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Institutional Grammar Tool for Policy Analysis: A Systematic Review of Literature

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ABSTRACT

A key method for institutional analysis is the Institutional Grammar Tool (IGT), introduced by Crawford and Ostrom in 1995, which facilitates the breakdown of legal documents into components, further named institutional statements. This systematic review examines the IGT's evolution and applicability in scientific literature to understand institutional dynamics and policymaking. Using bibliometric analysis and systematic literature review, we analysed the content of 432 articles spanning 1995 to 2023, focusing on IGT usage and outputs, out of which 62 articles were relevant for the present analysis. The analysis reveals a significant and promising trend in IGT's adoption, with a notable surge in publications since 2010. North American authors lead in IGT usage, particularly in legislative content analysis. Case studies were focused on environmental and social-ecological domains. While IGT remains a primary analysis method in most studies, complementary methods such as interviews and qualitative comparative analysis supplement its application. The advantages of IGT include enhanced institutional understanding and rigorous policy analysis, while limitations such as interpretative challenges and time constraints persist. Thematic clusters in keyword networks show how research interests are changing over time. For example, regulatory governance was studied in the past, whereas lately normative frameworks and computational modelling in conservation governance have been employed. This review underlines the increasing relevance of the IGT in institutional analysis and policy studies. By synthesizing trends and methodologies, it provides valuable insights into IGT's evolution and challenges, paving the way for future research endeavours aimed at refining its applicability and advancing governance theory and practice.

1. INTRODUCTION

Institutional analysis emerged as a systematic method of analysing how institutions are formed and work following informal and formal rules and norms. Institutional analysis, nowadays a well-established field of social science research agenda, evolved into a multidisciplinary framework aimed at evaluating any type of institution by examining their structures, processes, and societal impact (Meyer and Rowan, 2006). The success of institutional analysis as a research method was fuelled by the need for a

comprehensive understanding of how institutions affect people, organizations, and societies. The development of this framework has involved academics from various fields, emphasizing its applicability in comprehensively rendering social phenomena and guiding policy actions (Crawford and Ostrom, 1995; Hollingsworth, 2000; Ostrom, 2010; Lien, 2020). Institutions are thought of as guidelines that people use to plan routine, structured interactions between families, governments, and international organizations, interactions which are regulated by norms, rules, and strategies (Ostrom, 2005). These strategies, norms, and rules governing human society life can be decomposed according to their linguistic structures into institutional statements, which, in turn, include descriptions of actions, constraints, or outcomes relevant to actors forming the respective institutions (Siddiki et al., 2012).

To support the institutional analysis research field, Crawford and Ostrom (1995; 2005) introduced a systematic method of decomposing formal and informal legislative content and analysing their basic components, namely the Institutional Grammar Tool (IGT). IGT represents a complex approach to breaking down institutional structures and operations, allowing for a detailed analysis of fundamental mechanisms influencing social outcomes and human behaviour (Siddiki, 2013; Pîndaru et al., 2023).

Systematic reviews of scientific literature may provide valuable insights into the evolution of publications and concepts, offering fresh perspectives to the scientific community (Zupic and Čater, 2015). This approach synthesizes the literature to obtain rigorous and reliable information about a subject (Kitchenham et al., 2009). As such, the process involves the selection and evaluation of relevant studies, followed by a detailed analysis and synthesis of data. Typically, systematic reviews conclude with a comprehensive report on the state of the research. They rely on a well-defined review process (Cronin et al., 2008) and strict protocols, which encompass executing comprehensive searches to identify all potentially significant studies related to the research question, as well as applying predefined synthesis methods (Cook, 1997; Thomé et al., 2016).

