



## ELECTRONIC PROCESS IMPLEMENTATION AND ORGANIZATIONAL STRUCTURING

IMPLEMENTAÇÃO DE PROCESSOS ELETRÔNICOS E ESTRUTURAÇÃO ORGANIZACIONAL

Recebido em 15.12.2023 Aprovado em 15.01.2024

Avaliado pelo sistema double blind review

DOI: <https://doi.org/10.12712/rpca.v18i1.60960>

**Sheron Vivan Garcia**

[shorongv@tjrs.jus.br](mailto:shorongv@tjrs.jus.br)

PPGA UFRGS – Porto Alegre/RS/ Brasil

0009-0000-1011-0279

**Paulo Ricardo Zilio Abdala**

[paulo.abdala@ufrgs.br](mailto:paulo.abdala@ufrgs.br)

PPGA UFRGS – Porto Alegre/RS/ Brasil

0000-0002-1977-8424

**Takeyoshi Imasato**

[t.imasato@ufrgs.br](mailto:t.imasato@ufrgs.br)

PPGA UFRGS – Porto Alegre/RS/ Brasil

0000-0003-1960-7606

### Abstract

This article explores how a judiciary organization in Brazil underwent organizational change by implementing the virtualization of lawsuit processes. The virtualization of work processes requires practitioners to understand the organizational structure to implement technological changes effectively. Through a theoretical approach that considers the judiciary organization a professional bureaucracy, the article explains that effective organizational change in the judicial branch requires alignment with organizational structure and context. According to the study, e-government technology significantly impacts how individuals organize and structure their activities. Despite implementing new information and communication technologies during the virtualization of lawsuits, the organization maintained its professional bureaucracy configuration while making necessary changes.

**Keywords:** Organizational Structure. Administration of Justice. Electronic Government. Technological Change. Electronic Justice.

### Resumo

Este artigo explora como uma organização judiciária no Brasil passou por uma mudança organizacional ao implementar a virtualização de processos judiciais. A virtualização dos processos de trabalho exige que os profissionais entendam a estrutura organizacional para implementar as mudanças tecnológicas de forma eficaz. Por meio de uma abordagem teórica que considera a organização judiciária uma burocracia profissional, o artigo explica que a efetiva mudança organizacional no judiciário requer alinhamento com a estrutura e o contexto organizacional. De acordo com o estudo, a tecnologia de governo eletrônico impacta significativamente a forma como os indivíduos organizam e estruturam suas atividades. Apesar de implementar novas tecnologias de informação e comunicação durante a virtualização dos processos judiciais, a organização manteve sua configuração de burocracia profissional e fez as mudanças necessárias.

**Palavras-chave:** Estrutura Organizacional. Administração da Justiça. Governo Eletrônico. Mudança Tecnológica. Justiça Eletrônica.

## Introduction

Public opinion usually sees electronic government (e-government) as a way to improve democracy by strengthening accountability and transparency by employing information and communication technology (ICT). Electronic justice, also known as e-justice, is a specific field within e-government that aims to apply ICT to improve access to the judicial systems (Contini and Cordella, 2009; Freitas and Medeiros, 2015; Oktal et al., 2016). Thus, it relates to implementing electronic systems and technologies in the judiciary to enhance accessibility and efficiency.

There have been accounts that e-justice could promote significant societal changes by improving access to justice, based on a citizen-driven approach, incorporating the main e-government principles, such as transparency, efficiency, participation, and collaboration (Freitas and Medeiros, 2015; Oktal et al., 2016). Even so, general over-optimistic views of e-government can create misleading perceptions about the practical implications of incorporating ICT in the public sector (Heeks and Bailur, 2007). Implementing ICT in the judicial branch of government can be far more complex as the whole context of social relations and institutions needs to be recognized as part of the process (Contini and Cordella, 2009; Velicogna, 2018).

The justice administrations and other public and private institutions dealing with access to justice through – or with the support of – electronic means are discovering that technology is not a neutral device for improving efficiency and reducing costs. [...] As field research shows, the development and implementation of an e-justice system entail, by its nature, the reshaping of “‘institutions,’ norms and conventions that provide the ‘often implicit context, for the performance of practices.’” (Velicogna, 2011, p. 2).

Accordingly, the lack of attention to the context in which new ICTs are adopted might undermine the understanding of technologies, formal rules, and human beings’ interplay (Contini and Cordella, 2009). Judiciary organizations have professional specificities and traditions regarding judicial administration that must be recognized to deal with the challenges of promoting change through e-justice, an issue that cannot be subsumed to implementing new ICTs (Fabri and Langbroek, 2000; Velicogna, 2018). Context is crucial for management researchers and practitioners as it provides vital information about the whole setting in which e-government and e-justice perform (Contini and Cordella, 2009; Heeks and Bailur, 2007; Velicogna, 2011).

This paper analyzes the implementation of virtual work processes in a Brazilian subnational state-level court. Also, it highlights that the transition of judicial lawsuits based on traditional paper files to an electronic system drove organizational change. Based on a study of the Judicial branch of the Rio Grande do Sul state (hereafter, JBRS), which involves about 747 judicial units, this paper aims to analyze the organizational change driven by the adoption of the virtualization of work processes.

This case will be analyzed based on Mintzberg’s theory about the structuring of organizations (Mintzberg, 1979, 1980, and 1993). From a configurational research approach, it is necessary to conceptualize the complementarities relating working processes, technologies, organizational structure, and its external environment rather than seeing them as unconnected elements (Fiss, Marx and Cambré, 2013; Miller, 1996 and 2018; Miller and Whitney, 1999). A configurational research approach is particularly insightful as it highlights contextual elements that help understand organizational change complexity (Miller, 1996 and 2018; Miller and Whitney, 1999). Also, following prior research in the judiciary and law organizations (Brock, 2006; Guimarães et al., 2011; Duvillier, 2000), the concept of “‘professional bureaucracy’” will be adopted as a pivotal idea to understand some specificities of change dynamics in the case under study.

