

Unlocking the Judiciary: Predictive Determinants of Actual and Potential Access to Brazilian State Courts

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
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ABSTRACT

Objective: access to justice is a fundamental human right in civilized societies and must be ensured within an efficient and effective judicial system. Most discussions regarding the legitimacy of the judiciary as a mediator of social conflicts revolve around the population's access to justice. Therefore, this study delves into the factors that determine both potential and actual access to the Brazilian Courts of Justice. **Methods:** longitudinal data from the 27 Brazilian State Courts of Justice between 2009 and 2020 were organized into panel data, constituting a sample of 324 observations. **Results:** the results indicate that the number of judges, the number of employees (including civil servants and outsourced personnel), investment in information and communication technology, and the number of lawyers working in the state are the variables that influence actual access to justice. In contrast, the number of civil servants is the sole variable influencing potential access to justice. The results further indicate that the ratio of civil servants per judge — a structural variable — has a statistically significant influence on both potential and actual access to justice. This suggests that institutional staffing plays a dual role: it contributes to expanding access conditions and also supports the judiciary's capacity to deliver outcomes. While this finding highlights the relevance of this specific structural factor, no other structural variables tested showed consistent significance, which cautions against generalizing the influence of structural determinants as a whole. Additionally, the results show that effective access is more closely related to operational efficiency and the system's ability to resolve cases. **Conclusions:** regarding information and communication technologies, the study found limited but relevant evidence of their role in facilitating access to justice, with one specific ICT-related variable showing a statistically significant and positive effect. These findings suggest that the impact of ICTs may depend on particular institutional and managerial conditions and should therefore be interpreted with caution.

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INTRODUCTION

In recent decades, particularly from the late 20th century to the early 21st century, there has been growing concern regarding the role of governments and public administration in meeting societal demands. Governments worldwide face increasing pressure to respond to complexities and changes in their environments (Alberti & Bertucci, 2006). Managing the public sector has become a significant challenge, especially in developing countries or those with transitioning economies, such as Brazil, which require efficiency, effectiveness, and the ability to meet citizens' needs (Demircioglu & Audretsch, 2017). One of the central elements of this challenge, as a state monopoly, is the distribution of justice, which entails ensuring access to and the effectiveness of the judicial system as an essential pillar for the functioning of society.

Access to the courts is a fundamental human right in civilized societies (Sung, 2020). It forms the cornerstone of any democratic and pluralistic regime and is a condition for the exercise of other rights outlined in a given legal system (Queiroz, 2021). However, the current legal system worldwide is often unfriendly and inaccessible to those who turn to the judiciary to safeguard their rights (Sung, 2020). In light of this situation, it becomes imperative to scrutinize judicial activities in specific countries. Beyond the importance of justice for the advancement of every society, the importance of investigating the judiciary lies in its unique role as the sole entity with the authority to exercise state jurisdiction and provide the definitive interpretation of the law (Sátiro et al., 2021; Sátiro & Sousa, 2021).

Concerns regarding the efficiency of the justice system revolve around the premise that the primary role of courts and the justice system as a whole is to dispense justice to society (Guimarães et al., 2020). This means that the courts should be able to maximize the resolution of cases, thereby upholding the proper functioning of society (Falavigna & Ippoliti, 2022). In this sense, most discussions regarding the judiciary's legitimacy as a mediator of social conflicts concern the population's access to justice (Ribeiro, 2008). Therefore, without jurisdictional access to justice, no other right is guaranteed (Sadek, 2014). Consequently, when the population lacks effective means to access justice, disputes arising within society tend to be resolved in private domains (Ribeiro, 2008).

It is important to note that the perception of the slowness of the judiciary is often influenced by specific cases that have been widely publicized; however, these perceptions can be misleading. Both the public and the legal community tend to evaluate the efficiency of the institution on the basis of personal experiences or ref-

erences to particularly notable cases, without considering systematic data that offer a more comprehensive and well-founded analysis of the phenomena in question (Abramo, 2010). In this same context, although the slowness of the judiciary is widely recognized as a serious problem that needs to be addressed, the perception of a 'crisis' is often exploited politically. Many of the discourses that defend the reform of the judiciary lack a basis in scientific methods or techniques, especially with regard to diagnoses and proposed solutions (Ponciano, 2007).

The 1988 Brazilian Federal Constitution expanded the range of rights formalized by the state (Bertoncini et al., 2020; D'Araujo, 2001; Nogueira et al., 2012), establishing the protection of fundamental rights as a state guideline. In this context, the greater the number of rights enshrined in a particular legal system, the greater the likelihood of their invocation, leading to an increased demand for legal services in the country (Bertoncini et al., 2020).

The 1988 Constitution also granted new political actors the authority to challenge the constitutionality of laws. This subsequent surge in legal challenges heightened the demand for judicial services, necessitating administrative changes within the judiciary branch (Nogueira et al., 2012). Brazil's democratization is part of a broad context marked by several institutional changes. These transformations are also observed within the country's legal system, considering its multiple interactions with the most varied fields (Veronese, 2007). However, despite such changes, especially those that came after the 1988 Federal Constitution, the Brazilian population still regards the judiciary with skepticism, perceiving it as ineffective, anachronistic, and unequal in terms of access (Castro & Guimarães, 2019).

Access to justice in Brazil is a complex and multifaceted phenomenon encompassing various dimensions and meanings (Oliveira & Cunha, 2016). Expanding empirical research on access to justice is crucial for intellectual, practical, and political reasons (Albiston & Sandefur, 2013), as access to justice is a fundamental right that underpins all other rights and deserves high consideration (Bortolai, 2016).

Examining access to justice within the context of the administration of justice reveals key dimensions. The normative-formal aspect focuses on the state's recognition and translation of individual rights into legal frameworks. The second dimension addresses the practical transformation of access to formal justice through mechanisms such as organizational structures and administrative processes. The third dimension highlights conditions, emphasizing factors that empower citizens to view themselves as rights-bearing individuals capa-

ble of utilizing legal avenues (Pasinato, 2015). This study specifically focuses on the second dimension, which delves into the mechanisms and strategies employed to facilitate access to justice. The emphasis is on operational aspects, scrutinizing elements such as the organization and administration of the justice system, adoption of information and communication technology (ICT), and operationalization of justice distribution.

Another study that explores the structural challenges hindering access to justice, focusing on the exclusionary nature of the formal justice system, is that of Maraíre (2024). The author criticizes the colonial legacy embedded in the legal framework, which emphasizes legal positivism and rigid procedural rules while failing to integrate customary laws and informal justice mechanisms that align with the lived realities of the majority of citizens. These systemic barriers disproportionately affect marginalized populations, as the high costs of litigation, procedural complexity, and limited recognition of pluralistic legal systems create significant obstacles. The author highlights the resulting inequalities, including the risk of unfair outcomes for those unable to effectively navigate the formal justice system. To address these issues, the article argues for a more inclusive approach that bridges the gap between the formal and informal justice systems, promoting a legal framework that is culturally relevant and structurally equitable. By aligning legal mechanisms with the needs of society, these reforms can reduce systemic inequalities and make access to justice a practical reality for a larger portion of the population.

New technologies can change how public organizations structure their processes (Prux et al., 2021). In this study, we distinguish between actual and potential access to justice. Potential access encompasses the structure provided by the judiciary or other justice agents and organizations, creating the conditions for the population to have access to justice, whereas actual access to justice refers to the practical use of justice services by the population (Torlig & Buta, 2020).

Hence, access to justice is a right that requires a series of actions on the part of the state, in which judicial systems are vital as guardians of citizens' rights (Pereira & Correia, 2020). This entails maintaining an infrastructure commensurate with the demand for access to justice, including an adequate number of qualified professionals to adjudicate and expedite proceedings, structuring and sustaining the organization of public defenders and the Public Prosecutor's Office, and establishing and maintaining physical infrastructure to support the work of civil servants and other professionals (Carneiro, 2018).

Filgueiras (2013) concludes that the Brazilian judiciary is mired in a syndrome of distrust, reinforced by the perception that this institution does not act impartially in relation to political interests. Instead, a negative view of the unequal performance of the judiciary prevails, which in turn contributes to dissatisfaction with democracy. Unlike consolidated democracies, this can be attributed to the persistence of a feeling of relative deprivation, fueled by the continuation of inequalities and the inability of the Brazilian state to meet the demands of the population in a more equitable manner.