The systematic review of the literature has been applied in various research domains, including landscape and ecosystem services (Andriollo et al., 2021), environmental impact assessment (Niță, 2019), management (Gaviria-Marin et al., 2019), artificial intelligence (Cuéllar-Rojas et al., 2022) and health (Cowan et al., 2020). In the context of institutional analysis, systematic reviews have proven valuable in exploring themes such as the evaluation of governance frameworks, participatory decision-making processes, and policy implementation effectiveness. By synthesizing large bodies of research, this method enables researchers to identify patterns, gaps, and trends, providing a robust foundation for advancing institutional research and informing evidence-based policy decisions (Feiock et al., 2014; Bazzan, 2021). This study combines bibliometric analysis and systematic literature review to thoroughly identify the research domains and questions preferred by the authors using IGT. By analysing earlier and recent research, the review helps identify not only the topics addressed by IGT studies but also suggests future research areas (Demartini and Beretta, 2020). Furthermore, by complementing the review with bibliometric analysis, the study can provide additional information on emerging research trends. This review article critically assesses the perspectives and applications of IGT in various papers. Additionally, we highlight challenges and limitations associated with using IGT as a method and create opportunities for refining and expanding the scope of its utilization. Consequently, this study may serve as a resource for academics and practitioners seeking to navigate the intricate realm of IGT.

Our goal is to evaluate the peer-reviewed literature using IGT as a method to: a) investigate the institutional settings for which grammar tools have been employed, b) synthesize trends, methodologies, and advances in the use of these tools in academic research, and c) explore challenges, limitations, and the benefits of the IGT for further literature research.

2. THEORY AND METHODOLOGY

IGT has proven to be an effective policy analysis method, distinguished by its enhanced precision in extracting pertinent information from policy documents. It adeptly categorizes statements (strategies, norms, rules), actions (permitted, mandatory, prohibited), and conditions (spatial, temporary, procedural) (Ostrom, 2005). However, this technique can assist in interpreting legislative principles to provide a clearer framework of the content (Basurto et al., 2010). Also, IGT facilitates the classification and systematization of policy material (Ostrom, 1990), which may help identify the main implementation issues that remain unresolved and simulate the application of legal norms (Smajgl et al., 2010). Taking into account the potential of the method and its applicability at the legislative level, we aimed to have a broader picture of the use and efficiency of IGT in the scientific world.

Thus, peer-reviewed papers using IGT as a method that were published between 1995 and 2023 were examined. The selection of articles was carried out following PRISMA guidelines (Page et al., 2021), which offer a clear process for conducting systematic literature reviews (Fig. 1). We searched the Web of Science Core Collection, Scopus, and Google Scholar databases and extracted English-written papers that included “institutional grammar tool” and/or “IGT” in the title, keywords, abstract, or content. Relevant articles include case studies in which IGT is applied as the main or

secondary method for analysing complex legislative content, theoretical studies analysing IGT, methodological studies, and review studies.

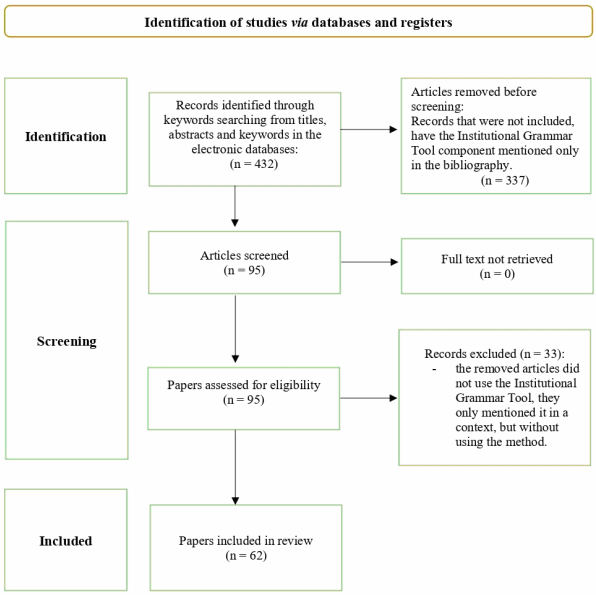

Fig. 1. PRISMA diagram workflow for selecting the articles relevant for the review of IGT topic.

The search resulted in 432 non-duplicated articles, which were further investigated to see if they met the inclusion criteria. From the initial database, 337 articles were excluded because they did not use the IGT as a method; for example, the search keywords were found only in the reference list or mentioned only in the content. The final database includes 62 relevant articles (see: doi.org/10.5281/zenodo.13374250) (Pîndaru et al., 2024).