This article is organized into four sections: (1) Henry Mintzberg’s theoretical framework on the structuring of organizations based on a configuration approach; (2) a description of the research

methods employed in this study; (3) an analysis of the electronic process implementation in JBRS; and (4) study conclusions.

## **The organizational structuring and process management: a configurational perspective**

The configurational approach has been developed since the 1970s and is regarded as one of the most relevant theoretical perspectives in management and organizational studies (Fiss et al., 2013; Meyer, Tsui, and Hinings, 1993; Miller, 2018). This perspective is usually associated with organization design, which is one of the ways to theorize and promote organizational change.

One of this approach's main assumptions is that organizations present a set of elements or characteristics that are mutually supportive, which makes them perform more effectively (Miller, 1999 and 2018; Mintzberg, 1979 and 1980). Configurations emerge from a constellation of distinct characteristics or dimensions that create effective performance in a given context, “sorting things into discrete and relatively homogeneous groups” (Meyer et al., 1993, p. 1179). From a configurational perspective, situational context is fundamental as it is the background in which a set of characteristics or dimensions can perform adequately to create a mutually supportive organization.

Configurations may be represented in typologies developed conceptually or captured in taxonomies derived empirically. They can be situated at multiple levels of analysis, depicting patterns common across individuals, groups, departments, organizations, or networks of organizations. (Meyer et al., 1993, p. 1175)

Another assumption of the configurational approach is that a limited number of possible configurations are effective in each environment (Mintzberg, 1980; Miller, 1999 and 2018). Although there are diverse ways to combine distinct characteristics in any organization, according to this perspective, proper mutually supportive alignment is predicted to be limited in variations and designs for effective organizations – forming the configurations. Accordingly, the configurational approach relies on identifying such limited groups or clusters of characteristics or dimensions. The “predictive power of configurations resides in the fact that most alignments are unlikely while relatively few are far more common” (Miller, 1999, p. 28).

From a configurational perspective, for any given context, it is required to identify which configuration will promote a proper internal consistency of elements such as working processes, technologies, organizational structure, and the demands of the external environment of an organization. The situational factors and the design parameters must be rigorously grouped to give rise to the so-called configurations (Mintzberg, 1993). The organizational structure is dynamic and exists to allow a minimum efficiency standard for the organizations. Process management and the organization's structuring must be understood in a complex interdependence relation to achieving organizational consistency (Mintzberg, 1980; Fiss et al., 2013).

According to Mintzberg (1979, 1980 and 1993), effective structuring requires consistency between design parameters and contingency factors. In addition, the structure is directly related to the technology (instruments used by the operating core to transform inputs into outputs). Thus, organizations are structured to capture, and direct system flows and define different parts' interrelationships. As an organization grows and adopts a more complex division of labor, it tends to assume a more complex configuration.

The premise we assume in this paper is that structural configuration is relevant to understand process management dynamics. Mintzberg's theory on the structuring of organizations was quintessential based on a configurational approach (Mintzberg, 1979 and 1993). He elaborated on five basic types of configurations for organizational structures: (1) simple structure, (2) mechanized bureaucracy, (3) professional bureaucracy, (4) divisionalized form, and (5) adhocracy.

Each of these five configurations offers a more consistent way of being effective according to the set of specific characteristics in each context, relying more extensively on one of the following coordination mechanisms: mutual adjustment, direct supervision, standardization of work processes, standardization of outputs and standardization of skills and knowledge. Moreover, each configuration tends to favor one of the five essential parts of the organization (Mintzberg, 1979 and 1980).

(1) the 'operating core,' where the operators carry out the primary work of the organization; (2) the 'strategic apex,' where the strategic decisions of the organizations are taken; (3) the 'middle line,' which transforms these strategic decisions into operational actions for the 'operating core,' (4) the 'technostructure,' where the analysts standardize the work of others, and (5) the 'support staff,' which supports the 'operating core.' (Kieser, 1981, p. 185)

The concept of professional bureaucracy is crucial for most judiciary and law organizations, as it helps explain and predict common characteristics that can facilitate or constrain change in this kind of context – including the particularities of organizational change that e-justice and process management can promote. Prior researches suggest that judiciary and law organizations share elements that fit the configuration of professional bureaucracy (Brock, 2006; Guimarães et al., 2011; Duveillier, 2000). The main reason is professional expertise's centrality in this kind of organization.

This configuration [professional bureaucracy] appears wherever the operating core of an organization is dominated by skilled workers—professionals—who use procedures that are difficult to learn yet are well defined. That means an environment that is both complex and stable—complex enough to require the use of complicated procedures that can be known only in extensive formal training programs, yet stable enough to enable these skills to become well defined—in effect, standardized (Mintzberg, 1993, p. 202).

The professional bureaucracy has some basic features (Mintzberg, 1979 and 1993). There is external professional control to the organization where experts work, held in the teaching faculties and schools, and the professional associations that regulate professions. Although not usually oriented to innovation, these standards, and specialized skills allow the professionals to work with autonomy, free from extensive administrative and peer controls (Mintzberg, 1979 and 1993). Regarding the organization structure, professional bureaucracies also have some common characteristics. The operating core is the vital part of this type of configuration, accompanied partially by the support staff, the only other fully elaborated part of the organization structure – mainly to help the operating core to work more effectively. Usually, technostructure and middle-line management have less importance in professional bureaucracies; the first because there is not much room for standardization of procedures since tasks are naturally complex; the latter, because a highly skilled operating core does not need (or does not accept) direct supervision, having as a primary coordination mechanism the standardization of skills. Furthermore, due to operators' autonomy and professional authority, power for promoting change is limited for managers of the strategic apex in this type of configuration (Mintzberg, 1979 and 1993).