Given this context and the pivotal role of the judiciary branch in Brazil in recent decades, the challenges concerning the provision of judicial services, and the disparities in access to justice faced by individuals from various social strata, this study seeks to address the following research question: What are the determinant factors influencing access (both potential and actual) to justice within the Brazilian Courts of Justice? The distinction between potential and actual access is a conceptual refinement and contribution of this article that arises from the need to evaluate not only the availability of legal resources, but also their effectiveness in resolving disputes and meeting the needs of the population. Although traditional academic literature may not make an explicit distinction between these terms, recent studies and publications by the *Conselho Nacional de Justiça* (National Council of Justice [CNJ]) have adopted this differentiation (Conselho Nacional de Justiça, 2021; Conselho Nacional de Justiça, 2022; Torlig & Buta, 2020). The CNJ, as the body responsible for strategically reflecting on the judiciary in Brazil, has contributed to the evolution of concepts and approaches related to access to justice.

The article is structured in six sections, the first of which is this introduction, followed by a theoretical framework that addresses the relevance, definition, and main factors that can determine access to justice. The third section consists of the methods and justifications for the methodological choices. The fourth section presents the results, and the fifth section discusses the results in light of the literature and highlights the main limitations and future avenues of research. The last section provides the conclusions and proposes a research agenda.

THEORETICAL FRAMEWORK

Access to justice: Importance and definitions

The literature in public administration emphasizes that judicial performance must be analyzed not only from a legal-institutional perspective, but also as a public management issue that directly affects state capacity, accountability, and service delivery (Gomes et al., 2018).

In this sense, the judiciary is understood as a public service provider that requires governance structures and performance metrics comparable to those of other public organizations (Silveira et al., 2013). From this perspective, access to justice becomes both a legal right and an administrative challenge, especially in systems marked by structural overload and managerial fragmentation. Buscaglia and Dakolias (1999) argue that improving judicial efficiency and access requires not only procedural reforms but also managerial innovations grounded in empirical data and institutional performance frameworks. Our study contributes to this body of work by analyzing how structural determinants of judicial capacity affect access disparities, framing access to justice as a multidimensional problem at the intersection of law, governance, and public administration.

The interest in scrutinizing the judiciary branch, one of the three pillars of the modern state, arises from the necessity of comprehending the judiciary's role as a fundamental institution underpinning modern democracies (D'Araujo, 2001). Consequently, for a nation to secure the right to legal assistance, several factors are indispensable: a legal and judicial system endowed with the authority to uphold this constitution, and a constitutional authority tasked with safeguarding the right to access justice. These matters encompass legal equality, the right to a fair hearing, and the assurance of a just and impartial proceeding (D'Araujo, 2001).

The effective and efficient delivery of justice can be deemed an issue inherent to democracy. The dispensation of justice is intimately tied to the inherent dignity of the human person and is occasionally elevated to the crucial status of a fundamental right (Sátiro, 2019). In this context, access to justice can be regarded as the most fundamental prerequisite of human rights in a modern legal system that aspires to be egalitarian and, beyond mere proclamation, seeks to ensure the rights of all (Cappelletti & Garth, 1988).

The United Nations Development Program defines access to justice as "the condition in which people are able to seek and obtain a remedy for grievances through formal or informal institutions of justice that conform to international human rights standards" (United Nations Development Programme [UNDP], 2012, p. 5). This definition describes people's ability to resolve disputes and reach appropriate solutions to their grievances using formal and non-formal justice systems. It also clarifies that the justice process has qualitative dimensions and must be conducted following the principles and standards of human rights (UNDP, 2012).

In the case of Brazil, as per the 1988 Federal Constitution, 'the law shall not exclude injury or threat

to a right from the consideration of the Judicial Power' (*Ato das Disposições Constitucionais Transitórias*, 1988). Consequently, the state is responsible for establishing the necessary conditions for the complete exercise of this right and access to justice. Along with complementary legislation, the 1988 Constitution underscores access to justice, procedural efficiency, and expeditiousness as essential prerequisites for enhancing the functioning of the judicial system (Conselho Nacional de Justiça, 2022).

The Brazilian Constitution implies that all individuals, without discrimination, are entitled to seek justice, ultimately contributing to the establishment of a more equitable and democratic society (Sadek, 2014). In this sense, access to justice, both as a procedural practice and a concept, is defined as the capacity for individuals to reach out to judicial organizations and institutions (Bahar et al., 2018). The present situation, characterized by increasing access to justice, compounds the already substantial backlog of lawsuits awaiting adjudication in the Brazilian courts. This backlog is closely linked to the culture of judicialization prevalent in the country. These factors suggest that the upward trajectory of case accumulation will not change in the foreseeable future (Sátiro & Sousa, 2021).

Despite the importance of access to justice for the functioning of society, the historical evolution of the judicial system's organization has led to numerous obstacles to effective access to justice. These barriers include procedural expenses, delays in case resolution, the use of technical language and formalistic rhetoric in legal contexts, and the geographical remoteness of individuals from the institutions of the justice system (Conselho Nacional de Justiça, 2022).

Hence, despite the comprehensive formalization of an array of rights since the 1988 Federal Constitution, it is not possible to assert that these rights are uniformly guaranteed or accessible to all people. Over three decades after the Constitution's enactment, substantial barriers to the effective assurance of rights in the country persist, thereby impeding the realization of full citizenship (Sadek, 2014).

Access to justice commences with the recognition of rights established in laws and with the awareness and comprehension of these rights. This concept encompasses the accessibility of dispute resolution mechanisms within the framework of justice institutions. These institutions can be either formal (established by the state) or informal (such as indigenous courts, councils of elders, religious authorities, mediation, and arbitration). Effective access to justice also entails the availability of legal counsel and judicial representation. It further encompasses the capacity of these mecha-

nisms to deliver fair, unbiased, and enforceable remedies within their jurisdictions (Begiraj & McNamara, 2014).

The concept of access to justice can be approached from different perspectives (Olteanu, 2018). In the context of this research, access to justice is understood through the integration of three dimensions. The first dimension is the normative-formal. It involves the state recognizing the right, which is subsequently translated into laws. The second refers to mechanisms and strategies and pertains to the transformation of potential access to formal justice into actual access, encompassing aspects such as the organization, administration, and distribution of justice. Finally, the third dimension is that of conditions, focusing on the factors that enable each citizen to perceive themselves as a rights-bearing individual capable of invoking the laws to protect or assert their rights (Pasinato, 2015).

More specifically, this study emphasizes the second dimension, addressing the mechanisms and strategies used to foster actual access to justice. This dimension encompasses issues related to more operational aspects of access to justice, analyzing matters such as the organization of the justice system, adoption of ICTs, and justice administration mechanisms, as well as how the distribution of justice is operationalized.

Guaranteeing rights is not an immediate result of the inclusion of access to justice in the Constitution. Although legality has an impact on society, the depth and extent of guaranteeing this right ultimately depend on variables related to objective situations (Sadek, 2014). Hence, it is imperative to evaluate progress to achieve equitable outcomes. Justice systems must embrace a renewed sense of responsibility toward the individuals they serve (The Task Force on Justice, 2019). From a quantitative standpoint, considering the components that constitute the 'access to justice' framework and the preparation and publication of the 2021 Access to Justice Index Report by the Brazilian CNJ, it is evident that the report encompasses the dimension of 'distribution and access to public services.' This dimension relates to in-person access to courts, court divisions, and judicial districts for filing lawsuits or attending hearings, among other aspects. It also pertains to the availability of legal assistance to the population through professionals such as lawyers, public defenders, and judges. The indicators used to assess the distribution and access to public services include: (1) the number of courts per 100,000 people, (2) court divisions per 100,000 people, (3) judicial districts per municipality, (4) public defenders per 100,000 people, (5) lawyers per 100,000 people, (6) judges per 100,000 people, and (7) new lawsuits per 100,000 people (Conselho Nacional de Justiça, 2021).

Although the study by Torlig and Buta (2020) utilized three dimensions to operationalize potential access to justice — (a) the number of judges, representing the size of the judiciary; (b) the number of cases finalized per judge, representing judicial productivity; and (c) the congestion rate, which reflects the effectiveness of a court in handling cases — we chose to focus solely on the number of judges as the primary proxy for potential access. This decision is grounded in the understanding that judges are the central figures in the delivery of judicial services, as they are considered the embodiment of the justice system itself, serving as its core component. In this regard, we opted to treat the other dimensions — judicial productivity and congestion rate — as variables related to the judicial infrastructure. These elements represent the surrounding and supporting structure that enables the justice system to function, complementing but not replacing the pivotal role of judges as the primary agents of justice. Judges are the central pivot around which the justice system operates. They oversee pre-trial procedures, facilitate settlement negotiations, decide on motions, conduct bench and jury trials, accept guilty pleas, impose criminal sentences, and adjudicate appeals. Throughout these functions, they are responsible for establishing facts, interpreting and applying the law, and exercising judicial discretion. Given the extensive authority they hold, it is both natural and appropriate that society places high expectations on their performance (Rachlinski & Wistrich, 2017).