For each relevant article, we extracted the following metadata: authors, DOI, title, year of publication, journal, keywords, and country affiliation of all authors. Then, we reviewed each paper and extracted the following information: (1) article type (case study, methodological, theoretical, review), (2) geographic focus, (3) methods used in the paper (qualitative, quantitative, mixed method), (4) the use of IGT (main method, secondary method), (5) methods associated with IGT, if any, (6) limitations and advantages of IGT as suggested by authors extracted from one or several of the following paper's sections: "Results and Discussion", "Discussion", "Conclusion", "Discussion and Conclusion", (7) legislative domain discussed in the article (general, a specific domain), (8) specific legislative domain (if any), and (9) number of citations. The specific legislative domain was assigned to each article using the keywords detailed in Table 1. Due to the diversity of the domains, their number and their variety offer a much wider exposure.

We analysed articles' metadata and content using descriptive statistics, bibliometric indices, and network analysis methods. For example, we used the Sankey diagram, which shows the flows to and from different nodes in a network (Bakenne et al., 2016) to visualize the links between various items in a simplified manner (Cuba, 2015). The frequencies of article types with the particular domain and additional methods with the IGT method at the study level (main or secondary) were also detailed using descriptive statistics. In addition, we used the VOSviewer tool (Van Eck and Waltman, 2010) to analyse the articles' keywords using the network analysis framework. The purpose of using VOSviewer in this analysis is to identify the thematic structure and relationships between central concepts in the literature. Keyword network analysis is a well-established method that enables comprehensive visualization and exploration of relationships among keywords within a given dataset. By leveraging advanced algorithms, VOSviewer generates network structures, portraying connections and clusters among keywords based on their co-occurrence or proximity in the data (Van Eck and Waltman, 2010). Bibliometric analysis, particularly keyword analysis, has frequently been employed in specialized literature to investigate the evolution of effectiveness in procedures like environmental impact assessment (Niţă, 2019; Caro-Gonzalez et al., 2023), various approaches to urban green infrastructure (Badiu et al., 2019) or to categorize participatory practices in meta categories and trends based on their co-occurrences (Hossu et al., 2022).

Table 1. The categories of specific legislative domains.

Domains	Definition
Administration and management	Management, governance policies, administration
Agriculture	Farming, irrigation, food, agriculture
Education	Teaching, education system
Environment	Climate change, conservation, biodiversity, environmental protection
Financial and economic	Tax and finance, economic development, investment
Health	Human health, healthcare, pandemic
Industry	Industry, quality control, production
Security	Macro-level corruption, social capital
Social-ecological	Social-ecological system, natural resource governance, irrigation system
Transportation	Transportation policy, mobility

3. RESULTS AND DISCUSSION

The use of IGT as a research method has increased considerably in recent years, stimulating a systematic approach to analysing institutional structures and policies. In this study, we undertake a comprehensive evaluation of literature employing IGT, with a primary focus on exploring the institutional contexts, methodological trends, and associated challenges and benefits inherent to their application (Crawford and Ostrom, 1995). Investigating research that uses IGT is essential for highlighting the complex

institutional dynamics in various legislative domains, but also for presenting the contributions and barriers that a researcher may face in the process of applying the tool. Our results indicate a broad applicability of IGT in a diverse range of legislative domains, including environment, agriculture, and administration. The analysis of the scientific literature on IGT reveals methodological preferences, such as the predominant use of case study approaches and the correlation between article types (e.g., case studies, theoretical studies) and specific legislative domains (e.g., administrative, environment, agriculture). Moreover, identifying the secondary methods used alongside IGT (e.g., surveys, interviews, institutional logics) provides valuable insights into the versatility of IGT. Furthermore, the thorough examination of the challenges, limitations, and benefits associated with the application of IGT offers reflections on future research avenues and the application of IGT in institutional analysis.

IGT was used as a method in 62 papers published between 1995 and 2023, the median number of published articles per year being 3. However, the number of articles started to slowly increase after 2010 and peaked in 2022 (10 articles) (Fig. 2).