Considering the standard features of a professional bureaucracy, regarding the judicial branch of governments and other types of law organizations, it is expected that resistance to change in the promotion of process management approaches is related to the standardization of work processes in the operating core. As virtualization can trigger relevant changes in how work is performed, the possibility of standardization of work content employing new technologies and systems can be regarded as an undesired change by professionals in this context (Contini and Cordella, 2009; Velicogna, 2011 and 2018). Judges and law professionals will prize the idea of proficiency represented by their knowledge and skills and will be inclined to struggle to accept the idea of standardization of their expertise.

Although professional bureaucracies are usually situated in more stable environments (Mintzberg, 1979 and 1993), innovations made possible by new technologies will likely cause organizational changes. In this context, social pressures associated with professional associations and the “sense of responsibility to serve the public” (Mintzberg, 1993, p. 213) can attenuate resistance to change in professional

bureaucracies.

Mintzberg (1979 and 1993) concluded that effective organizations could manage the contradictory forces to survive over time. While there is no “one best way” for the effective structuring of organizations, understanding configurations and using recognized forms (or combining them) can provide managerial consistency and effectiveness (Mintzberg, 1980). As process management is one of the fundamental strategic approaches to achieve effectiveness due to its qualities to manage the contradictory forces in a given context, a configurational perspective can provide theoretical and practical guidelines to promote organizational consistency of elements.

## **Research methods**

The study was conducted on the Judicial branch of the Rio Grande do Sul state (JBRS), located in Porto Alegre. The purpose was to analyze the organizational change in this judiciary organization that took place because of the adoption of process management and the virtualization of lawsuit processes workflow. The study used a qualitative approach (Easterby-Smith, Thorpe, and Jackson, 2012), combining secondary data, interviews, and action research.

One of the researchers conducted action research as she was an employee of the JBRS, following the assumption that intervention was part of the phenomena (Easterby-Smith et al., 2012). She was a Quality Consultant for the Strategic Management and Quality Management of the JBRS, responsible for implementing the electronic process in the organization, working both as a researcher and as an actor promoting change in the social process under study. From February 2017, field notes started to be registered as part of this research. In addition, when the pilot project for the electronic process was implemented in the State Court in February 2013, the researcher was working as a judge's adviser in the unit selected for the test. That fact made it possible to follow the entire implementation of the virtualization program from its beginning.

Primary data was also collected through interviews conducted with six people between May and August 2017. Interviewees were chosen based on their participation in electronic process implementation: one judge, one judge advisor, two heads of registry offices, a general administrative director, and a general director of the registries. Interviews were conducted based on a semi-structured design (Gillham, 2000) to encourage the development of the following topics: strategy of electronic process implementation, transformations as a consequence of the electronic process implementation, sectorial attributions before and after the electronic process, resistances to the implementation of the electronic process and the process of implementation itself. The researcher doing the participant observation conducted all the interviews in the working place of the interviewees personally with a length between 40 and 70 minutes.

The statistics contained in the internal system of JBRS, which obtains the productivity of magistrates, were crucial to understanding the changes in effectivity. Documents created by the organization itself were also accessed, such as the statistical yearbook, internal and external reports, organizational code, functions and the number of servers and trainees, and the strategic planning of JBRS. Also, secondary data from the National Council of Justice was consulted, in addition to the strategic planning of other Brazilian Courts of Justice, such as the Regional Court of the 4th Region and the Regional Labor Court of the 4th Region. Secondary data was collected until the end of 2017, mainly used to understand the context in which the virtualization of work processes was embedded.

Research material was analyzed and categorized based on the structuring configuration (Mintzberg, 1979 and 1993). The five parts of the organization and the environmental contingency factors were the basis for analyzing the fit (or not) of JBRS as a professional bureaucracy. This categorization allowed gathering more information to correlate events and order them in a schematization. Thus, in a continuous movement from theory to data and vice versa, categories became increasingly apparent and

appropriate to the purposes of the study.

## Results - the electronic process of justice in the JBRS in its context

The judicial system in Brazil is complex and decentralized (Arantes, 2005; Fragale Filho and Veronese, 2009). It is divided into two leading jurisdictions: ordinary and specialized courts. Specialized courts are organized into three subjects: “the Tribunal Superior Eleitoral (Superior Electoral Tribunal) for electoral matters, the Tribunal Superior do Trabalho (Superior Labor Tribunal) for labor subjects, and the Superior Tribunal Militar (Superior Military Tribunal) for military issues” (Fragale Filho and Veronese 2009, p. 129). Ordinary courts judge all legal issues not subject to the specialized courts (for a further description of the Brazilian judicial system, see Guimarães et al., 2011; Andrade and Joia, 2012; and Fragale Filho and Veronese, 2009). There is one judicial branch of justice in the 26 subnational Brazilian states and one in Brasília, the nation’s Federal Capital. They work as appeals courts for common issues in the corresponding area (for more details, see Arantes, 2005).

Caseloads have been a critical problem in the Brazilian judiciary since the promulgation of the 1988 Constitution (Arantes, 2005; Rosenn, 1998; Nalini, 1995), with the judicial system experiencing an efficiency crisis. The volume of caseloads has risen systematically since 1988, while the organizational structure and the technological systems remained nearly unchanged in the 1990s.

