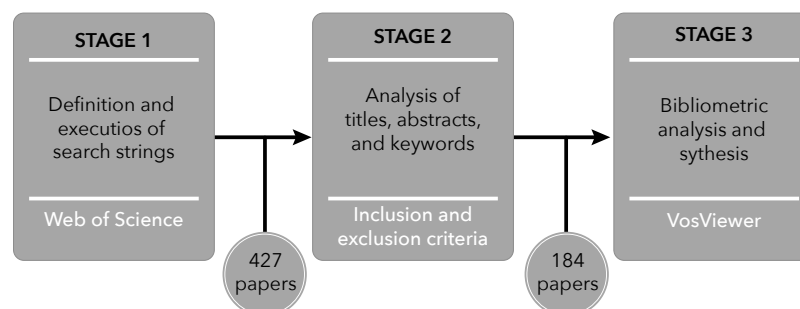
Methodology

This study aims to create network linkages in the published literature by conducting a bibliometric analysis that maps the thematic evolution of policy design research. According to Herubel (1999), bibliometrics is essentially a quantitative analysis of publications to ascertain specific phenomena so researchers can examine the literature and establish the characteristics of the discipline, scholarship obsolescence, and institutional affiliations and relations. Within these data lie other possibilities, which can be extremely useful for understanding the evolution of a discipline.

Bibliometric techniques have gained adherents in different fields, such as, for instance, climate science (Marx; Haunschild; Bornmann, 2017) and molecular research (Yiran *et al.*, 2017). If the previous use of bibliometric analysis for the humanities and social sciences had been slow to follow (Herubel, 1999), policy researchers have started to use these methods to examine the literature on policy implementation (Saetren, 2005), learning (Dunlop; Radaelli, 2020), research on medical tourism (Virani; Wellstead; Howlett, 2020), and institutional grammar tools (Dunlop; Kamkhaji; Radaelli, 2019). Nevertheless, policy design remains unassessed.

Literature reviews can be somewhat vague regarding their search and selection stages. With that in mind, we conducted a systematic approach (Tranfield; Denyer; Smart, 2003) to assure transparency and replicability. Figure 1 illustrates the process flow of different stages in our review process and the methods we used to search, screen, and select studies for inclusion in this synthesis.

FIGURE 1 - Stages of the planning and selecting steps.



Source: Authors.

STAGE 1 - Search strategy

Given the multidisciplinary nature of our inquiry, the need for uniform indices, and the technical challenges of multi-source comparative analyses, our search was limited to the Web of Science (WoS) database since it is considered a reliable source for citation data processing (Virani; Wellstead; Howlett, 2020; Zha *et al.*, 2020). Our search was also limited to Political Science and Public Administration to ensure our search was not too broad and still focused on a relevant set of research fields (Soto-Simeone; Sirén; Antretter, 2020). Nonetheless, while our search fails to be all-inclusive, it provides a reasonably representative snapshot of the state of policy design research (Virani; Wellstead; Howlett, 2020).

Only journal articles were included in our analysis as they constitute the standard format of scholarly publications (Klang; Wallnöfer; Hacklin, 2014). Reviews, books and their chapters, conference proceedings, editorial material, trade publications, and industry reports were excluded. Although we recognize that books and their chapters considerably impact the field, our sample was delimited to enable a comparable and easily accessible dataset following similar searches on the policy domain (Acciai; Capano, 2020). Focusing mainly on published journal articles enables us to construct a highly comparable sample of sources regarding its accuracy, length, and research (Acciai; Capano, 2020). Moreover, only articles written in English were included. Although we failed to specifically add a time restriction, WoS only retrieves materials from 1945 onward. The Boolean string “policy design*” was employed in our initial search to identify publications referring to policy design in their titles, abstracts, or keywords.

STAGE 2 - Appraisal - Inclusion and exclusion criteria

After running this search string, duplicate records were removed (one paper). Then, appraising the review of the titles, abstracts, and keywords of the retrieved publications, the search results of shortlisted publications were refined according to the inclusive and exclusive criteria shown in Table 1. Full texts were scrutinized if their titles and abstracts were either ambiguous or insufficient for decision.

TABLE 1 - **Inclusive and exclusive criteria.**

| INCLUSIVE CRITERIA | |
|-------------------------------|--|
| Language | English |
| Timespan | From 1945 to 12.31.2020 |
| Document types | Journal Article |
| Discipline-specific Databases | Political Science and Public Administration |
| Research Focus | Policy design explicitly Those that applied tools/theories/frameworks for policy design analysis (e.g., design thinking, institutional grammar tool, social construction, and so on) |
| EXCLUSIVE CRITERIA | |
| Document types | Proceedings, books, book chapters, newspapers, magazines, and editorial materials |
| Research Focus | Other areas of the policy process (e.g., agenda-setting, implementation, evaluation) and/or using theories to analyze them Studies that superficially address policy design (e.g., policy design is only related as a result to the success or failure of the policy) |

Source: Authors.