In line with recent efforts to operationalize the multidimensional nature of access to justice, such as the Access to Justice Index developed by the Brazilian National Council of Justice (Conselho Nacional de Justiça, 2021), this study adopts a conceptual distinction between potential access and actual access. While related, these constructs represent analytically distinct dimensions. Potential access refers to the structural, social, and demographic conditions that shape an individual's capacity to reach the judicial system — for example, the availability of legal assistance or geographic proximity to courts. Actual access, in turn, concerns the functioning of the judiciary itself, including institutional capacity, efficiency, and procedural responsiveness. The CNJ's framework reinforces this perspective by organizing access indicators into different types of 'capital': human capital (citizenship and population), which aligns with potential access, and institutional capital (judiciary), which corresponds to actual access. This conceptual refinement allows us to disentangle factors that influence entry into the justice system from those that determine the quality and effectiveness of judicial outcomes.

Based on the discussions related to the representative variables of potential access and actual access

to justice, this research uses the variable denoting the number of lawsuits filed per population and the number of judges per capita as proxies of the concepts of actual access and potential access to justice, respectively. It is assumed that more lawsuits filed in the judiciary mean that the population has more access to justice, whereas more judges per capita mean a greater probability of having a judicial structure at the citizen's disposal. The distinction between potential and actual access to justice was adopted based on observations of current trends in the legal literature (Torlig & Buta, 2020) and practices adopted by the CNJ, as explained above. The differentiation between these two concepts allows for a more refined analysis, covering not only the formal search for justice but also the potential capacity of the judicial system to meet the demands of the population.

In this study, we chose to operationalize the number of court staff and the number of lawyers as explanatory variables rather than components of potential access to justice, as defined by Torlig and Buta (2020). This decision was based on our theoretical perspective, which views these dimensions as part of the judicial infrastructure that influences the functioning and accessibility of the justice system rather than as intrinsic measures of potential access. While Torlig and Buta (2020) include these elements within their definition of potential access, we argue that the number of court staff and lawyers is better conceptualized as resources that shape the operational capacity of the judiciary, complementing but not directly defining its core access structure. Judges, on the other hand, are considered the embodiment of the judiciary and represent its primary capacity to provide judicial services. By treating court staff and lawyers as explanatory variables, we aimed to analyze their specific contributions to both potential and actual access to justice, thereby providing a more nuanced understanding of their roles within the judicial ecosystem. This approach ensures a focused exploration of the interplay between the judiciary's human resources and its capacity to deliver justice effectively.

Notably, this study considers access to justice as one of the components of the concept of judicial performance, according to Gomes and Guimarães (2013). According to the aforementioned authors, this concept is related to the capacity of the judicial system to provide accessible, fast, and effective means for citizens to exercise their rights and resolve conflicts. Judicial performance, as highlighted, is multidimensional, encompassing not only efficiency and productivity but also elements such as speed, effectiveness, and accessibility.

Among these dimensions, access to justice stands out because it involves both internal variables, such as the number of judges and resources available, and external variables, such as the economic and social barriers faced by citizens. This focus reflects the growing perception that the quality of judicial performance cannot be assessed solely by the number of cases resolved, but also by the scope and equity of access to judicial services, highlighting the need for policies that promote inclusive and egalitarian justice.

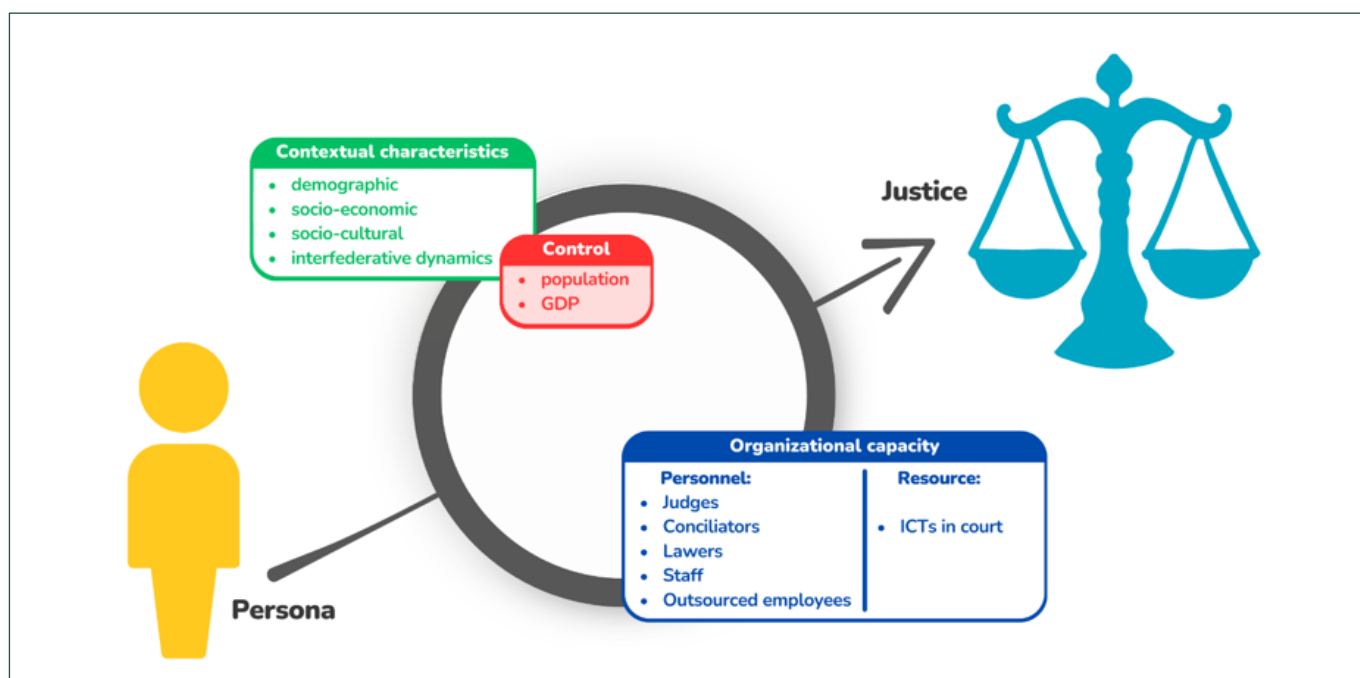
What factors impact access to justice?

Legal researchers have been engaged in anticipating the outcomes of trials. Recently, this line of research has benefited from advances in the field of machine learning to predict the behavior of both natural and social events. Moreover, the judicial system in developing countries such as Brazil faces a significant volume of new lawsuits annually, which requires improving the efficiency of the justice system (Menezes-Neto & Clementino, 2022).

Even when considering the measures adopted in recent years to reform the judiciary and all the initiatives aimed at enhancing efficiency and expediting lawsuit processing, citizens are still deprived of their constitutionally guaranteed right to a timely legal process, and their legal interests are harmed due to delays within the judicial system (Sátiro & Sousa, 2021).

Furthermore, despite the legal provisions concerning access to justice, numerous barriers exist that hinder the exercise of this right, spanning a variety of domains. Among these barriers are: (1) socio-cultural obstacles, which encompass challenges such as illiteracy, limited access to quality education, economic hardship, and prejudice; (2) institutional obstacles, which include insufficient government resources to ensure or facilitate access to justice, inadequate infrastructure within judicial institutions, limitations in the provision of legal aid and representation, and deficiencies in the enforcement of legal decisions; and (3) interconnected barriers, where social and institutional barriers intertwine. This can involve factors such as public mistrust of lawyers and judges, as well as instances of corruption (Beqiraj & McNamara, 2014).

This study concentrates on factors regarded as determinants of access to justice such as organizational capacity in courts, and controls for contextual variables (Figure 1). Consequently, it does not, at the outset, delve into the barriers to accessing justice in Brazil and does not incorporate the variables associated with the barriers documented in the literature.