One of the principal reasons for the current crisis in the Brazilian courts is the considerable increase in caseloads. [...] Since the promulgation of the 1988 Constitution, which constitutionalized virtually everything anyone could think of in the Constituent Assembly, the number of cases filed in Brazilian courts has increased by more than a factor of ten, from about 350,000 cases in 1988 to more than 3.7 million in 1996. (Rosenn, 1998, p. 24)

The growth in the number of ongoing cases in Brazil helps us understand how efficiency became a critical issue among professionals in the justice field, particularly among judges, judicial officers, and magistrates in the last three decades. Within this context, in 2001, an association of Brazilian Federal judges formulated a proposal of federal law that would allow regulation of new ICTs turned to digitalize the judicial processes workflow, almost all based on paperwork until that moment (Andrade and Joia, 2012; Guimarães et al., 2011). The main argument presented in this proposal was the need to adopt new ICTs to tackle the inefficiency and the rising numbers of caseloads faced by the country’s judicial system. The goal presented was to increase the speed and efficiency in the jurisdictional provision, reducing the gap between volume and performance – one of the main objectives of e-government, according to Becker et al. (2006). In 2006, Federal laws 11.280 and 11.419 were enacted, creating a complete electronic flow of judicial processes possibility, although the adaptation to that reality was yet to be done in technological and organizational terms.

Meanwhile, in 2004, a new public institution called Conselho Nacional de Justiça (National Justice Council, CNJ hereafter) was created to improve the Brazilian judicial system administration (see Fortes, 2015). This institution had two primary purposes: first, to exert professional control over judges and judicial officers at all government levels; and second, to promote the improvement of management and administration standards within all judicial branches by providing strategic goals, productivity measures, and financial control alongside with the promotion of other managerial guidelines. The decisions of this new formal public national council have had the power to enforce the execution of administrative reforms. One of the central policies regarding promoting organizational improvements was based on information integration to make performance accountable.

Until 2004, however, technology was used only to provide information about individual cases, and most tribunals did not have a statistical analysis department [...]. Data were rarely compiled and integrated, and tribunals could neither properly monitor their performance nor define action plans. (Fortes, 2015, p. 45)

To deal with one of the main criticisms towards the judicial system, notably the constant increase in caseload numbers and the corresponding long period to provide judicial decisions, process

management, and productivity control were highlighted by CNJ. Since 2004 CNJ started to publish an annual online statistical report, known as *Justiça em números* (Justice in numbers), containing the primary productivity and financial indicators and organizational figures of all levels, including all subnational-state justice (Guimarães et al., 2011; Andrade & Joia, 2012; Fortes, 2015).

Since judiciary reform, managerial deficiencies have become evident due to the impact of transparency and statistical analysis. [...] Statistical reports translate all these problems into numbers. In addition to providing the number of sentences per judge to evaluate the individual efficiency of magistrates, these statistical reports also provide quantitative data for comparing tribunals' judicial performances, thus engendering institutional competition. (Fortes, 2015, p. 46-47)

Statistical reports were crucial for creating an overview of caseloads situation in the judiciary but also engendered a productivity and performance mindset change among judges. Dealing with performance became an institutionalized and accepted pressure among professionals. At the end of 2017, there were over 78,7 million ongoing cases in Brazilian courts of justice (CNJ, 2018), which means an increase close to 225 times in lawsuits in three decades – if considered the caseloads presented by Rosenn (1998), or 21 times bigger if considered the last two decades. Nonetheless, the general productivity statistics published by CNJ (2018) indicate a slight decline in the country (29 million new cases started in 2017, while 31 million cases were closed this year). The volume of ongoing cases is still challenging from an efficiency perspective.

CNJ has become a pivotal player in establishing productivity goals for all judiciary systems since its creation. Statistical data also was used as a guideline for strategic decisions in the judicial branch. For instance, the need for more judges, the creation of other judicial and administrative positions, distribution of budget, among others, have had their basis of acceptance grounded in numbers (Fortes, 2015). Accordingly, the allocation of resources was also in tandem with performance.

JBRS organizational change process took place in this context, characterized by challenging figures of ongoing lawsuits, availability of new ICTs, the addition of a new player in the planning and control process performed by CNJ, and the formation of a new set of shared professional standards based on productivity among judges, particularly. For instance, the rise in lawsuit numbers was also an issue in JBRS. There were 832.681 first-instance lawsuits in the Rio Grande do Sul state justice in 2000, while there were 2.889.127 ongoing cases in 2017.

Since the end of 2012, the computing division of the state court started to develop a systemic solution to accomplish the adoption of electronic processes in the whole organization. In parallel with the development of such a solution, the need for structural and organizational process changes was also considered by the state court administration. In the next section, the organizational structuring before the implementation of electronic processes in the JBRS will be presented.

## **Organizational structuring before electronic process implementation**

To understand the organizational structuring of the JBRS before implementing the electronic process, it is essential to analyze its five parts following the literature (Mintzberg, 1979 and 1980).

The JBRS has jurisdiction throughout all the subnational state territories. Jurisdiction in the first instance cases of the JBRS was divided into 747 judicial units distributed geographically. In the operating core, there were first-instance judges (*Juiz de Direito*) responsible for the progress of the lawsuits under their jurisdiction and the proper administration of the staff subordinated to them. That means organizing and controlling the cabinet's work with great management discretion. Each judicial unit had one judge in charge with a staff group to assist. This staff was divided into two types of offices: cabinet (*gabinete*) and registry office (*cartório*).

The cabinet works as an advisory body, primarily supporting the process of legal fundamentals provision

and drafting judicial decisions text. This work is critical as it provides direct support related to the main purpose of the organization (making judicial decisions), but that can be performed legally, in the end, only by judges themselves. It is usually a small group composed of an assistant and trainees, although the design may vary depending on the number of processes the unit is responsible for. Professionals in the cabinet primarily work on issues related to the operating core, helping judges to elaborate judicial decisions, and part as a sort of support staff, helping with issues related to the administration of the unit – playing both roles simultaneously is expected.

The registry office usually was composed of three to eight public servants (depending on the workload), with the responsibilities related to executing judicial decisions according to court orders. Thus, they are part of the essential work of the organization. The staff number of each judicial unit varied according to an internal resolution. Only the number of lawsuits in progress based on this resolution criterion – not observing the complexity or content of each case.