STAGE 3 - Data extraction and bibliometric analysis

Metrics were extracted from the chosen studies via the tools for citation analysis inbuilt into WoS. Then, the data file was cleaned and imported into VOSviewer to create and visualize network maps based on the collected bibliographic data (van Eck; Waltman, 2010). The selected publications were categorized and reviewed according to scientific activity (e.g., size, state, and evolution) and type (e.g., leading journals, covered research areas, countries, and so on) to identify the production patterns of knowledge on policy design. To do so, network maps were created to analyze the connection of the publications via frequency assessments of simultaneous citation (co-citation), common keywords, and shared content across titles and abstracts (co-occurrence). To avoid misunderstanding or misinterpretation, fractional counting was used since it offers a more useful perspective (Perianes-Rodriguez; Waltman; van Eck, 2016). After plotting a keyword co-occurrence network, the most relevant topics were scrutinized via qualitative methods to assess the thematic evolution of policy design over time.

Analytical framework

Following Kumar, Pandey, and Haldar (2020), a two-level analysis was conducted to comprehensively meet our research aims: a) performance analysis and b) science mapping.

Performance analysis

Performance analysis highlights sample characteristics and measures its main performance by quantifying its research field (production trends), identifying the most important actors (most productive authors, journals, and institutions), and evaluating groups of scientific actors (geographical distribution) (Nederhof; van Raan, 1993).

Science mapping

Science mapping “is a spatial representation of how disciplines, fields, specialties, and individual papers or authors are related to one another” (Cobo *et al.*, 2011, p. 147). Science mapping was performed via co-word analysis (thematic evolution), considering the idea that keyword co-occurrence describes the content of documents (Callon; Courtial; Lavoie, 1991). This technique identifies and visualizes clusters representing semantic or conceptual groups of different topics and helps researchers understand past and current trends in a field (Fusco; Marsilio; Guglielmetti, 2020).

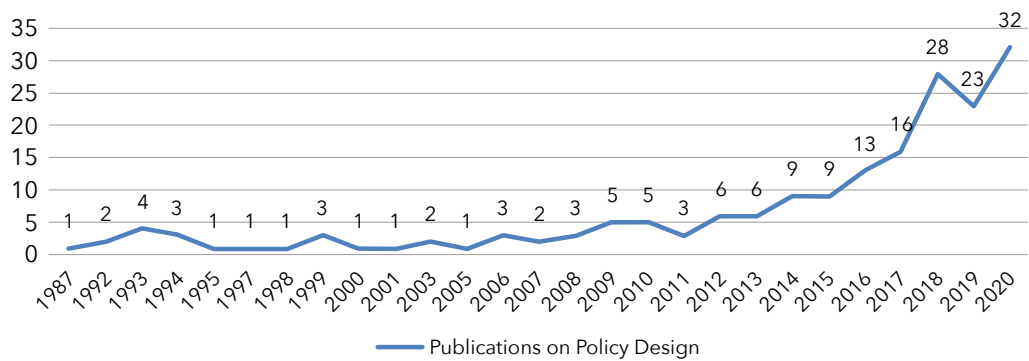
Results and discussion

Performance analysis: publication trends, countries, journals, authorship, institutions, and trending topics

Production trends in policy design research

The earliest known publication on policy design dates to 1987 and examines its growing awareness as a significant shift from earlier emphases on implementation and evaluation (Ingraham, 1987). Since the late 1980s, research on policy design has been frequent, and although we found a growing interest in the topic, a substantial increase in publications was observed only after 2011 (Figure 2).

FIGURE 2 - Publication trends in policy design.

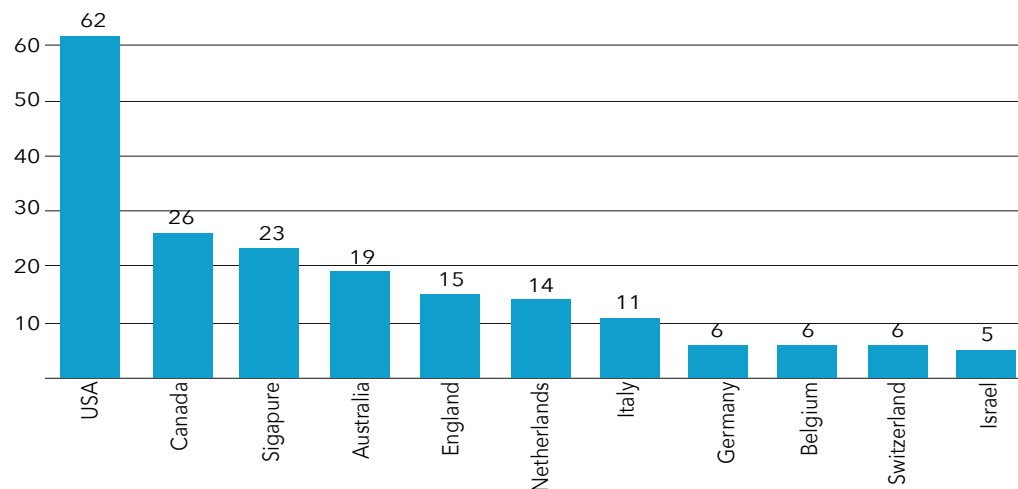


Source: Authors.