Source: Developed by the authors.

Figure 1. Theoretical model used in the research.

When analyzing the factors that could contribute to improving access to justice, part of the literature shows that technological innovation is a factor that stands out as having the potential to increase access to public services (*Conselho Nacional de Justiça, 2021*). Together with other strategies, the introduction of new technologies holds promise due to its ability to facilitate faster information dissemination, increase accessibility for litigants, and expand the jurisdiction of trial units (*Procopiuck, 2018*). Consequently, digital technology has seen growing use in disseminating general legal information, delivering legal education, enhancing transparency, simplifying access to court rulings, and mitigating court delays (*Beqiraj & McNamara, 2014*).

It is argued that judicial procedures have remained outdated for several decades, lacking the capacity to resolve conflicts efficiently and effectively. In response to this challenge, certain jurisdictions have taken steps, including the enactment of legal reforms to increase the efficiency and accessibility of procedures, the introduction and encouragement of alternative dispute resolution mechanisms, and, more recently, the adoption of technologies aimed at reducing costs and simplifying the process (*De Arce, 2019*). Access to services, in general, has already been largely redefined with electronic access. The judiciary should follow this trend in society, providing electronic access to justice (*Dijk & Dumbrava, 2013*).

Moreover, the nature of participation in court proceedings plays a pivotal role in democratic legitimacy and fairness within digital processes. In this context, access to legal institutions and processes fundamentally influences how courts operate as arenas for public engagement. Consequently, given that policies and political frameworks impact access to courts, legal information, and legal services, ICTs are regarded as significant factors in enhancing democratic processes by facilitating improved access to justice (*Donoghue, 2017*).

The association between ICT acquisition and potential access to justice is grounded in the premise that technological tools can enhance the capacity and efficiency of judicial institutions, thereby improving structural access to justice. The logic lies in the assumption that technology complements human resources, such as judges, by streamlining case management, reducing procedural delays, and increasing the system's ability to handle larger caseloads.

On the basis of the discussion presented, the first hypotheses of this study are formulated as follows:

H1: A greater investment in the acquisition of ICTs positively and directly impacts potential access to justice.

H1B: A greater investment in the acquisition of ICTs positively and directly impacts actual access to justice.

H2: A greater investment in ICT operation costs positively and directly impacts potential access to justice.

H2B: A greater investment in ICT operation costs positively and directly impacts actual access to justice.

From another perspective, the number of individuals involved in processes related to the justice system is a noteworthy factor when discussing judicial performance and productivity (Louro et al., 2017; Sátiro & Sousa, 2021). It is reasonable to assume that a smaller workforce allocated to a specific court may lead to extended timeframes for resolving lawsuits, thereby constituting a potential barrier to accessing justice. Mitsopoulos and Pelagidis (2007) illustrate this relationship in their study, demonstrating a consistent increase in the time required to conclude legal proceedings. They further emphasize that the ratio between the number of employees and the number of lawsuits significantly impacts resolution times in courts of appeal.

Similarly, Rosales-López (2008) contends that there is a positive correlation between the variables linked to the human resources within the court and the number of lawsuits resolved. For the author, a greater number of employees leads to increased productivity in courts of justice.

Similar findings were reported by Sátiro and Sousa (2021). According to these authors, the quantity of individuals engaged in proceedings associated with tasks carried out by the judiciary is a noteworthy and significant factor when discussing judicial performance and productivity. The number of professionals allocated to a particular court is among the factors that explain the rate of cases per judge.

The Brazilian public sector, including the judiciary, is characterized by the coexistence of two distinct groups: civil servants hired through competitive exams (tenured) and outsourced employees. These two groups have fundamental differences that play crucial roles in any analysis of the sector. Civil servants enjoy the stability and benefits that come with tenured positions, often secured through rigorous selection processes, whereas outsourced employees typically work under different contracts, with less job security and fewer benefits. This duality underscores the importance of carefully considering these disparities when

evaluating the dynamics and functioning of the public sector. Therefore, the study explores the following hypotheses:

H3: A greater number of tenured civil servants positively and directly influences potential access to justice.

H3B: A greater number of tenured civil servants positively and directly influences actual access to justice.

H4: A greater number of outsourced employees positively and directly influences potential access to justice.

H4B: A greater number of outsourced employees positively and directly influences actual access to justice.

H5B: A greater number of judges positively and directly influences actual access to justice.

From another perspective, the 1988 Brazilian Federal Constitution declared the practice of private law an essential function of justice. This implies that nearly all lawsuits brought before the justice system must be filed with the assistance of a lawyer (Sátiro, 2019). Therefore, lawyers play a fundamental role in the outcome of legal proceedings. The lawyer serves as the court's primary source of information, initially identifying the facts and the applicable law for the specific case. The legal representative analyzes the case, demonstrating how legal norms can be applied to the real-world situation (Vasconcelos et al., 2018).

Considering the particularities of the Brazilian justice system and the procedural regulations related to litigation in Brazil, the following hypotheses are formulated:

H6: A greater number of lawyers working in the state positively and directly influences potential access to justice.

H6B: A greater number of lawyers working in the state positively and directly influences actual access to justice.

Table 1. Summary of the research hypotheses.

Hypotheses	Description
H1	A greater investment in the acquisition of ICTs positively and directly impacts potential access to justice.
H1B	A greater investment in the acquisition of ICTs positively and directly impacts actual access to justice.
H2	A greater investment in ICT operation costs positively and directly impacts potential access to justice.
H2B	A greater investment in ICT operation costs positively and directly impacts actual access to justice.
H3	A greater number of tenured civil servants positively and directly influences potential access to justice.
H3B	A greater number of tenured civil servants positively and directly influences actual access to justice.
H4	A greater number of outsourced employees positively and directly influences potential access to justice.
H4B	A greater number of outsourced employees positively and directly influences actual access to justice.ww
H5B	A greater number of judges positively and directly influences actual access to justice.
H6	A greater number of lawyers working in the state positively and directly influences potential access to justice.
H6B	A greater number of lawyers working in the state positively and directly influences actual access to justice.

Note. Elaborated by the authors

Although the study by [Torlig and Buta \(2020\)](#) employs variables such as the number of judges per capita, judicial productivity (cases disposed per judge), and the congestion rate as control variables, this paper deliberately reinterprets them as proxies for potential and actual access to justice. This theoretical choice is grounded in the understanding that, while these variables serve as controls in the original model, they are in fact directly related to the institutional structure and the judiciary's capacity to deliver services, as also acknowledged in [Conselho Nacional de Justiça \(2021\)](#) publications and other empirical studies.

The rationale behind this approach lies in the idea that the number of judges per 100,000 inhabitants represents the minimum installed capacity required to ensure the adjudication of legal claims — in other words, access to justice cannot be guaranteed if there is insufficient judicial staff to process cases. Similarly, judicial productivity per judge reflects operational efficiency, a critical element influencing actual access to justice, since it affects response times and the speed of proceedings — factors frequently cited as barriers to justice. The congestion rate, in turn, captures systemic overload and has been widely recognized by the CNJ as a benchmark for evaluating the effectiveness of judicial service delivery.

Therefore, rather than treating these variables solely as statistical controls, as in the original study, this paper proposes to reclassify them analytically from the perspective of public administration and institutional performance analysis. This approach allows for a more precise empirical connection between normative concepts of access to justice and the judiciary's actual ability to provide services. It recognizes that access is not defined only by constitutional guarantees but also by the system's capacity to fulfill them. Nonetheless, we acknowledge that this interpretation constitutes a departure from the original framework proposed by Torlig and Buta, and we have taken care to clarify this methodological distinction throughout the manuscript.

METHODS

This research aims to identify the determinant factors influencing both potential and actual access to justice within the Brazilian Courts of Justice. The data were collected from secondary sources, such as the *Relatório Justiça em Números* (Justice in Numbers Report), an annual publication prepared by the CNJ that presents the official statistics of the Brazilian judicial system. Although the report has been produced since 2003, the current standard for data collection and verification processes was implemented only in 2009, enhancing the reliability of the data ([Gomes et al., 2018](#)). The study utilized data from 2009 to 2020, encompassing 12 years of activities from the 27 Brazilian State Courts of Justice, resulting in a sample of 324 observations subjected to multiple regression with panel data analysis.

Data regarding the number of lawyers practicing in a specific regional office of the Brazilian Bar Association (OAB) were also incorporated into the analysis. These data are accessible through the Federal Council of OAB's website under the '*Quadro da Advocacia*' section, with daily updates and granularity at the level of Brazilian states.