Following the hierarchy, above all judicial units, there was the organizational unit called Judicial Administrative Department (Corregedoria Geral da Justiça). Its attributions included supervision, controlling, and administrative orientation of all judicial units in the subnational state jurisdiction. One appellate court judge (Desembargador) of the JBRS performs the role of Head of this department (Corregedor-Geral) with the assistance of other fifteen first instance judges assigned by the State Court President (Presidente do Tribunal) in a four-year mandate system. They operated as a middle line between judges and the strategic apex of the organization.

Under ordinary circumstances, the workflow of the registry office follows standard procedures of the law activity. Nevertheless, as it was under one judge's direct supervision, some level of organizational conflict was generated in the tension between the management autonomy of judges and the pursuit of direct coordination promoted by the Judicial Administrative Department. On the one hand, pressures were coming from the judge, demanding the registry office to enforce some decisions, focusing on some tasks and processes they understand to be urgent. On the other hand, the pressure comes from the top, emphasizing the need to execute the tasks in a predetermined sequence without decision-making interference. In this sense, registry offices experience tensions between professional autonomy and bureaucratic administrative controls.

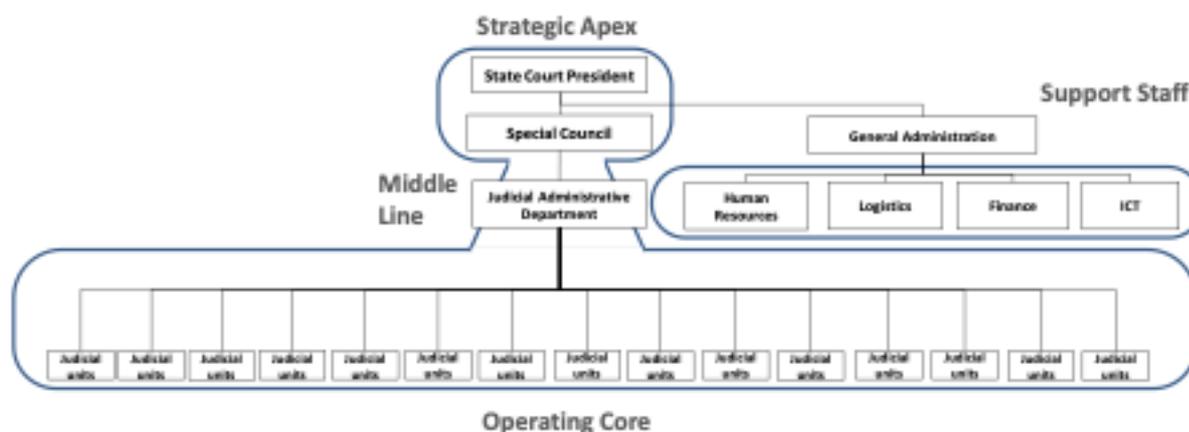
In the strategic apex of the organization, there is the State Court President and the Special Council (Órgão Especial). The higher order courts of the JBRS are occupied by 170 appellate court judges (Desembargadores). Appellate court judges are the ones who can be designated to the position of the State Court President, participate in the Special Council as representatives (25 desembargadores might be nominated to join this court), and as the Head of the Judicial Administrative Department – nonetheless, the existence of many other commissions, councils, and committees. The Special Council can decide the budgeting, designation of key administrative positions, and higher-order judicial decisions, among other attributions.

There were no relevant technostucture units. Some of the standardization effort was carried over by the operators themselves (judges), exerted by peers, and dispersed in the hierarchy (mostly part of collegiate decisions). To support primary operations, JBRS had four well-defined departments: Information, Communication, and Technology (ICT), Finance, Logistics, and Human Resources. These units provided specific services to the primary operations from outside the workflow of judicial decision-making, forming the support staff.

Figure 1 is a synthesis of the discussion so far, representing the organizational structuring of JBRS before the implementation of the digital processes of justice.

Figure 1

Five Parts of Organization in the JBRS



Source: elaborated by the authors

In the organization of the JBRS before the digital process, the middle line was thin and not highly elaborated; the technostructure needed to be more present, and the support staff was elaborated and did not interfere with the content of the main operational workflow. Despite not being directly linked, the first instance and appellate court could not be separated once the appellate court judges can influence the organization administratively.

The importance of operating the core was evident. The judges are professional operators because they perform specialized and complex tasks that depend on great technical capacity. Specialized professionals are hired, carrying with them all the necessary knowledge obtained in formal education and professional experience. Judges integrate the administration system. They have discretion in exercising their functions regarding the application of legislation and the management of their staff. No relevant interference in the work content or how to exercise the profession came from the hierarchy.

Accordingly, the main design features of the organizational structuring of the JBRS are consistent with the professional bureaucracy. In this type of organization, the power emanates from the operators at the bottom, who can decide many issues regarding how work is performed, controlled, and distributed. Professional bureaucracy is a kind of organizational configuration based on standardizing skills and some management freedom for operators (Mintzberg, 1979, 1980 and 1993).

The following section will analyze the organizational changes caused by the digitalization of the work process.

### Virtualization of lawsuit processes and organizational change

As the Brazilian judiciary branch is decentralized administratively, each justice organization in the system has the autonomy to develop its own ICT solutions. JBRS's first movement towards process virtualization started in late 2012 – a five-year-long attempt to develop its “e-Themis1g” system. The early-stage system was developed targeting low-complexity decisions in judicial units. The prototype system was created to produce only digital documents, replacing all paper files from lawsuits. All required elements of lawsuits, from its creation to its later processual movements, would be electronic

only.