Geographical distribution

Production on policy design is geographically uneven, as much of it originates in the Western world. North America is particularly well represented since researchers in the United States (USA) and Canada authored nearly 48 percent of the studies (Figure 3).

FIGURE 3 - Country affiliation of authors publishing the most research on policy design.



Source: Authors.

Outside the West, researchers in Singapore have been making significant contributions; possibly reflecting “the strength of Singapore’s policy-focused departments, research centres, and thinktanks, and its culture of research-driven governance and policymaking” (Virani; Wellstead; Howlett, 2020, p. 5). Other regions are also represented, with authors from China, Denmark, and Norway contributing four studies; researchers from France, South Africa, and Sweden contributing three studies; researchers from Austria, Czech Republic, Ecuador, Indonesia, Poland, Scotland, and Turkey contributing two studies; and researchers from Finland, Luxembourg, Northern Ireland, South Korea, Spain, the United Arab Emirates, and Vietnam contributing one study.

Publication venues and avenues

A discipline-specific search was adopted concentrating on political science and public administration journals, and top journals were also ranked according to their contribution (Figure 4). On this front, *Policy Sciences* is the most prominent one, accounting for almost 13 percent of all publications. A possible explanation is that Michael Howlett, the scholar with the most contributions to policy design, is also its editor-in-chief, which can increase scholars' interest in submitting to that specific outlet. The *Policy Studies Journal* comes in second, with almost 11 percent of publications on the topic.

FIGURE 4 - Policy design publications in journals (selected list).



Source: Authors.

To expand knowledge in the field, some journals launch special issues. In 2014, *Policy Sciences* launched an issue addressing themes such as the nature of design thinking and policy expertise, the temporal aspects of policy designs, the role of experimental designs, the question of policy mixes, the issue of design flexibility and resilience, and criteria to assess superior designs (e.g., Howlett, 2014; Jordan; Matt, 2014; Mei; Liu, 2014). Howlett (2014) claimed that after their prominent beginning in the 1970s and 1980s, policy design studies languished in the 1990s and 2000s. To revitalize them, this special issue focused on policy sciences efforts to reinvent (or more properly "rediscover") policy design orientation. Contributing to this agenda, Jordan and Matt (2014), assessing the conditions under which specific instrument designs are likely to enhance and/or constrain opportunities, concluded that "new" policy design can better explain its temporal aspects. Mei and Liu (2014), in a case study of urban housing policy changes in China, employed an experiment-based policymaking model to argue that policymakers can consciously make policies without deliberately designing them.

More recently, the *Public Policy and Administration* special issue aimed to investigate assumptions in the policy design concept, questioning its theoretical coherence and relevance for practitioners (Turnbull, 2018) (e.g., Colebatch, 2018;

Durnová; Hejzlarová, 2018; Hoppe, 2018). According to Turnbull (2018), contributors to this issue argued that an alternative orientation should reconsider design ideas from the ground up, e.g., policy design should emerge from its practice. Colebatch (2018) claimed that policy design is an exercise in giving meaning, such as framing activity to make practices and outcomes appropriate and valid. The author developed a more comprehensive analysis of “policy design” as a concept in use in both policy practice and its analysis. Durnová and Hejzlarová (2018), examining the case of Czech single mothers in their role as intermediaries in “alimony policies”, stated that understanding how and for whom emotions matter is vital to policy design dynamics because emotions are central to building the capacity of policy intermediaries and, thus, the success of these policies. Hoppe (2018), using a socio-cognitive theory of problem processing, showed how policy design is an iterative process of problem sensing, categorization, decomposition, and definition, questioning and answering each stage to induce thought habits and styles for responsive and solid policy designs.

The *Policy & Society* special issue examined policy robustness (e.g., Capano; Woo, 2018; van der Steen; van Twist, 2018; Van Der Steen; Scherpenisse; van Twist, 2018). Capano and Woo (2018), seeking to address how policies, institutions, or systems can include robustness, suggested that diversity, modularity, and redundancy characterize robust policy designs, whereas robust policy design processes require polycentric decisional, political, and technical capacities. As a result, they argued that robustness is a property that can be designed to ensure that policies continue to deliver its intended functions, purposes, and objectives over time, even under negative circumstances. Van der Steen, Scherpenisse, and Van Twist (2018), examining an empirical case of an early warning system in the Netherlands, studied how policymakers who “do” early warnings in robust policy engage with these issues and how they improved the robustness of their policy designs. Van der Steen and van Twist (2018) conducted a survey-feedback study with a group of senior-level policymakers, investigating what they do when “designing” robust policies, how they think it should be done, and what they find are challenges in designing robust policies within a public organization.