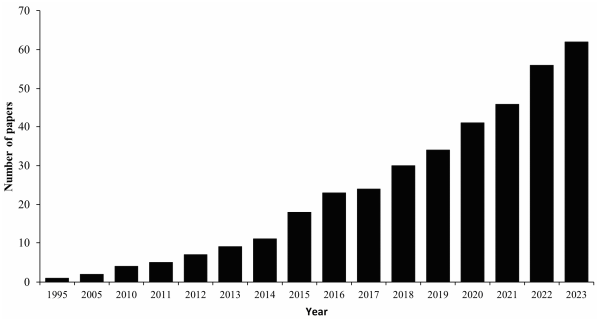

Fig. 2. The trend of annual scientific production using IGT as a method.

The most cited publication from our database is Crawford and Ostrom (1995) with 2498 citations, followed by other publications that have over 100 citations, for example, two publications by Siddiki et al. (2011, 2015).

Papers using IGT as a method of analysis for legislative content were published by Policy Studies Journal, International Journal of the Commons, Regulation and Governance, and other journals. The most preferred journals are Policy Studies Journal (8 publications), International Journal of the Commons (5 publications), Public Administration (3 publications), Science of the Total Environment, Regulation and Governance, Political Research Quarterly, Environmental Policy and Governance, and Current Opinion in Environmental Sustainability with 2 publications each. The analysis of the scientific literature that uses the IGT to understand institutional documents by deconstructing and evaluating legislative content from the most diverse domains indicates that this analytical approach is beginning to expand and has increasing visibility in the academic world. Our results indicate an increase in publications using IGT as a method of analysis, starting from the last decade, and a preference for policy studies journals (Fig. 3).

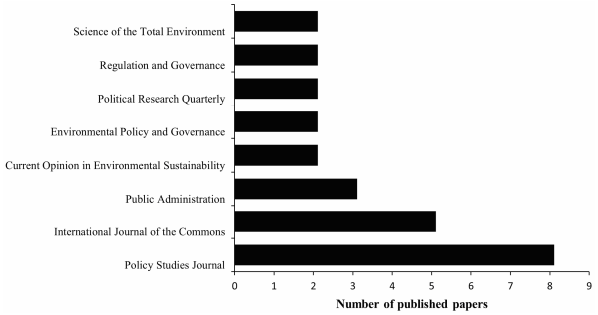

Fig. 3. Most preferred journals that published IGT research.

The geographic focus of the reviewed articles is dominated by North America (27 articles, 43.5%), followed by Europe (7 articles, 11.29%), Australia (4 articles, 6.5%), Asia (4 articles, 6.5%), Africa (2 articles, 3.2%), South America (2 articles, 3.2%) and over 25.81% (16 articles) of articles on global level. As expected, most articles are case studies (66.1%, 41 articles), followed by articles on the IGT theory (16.1%, 10 papers), methodological studies (6.5%, 8 papers), and review papers (3 articles, 4.8%). Over 77% of papers, namely 48 papers, are focused on one of several domains, with the remaining 23% (14 papers) being too broad to be assigned to a legislative domain. More than 30% of the studies are about a particular legislative domain (19 papers, 30.6%), the environment coming in second with agriculture (7 papers, 11%), social-ecological (5 papers, 8.1%), and administrative (5 papers, 8.1%) categories. The remaining articles (12 papers, 19.4%) are centred on the following domains: industry, transportation, health, financial and economic areas, education, and security (Fig. 4).

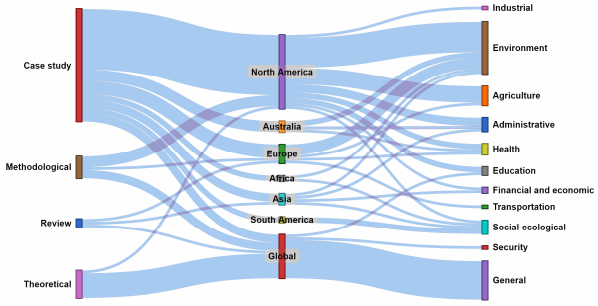

Fig. 4. Relationship between the type of papers, geographic focus, and the specific domain analysed in the respective papers.

The majority of the papers consist of case studies, primarily within the environmental sector. Considering that the method was initially utilized by the American researchers Crawford and Ostrom (1995), we observed that this regional emphasis persists, with nearly half of the studies (27 publications, 43.5%) situated in North America (see Fig. 4).