The first striking feature of the lawsuit virtualization was the potential for standardization of processes – a significant tendency in e-government systems. As a direct organizational consequence, resistance was observed coming from both the judges and civil servants working at the registry offices. From the judges' standpoint, virtualization could represent a problem in two matters: it could be seen as a form of intervention in the intellectual process of judging and the way of administrating registry offices, with the corresponding decrease of their managerial discretion. From the civil servant's standpoint, the main issue was the fear of being unable to fit into new roles dictated by the new ICTs.

The electronic system pressured the working standards in judicial units towards adjustments, as the new digital jurisdictional process made the automation of many tasks feasible. An internal report collected during the fieldwork suggested that repetitive human activities consumed around 70% of the time spent organizing a regular lawsuit – usually a task performed by registry office personnel. To deal with that issue, the registry offices were the first organizational units most directly affected by the implementation of the electronic process.

In April 2015, a division called Remote Compliance and Support Unit (RCSU) was created to assist all judicial units. This unit was designed to work as a remote unit of civil servants, responsible for first helping with the flow of the electronic processes in registry offices across the subnational state. Support was also provided to those registry offices dealing with backlogs of lawsuits. The creation of that unit provided another key message: it put at stake the concept of a “traditional way” of doing the job, allowing the employment of personnel to handle several geographically dispersed processes, following the same standard procedures. The RCSU was a direct consequence of the digital process, which, on the one hand, made it possible for the paper file process to disappear and, on the other, reduced the necessity of physical installations. Before that, the only way to execute tasks was to be personally where the process was. After the virtualization, it became possible to work anywhere, with the assistance of ICTs.

After two years of system development, in December 2015, JBRS intended to make the adoption of this digital system mandatory in all first-instance judicial units. Up to this point, paper and digital lawsuits coexisted. The expectation was to achieve improved performance, mainly focusing on reducing the trial length. Data gathered in the year 2016 confirmed these expectations. According to internal reports prepared by the ICT Department, 260.852 cases were created electronically in 2016. Of those, 210.718 were closed in the same year (about 80%), a direct result of the agility provided by virtualization. As a means of comparison, in 2014, when the electronic process was not yet compulsory, the number of processes completed was lower, about 50%, concerning the number of cases initiated in the same year. Trial length also dropped consistently. In 2016, delivering judgment dropped from an average of 644 days until a final decision in the paper file lawsuits to 132 days in the electronic ones – which means that the time to accomplish a judgment decision would require only close to 20% of the time.

At this stage, from 2016 until early 2017, expanding the complete virtualization of processes to all judicial units brought other technical and organizational challenges. The issue of organization structuring became prominent. The pressures toward standardizing tasks conflicted with the pressures to maintain professional discretions of the professionals, mainly manifested by judges.

Nevertheless, the fact that the conflict was more covert than overt within the organization, the situational context of the judiciary in Brazil emerged as a relevant driver to make changes feasible in the JBRS. For instance, data from the annual report of Justice in Numbers (CNJ, 2017) were used by members of the strategic apex internally to highlight the position of JBRS compared with other judiciary organizations working in other subnational states. Analyzing the rate of new lawsuits created as fully electronic processes in 2016, one realizes that JBRS has had 24% of its new lawsuits flowing as

electronic processes, while other judicial organizations have completely digitalized their new incoming cases.

This fact highlights two relevant features: a) data comparison made possible by the reports justice in numbers was a primary source of evaluations within the judiciary branch (Fortes, 2015) and was a key element also in the analyzed case; b) and it represents a substantial change, in which their professionals incorporated performance measures and evaluation as an integral part of administrating the organization. Thus, external influences were slowly changing the professionals and the conception of their work.

After facing many technical problems and difficulties, during the first months of 2017, an internal evaluation process was undertaken, including a comparative study with five other systems developed in different state courts around the country. It was decided that JBRS would adopt a system called e-Proc, a software developed by the Federal Regional Court of the Rio Grande do Sul state. That system had already been tested, being stable and with consistent acceptance among judges, civil servants, and lawyers. This decision also implied the discontinuity of the JBRS's development of its system.

The transition to the new system was planned alongside an administrative plan to guide the organizational change in judicial units. On the one hand, it was clear that changes in registry offices would be made possible with the new system, although it was predicted the need for more training and some internal adjustments in job design. On the other hand, the automation of office tasks undeniably was assigned a changing role played by judges' regarding the registry offices as their direct staff. Also, decision-making process automation was possible, as templates for judgment decisions could replace human activities. The idea of greater autonomy and the "personalization" of labor control was at stake for judges.

The implications of those changes were relevant since the operating core in a professional bureaucracy needs help in accepting the standardization of processes. As predicted for professional bureaucracies, professional requires discretion to execute their duties, in which one "resists the rationalization of his skills – their division into simply executed steps – because that makes them programmable by the technostructure, destroys his basis of autonomy, and drives the structure to the machine bureaucratic form" (Mintzberg, 1993, p. 203).

The administrative plan to guide the organizational change predicted that adopting the new ICTs was mandatory. Nevertheless, changes for judges were considerable, but relatively few affected the professional authority side per se. The plan intended to dissolve the clear distinction between registry office and cabinet in judicial units, giving more managerial discretion for judges to organize each unit; and appointing judges as the decision-makers for the eventual need to convert physical lawsuits to digital formats. That approach followed the way of organizing used in other Brazilian Courts, based on greater autonomy, transferring to judges the attribution to evaluate the tasks that should be performed by each member of their team. In general, the administrative plan dismissed the idea of standardization of judges' tasks; in fact, the change gave more managerial discretion in exchange for using the electronic system and adhering to performance targets – this last one was associated with target bonuses to increase revenues for all staff members.

The organizational changes in the operating core would be more pervasive for the civil servants of the cabinet and registry offices. They would need to change from an approach based on repetitive and manual tasks to one based on the maintenance of the electronic system and the execution of some new specialized activities. The training of higher-level judicial unit employees would need improvement since management skills would be required to deal with the volume of workload caused by the virtual justice process. That would also directly impact how work was organized, demanding delegation capacities from the judges and a qualified and trustable support team to deal with the higher technical

sophistication required in the performance-oriented organization.