Finally, the *Policy & Politics* special issue focused on policymaking as design, e.g., how design thinking adds value to public administration and public policies (e.g., Bryson; Crosby; Seo, 2020; Howlett, 2020; Lewis; McGann; Blomkamp, 2020; Olejniczak et al., 2020; Peters, 2020). Bryson, Crosby, and Seo (2020), analyzing minority business support in the Twin Cities of Minnesota, claimed that a design approach to the governance of collaborations could improve businesses, especially if it focuses on designing and using formal and informal settings for dialogue and deliberation (forums), decision-making (arenas), and resolution of residual disputes (courts), stating that the success of its design approach depends on the capacity of leaders and leadership to effectively use their power. Howlett (2020) discussed the differences between traditional design approaches and those importing the insights of design practices into policymaking, such as industrial engineering and product development (e.g., design thinking), arguing that adherents of design thinking need to expand their reach and consider not only the circumstances facilitating the generation of novel ideas but also the lessons of

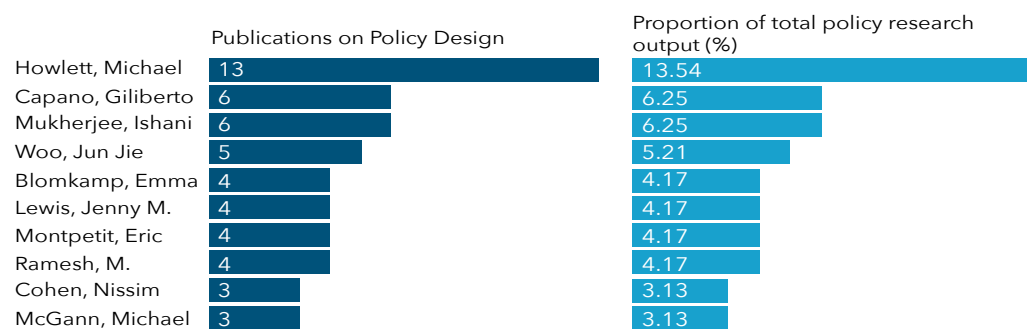
more traditional approaches concerning the political (and other) challenges faced to formulate and implement policies. Lewis, McGann, and Blomkamp (2020), using the example of public sector innovation labs, examined what is new about design thinking and compared this to rational and participatory approaches to policymaking, highlighting the difference between their logics, foundations, and the basis on which they “speak truth to power”. Olejniczak *et al.* (2020), analyzing 20 labs in five continents, explored the potential benefits to the public policy of combining traditional evaluative inquiry with insights dynamically developed in policy labs. As a result, they concluded that creating synergies between evaluation inquiries and policy labs can improve the design and implementation of public policies and programs. Peters (2020), investigating the potential of policy labs from an organizational perspective, claimed that, although they offer great promise as sources of innovation, they also face several institutional barriers and dilemmas, providing possible means to overcome them.

Overall, throughout these special issues, we notice a trend in the evolution of policy design orientation. Starting in 2014, from its “rediscovery” to the “questioning and robustness”, in 2018 toward “new policy mixes and organizations” (e.g., labs and design thinking) to improve it in 2020.

Authorship

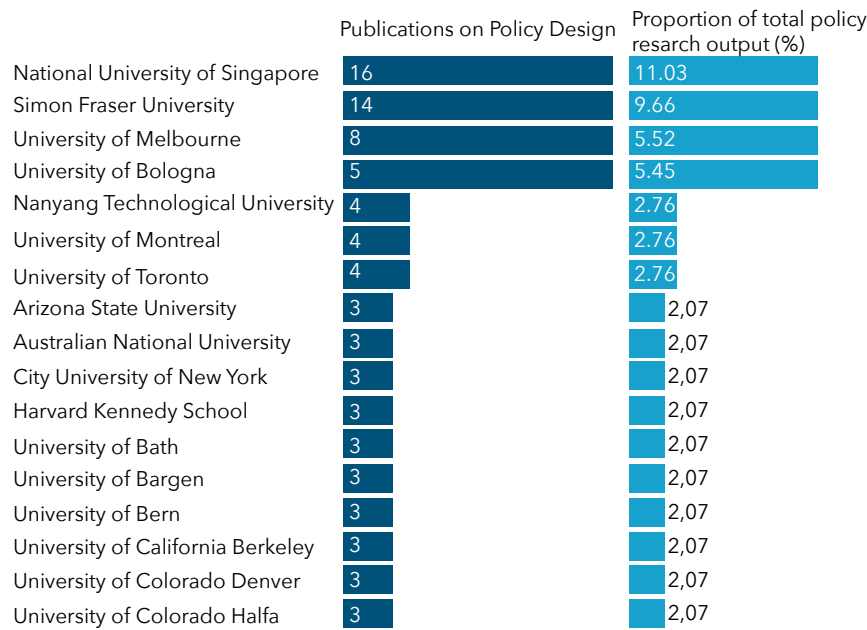
Out of the 284 authors, only 32 have published at least two studies on policy design. Howlett leads the top 10 scholars (13 papers), followed by Capano and Mukherjee (6); Woo (5); Blomkamp, Lewis, Montpetit, and Ramesh (4 papers each); and Cohen and McGann (3 papers each) (Figure 5).

