



Mix Sustentável

Inovação Social para Sustentabilidade na Execução Penal: Benefícios Legais, Inclusão e Reintegração

Social Innovation for Sustainability in Penal Execution: Legal Benefits, Inclusion, and Reintegration

Innovación Social para la Sostenibilidad en la Ejecución Penal: Beneficios Legales, Inclusión y Reintegración

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Resumo: O sistema prisional brasileiro enfrenta crescente crise de sustentabilidade social e econômica, caracterizada pelo aumento constante da população carcerária, déficit de defensores públicos e rigidez institucional que

**ORIGINAL ARTICLE –
SCIENTIFIC SECTION
RESPONSIBLE EDITORS:** Lisiane Ilha Librelotto, Dr. Eng., Paulo Cesar Machado Ferroli, Dr. Eng.

SUBMITTED ON

17/10/2024

ACCEPTED ON

20/01/2026

PUBLISHED ON

17/03/2026

PID

10.29183/2447-

3073.MIX2025.v11.n4.236-248



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impede apenas de acessarem benefícios legais na fase de execução penal. Este cenário gera custos públicos elevados, superlotação e altas taxas de reincidência, comprometendo os Objetivos de Desenvolvimento Sustentável relacionados à justiça inclusiva. Este estudo objetiva analisar a capacidade de um Framework Criativo em gerar soluções inovadoras e sustentáveis para os problemas da execução penal brasileira. A metodologia combinou revisão bibliográfica exploratória e sistemática com aplicação prática do framework em equipe multidisciplinar composta por profissionais do Direito e Contabilidade. Os resultados demonstram que o framework gerou 27 ideias viáveis, incluindo sistemas automatizados de monitoramento de benefícios, propostas de ações civis para mudanças legislativas e programas de reintegração pós-libertação, contribuindo para eficiência de recursos públicos e redução de impactos socioambientais do encarceramento. Conclui-se que o Framework Criativo apresenta viabilidade para promover sustentabilidade social em contextos juridicamente rígidos, oferecendo alternativas ecoeficientes que alinham inovação social, justiça e preservação de direitos humanos.

Palavras-chave: Sustentabilidade social; Execução penal; Design criativo; Framework inovador; Reintegração social.

Abstract: The Brazilian prison system faces a growing social and economic sustainability crisis, characterized by the constant increase in the prison population, shortage of public defenders, and institutional rigidity that prevents inmates from accessing legal benefits during the penal execution phase. This scenario generates high public costs, overcrowding, and high recidivism rates, compromising the Sustainable Development Goals related to inclusive justice. This study aims to analyze the capacity of a Creative Framework to generate innovative and sustainable solutions for Brazilian penal execution problems. The methodology combined exploratory and systematic bibliographic review with practical application of the framework in a multidisciplinary team composed of Law and accounting professionals. The results demonstrate that the framework generated 27 viable ideas, including automated benefit monitoring systems, proposals for civil actions for legislative changes, and post-release reintegration programs, contributing to public resource efficiency and reduction of socio-environmental impacts of incarceration. It is concluded that the Creative Framework presents viability to promote social sustainability in legally rigid contexts, offering eco-efficient alternatives that align social innovation, justice, and preservation of human rights.

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Keywords: Social sustainability; Penal execution; Creative design; Innovative framework; Social reintegration.

Resumen: El sistema penitenciario brasileño enfrenta una creciente crisis de sostenibilidad social y económica, caracterizada por el aumento constante de la población carcelaria, déficit de defensores públicos y rigidez institucional que impide a los penados acceder a beneficios legales en la fase de ejecución penal. Este escenario genera altos costos públicos, hacinamiento y altas tasas de reincidencia, comprometiendo los Objetivos de Desarrollo Sostenible relacionados con la justicia inclusiva. Este estudio objetiva analizar la capacidad de un Marco Creativo en generar soluciones innovadoras y sostenibles para los problemas de la ejecución penal brasileña. La metodología combinó revisión bibliográfica exploratoria y sistemática con aplicación práctica del marco en equipo multidisciplinario compuesto por profesionales del Derecho y contabilidad. Los resultados demuestran que el marco generó 27 ideas viables, incluyendo sistemas automatizados de monitoreo de beneficios, propuestas de acciones civiles para cambios legislativos y programas de reintegración post-libertad, contribuyendo para eficiencia de recursos públicos y reducción de impactos socioambientales del encarcelamiento. Se concluye que el Marco Creativo presenta viabilidad para promover sostenibilidad social en contextos jurídicamente rígidos, ofreciendo alternativas ecoeficientes que alinean innovación social, justicia y preservación de derechos humanos.

