Institutionalization of innovation: the perception of actors in the Brazilian labor court regarding artificial intelligence[1]

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Marcos de Moraes Sousa Pós-Doutor pela *University of Kent* (Inglaterra) e pela *Universität Bern* (Suíça). Doutor em Administração pela Universidade de Brasília (UnB). Mestre em Agronegócio pela Universidade Federal de Goiás (UFG). Professor do Instituto Federal Goiano (IF GOIANO).

Thiago Maia Sayão de Moraes Doutor em Administração pela Universidade Federal de Goiás (UFG). Mestre pela Universidade Federal Rural do Rio de Janeiro (UFRRJ). Professor da Secretaria de Estado de Ciência e Tecnologia de Mato Grosso (SECITEC/MT).

ABSTRACT Artificial intelligence is an innovation that has been popularized and expanded in recent years by all sectors, including the public sector. The judiciary is a sphere of the Brazilian public sector that has relevant projects in this regard, including regulations that welcome and encourage these applications. This study aims to analyze innovation in the judiciary from the perspective of Brazilian labor justice professionals, with reference to the institutionalization of the use of artificial intelligence tools. In this sense, this study starts from recent references in the field of innovation applied to the judiciary, which, associated with an institutional approach, offers an interpretation of its institutionalization. Thus, it adds mechanisms of path dependence. Therefore, in a qualitative approach, interviews were conducted with nine selected actors of the courts to broaden the understanding of this phenomenon in practice. Content analysis show that the mechanisms of path dependence are relevant in understanding the institutionalization of innovation in the judiciary, adding the historical drag of the nature of the judiciary to contemporary decisions, including in this innovation, whose impacts have great repercussions.

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KEYWORDS

Administration of justice – Innovation – Institutionalization – Path dependence.

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Institucionalização da Inovação: a percepção de atores da Justiça do Trabalho Brasileira relacionada à Inteligência Artificial

PT

RESUMO *A inteligência artificial é uma inovação que tem tido seu uso popularizado e ampliado, nos últimos anos, por todos os setores, inclusive o setor público. O judiciário é uma esfera do setor público brasileiro que possui relevantes projetos neste sentido, inclusive com normativas que acolhem e incentivam esta aplicação. Este trabalho objetiva analisar a inovação no judiciário, na perspectiva dos profissionais da justiça do trabalho brasileira, tomando como referência a institucionalização do uso de ferramentas de inteligência artificial. Neste sentido, este estudo parte de referências recentes aplicadas ao judiciário no campo da inovação, que, associadas à uma abordagem institucional, oferecem uma interpretação para sua institucionalização. Assim, agrega mecanismos de* path dependence*, como lente. Para tanto, em uma abordagem qualitativa, aplicaram-se entrevistas em nove selecionados atores do judiciário a fim de ampliar a compreensão deste fenômeno na prática. Após a análise de conteúdo, os mecanismos de* path dependence *mostram-se relevantes na compreensão da institucionalização da inovação no judiciário, agregando o arrasto histórico próprio da natureza do judiciário para decisões contemporâneas, inclusive nesta inovação cujos impactos têm se mostrado de grande repercussão.*

SUMÁRIO

PALAVRAS-CHAVE

Administração da justiça – Inovação – Institucionalização – **Path dependence**.

Institucionalización de la Innovación: la percepción de actores del Tribunal Laboral brasileño sobre la Inteligencia Artificial

ES

RESUMEN *La inteligencia artificial es una innovación que ha visto popularizado y ampliado su uso en los últimos años en todos los sectores, incluido el público. El poder judicial es un ámbito del sector público brasileño que tiene proyectos relevantes en este sentido, incluidas normas que acogen y alientan esa aplicación. Este trabajo tiene como objetivo analizar la innovación en el poder judicial desde la perspectiva de los profesionales de la justicia laboral brasileños, tomando como referencia la institucionalización del uso de herramientas de inteligencia artificial. En este sentido, este estudio se sustenta en referentes recientes en el campo de la innovación aplicada al poder judicial, que, asociado a un enfoque institucional, ofrece una interpretación para su institucionalización. Por lo tanto, agrega mecanismos de* path dependence*. Para ello, desde un enfoque cualitativo, se llevaron a cabo entrevistas con nueve actores seleccionados del poder judicial con el fin de ampliar la comprensión de este fenómeno en la práctica. Después del análisis de contenido, los mecanismos de* path dependence *parecen ser relevantes para comprender la institucionalización de la innovación en el poder judicial, añadiendo el arrastre histórico propio de la naturaleza del poder judicial a las decisiones contemporáneas que incluyen esta innovación cuyos impactos han demostrado ser de gran repercusión.*

CONTENIDO

PALABRAS CLAVE

Administración de justicia – Innovación – Institucionalización – Path dependence.

1 Introduction

Actors are key to achieving innovation as a practice, a relevant topic in the public sector. Therefore, innovation has been the subject of several public policies involving technology around the world. Owing to its contributory capacity, artificial intelligence (AI), as an innovation, has occupied the agenda of governments, leading the Organization for Economic Co-operation and Development (OECD) (2024a) to create an observatory to monitor the evolution and standardization of the use of this tool. The OECD (2024b) documents recommendations on artificial intelligence, and in parallel, the Brazilian government has invested in artificial intelligence, launching the Brazilian Plan for Artificial Intelligence in July 2024, with an investment forecast of R$ 23 billion, following the global investment trend perceived by the Brazilian government (Brazil, 2024a).