FIGURE 5 - Ranking of the most productive authors on policy design.



Source: Authors.

Regarding their affiliation, we found that many of these researchers represent more than one institution (e.g., Howlett, Mukherjee, and Woo). Only 17 authors' affiliated institutions have three or more policy design publications: National University of Singapore (16 papers), Simon Fraser University (14 papers), University of Melbourne (8 papers), University of Bologna (5 papers), Nanyang Technological University, University of Montreal, and University of Toronto (4 papers each); and Arizona State University, Australian National University, City University of New York, Harvard Kennedy School, University of Bath, University of Bergen, University of Bern, University of California Berkeley, University of Colorado Denver, and University of Haifa (3 papers each) (Figure 6).

FIGURE 6 - Ranking of the most productive institutions.

Source: Authors.

Michael Howlett is affiliated with the two institutions with the most publications (e.g., National University of Singapore and Simon Fraser University). The National University of Singapore stood out in the ranking due to both Howlett and Woo's affiliation, the latter being the fourth most productive author on policy design. A relatively small group of scholars at a small number of academic institutions concentrate the bulk of the remaining policy design research. They often work in multidisciplinary teams via interdepartmental collaborations (e.g., see Capano; Woo, 2018; Howlett; Mukherjee; Woo, 2015; McGann; Blomkamp; Lewis, 2018; Woo *et al.*, 2016).

Trending topics within policy design research

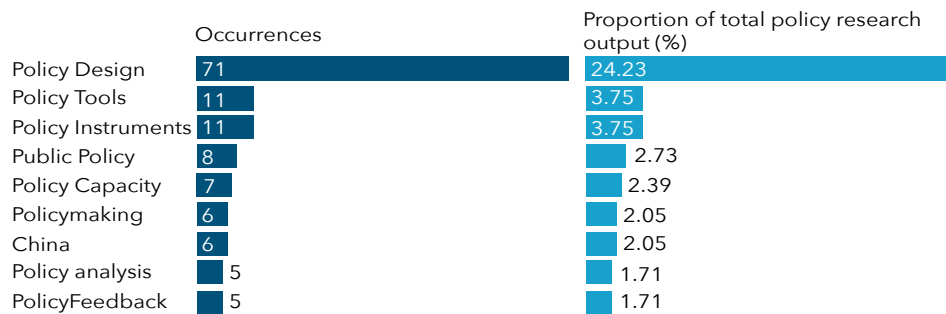
Most policy design research has focused on two correlated themes (e.g., policy tools and instruments), known as "policy mixes" (Figure 7). To systematize and synthesize this discussion, we focused on the tools, instruments, approaches, frameworks, and theories scholars have used to analyze policy design.

Policy tools refer to the aspects of a policy intended to motivate its target populations to comply with or utilize policy opportunities (Schneider; Ingram, 1993). The seminal study by Schneider and Ingram (1993) has influenced most research on policy tools, combining social construction theory with other tools (e.g., Schneider; Sidney, 2009; Snow, 2019; Zhang *et al.*, 2015). Many subsequent studies concerning policy tools have been published (Howlett, 2018; Howlett; Mukherjee, 2017; Howlett; Mukherjee; Woo, 2015; Siddiki, 2014), which have influenced another wave of publications on many policy areas, including healthcare (Bali; Ramesh, 2017, 2019) and education (Rigby, 2007; Roch; Pitts; Navarro, 2010, etc.).

More recently, the Institutional Grammar Tool (IGT) stood out. IGT is a content analysis tool to systematically dissect institutional content (e.g., policies, laws, and regulations) by analyzing the individual components that comprise them according to grammatical syntax. Dunlop, Kamkhaji, and Radaelli (2019) examined its rise and empirical applications, and Siddiki (2014) and Siddiki *et al.* (2011) applied IGT to aquaculture policies in America.

Policy instruments are techniques or means via which states attempt to attain their goals. They have long served as a lens for studying and undertaking policy design (Linder; Peters, 1989). Scholars have created and applied multiple instruments to analyze several issues, including environmental pollution and degradation (Steinebach, 2019), new digital era policy instruments (e.g., open data, big data, robotics, and crowdsourcing) (Clarke; Craft, 2017), design thinking (Clarke; Craft, 2019; Howlett, 2014; Lewis; McGann; Blomkamp, 2020; van Buuren *et al.*, 2020), and innovation labs (McGann; Blomkamp; Lewis, 2018; McGann; Wells; Blomkamp, 2021; Olejniczak *et al.*, 2020; Peters, 2020).