The state justice system examined in this research is a component of the Brazilian justice system, alongside the federal justice system. It has residual competence, i.e., it is responsible for judging matters that do not fall within the competence of the other segments of the judiciary: federal justice, labor justice, electoral justice, and military justice ([Conselho Nacional de Justiça, 2021](#)).

This study employs a longitudinal temporal cutoff with panel data, where each observation is studied over multiple periods ([Wooldridge, 2006, 2010](#)). A common practice in econometrics is to assume that a multitude of factors influencing dependent variables, which are not explicitly included in the model as explanatory variables, can be suitably encapsulated by random errors ([Anderson & Hsiao, 1982](#)). The primary advantage of the panel data approach lies in its capacity to account

for variations among the observations considered in the analysis. This results in outcomes that significantly differ from those obtained through individual regressions across distinct objects (Islam, 1995).

In the context of longitudinal data analysis, when discussing heterogeneity, observations from different indi-

viduals typically differ from observations from the same individual, which tend to show similarities (Frees, 2004). Table 2 lists the dependent variable and the explanatory and control variables. In addition, the table shows the variables used to measure the concepts and the coding used by the CNJ in the report *Justiça em Números*.

Table 2. Dependent, explanatory, and control variables.

Dependent variable	Description – variable	Justiça em Números code
Actual access to justice	New lawsuits (per 100,000 population) – (Y_1)	ch
Potential access to justice	Number of judges working in the court (per 100,000 population) – (Y_2)	f2
Explanatory variables	Description – variable	
ICTs	Expenses with ICT acquisition** – (ICT_1)	dinf1
	Expenses with ICT operation costs** – (ICT_2)	dinf2
Personnel	Number of civil servants working in the court (per 100,000 population) – <i>Staff</i>	f4a
	Number of outsourced employees working in the court* – <i>PO</i>	tfauxt
	Number of judges working in the court (per 100,000 population) – <i>J</i>	f2
	Lawyers working in the state* – <i>Adv</i>	adv
Control variables	Description variable	
	Population (per 100,000 population) – <i>Pop</i>	h2
	Gross Domestic Product* – <i>GDP</i>	pib
	Total expenses* – <i>Exp</i>	gtot
	Number of conciliators working in the court – <i>Conc</i>	tfauxc

Note. Elaborated by the authors

In line with Gomes et al. (2018), the explanatory variables coded as *ICT1*, *ICT2*, *PO*, and *Adv* were divided by the number of judges working in the court *J* to avoid, or at least decrease, discrepancies linked to the varying sizes of the courts. For the authors, the sample of the courts of justice consists of heterogeneous courts, which present significant differences in terms of demand, judicial structure, and availability of physical, financial, and personnel resources.

The variables related to investments in ICT were operationalized through logarithmic transformation. This transformation was performed to ‘normalize’ the data, equalizing the substantial magnitude present in these two variables. The dependent variable is operationalized by the number of new lawsuits per 100,000 inhabitants, reflecting access to justice within a specific population. This metric serves as a proxy for actual access to justice, representing how this specific population accesses the judiciary and exercises this right through legal proceedings.

The dependent variable in the model for potential access to justice is operationalized by the number of judges per 100,000 inhabitants, representing the infrastructure made accessible to the population in a particular geographic area. This metric serves as a proxy for potential access to justice, reflecting how the justice system is structured to serve a specific population. Recent research by Brazil’s CNJ and Torlig and Buta (2020) has introduced this distinction in the definition of access to justice, which is not explicitly addressed in tra-

ditional academic literature. The CNJ has played a key role in advancing concepts and methodologies related to access to justice.

For a comprehensive analysis of access to justice, data from the regions in which the jurisdictions are located must be examined. Factors such as the human development index (HDI), GDP per capita, demographic density, and population size should also be considered (Conselho Nacional de Justiça, 2021). Consequently, control variables were incorporated into the model to situate the analysis within a broader context, aiming to describe the relationships between judicial units and operational/contextual factors inherent to the real world that the econometric model seeks to represent. These variables are linked to the population of a given state, the gross domestic product (GDP), and the court’s total expenses.

To mitigate disparities associated with the varying magnitudes of variables in the analysis and, by extension, the states of jurisdiction the control variables *GDP* and total expenses (*Exp*) were divided by the number of judges working in the state. This procedure aimed to reduce the inherent heterogeneity between Brazilian regions. Statistical techniques were applied via two free software tools: R software, through the R-Studio interface, version 4.1.2 (2021-11-01), and Gretl software, specifically version 1.9.14. For additional information on assumptions and testing of the panel models, please refer to the Appendices.

It is important to clarify that, although conciliators contribute to the functioning of the judiciary, as do lawyers and court officials, their institutional status and presence in Brazilian courts differ substantially. Lawyers and court officials are permanent, formally established roles that exist in all judicial units. They are part of the essential structure of the judiciary, and their functions are standardized throughout the country. Conciliators, on the other hand, despite being formally recognized and promoted by legislation such as the 2015 Code of Civil Procedure and initiatives such as Resolution No. 125 of the CNJ, which establishes the National Judicial Policy for the adequate treatment of conflicts of interest within the judiciary and provides other measures, still face significant barriers to their universal implementation.

Recent literature (Sousa et al., 2024) highlights that the consolidation of a culture of conciliation in Brazil is continuous and uneven. Many courts do not report active conciliators or lack the institutional capacity to support such mechanisms consistently. Furthermore, the expansion of conciliation often depends on localized initiatives (such as CEJUSCs), the availability of resources, and cultural acceptance within the judiciary. For these reasons, we do not consider conciliators to be a stable or inseparable element of the judicial infrastructure — at least not in the same way as civil servants and lawyers.

Finally, it is important to note that this study does not consider the cumulative effect of workload and staffing demands, an aspect that could suggest dual causality. The analysis focuses only on contemporaneous relationships, excluding potential feedback loops or longer-term interactions between these variables. By isolating these direct relationships, this study aims to provide a clearer snapshot of the dynamics at play, while recognizing that cumulative effects can significantly influence judicial performance and access to justice over

time. This limitation is important for understanding the scope of the findings and highlights an important avenue for future research, particularly in examining how persistent workloads and fluctuating staffing resources interact and evolve within the judicial system.

FINDINGS

With respect to the analysis of potential access to justice, Table 3 shows the results of the multiple regression with panel data, revealing that all the variables are statistically significant. The number of civil servants presented a direct positive relationship, whereas the other variables had a negative relationship with potential access. For actual access, Table 4 shows that ICT operation costs did not significantly influence access, which is different from what was observed for the other explanatory variables, which presented a significant and positive relationship with actual access to justice.

For each additional unit of tenured civil servants, there will be an increase of 18.38695 lawsuits per judge per year in this locality. A similar observation can be made for outsourced employees, as their impact on the dependent variable is even more substantial. For each additional unit of outsourced employees, there will be an increase of 165.5585 new lawsuits per judge.

There is a direct and positive relationship between the number of judges per population and the number of lawsuits filed. Specifically, this ratio is 646.9359 lawsuits, meaning that for each additional unit of judges per 100,000 population in a given state, there will be an average increase of approximately 646 lawsuits in that court. Similarly, the number of lawyers working in the state (registered in that regional office of the Bar Association, OAB) also demonstrated a positive relationship. For each additional unit, there is an increase of approximately 27.15294 units in the number of new lawsuits per population.

Table 3. Results of the regression (potential access).

	Coefficient	Standard error	Z	p-value	
Constant	6.656898	0.385036	17.28904	3.70E-47	***
ICT_r/J	-0.12907	0.029514	-4.37318	1.68E-05	***
ICT_r/JL_{dinf2_mag}	-0.0943	0.033538	-2.81169	0.005248	***
Staff	0.020777	0.001501	13.83918	3.88E-34	***
PO/J	-0.05349	0.026134	-2.04672	0.041542	**
Adv/J	-0.01566	0.002475	-6.32769	8.86E-10	***
Conc	-0.14354	0.057822	-2.48251	0.013584	**
Pop	-0.00338	0.000423	-8.00879	2.47E-14	***
GDP	6.72E-05	4.88E-06	13.75999	7.63E-34	***
Exp/J	-1.32E-08	3.07E-09	-4.28549	2.45E-05	***
Y	0.000117	1.77E-05	6.617086	1.65E-10	***
R ² : 0.902647					
R ² adjusted: 0.899455					
p-value: 8.5e-148					
F(10.305) = 282.7918					

Note. Elaborated by the authors. Significance: '***' = 0; '**' = 0.001; '*' = 0.01; '.' = 0.05; '.' = 0.1; '.' = 1.