The Brazilian judiciary has been standardizing and making innovation a policy linked to its strategy. However, based on its most recent policies, it is clear how the need to consider behavioral sensitivity and its influence on the implementation of innovation was added to these policies. This is the case for the Innovation Management Policy of the Superior Labor Court (TST) (Brazil, 2022), who, when considering the incorporation of the Sustainable Development Goals (SDGs) of the 2030 Agenda into the National Strategy of the Judiciary (2021-2026), the Strategic Plan of the TST 2021-2026 and the Sustainable Logistics Plan of the TST and Conselho Superior da Justiça do Trabalho (CSJT) 2021-2026, starts to consider innovation as the implementation of new ideas that solve complex problems, incorporating, recognizing and linking elements of the science of Management to its context.

Following this Brazilian normative institutionalization of innovation and the development of artificial intelligence (AI) tools, the judiciary has been regulating the use of these tools since 2020, with Resolution 332 of the Conselho Nacional de Justiça (Brasil, 2020). In parallel, its trajectory has

been tracked through reports such as "Justice in Numbers", which comprises a historical series from 20092023 (Brasil, 2024b). This arrangement between institutionalization and studies on the administration of justice are suggestive ways to fill a gap in research on the administration of the judiciary, due to its idiosyncrasies (Guimarães *et al.*, 2018) that can potentially restrict innovation (Lapuente; Suzuki, 2020) and consequently its institutionalization (de Moraes; Sousa, 2024). Progress has been made in this regard, including innovation (Castro; Guimaraes, 2020) in-depth interviews were undertaken with lawyers, public defenders, judges, prosecutors and public officials from the five regions of Brazil. These data were analyzed using content analysis techniques. Findings – The perceptions of the interviewees show that the process of innovation in justice organizations can be influenced by five dimensions: Institutional Environment (institutional level and path dependence incorporation, which transposes the view of rational choice in organizations to an understanding sensitive to institutionalization that consolidates decisions over time (Sydow *et al*., 2020) to analyze the institutionalization of innovation and the application of artificial intelligence (de Moraes; Sousa, 2024).

Therefore, in addition to standardization, the effectiveness of innovation as a practice becomes a challenge, as it materializes in the decisions of individuals Thus, even though innovation is adopted as a policy within the judiciary, its operationalization includes behavioral aspects (Omrani *et al*., 2024; Tornatzky & Klein, 1982). This operationalization represents a fundamental process for effective institutionalization, since the willingness to make an effort to implement a policy is a condition for its success (Tummers *et al*., 2015).

Institutionalization is the normalization of actions until they become habits (Tolbert; Zucker, 1998). Innovation is connected to the disruption of these factors (De Vries *et al*., 2016). This apparent paradox (de Moraes; Sousa, 2024) can be interpreted in light of the concept of innovation linked to services in association with path dependence. Thus, a disruptive innovation of a product or service can be understood as the initial phase of path dependence in the trajectory of organizations, when an unpredictable action occurs and, if reinforced, can be established from the consequences it causes. When these developments occur, their institutionalization can occur through incremental innovations (of processes) that will gradually

establish that disruptive innovation, and when their increments and conditions become viable, innovation is promoted. However, the dynamic that occurs in operationalization, inherent to innovation, resonates as an issue within the judiciary, especially considering the institutionalization of innovation.

Therefore, the following question arises: considering that innovation occurs beyond the norms that consider it, how is it institutionalized in the judiciary? Furthermore, how does this institutionalization occur when artificial intelligence is treated as an innovation? This study aims to analyze innovation in the judiciary from the perspective of Brazilian labor justice professionals, with reference to the institutionalization of the use of artificial intelligence tools. For that, it starts from the dimensions of innovation in the judiciary, together with path dependence and the proposed parallel between innovation and institutionalization. Therefore, the method presented in this study, considering the practical focus of operationalization, focuses on investigating the perceptions of the actors in this construction, starting with the next section. The results, discussion and conclusion are then presented.

2 Methods

This study has a qualitative approach and adopts the strategy of Multicase Study, analyzing each interviewee of the judiciary as a case. This allows their views to be compared with respect to the institutionalization of innovation in the Labor Courts supported, above all, in the dimensions of innovation in the judiciary (Castro; Guimaraes, 2020) and its historical impact (de Moraes; Sousa, 2024), from the perspective that it shares innovation and institutionalization.

For the selection of interviewees, professionals with complementary expertise were sought for an interpretation of the institutionalization of innovation in the Labor Courts, considering the broad mosaic that makes up the judiciary (Guimarães *et al*., 2018), on the basis of a set of indications and perceptions about the judiciary, of publications and recognitions noted in events and publications related to innovation and artificial intelligence in the judiciary, including some cases of the snowball technique (when an interviewee indicates another participant). In this case, before selection, a

brief CV was collected, and a preliminary confirmatory profile analysis was performed. In parallel with the interviews, there was a theoretical alignment with the objective of ensuring the selection of interviewees with an appropriate profile. The project was submitted to the Ethics and Research Committee and was validated by opinion number 6,232,515/2023.