FIGURE 7 - Frequent keywords in policy design research.

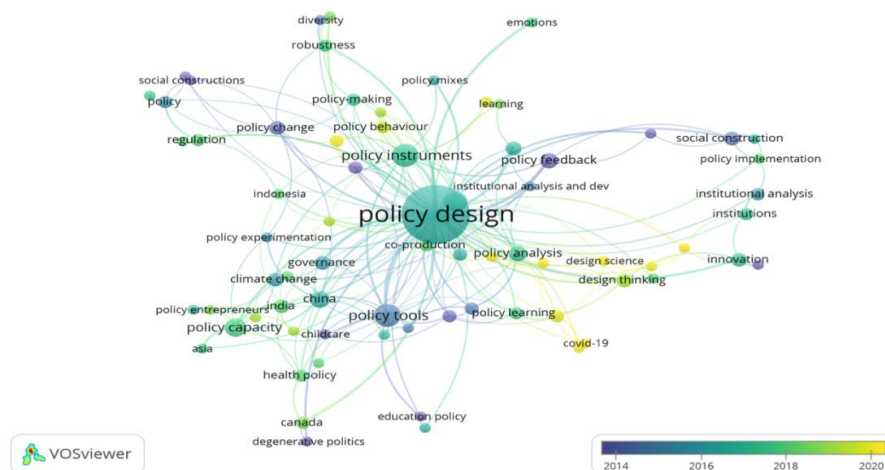


Source: Authors.

Science mapping: thematic evolution of policy design research

Figure 8 shows a network analysis that highlights the streams of research distinction from 2014 to 2018. Policy feedback and social construction represent older streams. Although social construction theory has meaningfully impacted policy design research (Schneider; Ingram, 1993), its application has declined in recent years. Newer clusters have arisen, as well as research themes within older clusters, reflecting changes in the domain. These include a renewed focus on innovative instruments to improve the design of public policies (e.g., design thinking, innovation, collaboration, and design science), indicating that scholarship has evolved by adopting more contemporary approaches.

FIGURE 8 - Keywords co-occurrence network.



Source: Authors.

The “new” policy design

Unlike “old” policy design, which is strictly state-oriented and adopts the “problem-solving” approach, “new” policy design is more human/user-centered (van Buuren *et al.*, 2020) and tends to adopt a more collaborative governance approach (Bryson; Crosby; Seo, 2020; Howlett, 2014). Hence, recent applications of design processes suggest the rise of a new set of methods and organizations (e.g., design thinking, policy labs, and design charrettes) (van Buuren *et al.*, 2020).

Studies employing design thinking started to emerge in policy design when Howlett (2014) discussed efforts from the policy sciences to reinvent (or, more properly, “rediscover”) policy design orientation, comparing “old” and “new” policy design approaches. The author influenced the debate around the government to governance shift, assuming it would lead to a more collaborative design.

Since then, scholars have argued that design thinking could inform and enrich governance by helping policy designers produce more adaptable designs, better appreciate the behavioral dynamics of public sector designs, and leverage networked approaches to social problem-solving (Clarke; Craft, 2019). Furthermore, governance has been connected to the dimensions of “power” (action, structure, and their dynamic linkages); the settings that shape and guide what emerges as action, issues, conflict, and policy preferences (forums, arenas, and courts); and the settings of interconnections which may work well in governance approaches (Bryson; Crosby; Seo, 2020). Beyond governance, public administration also reflected these designs. The discipline currently characterizes three ideal-type approaches: design as optimization, as exploration, and as co-creation (van Buuren *et al.*, 2020).

Despite the proliferation of design thinking studies, some authors have proposed challenges, critiques, and considerations. Some criticisms of design thinking claim it insufficiently accounts for the political and organizational contexts of policy work, misjudges by universally privileging a particular policy style over others, and fails to account for the reality of policy mixes (Clarke; Craft, 2019). Also, concerning the political feasibility or constraints under which decision-making takes place, Howlett (2020) argues that adherents of design thinking need to expand their reach and consider not only the circumstances facilitating the generation of novel ideas but also the lessons of more traditional approaches on political (and other) challenges faced in formulating and implementing policies.

More recently, studies on policy design have focused on innovation labs (e.g., new institutions which apply design thinking to promote more collaborative and innovative designs) (Peters, 2020). Since these labs are environments for policymaking which occurs in practice, some research has attempted to systematically differentiate the roles of innovation labs in policy systems from traditional advisory units within government and influential non-government actors. McGann, Blomkamp, and Lewis (2018) investigated what is distinctive about the emergence of innovation labs (compared to other forms of pluralism in policymaking) and the extent to which the turn toward labs indicates qualitatively different governance dynamics. Similarly, Lewis, McGann, and Blomkamp (2020) described what is new about design thinking and compared it to rational and participatory approaches to policymaking, highlighting the difference between their logics, foundations, and the basis on which they “speak truth to power.”