After the positive results were verified with the implementation of RCSU, its expansion to other activities using the same approach was also added to the plan. The result was the creation of two new subunits: the RCSU cabinet, which works as a remote assistant for the judges, helping in drafting judicial decisions, and the RCSU accounting, which centralizes the legal calculations of electronic processes the entire subnational state. The original unit was maintained and called as RCSU-registry office, working to assist registry offices.

From a configuration approach, as long as the operating core works as the critical part of the organization, this analysis shows that the changes maintained the organizational structuring based on the fundamental tenets of the professional bureaucracy configuration. The change process made possible the adoption of new ICTs through 2018 in the JBRS, affecting more consistently the tasks of those employees working around the vital professional, in this case, judges. The implementation process shows the relevance of understanding the organizational structuring elements when promoting effective organizational changes.

### Conclusions

Study shows that technological leaps can drive changes for organizations that operate in more stable environments. Nonetheless, contextual, organizational, and human dimensions must be considered when dealing with new ICTs that can promote significant changes in how work is done. Even though e-government imposes new workflows that pressure how people structure and organize their activities, as our study shows, it is not feasible to expect that new ICTs alone can promote changes in organizational practices detached from their surrounding context.

In this sense, it is evident that process virtualization and technological innovations face resistance from servants and magistrates as they substantially change workflow. However, the servants are subject to a hierarchy, so if there is support from the magistrates, their acceptance is an obligation. For professional magistrates, accepting innovation is much slower and more challenging since they are used to manage their court the way they want. In the professional bureaucracy (Mintzberg, 1993), professionals can organize the work and support staff without external interference since the main controlled element, apart from rules and financial aspects, is to get the work done to the quality standards of the profession. This autonomous mindset was disturbed by adopting a new technology that imposed necessary innovations in the workflow of the courts of justice, causing both a structural and a processual change. That was possible because it is essential to differentiate autonomy from independence in the scope of the Judiciary. What the judges hold and what is vital for their function is independence. They must have internal, external, and psychological freedom to better analyze and judge the processes under their jurisdiction, which corresponds to their final activity. That differs significantly from ignoring the organization's needs to favor a conservative personal position. For the truth, one cannot simply implement the digital process and maintain the traditional framework structures. European experience demonstrates how difficult it is to spread virtual justice management without critical structural changes that soften resistance and enhance adherence to the new reality (Rieling, 2011). The virtualization program must come with a revision of models that improve justice provision and process redesign. As Lunenburg (2012) pointed out, according to Mintzberg's perspective, the structure configuration must adapt to the contingencies of the strategy.

The strategy adopted to soften resistance to change included keeping the most distinguishing feature of professional bureaucracies intact: maintaining the operating core as the crucial part of the organization. As judges kept their autonomy and professional discretion while new workflows, patterns, and systems were implemented, change flourished in the way of doing the work without messing with the central premises of the organization.

In terms of organogram, as physical processes turn virtual, various administrative functions are replaced or extinguished by technology, representing an actual reduction in the number of organizational levels and personnel required for certain activities. The design of the judiciary organization's current structure goes back to its creation. A change becomes necessary so that the institution can keep up with its mission. And for transition to be successful, it is essential to learn from past mistakes. Transforming an organization requires much dedication from everyone involved and will undoubtedly take time and effort.

While no suitable model exists, organizations must build structures using or combining established forms. Research demonstrates that the professional bureaucracy would continue to be the more recommendable organizational format for the Judiciary, although with some necessary adaptations. The organization will have to deal with growing standardization pressure and the expansion of the technostructure, two non-usual movements in professional bureaucracies. That somehow affects the operational core, changing, for instance, work organization as fixed in a determinate space. The centralization of notary services is a good example. Changing the concept of server allocation as an assignment is essential, developing a regular technical system that turns operational work into a more predictable dimension, allowing greater specialization and formalization. This situation triggers a more impersonal control because once the workflows are formalized, the power of unskilled workers is withdrawn (Mintzberg, 1993), providing opportunities for the staff to deal with problems and developments that do not belong to the administrative routine, focusing, for example, on the judicial processes instead of worrying with the workflow.

While fundamentally, in isolation, computerizing cases will only solve some problems that hinder judicial performance in a reasonable time. It is imperative to face the issue of the outdated justice administration. Procedural virtualization may be faster for justice, but it still needs to be determined if that is an advance in terms of efficacy in jurisdictional provision. Even today, the potential of the e-government technology still needs to be determined. The interrelationship of data and the effective use of the system continues to be a gap. As mentioned by Reiling (2011), even though advances are rapidly changing the way courts work, legal computing still needs to be added to the fully digital age. In the virtual age, the technology available still needs to be incorporated into justice management. In many cases, the computer continues to be used as a digital typewriter or a simple means of communication, still needing more development and embeddedness in the organization.

The results of the changing processes are showing promising advances. The administrative plan gave a basis to disseminate the digitalization of lawsuits in all judicial units in JBRS as of 2018. Later, the organization was nominated by CNJ as one of the most efficient courts in Brazil in 2018, according to the 2019 edition of Justice in Numbers. The system e-proc was fully implemented in early 2019, whereas the digital system significantly accelerated the process flow, particularly in tasks related to registry offices.

In conclusion, the analysis of the virtualization of justice in Brazil shows that practitioners must recognize the organizational structuring elements to promote effective changes. Also, research demonstrates that the professional bureaucracy will remain a suitable way of organizational structuring for the judiciary system, with some necessary adaptations. No radical change can occur in stable environments ruled by professionals, as innovation can only be incremental. Technology adoption drives an essential change but must fit the organizational reality. In this sense, the theory of Henry Mintzberg (2009) has helped to understand what type of change is possible and feasible in fixed, hierarchical structures with little internal communication. It allowed us to envisage that an organization needs to be constantly updating while keeping its core stable, especially in professional bureaucracies. Moreover, it proved that electronic government requires organizational adaptation and that the structure must change when a new systemic technology is implemented.