The theoretical saturation that occurred in the eighth interview was considered to be the closure of the interviews, although one more interview was conducted. Thus, a group of interviewees with different professional orientations was reached, of which the success of the interviews with nine professionals with expertise in innovation and artificial intelligence within the judiciary allowed the following:

Various experiences in justice organizations with significant experience in the judiciary, involving the following organizations and participants:

(i) National councils of justice (CNJ and CSJT): three interviewees with outstanding recognition in the field of artificial intelligence within the judiciary and with an average time of experience in the judiciary greater than 17 years, two of them judges, both with experience as assistants judging the presidency of at least one of the councils, and a judicial analyst in the IT area with experience as a member of the Management Committee of the Labor Justice Strategy. The selection of the councils was based on the distinct institutional environment in which the judiciary has (Guimarães *et al*., 2018) centered on innovation in the figure of the CNJ, which pressures the courts for innovation (Chaves, 2022). This may cause some discomfort regarding the autonomy of the courts (Castro; Guimarães, 2019); in this same orientation, the CSJT acts as a proinnovation provider in the field of labor justice.

(ii) Superior labor court: three interviewees with a central strategic role in the field of innovation or artificial intelligence, with average experience in the judiciary greater than 16 years. This court was selected because it considers how the higher court of Labor Justice receives and acts in the face of innovation and artificial intelligence.

(iii) Regional labor courts (TRTs): three interviewees working on artificial intelligence projects within the judiciary or user thereof and with average experience in the judiciary greater than 13 years. The selection considered

three different courts encompassing states in North Brazil and Northeast Brazil. However, the experiences of the other interviewees included 2 other TRTs. Thus, the expanded role of innovation and artificial intelligence in the scope of TRTs is considered based on several examples.

(a) High academic education in a practical sense: all interviewees have a complete undergraduate degree, with at least seven of them having a master's or doctoral degree; most of them are in a field related to law or technology, including graduates in the field of social sciences, glimpsing a broad view of innovation as a process.

(b) Various experiences in the field of public service: at least two interviewees had more than five years of experience in activities that involved innovation in the Brazilian public service.

(c) Four interviewees recognized the national and international importance of their contribution to the trajectory of AI within the judiciary. This contribution includes participation in international events or journals related to the topic.

The interviews were conducted in the workplace of the interviewees in person or remotely via Google Meet in the second half of 2023, lasted an average of 1 h and 11 minutes. They were then transcribed in full and had their contents organized, systematized, categorized and analyzed, with the aid of the Atlas TI software, for the associations and triangulations of information, combining and structuring the contents of the interviews with the triangulation with the theoretical basis and references (events or documents) pointed out in the interviews. Thus, the content analysis started from the analysis of the citations marked by the categories and their correlations linking and comparing the empirical findings with the theoretical apparatus. The analysis was performed between December 2023 and August 2024.

For the categorization, concerning the objective relative to the institutionalization of innovation, institutionalization and innovation were considered the two central theoretical categories. In this analysis, the paradox between the two was considered (de Moraes; Sousa, 2024): on the one hand, institutionalization can be seen as a typification of actions, which become habits (Tolbert; Zucker, 1998), whereas innovation in the public sector refers to the rupture of these actions (De Vries *et al.*, 2016).

On the other hand, for innovation to be consolidated, it is necessary that it overcomes the institutionalization screen, which has mechanisms such as path dependence. Therefore, the institutionalization of innovation involves this paradox, which is transposed to the categorization: the two categories, innovation and institutionalization, can both compete and cooperate; therefore, some analytical elements of a category or subcategory that arise from the analysis can be related to or represent a category or subcategory.

The innovation category included the five dimensions of innovation (Castro; Guimaraes, 2020), described below:

(a) Institutional environment (subcategory 1):

Defined as the grouping of values and rules established by society, which govern organizations by legitimizing them (Castro; Guimarães, 2019), they represent an important dimension at the organizational level, considering the position that the judiciary occupies (de Moraes; Sousa, 2024; Reale, 2017) in the institutional matrix, which reduces the complexity of choices (North, 1990). In this context, considering that these influences are also due to normative pressures (Zucker, 1987), the context of the institutional environment of justice organizations stands out in four measures mapped by Castro and Guimarães (2020; 2019): (i) Republican Pacts for a more agile, effective and accessible Justice System (in 2004 and 2009); (ii) Law 11,419/06, which encourages and regulates electronic court proceedings; (iii) Creation of the CNJ, as an administrative and financial control body of the Judiciary, central to the institutional matrix of the judiciary and its innovation, including when observing the historical–institutional drag through path dependence; and (iv) CNJ Resolution 70/2009, which addresses the strategic management and planning of the Judiciary.