Table 4. Results of the regression (actual access).

	Coefficient	Standard error	Z	p-value	
Constant	-4329.09	1069.411	-4.04811	6.55E-05	***
ICT ₁ /J	281.9616	66.66655	4.229431	3.10E-05	***
ICT ₂ /J	95.73958	77.48692	1.235558	0.217574	
Staff	18.38695	3.975026	4.625616	5.53E-06	***
PO/J	165.5585	61.13626	2.708024	0.00715	***
Adv/J	27.15294	6.174309	4.39773	1.51E-05	***
Conc	149.6286	167.9166	0.891089	0.373584	
Pop	2.593892	1.382702	1.875958	0.061616	*
GDP	0.063955	0.016699	3.829942	0.000156	***
Exp/J	-2.22E-05	6.40E-06	-3.47614	0.000583	***
Y	646.9359	91.517	7.069025	1.07E-11	***
R ² : 0.707363					
R ² adjusted: 0.697768					
p-value: 2.51e-75					
F(10,305) = 73.72464					

Note. Elaborated by the authors. Significance: '***' = 0; '**' = 0.001; '*' = 0.01; '.' = 0.05; '.' = 0.1; '.' = 1.

Table 5. Summary of the hypotheses and results for potential access and actual access.

Hypotheses	description	Result
H1	A greater investment in the acquisition of ICTs positively and directly impacts potential access to justice.	Not supported (reverse of the expected relationship)
H1B	A greater investment in the acquisition of ICTs positively and directly impacts actual access to justice.	Supported (significant)
H2	A greater investment in ICT operation costs positively and directly impacts potential access to justice.	Not supported (reverse of the expected relationship)
H2B	A greater investment in ICT operation costs positively and directly impacts actual access to justice.	Not supported (not significant)
H3	A greater number of tenured civil servants positively and directly influences potential access to justice.	Supported (significant)
H3B	A greater number of tenured civil servants positively and directly influences actual access to justice.	Supported (significant)
H4	A greater number of outsourced employees positively and directly influences potential access to justice.	Not supported (reverse of the expected relationship)
H4B	A greater number of outsourced employees positively and directly influences actual access to justice.	Supported (significant)
H5B	A greater number of judges positively and directly influences actual access to justice.	Supported (significant)
H6	A greater number of lawyers working in the state positively and directly influences potential access to justice.	Not supported (reverse of the expected relationship)
H6B	A greater number of lawyers working in the state positively and directly influences actual access to justice.	Supported (significant)

Note. Elaborated by the authors.

DISCUSSION

The academic literature has shown interest in identifying the factors that could influence access to justice (Beqiraj & McNamara, 2014). These studies primarily aim to categorize variables into two main groups: factors that could enhance access to justice and factors that could pose obstacles to access to justice.

This research employed multiple regression with panel data to analyze the following indicators identified in the literature: (1) actors involved in the process – employees (tenured civil servants and outsourced employees), judges, and lawyers; and (2) ICT (acquisition and operating costs).

The analysis of the actors involved in the process of actual access to justice revealed that the number of employees, including both tenured civil servants and outsourced employees, played a significant role in judicial access within the Brazilian Courts of Justice. Importantly, this analysis did not establish causality; in other words, it cannot be conclusively stated that a greater number of individuals assigned to a particular court directly impacts the number of lawsuits in that

court. These indicators do, however, point to a certain administrative and organizational structure within these courts, reflecting an infrastructure of personnel and functions within these judicial spaces that could contribute to a more favorable macro environment for access to justice.

From another perspective, one could also consider the aspect of efficiency. Courts with a larger workforce and, consequently, more judicial infrastructure might become more efficient in receiving and handling judicial processes. This could create a more favorable environment for individuals seeking justice, making the resolution of their disputes legitimate and accessible.

Additionally, one could speculate about the geographical proximity of these judicial units to the jurisdictions they serve (Lund, 2019). Courts with more human resources may be more likely to be closer to the areas they serve, making access to justice more convenient for those in need. This reduces the need for extensive travel to engage in legal proceedings to assert rights.

In this context, the study by Mitsopoulos and Pelagidis (2007) suggested that when the ratio of employees to

the total number of lawsuits worsens, the time required to resolve these cases also worsens. The evidence indicates that deadlines for case resolution have increased, and the number of decisions from first-instance courts that are appealed has also risen.

From a slightly different perspective, [Falavigna and Ippoliti \(2022\)](#) argue that the demand for justice, rather than just efficient management practices, may truly impact a court's performance. According to these authors, this could be attributed to the specific procedures judges must follow in their institutional role of upholding the law to deliver justice, essentially representing the 'production processes' of the judicial system.

This research revealed that the number of judges can positively impact access to justice. Despite criticisms related to the concept of the 'exogenous productivity of judges,' this study provides empirical evidence that a greater number of judges in a particular location can indeed lead to improved access to justice ([Sátiro & Sousa, 2021](#)).

While it is not possible to claim that an increasing backlog of pending cases would continually enhance productivity, one can make some assumptions about the reverse process. For instance, it can be assumed that merely appointing more judges to work in a specific court may not guarantee increased productivity and, subsequently, improved access to justice ([Sátiro & Sousa, 2021](#)).

Concerning lawyers practicing in a given state, compelling theoretical arguments support the idea that lawyers can influence the litigation rate. However, empirically estimating this relationship presents challenges due to a standard endogeneity problem: if lawyers indeed stimulate litigation, an increase in litigation will attract more lawyers, and vice versa. While lawyers may induce litigation, more litigation may attract additional lawyers. Consequently, empirical studies aiming to establish a causal relationship between the number of lawyers and litigation are relatively rare and encounter difficulties in finding suitable instrumental variables ([Mora-Sanguinetti & Garoupa, 2015](#)).

The present study revealed that the number of lawyers practicing in a specific state can influence the level of judicial access (or litigiousness) observed in that particular region. Given their indispensable role in the proper administration of justice and their recognition as an essential institution of justice by the 1988 Brazilian Constitution, it can generally be stated that the number of lawyers positively impacts access to justice or litigiousness.

However, it is worth highlighting the hypothesis that there may be an unequal geographic distribution of lawyers across Brazil. It is conceivable that these pro-

fessionals tend to concentrate in specific urban centers. Consequently, while there is a discernible mathematical relationship between the number of lawsuits filed in the judiciary and the number of lawyers, due to their uneven dispersion across the territory, this effect may be observable only in certain localities.

It is evident that a fair trial heavily depends on the work performed by lawyers. Legal counsel is crucial for effective defense not only in criminal matters but also in civil proceedings. While most individuals go through life without becoming entangled in criminal issues, the increasing complexity of economic relationships involving people and organizations makes it common for individuals to become involved in public civil actions at some point in their lives. At that point, they will require professional legal advice ([Vasconcelos et al., 2018](#)). Therefore, this relationship between the number of lawyers and access to justice can be further explored. An alternative approach could involve reducing the unit of analysis to smaller samples based on specific cases. This could provide a more comprehensive understanding of the role of lawyers in litigation or access to justice.

Although digital court tools and systems enhance efficiency, participation, and accessibility, ICT tools can also potentially expand the realm of injustice and compromise the fundamental principles of the legal system, including, paradoxically, access to justice ([Donoghue, 2017](#)). The results obtained do not conclusively demonstrate that these tools impact access to justice in Brazilian courts.

It would be valuable to expand the analysis beyond mere quantitative investment in ICTs and consider in more depth the impact and effectiveness of the use of these technologies in Brazilian Courts of Justice. In addition to evaluating the financial resources allocated to ICTs, exploring how these technologies are implemented and used in the judicial environment would be interesting. Investigating system integration, efficiency in the management of legal processes, the automation of repetitive tasks, and access to procedural information through digital platforms are crucial aspects to understand the true reach of ICTs in the legal context.