The majority of case study articles (17 papers, 27.4%) are in the environment domain, followed by the social-ecological, agricultural, and administrative domains (5 papers each, 8.1%), the health domain (4 papers, 6.5%), the financial and economic domain (2 papers, 3.2), the industry, and security domains (1 paper each, 1.6%), according to the results of a correlation between the type of article (case study, methodological, theoretical, and review) and the specific legislative domain. The education domain is dominant among methodological articles (3 papers, 4.8%), whereas the environment is the specific domain for theoretical and review articles (1 paper each, 1.6%). A percentage of 22.6% of the analysed documents are articles that do not have a specific domain (Fig. 5).

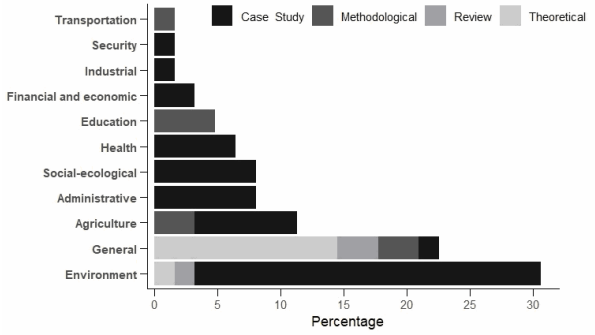

Fig. 5. Specific domains per type of scientific articles employing IGT as a method.

We found that the first publications are case studies of legislative documents in North America (Crawford and Ostrom, 1995), but also methodological and/or theoretical studies (Siddiki et al., 2011) that presented and explained the application of the IGT. Most of these papers are methodological and theoretical studies and do not analyse a specific legislative domain (Basurto et al., 2010) (see Fig. 4 and 5). The most frequent legislative domain in reviewed literature is the environment, which is consistent with the findings of Dunlop et al. (2019). Our study also highlights that case study articles discuss many specific legislative domains, indicating the versatility of IGT and its potential to become a standard policy analysis method. Furthermore, IGT starts to be used on a wider scale, sometimes worldwide. For example, Clement et al. (2015) analysed biodiversity conservation policies at the global scale, while Havukainen et al. (2022) analysed to what extent least developed countries implement national-level climate change mitigation strategies. Additionally, outside of the environmental domain, Espinosa (2015) uses the IGT to analyse the political decision on drug legalization, and Bagirova et al. (2021) analyse family politics before and during the COVID-19 pandemic. IGT was also used to analyse economic policies. For instance, Siddiki (2014) used IGT to decompose the content of the policies that govern the aquaculture industry, a paper that contributes methodologically to the field of policy content analysis of policy governing.

When reviewing the use of IGT in the analysed papers, most articles use IGT as the primary method (85.1%, 57 papers). Furthermore, 56.7% of the papers (37 papers) employ IGT as an exclusive method, while the remaining IGT-focused papers make use of surveys, interviews, qualitative comparative analysis, institutional logic, and social-ecological systems framework as secondary methods. The main methods of surveys, interviews, social network analysis, and ethnographic observation also appear in the articles in which IGT is a secondary method (9 papers, 14.9%) (Fig. 6).

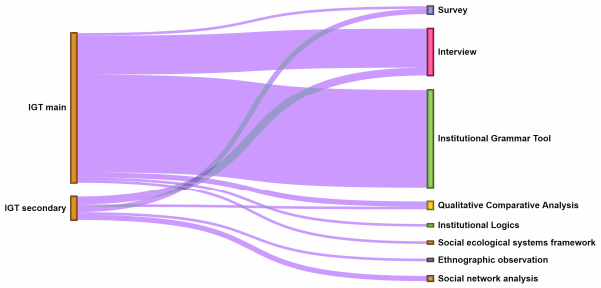

Fig. 6. Co-occurrence of methods in reviewed articles.

The present study reveals that more than half of the analysed scientific articles use IGT as their main and only method of analysis. Moreover, we discovered that researchers have only lately begun incorporating other techniques that are closely related to this tool, thus increasing the exhaustiveness and depth of their research. In addition to the IGT, several studies used interviews, surveys, and other associated methods (see Fig. 6) (Novo and Garrido, 2014; Watkins et al., 2015; Witting, 2017). This diversification is likely to gain further insights into the approach subject, e.g., the stakeholders' perception of policies (Prior, 2018), hidden institutional approaches (Siddiki and Lupton, 2016), and effects of policies on collective behaviour (Olivier and Schlager, 2022).