In addition to these measures, others have been mapped in this regard, aiming to investigate the institutionalization of innovation and the standardization of artificial intelligence (de Moraes; Sousa, 2024): (v) CNJ Resolution 395/2021 and its amendment by CNJ Resolution 521/2023, which aims to complement innovation and establish an innovation management policy within the Judiciary; (vi) CNJ Resolution 332/2020 (Brasil, 2020), which, despite pointing out several risks and concerns, regulates the advancement of AI in the Brazilian Judiciary. In addition, Moraes and Sousa (2024) identify

in the Labor Courts, following the historical-institutional track of the CNJ, the adoption of innovation as strategic, explaining the relevance of the environment and a more detailed conceptualization of innovation (as disruptive or incremental) in innovation management policy at the TST. In addition, there are established values and rules that guide organizations that go beyond the perception of the legal environment but that can be perceived by actors (Castro; Guimaraes, 2020).

(b) Leadership (subcategory 2):

In innovation, leaders are responsible for the organizational climate favorable or not favorable to innovation and can have a low cost and be implemented quickly, including in public service (Borins, 2001). This ability to influence people occurs in line with goals, such as innovation (Yukl *et al.*, 2002), and is embedded in the organizational level of analysis. In the Brazilian case, the formal leadership of the governing bodies, such as courts and councils, is occupied by their oldest members (Chaves, 2022).

(c) Organizational Resources (subcategory 3):

They are a significant form of support between top management and innovation actors when new practices are implemented, which often require resources, whether human or material. Thus, at the organizational level, resources highlight the interdependent relationship that occurs between the dimensions, as they are related to the financial and nonfinancial support inherent to the development and implementation of innovation (Anderson *et al*., 2014). On the other hand, resource limitations, when viewed as fixed, can harm the innovation process (Lipsky, 2019).

(d) Cooperation Relationships (subcategory 4):

They represent the link between and within organizations that have common goals. This interorganizational-level interface is involved in innovation, as organizations add new information, teaching and resources (Kim; Lui, 2015). In parallel, relationships involve political aspects, which are usually neglected and compromise the explanatory potential of implementation (Hupe; Hill, 2016).

(e) Innovative behavior (subcategory 5):

It is the process of achieving new ideas aimed at the best performance of the organization (West; Farr, 1989). This dimension at the individual level

is related, in cases of perceived success in innovation, to strong altruism and an entrepreneurial spirit. Behavior is a dimension that effectively participates in all the other dimensions, although it cannot always act in an innovative way, as shown more explicitly in the two previous dimensions.

The institutionalization category has a subcategory (path dependence) as a mechanism, which is path dependence (subcategory 6):

Path dependence forms an institutional matrix that acts to shape behaviors (North, 1990) and is suitable for the legal context together with the perspective of the dimensions of innovation (de Moraes; Sousa, 2024) because of the nature of justice, which involves evaluating society from the point of view of what is established (Reale, 1992). This mechanism is observed in the Brazilian judiciary when considering a historical documentary analysis that addresses both the institutionalization of innovation and especially artificial intelligence within the Brazilian judiciary. This historical drag, of outstanding influence on the institutional environment of the judiciary, is noted as relevant in the trajectory for the institutionalization of its innovation.

The maturation of institutionalization occurs as positive feedback replaces negative feedback. This process is aligned with the institutional matrix, which is a coupling between institutional pressures (de Moraes; Sousa, 2024). This reduction in the complexity of choices occurs as institutions solidify, singly and in blocks, by the institutional matrix (North, 1990).

Path dependence is consolidated in ways that are related and can occur when a choice is made and incentivized to be repeated by (a) increasing returns: the more it is repeated, the greater its benefits are, internally; (b) self-reinforcement: this is a complementary encouragement of support for action, which occurs by associated forces or institutions; (c) positive feedback: it is the benefit of learning that applies to other people or entities that adopt the same choice; (d) lock-in: when a choice is taken as better because it has been widely adopted (Page, 2006).

3 Results and Discussion

The Labor Court, like the Brazilian Judiciary, is a complex organizational mosaic (Chaves, 2022), and this complexity should be considered in studies in the sector. In this study, each interviewee was considered a case, making it possible to link a multidimensional analysis, considering the possibility of considering the perceptions by function, whereas judges and technical servants, as well as their respective performances in various organs of the Judiciary, such as CNJ, CSJT, TST and TRTs. However, the results are described considering an aggregate of these perceptions.

Thus, the dimensions of innovation in justice organizations taken as a reference in this study are linked to the institutionalization of innovation in the judiciary. However, some observations are necessary when the view of innovation is expanded for its institutionalization. In doing so, it is possible to note a series of notes regarding the dimensions proposed by Castro and Guimarães (2019).

The institutional environment remains relevant when the institutionalization of innovation is analyzed. Recognizing the culture of the judiciary as even more prominent in relation to the strategy that may be determined, E1 highlights the role of leadership in overcoming the (change-resistant) nature of the judiciary:

> "We live in an extremely hierarchical culture, highly traditional with rites, with practices, culture dines on our strategy, literally [...] we are faced with an organizational culture that is resistant to change, so, well, how can we innovate without understanding that the path is longer important than the result and that making mistakes is part of the process, you know? Therefore, the great impact that these processes have had and brought a top-down, bottom-up process... both like an accordion, it is top-down at times, right? And bottom-up in others... However, I can say that most of the time it is bottom-up, because the question is: will this affect the system? Will I stop judging? This is going to cause a problem, right? People will be prevented from, so there is a great concern that is natural with the jurisdictional provision and operation" (Interviewee E1).