We believe it is essential to recognize that several structural variables related to judicial capacity — such as the number of judges, civil servants, and legal professionals per capita — can be highly correlated, a point also observed in previous empirical studies. Although this interdependence may reduce the apparent novelty of the effects of individual variables, our contribution lies not in isolating new relationships between these variables, but in analyzing them together to explain territorial disparities in access to justice using a structured,

theory-based approach. By framing these indicators within the distinction between potential and actual access, and by applying a cross-regional comparative perspective, this study advances the literature by offering a systematic model that connects institutional structure with access outcomes. We acknowledge the limitation imposed by collinearity, but emphasize that the analytical framework and the focus on distributive inequality constitute the distinctive value of this research. A more qualitative approach focused on the use of technologies would provide a more comprehensive view of how digital innovations contribute to improving the accessibility and efficiency of the Brazilian judicial system. This expansion in analysis will allow for a more complete understanding of the role of ICTs in accessing justice, going beyond simple financial investment and exploring the practical and operational implications of these technologies in the courts.

In the Brazilian context, while managerial and technological strategies that directly affect legal proceedings are essential for enhancing efficiency in administrative activities, they are not the sole factors to be taken into account. The legal framework that establishes deadlines and allocates resources also plays a crucial role (Procopiuck, 2018).

Hence, the relationship between access to justice and technology is not inherently negative or positive. This complexity arises partly because technological initiatives aimed at improving access to justice do not adhere to a uniform approach regarding what constitutes providing access to justice. These initiatives often lack a clear recognition of how a single technological solution can impact citizens differently, including both the intended beneficiaries and those seemingly unaffected by the intervention (Bailey et al., 2013).

The discussion regarding technology and access to justice has frequently presumed that the former directly impacts the latter. This assumption may be rooted in pervasive technological determinism, which often uncritically equates technological innovation with progress (Winner, 1986). However, disparities among citizens in terms of literacy, language proficiency, and internet accessibility, along with system design practices geared toward meeting the needs of the majority, result in not all citizens benefiting equally from these technologies. In fact, they can worsen the situation of vulnerable individuals within the community when considered at an individual level (Bailey et al., 2013).

Finally, while judicial processes are increasingly digitized, it is important to critically examine the potential downsides of this computerization. One concern is that the emphasis on efficiency and speed may inadvertently encourage excessively rapid decisions in cas-

es where time and deliberation are crucial to ensuring quality outcomes. This may compromise the depth of judicial reasoning and the fairness of decisions. Another concern is the risk of reinforcing the notion of a 'machine-like judge,' where the judge is perceived primarily as a facilitator of rapid decisions rather than a caring arbiter of justice. Such a perspective may erode the humanistic aspects of judicial decision-making, reducing the judiciary's ability to address the nuanced and contextual needs of individual cases. These challenges highlight the need to balance technological advances with safeguards that uphold fundamental principles of justice and ensure that efficiency does not come at the expense of fairness and deliberation.

However, the hypothesis was formulated with the understanding that the operationalization of potential access, primarily through the number of judges, may not fully encompass the broader structural impacts of ICT on judicial systems. The relationship between technology acquisition and potential access might extend beyond the direct interplay with human resources, such as judges, to include systemic improvements enabled by ICT. These could involve enhanced case processing capabilities, streamlined workflows, or increased accessibility for court users. The fact that H1 was not supported may indicate that the influence of ICT is more complex and multidimensional than initially hypothesized. Future research could refine the operationalization of potential access to justice by incorporating alternative metrics, such as the speed of case resolution, system usability, or public engagement facilitated by technology. This approach provides a more comprehensive understanding of how ICT contributes to structural enhancements in access to justice, aligning better with the hypothesis's intent while advancing the theoretical and empirical framework for analyzing technology's role in judicial systems.

It is also worth noting that, although this study explores the relationship between information and communication technologies (ICT) and access to justice, the empirical results show that only one of the four hypotheses related to ICT produced statistically significant results. This suggests that the effects of ICT on judicial accessibility should be interpreted with caution, rather than as a universal or isolated factor. According to the TIC Domicílios 2024 survey (Comitê Gestor da Internet no Brasil [CGI.br], 2025), 34% of the Brazilian population falls within the lowest level of significant connectivity, with this limitation being particularly severe in rural areas (82%) and in the North (41%) and Northeast (44%) regions. Furthermore, 60% of users access the internet exclusively through cell phones, which limits the complexity of the tasks they can perform online. These

figures reveal a structural socio-digital exclusion that directly impacts the effectiveness of digital solutions applied to the justice system. In some contexts, therefore, the adoption of ICTs may not expand access and may even exacerbate existing inequalities. We therefore emphasize that digital technologies must be analyzed in connection with institutional, territorial, and social conditions, and that technological advancement must be accompanied by inclusive digital strategies to ensure effectiveness throughout the national territory.

The only variable showing statistical significance regarding potential access to justice is the number of civil servants per judge in a given location. This outcome leads to two conclusions. First, it is plausible to assert that a certain number of civil servants signifies a better-equipped court in terms of facilities, materials, and personnel. This suggests that the state's infrastructure provided to citizens is pivotal in explaining potential access to justice, as advocated in this study. Second, the results may suggest that the allocation of judges and, consequently, the geographic distribution of justice across Brazil may be influenced by random factors (political, structural, or other) that do not necessarily align with logical or administrative considerations.

Numerous studies on the administration of justice tend to concentrate on procedural aspects. While this is a significant area with regard to reducing costs associated with the sluggishness of the justice system, a focus solely on procedures cannot be deemed a universal solution. It is vital to consider other factors that may carry even greater significance. Among these factors is the organization of the judiciary branch itself, as well as the logic (or lack thereof) behind the geographic distribution of judges across Brazil (Santos, 1986).

Furthermore, from a managerial perspective related to public policy management, public administration in the judicial sphere can benefit from strategies aimed at reducing costs and optimizing resources, such as minimizing the need for judges to travel between locations. This practice generates additional expenses for the public budget and could be partially replaced by digital solutions, such as virtual hearings and online mediation platforms, which maintain efficiency and expand access to justice without the logistical costs involved.

Furthermore, in times of high judicialization, it is crucial to emphasize the role of extrajudicial negotiations, which can not only alleviate the burden on the judicial system but also provide more agile and satisfactory solutions for the parties involved. This perspective raises an important question: Does access to justice necessarily mean going to court? Strengthening extrajudicial mechanisms, such as mediation and arbitration, can help expand the concept of access to

justice, focusing on the effective resolution of conflicts without the need for formal litigation. These managerial recommendations can help improve the efficiency and accessibility of the Brazilian judicial system.

CONCLUSIONS

Theoretical and conceptual contributions

Equal access to justice for citizens, regardless of their economic status, is a fundamental value in organized societies, especially in modern democracies. However, it is well known that nations vary greatly in their commitment to ensuring this access to their citizens on an equitable basis (Johnson, 2015).

The rise of the 'access to justice approach' in numerous countries represents an optimistic response to concerns about modern legal systems' capacity to address the long-unaddressed needs of those who have struggled to assert their rights. In pursuit of solutions and equitable access, intricate and interconnected reforms have been proposed. However, the challenge lies in translating this potential into tangible reality (Cappelletti & Garth, 1988).

Another critical dimension to consider is the organizational capacity and coordination between entities at different levels — local, district, and federal — which plays a significant role in shaping access to justice. While the gateway to the justice system is often at the local level, barriers extend beyond informational or technological challenges to include financial hurdles, such as legal fees. Exploring whether individuals are more likely to seek legal services through free legal aid or private lawyers would provide other perspectives into the economic dimensions of access. Additionally, examining the profiles of legal agents actively involved in representing litigants could uncover disparities and patterns that influence outcomes. These aspects deserve further exploration to address gaps in coordination and affordability, which remain central to improving justice delivery.

The expanding movement to extend access to justice has raised several concerns. First, there is the widely acknowledged challenge that the judiciary has not been able to provide swift resolutions in response to growing demand. Second, there is a concern that an increased response from the judiciary will, in turn, generate greater demand, potentially overwhelming the system. Third, access to justice in Brazil is a pervasive issue affecting the majority of the population, and as a result, there is a substantial backlog of unmet demand (D'Araujo, 2001).

Several elements related to the judicial system are incorporated into the idea of access to justice. In the context of judicial institutional capital, the duration

needed to resolve a judicial process (particularly in second instance cases), the number of professionals (judges) and courts available to resolve conflicts, as well as the volume of cases accumulated in the courts, stand out as important factors (Conselho Nacional de Justiça, 2021).