Tables 2 and 3 synthesize the main advantages and limitations of employing IGT as identified by the authors of the analysed papers. Among the specific advantages, we mention the help that IGT offers in understanding complex policy issues and the increase in analytical rigor on legislative content (Table 2).

Table 2. Advantages of using IGT as suggested by the authors of the analysed papers.

Advantages of IGT
A rigorous and systematic method for analyzing formal governance documents (Angulo, 2018).
It offers a way of unpacking key indicators of theoretical importance in the composition of public policies (Dörrenbächer and Mastenbroek, 2019).
The use of the IGT together helped to increase analytical rigor and the ability to articulate what is happening within sustainable remediation processes (Prior, 2016).
Efficient analysis and enhanced monitoring of institutions and their rules (Epstein et al., 2020).

Improvement of the legal process before legally binding documents (Pîndaru et al., 2023).
After assessing the documents in force, one can suggest improvements for the next-generation of policy documents (Pîndaru et al., 2023).
Identifying potential collusion between supervisors and agents: it assists in detecting potential collusion or undesirable collaboration between supervisors and agents (Angulo, 2018).
It contributes to the analysis of relationships between policy legitimacy, coerciveness, and enforcement in affecting policy interpretations (Siddiki, 2014).
Provides a basis of communication among scholars using diverse methods to study institutionally relevant phenomena, including coding and content analysis (Siddiki et al., 2019).
It offers support in gaining a detailed understanding of the level of autonomy of the main parties in applying sanctions (Angulo, 2018).
It helps increase a comprehensive understanding of policy design (Prior, 2016).
A strong focus on policy process rather than policy outcomes was evident from the IGT (Clement et al., 2015).
The utility of the IGT in understanding how nonprofit organizations respond to the demands of their parent organizations (Siddiki et al., 2019).
A useful analytical tool to the understanding of very complex policy issues (Pîndaru et al., 2023).
Researchers may apply the IGT to generate data for more sophisticated analysis (Siddiki et al., 2011).
The IGT provides much richer information on the substance of discretion than existing quantitative measures (Frantz et al., 2016).
It avoids exaggerating the importance of the syntactic categories while analyzing large samples of public policies (Dörrenbächer and Mastenbroek, 2019).
Fine-grained analysis even in data-scarce locations, as the institutions themselves become the data for analysis (Frantz and Siddiki, 2021).
Provides different perspectives about understanding the content of legislative documents (Kamran and Shivakoti, 2013).
It helps obtain comparable results between the content of the documents and their applicability (Pîndaru et al., 2023).

The main limitation rendered in several studies is the fact that the method is time-consuming (Table 3).

Table 3. Limitations of using IGT as suggested by the authors of the analysed papers.

Limitations of IGT
Problems of interpretation and conceptual relevance of the data (Dunlop et al., 2019).
Do not provide systematization and a more in-depth understanding (Dunlop et al., 2019).
By limiting the definition of the aim to only include the non-Deontic verb of the statement, ambiguity concerning the distinction between the aim and the Condition is reduced (Siddiki et al., 2011).
Dependence on the written text of a policy document (Rice et al., 2021).
Manual coding limits the number of policies analyzed due to the substantial coding time (Chen et al., 2022; Pieper et al., 2023).
Difficulty in the application of the syntax in other languages (less English) (Kamran and Shivakoti, 2013).
IGT is prone to misinterpretation and human error (Prior, 2018).
Coding and training coders are time-consuming processes (Weible et al., 2020; Pieper et al., 2023).
The time-consuming and laborious nature of coding institutions to support the classification of institutions at the statement and syntax level (Kamran and Shivakoti, 2013).
IGT coding limits the amount of institutional information (Frantz and Siddiki, 2022).