Thus, the nature of the judiciary linked to institutionalization, which negatively influences innovation (de Moraes; Sousa, 2024; Lapuente; Suzuki, 2020), is evident in most interviews, exemplified in the speech of E4 regarding innovation in the judiciary: "in relation to the law, what we can say is that the law is always behind reality... [...]. Because the facts need to happen so that they are legally evaluated and regulated" (Interviewee E4), implying that AI needs to be mature, for its general use and within the judiciary, it can be regulated.

Leadership remains the highlighted dimension; however, significant statements refer to leadership as the top leadership of bodies with respect to the institutionalization of innovation. This movement appears associated with the dimension of cooperative relationships, when, as E1 quotes [about relevant aspects in the implementation of an innovation] "Inevitably, the sponsorship of the highest authority [...] for example, you say: this is the project that the president marked a star, for him it is important [...] this opens doors!", and reinforces: "'ah, this is a project that the presidency defined, the president himself is anxiously awaiting it to happen and such, anyway', this has a weight" (Interviewee E1). That is, by recognizing the importance of organizationally articulating, it highlights the influential role of top leadership in relation to the institutionalization of innovation.

Organizational resources receive a new dimension in regard to the institutionalization of innovation, in addition to the perception of innovation in justice organizations (Castro; Guimarães, 2019). They do not appear only as a subsidy for institutionalization but are also pointed out as arguments, to the extent that an innovation serves as a resource to improve the efficiency of the Judiciary, linking efficiency to the responsibility of the CNJ, signaling the importance of cooperative relations as well. E2's comment highlights the characteristics of the Brazilian Judiciary:

> "So yeah, it's kind of like this push for the rationalization of the National Council of Justice from the point of view of Judiciary reform, transparency, control, it is a discussion, including that Judiciary reform does not, It is a movement that is unique to Brazil, a worldwide movement for the reform of the Judiciary, with this

> vision of rationalizing costs is the procedure of magistrates, the rationalization of public resources and the coordination between the actors" (Interviewee E2).

Cooperative relations, as also noted in the leadership dimension, receive interference from top leaders but also have an aspect of conciliation between groups with respect to institutionalization. The relationships do not always cooperate with institutionalization or with the way in which it occurs. In this context, E2 highlights that – "the main problem today is with projects that do not embrace the vision of a collaborative and open existence. We still have some initiatives that are seen as, [...] it's just mine". In this sense, E2 also highlights that relationships are usually used to reinforce this *retrograde* view:

> "often they will seek the path of influence through other interactions, with other actors, this ends up having an impact and, therefore, the main moments of delay that we had in the national judiciary, in the expansion of the space for innovation were caused by actors with this profile" (Interviewee E2).

E8 says that:

> "Honestly, it is an oligarchic heritage, [about] how decisions are defined. I think a lot starts from that and from the view of the judiciary that they are not state servants, there are many processes, many fiefdoms and they have their own form of governance..." (Interviewee E8).

Innovative behavior is evident in the actions of magistrates; although the CNJ does not expressly support the action, it is evident in the words of I2, for example: "it is not only that someone is using [AI tools], there is [about AI] magistrates teaching how to do it, already teaching, with the prompt-to -do engineering class [to support judicial decision-making]" (Interviewee I2). However, for the institutionalization of innovation, the interviews also indicated that the individual aspect of the actors is more

in demand in terms of negotiation and perception of the ideal moment for institutionalization by E1, who cites the need to "map the correct moment to negotiate" (Interviewee E1) with the right people to get the project off the ground [in the sense of institutionalizing]. Innovative behavior is also associated with path dependence, as shown by an interview that associated its increase in innovation with its trajectory:

> "I used my previous experience with computer systems; it has always been part of my life from a very early age. My father was always the IT director, so I always had machines, a *switch desk*, cables and networks inside each one, and often my father would put the computer next to him and say 'get up, my son, the computer is yours, it will keep the network house... will reinstall this computer system'" (Interviewee).

and added: "I have dual education, I also have a degree in Computer Science [in addition to a degree in law], and I am a real developer" (Interviewee).

Path Dependence is presented as a condition for the institutionalization of innovation in several aspects: in the personal path of the interviewees; in the condition of artificial intelligence as innovation; and in the institutional environment, whether with a normative/legal or cultural emphasis, including the nature of the judiciary. The logic of path dependence is clear in the speech of E2, who equates artificial intelligence to electricity:

> "the same thing when electricity started, probably at the time, they said the same thing 'look, gas lighting ended, but it is not just that, it is a gas engine, a coal engine, it is all over, everything will change'. Everything has changed. [...] AI will replace everything; it will be in everything, in the same way that electrical energy is in everything here. Okay? That is what you're using to record, it is there in the computer, it is in the lighting, it is in the air conditioning, it is in everything, so the intelligence will be in everything, period. Therefore, this is the situation" (Interviewee E2).