---

## References

- Andrade, A.; Joia, L.A. 2012. Organizational Structure and ICT Strategies in the Brazilian Judiciary System. *Government Information Quarterly*, **volume** 29: S32–S42.
- Arantes, R. B. 2005. *Constitutionalism, the Expansion of Justice and the Judicialization of Politics in Brazil*. In *The judicialization of politics in Latin America*. Palgrave MacMillan, New York, 231-262.
- Becker, J., Algermissen, L. & Niehaves, B. 2006. A procedure model for process-oriented e-government projects. *Business Process Management Journal*, **volume** 12: 61-75.
- Brock, D.M. 2006. The changing professional organization: a review of competing archetypes. *International Journal of Management Reviews*, **volume** 8: 157–174.
- Conselho Nacional De Justiça (CNJ) 2017. *Justiça em Números* 2018. Brasília.
- Conselho Nacional De Justiça (CNJ) 2018. *Justiça em Números* 2018. Brasília.
- Contini, F.; Cordella, A. 2009. Italian justice system and ICT: matches and mismatches between technology and organization. In A. Martínez & P. Fabra (Eds), *E-Justice: Using information communication technologies in the court system*. IGI Global, Hershey, 117-134.
- Duvillier, T. 2000. Le ministère public: l'évolution d'une bureaucratie. In M. Fabri & P.M. Langbroek (Eds.), *The challenge of change for judicial systems*. IOS Press, Amsterdam, 201-210.
- Easterby-Smith, M., Thorpe, R.; Jackson, P.R. 2012. *Management research*, Thousand Oaks: Sage.
- Fabri, M.; Langbroek, P.M. 2000. *The challenge of change for judicial systems: Developing a public administration perspective*. IOS Press, Amsterdam.
- Fiss, P.C., Marx, A.; Cambré, B. 2013. Configurational theory and methods in organizational research: introduction. In P.C. Fiss, B. Cambré; A. Marx (Eds.) *Configurational theory and methods in organizational research*. Emerald, 1-22.
- Fortes, P.R.B. 2015. How legal indicators influence a justice system and judicial behavior: the Brazilian National Council of Justice and ‘justice in numbers’”. *Journal of Legal Pluralism and Unofficial Law*, **volume** 47: 39–55.
- Fragale Filho, R.; Veronese, A. 2009. Electronic justice in Brazil. In A. Martínez; P. Fabra (Eds.), *E-Justice: Using information communication technologies in the court system*. IGI Global, Hershey, 135-151.
- Freitas, C.S.D.; Medeiros, J.J. 2015. Organizational impacts of the electronic processing system of the Brazilian Superior Court of Justice. *Journal of Information Systems and Technology Management*, **volume** 12: 317–332.
- Gillham, B. 2000, *Research interview*. London: Continuum.
- Guimarães, T.D.A.; Odélius, C.C.; Medeiros, J.J.; Santana, J.A.V. 2011. Management innovation at the Brazilian superior tribunal of justice. *American Review of Public Administration*, **volume** 41: 297–312.
- Heeks, R.; Bailur, S. 2007. Analyzing e-government research: Perspectives, philosophies, theories, methods, and practice. *Government Information Quarterly*, **volume** 24: 243–265.
- Kieser A. 1981. Book Reviews : Henry Mintzberg: The Structuring of Organizations 1979. *Organization Studies*, **volume** 2: 185–188.
- Meyer, A.D.; Tsui, A.S.; Hinings, C.R. 1993. Configurational approaches to organizational analysis. *Academy of Management Journal*, **volume** 36: 1175–1195.
- Miller, D. 1996. Configurations revisited. *Strategic Management Journal*, **volume** 17: 505–512.
- Miller, D. 1999. Notes on the study of configurations. *Management International Review*, **volume** 39: 27–39.
- Miller, D. 2018. Challenging trends in configuration research: where are the configurations? *Strategic Organization*, **volume** 16: 453–469.
- Miller, D.; Whitney, J.O. 1999. Beyond strategy: configuration as a pillar of competitive advantage.

*Business Horizons*, volume 42: 5–6.

Mintzberg, H. 1979. *The structuring of organizations*. Prentice-Hall.

Mintzberg, H. 1980. Structure in 5's: a synthesis of the research on organization design. *Management Science*, volume 26: 322–341.

Mintzberg, H. 1993. *Structure in fives: designing effective organizations*. Prentice-Hall.

Nalini, J.R. 1995. Judicial reform in Brazil. In M. Rowat, W.H. Malik & M. Dakolias (Eds.), *Judicial Reform in Latin America and the Caribbean*. World Bank, 172-175.

Okta, O.; Alpu, O.; Yazici, B. 2016. Measurement of internal user satisfaction and acceptance of the e-justice system in Turkey. *Aslib Journal of Information Management*, volume 68: 716–735.

Reiling, D. (2011). E-justice: experiences with court IT in Europe. *Buenas prácticas para la implementación de soluciones tecnológicas en la administración de justicia*, 1, 79-115.

Rosenn, K.S. 1998. Judicial reform in Brazil. *NAFTA: Law and Business Review of the Americas*, volume 4: 19–37.

Velicogna, M. 2011. Electronic access to justice: From theory to practice and back. *Droit et cultures*, volume 61: 71–117.

Velicogna, M. 2018. E-Justice in Europe: From national experiences to EU cross-border service provision. In L. Alcaide Muñoz M.; Rodríguez Bolívar (Eds.). *International e-Government development*, Palgrave Macmillan, 39-72.