Besides comparing participative policymaking forms, researchers analyzed the functions, structures, and processes of these labs. Examining 20 well-established policy labs from Western Europe, North America, South America, Australia, and Asia, Olejniczak *et al.* (2020) addressed three challenges: establishing the causality and value of public interventions, explaining mechanisms of change, and utilizing research findings in public policy. From an organizational perspective, although labs offer great promise as sources of innovation, they also face several institutional barriers and dilemmas. Peters (2020) has shed light on some possible means to overcome them.

More recently, with the 2020 COVID-19 outbreak, scholars from different fields have strived to understand its effects. Policy design research has focused on comprehending governmental responses to the crisis and how policy styles affected it. Analyzing the Turkish case, Bakir (2020) aimed to explain and understand its health policy instrument mixes, showing the differences between presidential and parliamentary systems of government. To Bakir (2020, p. 14), “presidential bureaucracies,” although “critical to introduce policies and implement their instrument mixes without delay or being vetoed”, also “pose risks of policy design and implementation failures when the policy problems are poorly diagnosed, their policy solutions are wrong, and/or complementary policy instrument mixes implemented ineffectively” (Bakir, 2020, p. 14). Moreover, Capano (2020), investigating Italian policy dynamics under the COVID-19 outbreak, focused on health and economic policy design and implementation. As a result, Capano (2020, p. 342) stated that the “existing country characteristics that affect policy design, state capacity, institutional arrangements, and political games forge the process and content of the response,” and, without preparation (e.g., the recent pandemic experience), “the historically rooted characteristics associated with designing and implementing policies – a country’s policy style – and the normal political games related to it would prevail” (Capano, 2020, p. 342).

Conclusion

This research shows the anatomy of policy design, provides useful information to build a foundation for further development on the topic and shows emergent avenues for future research. We mapped the academic literature by reviewing what aspects of policy design research have been studied or overlooked and how they are distributed across years, authors’ contributions, countries, affiliated institutions, and journals.

We found high engagement on the subject by policy scholars, especially those from the US, Canada, England, the Netherlands, Australia, and Singapore. Nonetheless, few contributions address the Latin American and African perspectives. We only found articles from Ecuadorian authors which analyzed the economic recession in Venezuela (Fontaine; Caviedes, 2016) and compared the gas policies that Evo Morales (in Bolivia) and Ollanta Humala (in Peru) implemented (Fontaine; Narvaez; Velasco, 2018). Articles from authors in South Africa discussed the determinants of environmental policy change (Froestad *et al.*, 2015) and the role of civil society in locally formulating and implementing social policies, focusing on the issue of HIV/AIDS (Godsäter; Söderbaum, 2017).

That said, policy design is gaining momentum. It has developed alongside technological evolution and adopted contemporary tools and instruments but

lacks other perspectives and more integrated approaches concerning different settings. The peculiarities of a given context have also received little attention, as indicated by van Buuren *et al.* (2020). Corroborating Junginger (2013, p. 3), the literature has room for a significant research agenda in this “new policy design orientation”. Currently, little is known about many important design aspects, especially on the nature of policy formulation or “the actual activities of designing that bring policies into being—of how people involved in the creation of policies go about identifying design problems and design criteria, about the methods they employ in their design process.”

Based on our findings, we highlight four major opportunities for future research. As previous works suggest (e.g., Clarke; Craft, 2017), scholars and practitioners assume that the digital age will foster a more collaborative model of state-to-non-state cooperation. Nevertheless, digital era policy design may ultimately marginalize or eliminate citizens from the design process, raising important questions about the yet little understood democratic implications of digital era policy design (Åström *et al.*, 2012). While many studies have been developed in North America, Europe, and more recently, Asia—representing a consolidated field, much remains to be done in Latin America, Africa, and other developing states. A comparative study may shed light on how these countries deal with new policy design institutions and approaches, considering their peculiarities and limitations. As we found policy design research streams, it is worth delving into our findings to further investigate the different contexts of theoretically integrating (new) approaches and the possibilities of transferring design methods from a particular context to another (van Buuren *et al.*, 2020).

Considering the Brazilian context, adopting the policy design perspective is still incipient (Lima; Aguiar; Lui, 2021). In recent research, Lima, Aguiar, and Lui (2022) found only 14 studies in the national literature. First, investigations focused on policy design, taking it as a research object. Soon after, the term started to be used as a result, being related to the effectiveness of the policy or understood as an input and/or subsidy for policy formulation or even for the increment of its elaboration processes. More recently, studies in the policy sciences have used the policy design perspective, representing an evolution of the theme in Brazil (Lima; Aguiar; Lui, 2022). Thus, this systematization shows multiple contributions to the national literature. The first contribution is methodological. Bibliometric analysis can “build firm foundations for advancing a field in novel and meaningful ways—it enables and empowers scholars to gain a one-stop overview, identify knowledge gaps, derive novel ideas for investigation, and position their intended contributions to the field” (Donthu *et al.*, 2021, p. 285). The second contribution can more broadly provide to developing Brazilian policy analysis and, specifically, form the basis for developing a research agenda that activates the concepts and proposed approaches and engage public policies with the theme. The last contribution lies in synthesizing a fragmented, recent, and effervescent field of research, joining efforts, and complementing other national studies (Lima; Aguiar; Lui, 2021, 2022).