Considering the institutionalization of AI in the Brazilian judiciary, path dependence is clearly presented through E3, which, when asked about the trajectory of AI in the judiciary, soon refers to its presentation at an international event on the subject that was accompanied by a researcher and where the interviewee was presented as a reference. The opportunity presents its participation in a study started in 2005/2006 that resulted in a master's thesis that links neural networks and decision making related to labor processes. On occasion, E3 highlights, over more than 15 years, the conditions that led to the amplification of AI in the judiciary, considering (a) the expansion of the speed and capacity of internet data transmission; (b) the advancement of available computing power; and (c) the advent of the judicial process in electronic media, allowing the data to be digitally available. Thus, the interviewee highlights the monitoring panel of AI projects in the Judiciary (linked to CNJ Resolution 332 (Brasil, 2020), that addresses governance and AI in the Brazilian judiciary), which allows for a high number of projects in progress and in day-to-day use, in all grades of courts, in a wide variety of uses, following a worldwide trend of activity automation.

In this sense, path dependence is evident in this institutionalization of AI within the Brazilian judiciary, considering the trajectory presented by E3 in institutionalization when citing the conditions that provided the increments for the maturation of AI. In addition, the emphasis on efficiency brought by the CNJ to the judiciary, exemplified in the follow-up on AI projects, can be seen as a bridge between the judiciary and the world trend tools on efficiency and innovation.

The institutionalization mechanisms of path dependence were evident in several interviews, which are associated with the following quotes: (a) increasing returns: "the more the project is adopted by users, the faster the contributions are perceived"; (b) self-reinforcement: "[about how the user encourages the development of innovations] And then, the user at the end, 'ok, but this is giving error', I said 'no, because we are evolving and such', so we make an exchange"; (c) positive feedback:

> "Therefore, oh, the neighbor, the neighbor's grass is greener, the neighbor is here in front, the STJ went there and gave an award, because they did such a thing, why don't we did that? Do you understand? Therefore, there is a system within the judiciary of unsaid things, what I am telling you is not written down anywhere" (Interviewee).

(d) Imprisonment: "the fact that we assume ownership of the technology, so this in a way contaminates justice".

Among the AI projects highlighted in the interviews, the following stand out in the Labor Courts: (a) the Decent Work Monitor, which is coordinated by the National Council of Labor Justice (CNJT) and is cited by E3; (b) Gemini, which is cited by E3; (c) Bem-te-vi, which is cited by E1 and E3; and (d) Sabiá, which is cited by E1. Generative AI models are highlighted as a trend owing to their significant impact, by E1, E2 and E3, whereas aspects related to their risks are of an ethical nature, owing to the sensitivity of the data or the safety of the data (regarding risk tolerance), by E1, E2 and E3, although their costs can be expensive (pointed out by E3).

Therefore, innovation and institutionalization (seen as a mechanism contrary to innovation) also appear in several interviews, as exemplified in E3:

> "the concept of innovation is recent within the courts; when we bring the concept of innovation, it brings with it something we are not used to. [...] for me, we are still in the beginning, and people are so little confused with the concept, and at this point what has been done thus far, by the CNJ, by the laboratories, is not helping, it is not helping: they are mixing things up. [...] innovation laboratories are not substitutes for the area of technology development..." (Interviewee E3).

4 Conclusion

This study aimed to trace the perceptions of actors in Brazilian labor courts regarding the institutionalization of innovation, especially by observing artificial intelligence. Therefore, recent advances in research on innovation in the judiciary are considered, in line with the theory of path dependence, which focuses on the historical drag present in decisions (proper to the culture of the judiciary).

The dimensions of innovation in justice organizations are useful and add to the understanding of the institutionalization of innovation within the Judiciary. However, considering the paradox of innovation and institutionalization, the mechanisms of institutionalization can be considered a filter in this process. Path dependence is an adherent mechanism to this phenomenon, especially because of its consonance with the nature of the judiciary.

The dimensions of innovation proposed by Castro and Guimarães, with adjustments, broaden their explanatory potential and include their institutionalization. The institutional environment is highlighted in this process, and its scope varies according to the scope of its application. Thus, there is an institutionalization of innovation in the general scope of the judiciary, which has matured driven by the mechanisms of path dependence clearly perceived in the interviews.

In this context, considering the self-reinforcement mechanism of path dependence, this more general institutionalization contributes to the institutional environment of the spheres and courts of the judiciary. In this sense, with respect to artificial intelligence, there is a well-established perception that recognizes artificial intelligence as a strategic organizational resource, which contributes to projects of this nature also gaining incentives in the wake of the constitutional efficiency that is already present through the process of lock-in associated with innovation. This explains, to some extent, the high number of artificial intelligence projects in the Brazilian judiciary. On the other hand, in regard to the institutionalization of innovation in the judiciary, the past orientation inherent to justice stands out and influences

the culture of the judiciary, reinforcing the mosaic of the institutional matrix of the judiciary that, in addition to this opposition, has pronounced diffused characteristics.

Leadership is perceived in prominence in regard to the institutionalization of innovation. However, in the institutionalization process, there is an emphasis on the role of strategic leadership, considering its role in the standardization of their respective organizations and institutional environments. In this sense, the personalization of leadership begins to act at the individual level in addition to the organizational level.

Organizational resources are initially taken as a dimension of innovation. However, focusing on the process of institutionalization of innovation can also be seen as a product or an organizational resource in itself that can benefit the organization. Thus, the organizational resource moves from means as a dimension of innovation in the judiciary to an end as a process of institutionalization of innovation in the judiciary.