The main advantages of using IGT in the analysis of legislative documents are the use of a meticulous and systematic approach for analysing formal governance documents (3 papers, 5.4%); efficient analysis, and improved monitoring of institutional regulations (5 papers, 8.9%); contribution to the analysis of how policy legitimacy, coerciveness, and enforcement influence policy interpretations (3 papers, 5.4%); facilitation of a holistic understanding of policy design (5 papers, 8.9%); providing much richer information on the substance of policy discretion (2 papers, 3.6%); and providing a range of distinct perspectives for understanding the institutional complex (2 papers, 3.6%). More than 35% of the papers (23 papers) discuss advantages that do not refer to IGT, and over 30% (20 papers) have no discussion on the IGT advantages.

The main limitations of using IGT to analyse legislative documents are the difficulty of data interpretation (5 papers, 8.1%), difficulties in collecting data (3 papers, 4.8%), and the risk of errors and misinterpretation (2 papers, 3.2%). More than 35% (23 papers) of the limitations found in the analysed scientific literature do not refer to IGT, and over 47% (29 papers) do not discuss limitations at all.

The use of IGT in the analysis of legislative documents aids in understanding the complexity of political issues. However, widespread utilization of this tool is only feasible if the analyses of legislative documents are written in English, as suggested by many researchers (see Tables 2 and 3) (Kamran and Shivakoti, 2013; Carter et al., 2016). Our results indicate both the strengths and weaknesses of utilizing IGT. Among the limitations frequently mentioned by most researchers are those related to the language in which the document is written, the substantial time required for coding and implementing the method, as well as the potential for human error, which can be a significant impediment (see Table 3). Additionally, the authors of the reviewed articles have suggested numerous advantages of using IGT and its applicability (see Table 2). Our findings highlight the flexibility and adaptability of the IGT for empirical contributions, as well as the efficiency of analyses and the rigor of systematizing the relationships between policy legitimacy, coerciveness,

and policy interpretation. Other researchers have emphasized the importance and utility of IGT, as well as the assistance it provides in comparing the obtained results. The study highlights that the application of IGT enables a better understanding of policies but often encounters challenges in its use. For instance, Carter et al. (2016) suggested that it is a rigorous, systematic, and efficient method for analysing and understanding governmental documents, while Dunlop et al. (2019) argue that misunderstandings can arise due to human error and that the application of IGT can be time-consuming. Additionally, Kamran and Shivakot (2013), although acknowledging the applicability complexity from the language perspective of the analysed document, consider that it provides a broader understanding and perspective, aiding in identifying legislative gaps.

The network visualization of keywords included in papers reveals distinct thematic clusters that reflect evolving trends in IGT discourse over time. Although the targeted period includes articles from 1995 to 2023, the legend generated by VOSviewer reflects the average of the years of appearance for the keywords. This average is influenced by the temporal distribution of the terms in the network, which is why the intervals of 1995 – 2009 and 2021 – 2023, although present in the data, are framed in an earlier time interval, 2010 – 2020. Thus, the legend provides a general representation of the dominant period of keyword use. Keywords included in articles published between 2010 – 2020 form clusters of topics related to regulatory policy, bureaucracy, institutional evolution, and policy implementation (Fig. 7).

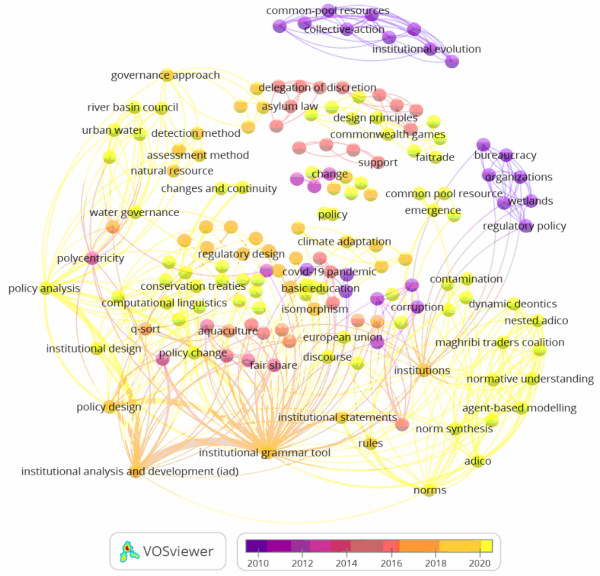

Fig. 7. Time-dependent clusters of keywords included in the papers using IGT as a research method.