Despite the comprehensiveness of this study, it still contains limitations. The main issues are fourfold: i) the limited validity of our findings lies in the inherent weaknesses of a keyword-based bibliometric analysis (Virani; Wellstead; Howlett, 2020), considering that a narrow base leaves analysis open to distortions in quantitative procedures, risking computational anomalies (Zha *et al.*, 2020); ii) it focused on published academic research,

which may have kept research outputs produced by, for instance, thinktanks, non-organizational agencies or non-profit organizations outside our reach; iii) we chose to only include articles written in English and may have excluded important Brazilian research, also impacting our analytical categories, such as geographical distribution, for example; iv) the decision of using the WoS database to obtain citation data may have constrained our results (e.g., author affiliation may vary over time, which would mean that several articles by the same author may have different affiliations).

Our results show a current image of the characteristics of policy design, which we expect are going to change over time. Therefore, future research could replicate this study to show new behaviors and trends. Despite these limitations, this bibliometric analysis identified the most important and current trends in policy design, which should be useful for future authors and readers.

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Abstract

Analyzing the thematic evolution of policy design research

Policy design (PD) has received increasing attention over the last few decades. During this period, PD contributed to expanding knowledge regarding the functioning of public policies, its implementation instruments, and its social effects. This review shows the thematic evolution of PD by systematizing the extant literature and grouping its scientific knowledge. Our research question is: how has policy design evolved? Our main contributions are threefold: i) quantify its research and describe its main outputs and evolution; ii) identify past and current trends; and iii) propose future avenues for research. To do so, we mapped the academic literature, drawing on a systematic approach of 184 selected papers. Then, we analyzed these data by conducting a two-level analysis. We noticed that production is geographically uneven and that the field has developed alongside technological evolution and adopts contemporary tools and instruments.

Keywords: *Policy design; Thematic evolution; Bibliometric analysis; Systematic review; Public policy.*

Resumo

Analisando a evolução temática da pesquisa de desenho de políticas

O campo do desenho de políticas tem recebido atenção crescente nas últimas décadas. Nesse período, contribuiu para ampliar o conhecimento sobre o funcionamento das políticas públicas, dos instrumentos de implementação e seus efeitos sociais. Esta revisão apresenta a evolução temática do desenho de políticas através da sistematização da literatura existente e do agrupamento do conhecimento científico. A questão de pesquisa é: como o campo do desenho de políticas tem evoluído? As principais contribuições deste estudo são: i) quantificar o campo de pesquisa e descrever seus principais resultados e evolução; ii) identificar o passado e as tendências atuais; e iii) propor caminhos futuros de pesquisa. Para tanto, mapeamos a literatura acadêmica a partir de uma abordagem sistemática de 184 artigos selecionados e, em seguida, analisamos os dados por meio de uma análise em dois níveis. Dessa maneira, percebemos que a produção é geograficamente desigual e que o campo se desenvolveu paralelamente à evolução tecnológica, adotando ferramentas e instrumentos contemporâneos.

Palavras-chave: *Desenho de políticas; Evolução temática; Análise bibliométrica; Revisão sistemática; Políticas públicas.*

Résumé

Analyser l'évolution thématique de la recherche sur la conception des politiques

Le domaine de la conception des politiques a reçu une attention croissante au cours des dernières décennies. Au cours de cette période, elle a contribué à approfondir les connaissances sur le fonctionnement des politiques publiques, des instruments de mise en œuvre et ses effets sociaux. Cette revue présente l'évolution thématique de la conception des politiques par la systématisation de la littérature existante et le regroupement des connaissances scientifiques. La question de recherche c'est : comment a le domaine de la conception des politiques évolué? Les principales contributions de ce travail sont : i) quantifier le domaine de recherche et décrire

ses principaux résultats et son évolution; ii) identifier le passé et les tendances actuelles; et iii) proposer des futures pistes de recherche. Dans ce but, nous avons cartographié la littérature académique en nous appuyant sur une approche systématique de 184 articles sélectionnés et, ensuite, nous avons analysé les données par une analyse à deux niveaux. Donc, nous avons constaté que la production est géographiquement inégale et que le domaine s'est développé parallèlement à l'évolution technologique et adopte des outils et des instruments contemporains.

Mots-clés : *Conception des politiques ; Évolution thématique ; Analyse bibliométrique ; Revue systématique ; Politique publique.*