The cooperative relationships dimension contributes to the understanding of the institutionalization of innovation. However, institutionalization, considering the institutional matrix itself, results from a process of adjustment of forces until a sedimented orientation is established. Therefore, in the process of institutionalization of innovation, relationships are not always cooperative but are fundamental in the process. Even so, the associations between organizations that compose the institutional environment serve as guidance and incentives for the institutionalization of innovation through self-reinforcement. Thus, relationships begin to consider both the interorganizational and the organizational levels, associating themselves through behavior at the individual level.

Innovative behavior, which is fundamental for innovation in its initial elaboration, represents the individual level of the dimensions of innovation. Upon its institutionalization, behavior is accentuated at the individual level in a relationship-oriented way to articulate the referrals and decisions inherent to institutionalization. Therefore, behavior takes on a relational aspect in the institutionalization of innovation.

Among its potential consequences, this study may contribute to studies focused on the implementation of public policies, considering

innovation as a public policy within the judiciary or the implementation of artificial intelligence as a tool, as a research agenda. Although this study considers the diffuse nature of the judiciary, focusing on labor justice, it is suggested that the study be replicated in other approaches and may also be cut to an analysis of specific projects, a court, or other spheres of the judiciary, for example.

This study has important limitations that also point to future studies. Because this was a multicase study, which agrees with Tornatzky and Klein (1982), it is not possible to generalize the innovation process; that is, the results of this study consider the approach of the applied method. However, the study offers some perspectives for innovation in the judiciary, which even broadens the understanding of the institutionalization of artificial intelligence as an innovation in the Labor Court in Brazil.

5 References

ANDERSON, N.; POTOČNIK, K.; ZHOU, J. Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. **Journal of Management**, 40(5), 1297–1333. 2014. Available at: https://doi.org/10.1177/0149206314527128. Accessed on: July 25th 2025.

BORINS, S. Encouraging innovation in the public sector. **Journal of Intellectual Capital**, 2(3), 310–319. 2001. Available at: https://doi.org/10.1108/14691930110400128. Accessed on: July 25th 2025.

BRASIL. **Lei nº 11.419, de 19 de Dezembro de 2006**. Dispõe sobre a informatização do processo judicial; altera a Lei nº 5.869, de 11 de janeiro de 1973 – Código de Processo Civil; e dá outras providências. 2006. Available at: https://www.planalto.gov.br/ccivil_03/_ato2004-2006/2006/lei/l11419.htm. Accessed on: July 25th 2025.

BRASIL. Conselho Nacional de Justiça. **Resolução nº 70, de 18 de Março de 2009**. Dispõe sobre o Planejamento e a Gestão Estratégica no âmbito do Poder Judiciário e dá outras providências. 2009. Available at: https://atos.cnj.jus.br/atos/detalhar/118. Accessed on: July 25th 2025.

BRASIL. Conselho Nacional de Justiça. **Resolução nº 332, de 21 de agosto de 2020.** Dispõe sobre a ética, a transparência e a governança na produção e no uso de Inteligência Artificial no Poder Judiciário, 2020. Available at: https://atos.cnj.jus.br/atos/detalhar/3549 Accessed on: July 25th 2025.

BRASIL. Conselho Nacional de Justiça. **Resolução nº 395, de 7 de Junho de 2021**. Institui a Política de Gestão da Inovação no âmbito do Poder Judiciário. 2021. Available at: https://atos.cnj.jus.br/atos/detalhar/3973 Accessed on: July 25th 2025.

BRASIL. Conselho Nacional de Justiça. **Resolução nº 521, de 18 de setembro de 2023.** Altera a Resolução CNJ n. 395/2021, que instituiu a Política de Gestão da Inovação no âmbito do Poder Judiciário, para criar o Encontro Nacional de Laboratórios de Inovação do Poder Judiciário e o Prêmio Inovação do Poder Judiciário. 2023. Available at: https://atos.cnj.jus.br/atos/detalhar/5261 Accessed on: July 25th 2025.

BRASIL. Conselho Nacional de Ciência e Tecnologia. **Proposta de Plano Brasileiro de Inteligência Artificial 2024-2028,** 2024a. Available at: https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/noticias/2024/07/plano-brasileiro-de-ia-tera-supercomputador-e-investimento-de-r-23-bilhoes-em-quatro-anos/ia_para_o_bem_de_todos.pdf/@@download/file. Accessed on: July 25th 2025.

BRASIL. Conselho Nacional de Justiça. **Justiça em Números,** 2024b. Available at: https://www.cnj.jus.br/wp-content/uploads/2024/05/justica-em-numeros-2024.pdf. Accessed on July 25th 2025.

BRASIL. Tribunal Superior do Trabalho. Ato nº 255/TST.GP, de 24 de Maio de 2022, p. 10–15. **Boletim Interno [do]Tribunal Superior do Trabalho**, n. 21, p. 10-15, 27 maio 2022.

CASTRO, M. P.; Guimaraes, T. A.. Dimensions that influence the innovation process in justice organizations. **Innovation & Management Review**, 17(2), p. 215-231, 2020. Available at: https://doi.org/10.1108/INMR-10-2018-0075. Accessed on: July 25th 2025.