Publications from 2014 – 2016 aggregate around clusters denoting methodological approaches and theoretical frameworks for analysing institutional dynamics and policy processes, indicating the evolution of IGT research methodologies toward more complex approaches. Recent papers are included in multiple clusters indicating a preference for normative frameworks, computational modelling, and policy instruments for addressing dynamic challenges in conservation governance and environmental policy.

We observed that the emergence of clusters centred around keywords such as regulatory design, institutions, institutional analysis and development underlines the relevance of IGT in contemporary scholarly discourse. As the theme groups highlight, there is a growing interest in methodological approaches and theoretical frameworks that facilitate a deeper understanding of governance mechanisms and policy outcomes (see Fig. 7). Moreover, the evolution of thematic clusters over time emphasizes the adaptability of IGT in capturing shifting trends and priorities within the field of institutional analysis and policy studies. From foundational inquiries into regulatory governance to contemporary discussions on decentralized governance structures and normative frameworks (Olivier, 2019), IGT provides a versatile framework for navigating the complexities of institutional dynamics across different legislative contexts and policy domains (Siddiki et al., 2023). By leveraging the analytical power of IGT, scholars can elucidate the underlying mechanisms driving institutional change, inform policy interventions, and contribute to the advancement of knowledge in governance theory and practice (Dunlop et al., 2022).

One of the significant challenges of the research consisted in the management of publications and the careful selection of relevant studies, given the diversity of the domains addressed within the IGT (Pieper et al., 2023). The information synthesis process required meticulous attention to highlight the evolution and trends in the use of IGT in institutional research. Also, integrating data from additional methods associated with IGT, such as interviews or qualitative comparative analyses, required a balanced approach to caption the combined advantages of these methods. Another challenge entailed browsing through the thematic diversity of IGT studies and effectively contextualizing the findings coherently and comprehensively.

Furthermore, the inclusion of emerging concepts and methodologies within thematic clusters underscores the need for innovative approaches to address contemporary challenges in conservation governance, environmental policy, and beyond (Brady, 2023). IGT's ability to accommodate evolving research agendas and methodological advancements positions it as a cornerstone in the study of institutional dynamics and policy processes (Dörrenbächer and Mastenbroek, 2019). As scholars continue to explore new frontiers in institutional analysis, the importance of IGT as a versatile and adaptable analytical tool becomes

increasingly apparent, offering invaluable insights into the complexities of governance structures and policy landscapes in an ever-changing world (Tschopp et al., 2018).

Clarifying future directions for IGT within the institutional review involved anticipating potential challenges and formulating practical suggestions. One important direction is developing language-specific coding schemes tailored to diverse linguistic contexts, which would enhance IGT adaptability. Additionally, leveraging machine translation tools and natural language processing (NLP) technologies could further improve its capacity to handle multilingual legislative analyses. Exploring ways to integrate emerging technologies, such as AI-based text mining or semantic analysis platforms, into the analytical process offers significant potential. Finally, one of the most important things for the future development of IGT in institutional research is encouraging international collaboration to address complex issues.

4. CONCLUSIONS

The widespread use of the IGT, particularly when analysing policy contexts, suggests a promising avenue for researchers worldwide to engage with and implement this method. The geographic diversity of its usage implies that scholars in other regions should encounter minimal barriers in exploring and adopting IGT, thereby fostering a more comprehensive global understanding of its applicability across diverse legislative contexts.

Furthermore, the observed methodological and domain diversity in the application of IGT highlights its adaptability to a wide array of research domains and analytical frameworks while also pinpointing notable limitations that warrant attention. These insights serve as valuable benchmarks for the continued refinement and development of the IGT, guiding efforts to address its inherent constraints and enhance its utility in empirical research. Of particular significance is the imperative to devise effective strategies for managing the time constraints associated with the implementation of IGT methodologies, ensuring that researchers can maximize the method's potential while maintaining efficiency and rigor in their analyses.

By considering these benchmarks and addressing the identified challenges, researchers can advance the methodology and practical relevance of the IGT, thereby contributing to the ongoing evolution of institutional analysis and policy research on a global scale. The role of this method in promoting detailed language analysis and communication within specialized fields is of utmost importance, and its continuous development and adoption offer great potential for advancing scientific comprehension of policies and decision-making.

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