Importantly, it is essential to note that while the conclusion of a legal process is a significant milestone, access to justice should not be measured by considering only the judiciary branch. Regional and population characteristics play a crucial role. Each individual faces social vulnerabilities that act as barriers to be overcome in their path to accessing justice (Conselho Nacional de Justiça, 2021). Achieving fair outcomes for individuals not only benefits them but also leads to broader social and economic advantages for communities and societies, contributing to greater inclusion and reduced inequality. Achieving fair outcomes can ultimately reduce violence and create more peaceful communities (The Task Force on Justice, 2019).

Traditionally, access to justice has been viewed at the individual level, ensuring that individuals can protect their rights through a legal system. Additionally, individuals accused of crimes can adequately defend themselves. However, the concept of legal empowerment extends beyond this narrow focus, emphasizing the need to equip individuals, especially socially vulnerable ones, with the rights they need to pursue their life goals and with the legal resources necessary to make those rights effective in their daily lives (Brinks, 2019).

Another noteworthy aspect related to this study is the distinction between access to justice and litigation. While there is emphasis on issues related to access to justice, there is often insufficient reflection on the scalability of the legal system, the rhetoric surrounding access (or the lack thereof), or even the notion of hyper-litigiousness in Brazilian society (Aquino et al., 2021).

Such a factor — the excessive number of cases brought before the judiciary and the resulting functional deficit in judicial services — can be attributed to several causes, among which three stand out: excessive litigation, procedural legislation, and administrative management (Bottini, 2007). These elements interact in ways that compound the challenges of ensuring an efficient and effective judicial system. Excessive litigation, in particular, places immense pressure on judicial resources, stretching the system's capacity to deliver timely and quality decisions.

Regarding the first aspect, Brazil is recognized as a country with a high level of litigation. At first glance, this might suggest that mechanisms for access to justice are functioning effectively. However, a more in-depth analysis reveals a different reality: "a very small number of people or institutions intensely use the judicial

system, while the majority of the population does not have access to a formal means of conflict resolution" (Bottini, 2007, p. 92). This paradox highlights the uneven distribution of judicial access and underscores the need for structural reforms that address both systemic inefficiencies and barriers faced by underrepresented groups.

One contribution of this study is to highlight the empirical connection between potential access and actual access to justice. Although conceptually distinct, the results suggest that structural elements traditionally associated with potential access — particularly the number of judges per capita — also exert a statistically significant influence on actual access. This overlap reveals that the boundary between these dimensions is, in practice, interdependent. By demonstrating that the variables used to estimate installed judicial capacity can also explain performance outcomes, the study invites future research to explore integrated analytical models that treat potential access and actual access not as isolated categories, but as interconnected layers of the same institutional dynamics. Such an approach can help refine theoretical frameworks and inform the formulation of more effective policies aimed at reducing regional inequalities in the delivery of justice.

Managerial implications for improving access to justice

The limitations of this study are noteworthy. One significant limitation is the lack of data on certain factors that the literature highlights as barriers to or facilitators of access to justice. The database used in this research does not provide comprehensive statistics on aspects such as legal assistance, which is advocated in the literature as a potential factor that could narrow the gap in access to justice for a portion of the population.

Another limitation is the absence of disaggregated data within the database for the individual judicial units that constitute each court. This data aggregation poses a challenge because it hinders the ability to conduct more focused and specific analyses concerning the various Brazilian states. Given the country's vast size and the considerable territorial diversity among its states, having disaggregated data could have been a valuable source of information for understanding the unique characteristics of each region under investigation.

In terms of future research directions, there is a need to explore mechanisms aimed at enhancing the adoption and integration of ICTs, which are crucial for the implementation of electronic justice systems. This investigation is particularly pertinent in developing countries where widespread internet access remains a distant goal for most of the population (Chawinga et al., 2020).

Furthermore, even if all barriers are eliminated or mitigated, there is no guarantee that access to justice will be universally and effectively available to all citizens who may require it. It is imperative to consider the social and cultural factors that influence the recognition and realization of rights. These factors encompass educational level, social status, the context experienced by individuals, and access to information (Pasinato, 2015). Hence, it is essential to acknowledge that access to justice tends to be unequal among different societal groups, marked by disparities in socioeconomic status, educational levels, gender, and religion, among other factors (Bahar et al., 2018).

Several crucial factors that could offer a more comprehensive explanation of access to justice in Brazilian Courts of Justice were not included. Limitations in terms of data availability and the need for a more pragmatic analysis were determining factors in the selection of indicators considered in this research. However, the authors emphasize that the complexity of the legal system demands a broader consideration of variables, such as the geographic location of the courts, proximity to large settlements, number of courts, and the existence of specialized centers.

Recognizing this gap, the authors encourage future investigations to explore these additional factors, recognizing their potential influence on access to justice. Transparency about these limitations is crucial for providing an informed interpretation of the results and for guiding subsequent investigations toward a more complete understanding of the determinants of access to justice in the context of Brazilian Courts of Justice.

Consequently, qualitative research is recommended to investigate how these aggregated factors impact the individual realm within each jurisdiction. Such an inquiry has the potential to shed light on the specific contexts in which challenges in accessing justice manifest.

In line with these considerations, Albiston and Sandefur (2013) suggest a broader perspective on access to justice beyond the fight against poverty. It requires an examination of society as a whole, seeking to comprehend how individuals perceive and respond to situations with the potential for legal involvement. This entails paying attention to the social meanings constructed around the pursuit of rights and even the potential lack of recognition of a problem as a legal issue.

Additionally, it is worth highlighting that in 2020, conciliation rates in first-degree courts were 11.7% across all segments of the justice system. In contrast, conciliation was almost nonexistent in second-degree courts, with very low rates in all segments of justice (Conselho Nacional de Justiça, 2021). Consequently, there is a need for research examining the social inter-

pretations of disputes and rights across various societal strata. Such an inquiry can enhance our understanding of how culture shapes individuals' perspectives on conflicts, legal processes, and, ultimately, even the very concept of justice.

Finally, it is crucial to recognize that institutional mechanisms likely have the most significant impact on efficiency (Christensen & Szmer, 2012). Nevertheless, it is unwise to assume that a one-size-fits-all solution can resolve the issue of access to justice. In contrast, enhancing access to justice will likely necessitate a variety of systems working in conjunction. It will also require a deeper theoretical and empirical comprehension of the problem and potential solutions, including those that have not yet been imagined (Albiston & Sandefur, 2013).

Research investigations could focus on comprehending the institutional role in providing access to justice. Such studies could explore how institutions are structured to address conflicts arising in society, as well as how the different structures and approaches used to resolve specific disputes are designed to serve citizens.

From a different perspective, it is also advisable to explore the social, cultural, economic, and legal relationships that lead to litigation or contribute to what is commonly called a 'culture of litigation.' This understanding is of fundamental importance in comprehending the inception of legal processes and how these conflicts can be resolved.

Additionally, even with the implementation of the new Code of Civil Procedure in March 2016, which mandated preliminary conciliation and mediation hearings, there was an 18.8% decrease in the number of judgments ratified through conciliation from 2015 to 2020, dropping from 2,987,623 in 2015 to 2,426,027 in 2020 (Conselho Nacional de Justiça, 2021). Therefore, further research is recommended to investigate the characteristics related to cases resolved through the conciliation process, indicating the inherent mechanisms of the conciliation process, the motivations of the parties involved, and potential obstacles that may hinder the adoption of conciliation in specific cases where individuals choose not to participate.

The transformation of potential access to justice into effective access to justice emerges as a promising area of research, extending beyond the scope of this study. Future research can direct efforts to uncover the nuances involved in this dynamic process, considering qualitative factors that go beyond the quantitative metrics analyzed in this work. Exploring how judicial policies, the implementation of technologies, and the effectiveness of legal interventions can impact the effective transformation of potential access to justice

into tangible actions represents a critical path to understanding the true effectiveness of the legal system. Furthermore, a holistic approach could address the experience of users, including litigants, lawyers, and justice system staff, providing valuable insights into the barriers and enablers encountered along the way. In this way, the future research agenda could enrich the understanding of the process of transforming potential access to justice into effective access, contributing to improving the efficiency and equity of the Brazilian judicial system. Ultimately, it is vital to view legislation and the state's judicial role as cornerstones of social transformation. After all, a right that fails to impact the reality it seeks to regulate cannot be considered effective. The proliferation of laws, codes, regulations, and norms becomes meaningless if they lack the capacity to influence the real world and guide the relationships for which they were created. Thus, the judicial system must fulfill its fundamental role: conducting trials promptly, effectively, and fairly. Law, and by extension, justice, cannot remain mere pieces of paper (Vasconcelos et al., 2023).

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