CASTRO, M. P.; Guimarães, T. A.. Dimensões da inovação em organizações da justiça: proposição de um modelo teórico-metodológico. **Cadernos EBAPE.BR**, 17(1), p. 173-184, 2019. Available at: https://doi.org/10.1590/1679-395167960. Accessed on: July 25th 2025.

CHAVES, L. A.. **O arquipélago da Justiça:** o modelo do governo judicial no Brasil e o controle do estatuto da magistratura 1. ed.. Editora Dialética, 2022.

DE MORAES, T. M. S.; Sousa, M. de M.. History Matters: The Institutionalization and Innovation Paradox in the Judiciary. **Social Sciences,** 13(5), p. 247, 2024. Available at: https://doi.org/10.3390/socsci13050247. Accessed on: July 25th 2025.

DE VRIES, H.; BEKKERS, V.; TUMMERS, L. **Innovation in the public sector**: A systematic review and future research agenda. Public Administration, 94(1), p. 146–166, 2016. https://doi.org/10.1111/padm.12209. Accessed on: July 25th 2025.

GUIMARÃES, T. A.; GOMES, A. O.; GUARIDO FILHO, E. R. . Administration of justice: an emerging research field. **RAUSP Management Journal,** 53(3), p. 476-482, 2018. Available at: https://doi.org/10.1108/RAUSP-04-2018-010. Accessed on: July 25th 2025.

HUPE, P. L.; HILL, M. J. 'And the rest is implementation.' Comparing approaches to what happens in policy processes beyond Great Expectations. **Public Policy and Administration**, 31(2), 103–121. 2016. Available at: https://doi.org/10.1177/0952076715598828 Accessed on: July 25th 2025.

KIM, Y.; LUI, S. S. The impacts of external network and business group on innovation: Do the types of innovation matter? **Journal of Business Research**, 68(9), 1964–1973. 2015. Available at: https://doi.org/10.1016/j.jbusres.2015.01.006 Accessed on: July 25th 2025.

LAPUENTE, V.; SUZUKI, K. . Politicization, Bureaucratic Legalism, and Innovative Attitudes in the Public Sector. **Public Administration Review,** 80(3), p. 454-467, 2020. https://doi.org/10.1111/puar.13175. Accessed on: July 25th 2025.

LIPSKY, M. **Burocracia em nível de rua**: Dilemas do indivíduo nos serviços públicos. Brasília: Escola Nacional de Administração Pública (Enap). 2019. Available at: https://repositorio.enap.gov.br/handle/1/4699 Accessed on: July 25th 2025.

NORTH, D. C. **Institutions, Institutional Change and Economic Performance.** Cambridge: Cambridge University Press. 1990.

ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. **OECD–Policy Observatory,** 2024a. Available at: https://oecd.ai/en/. Accessed on: July 25th 2025

ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. **Recommendation of the Council on Artificial Intelligence.**, 2024b. Available at: https://one.oecd.org/document/C/MIN(2024)16/FINAL/en/pdf. Accessed on: July 25th 2025

OMRANI, N.;*et al*. Drivers of Digital Transformation in SMEs. **IEEE Transactions on Engineering Management,** 71, p. 50300-5043, 2024. Available at: https://doi.org/10.1109/TEM.2022.3215727. Accessed on: July 25th 2025.

PAGE, S. E. Path dependence. **Quarterly Journal of Political Science**, 1(1), 87–115. 2006. Available at: https://doi.org/10.1561/100.00000006 Accessed on: July 25th 2025.

REALE, Miguel. (2017). **Lições Preliminares de Direito**. São Paulo: Saraiva. 2017.

SYDOW, J.; SCHREYÖGG, G.;KOCH, J. On the Theory of Organizational Path Dependence: Clarifications, Replies to Objections, and Extensions. **Academy of Management Review,** 45(4), p. 717-734, 2020. Available at: https://doi.org/10.5465/amr.2020.0163. Accessed on: July 25th 2025.

TOLBERT, P. S.; ZUCKER, L. G. Institutionalization of Institutional Theory. *In*: Clegg, S. R.; Hardy, C.; Nord, W. R. (Eds.), **Handbook of Organization Studies**. pp. 175-190, 1998. London: Sage Publications.

TORNATZKY, L. G.;KLEIN, K. J. Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. **IEEE Transactions on Engineering Management,** EM-29(1), p. 28-45, 1982. Available at: https://doi.org/10.1109/TEM.1982.6447463. Accessed on: July 25th 2025.

TUMMERS, L.; *et al*. The Effects of Work Alienation and Policy Alienation on Behavior of Public Employees. **Administration & Society,** 47(5), p. 596-617, 2015. Available at: https://doi.org/10.1177/0095399714555748. Accessed on: July 25th 2025.

WEST, M. A.; FARR, J. L. Innovation at work: Psychological perspectives. **Social Behaviour**, 4(1), 1989.

YUKL, G.; GORDON, A.; TABER, T. A hierarchical taxonomy of leadership behavior: Integrating a half century of behavior research. **Journal of Leadership & Organizational Studies**, 9(1), 15–32. 2002. Available at: https://doi.org/10.1177/107179190200900102. Accessed on: July 25th 2025.

NOTAS

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