Palabras clave: Sostenibilidad social; Ejecución penal; Diseño creativo; Marco innovador; Reintegración social.

Como citar: CAVALCANTI, Stefani Leite; ALVES, Cristiano; CARVALHO, Zulmara Virgínia de; PANTALEON-MATAMOROS, Efrain; ESTAREGUE, Daniela.

Mix Sustentável, Florianópolis, v. 11, n. 4, p. 236-248, 2026. DOI: <https://doi.org/10.29183/2447-3073.MIX2025.v13.n4.236-248>

Conflict declaration
Nothing to declare.

Funding source

This study was financed in part by the Brazilian agencies CNPq and CAPES.

1 INTRODUCTION

Brazil's prison system is undergoing a profound sustainability crisis that exceeds the strictly legal dimension and generates severe social, economic, and environmental implications for national development (Silva; Oliveira, 2024). Recent penitentiary information systems indicate that the incarcerated population has surpassed 830,000 individuals, consolidating Brazil as one of the three largest prison populations worldwide and reinforcing the structural overload of the penal execution apparatus (Senappen, 2025). This exponential growth, combined with the chronic underfunding and understaffing of public defender's offices, creates a scenario of systemic unsustainability that directly undermines the enforcement of fundamental rights guaranteed by the Brazilian Law on the Enforcement of Sentences (Brasil, 1984).

Penal execution is a procedural stage designed to implement final judicial decisions by ensuring both sentence enforcement and the sentenced person's gradual and orderly social reintegration, as set out in article 1 of the Lei de Execução Penal (Brasil, 1984). However, structural rigidity and case overload within the justice system prevent most incarcerated individuals from accessing legally available benefits such as regime progression, parole, and the substitution of custodial sentences with non-custodial sanctions (Silva; Oliveira, 2024). This operational inefficiency translates into a substantial fiscal burden, as studies on the economic costs of crime estimate billions of reais in annual public expenditure to maintain the current prison infrastructure, resources that could be reallocated to prevention and reintegration policies (SAE, 2018).

From a social sustainability perspective, prolonged and unnecessary incarceration produces measurable negative externalities, including family disruption, loss of employment ties, social stigma, and high recidivism rates, which in Brazil reach some of the highest levels globally (Brasil, 2022; IPEA, 2015). These dynamics directly contradict Sustainable Development Goal 16 (SDG 16) of the 2030 Agenda, which calls on States to “*promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels*” (ONU, 2015). Overcrowded prisons also create significant environmental impacts related to unsustainable water, energy, and food consumption in precarious facilities, reinforcing the need to treat penal policy as an environmental governance issue as well (Penal Reform International; UNICRI, 2025).

Within this complex scenario, creative and innovation-oriented methodologies emerge as promising strategies to transform rigid institutional systems. Social creativity, understood as the collective capacity to generate original solutions for complex social problems, has been recognized as a key driver for embedding sustainability into highly regulated contexts (Mulgan, 2007; Amabile, 1983). Design thinking and structured creative frameworks offer systematic ideation processes that enable diverse stakeholders—including non-experts—to meaningfully contribute to the resolution of multidimensional challenges in justice systems (Brown, 2008; Hagan, 2018).

In this regard, the Creative Framework developed by Alves *et al.* (2024) is a structured methodological tool organized into three stages — Company, Customers, and Activation — designed to systematize the generation and analysis of innovative ideas (Alves *et al.*, 2024). Empirically validated in corporate environments, this framework shows strong potential for application in highly regulated and innovation-resistant sectors such as criminal justice and penal execution, particularly because of its compatibility with multi-stakeholder environments. Its structure, which integrates well-established techniques such as the 6–3–5 method, personas, and STEEP (Social, Technological, Economic, Environmental, and Political) analysis, enables controlled creative exploration that balances ideation freedom with methodological rigor (Osborn, 1963; Fahey & Narayanan, 1986).

This study is situated at the intersection of social sustainability, legal innovation, and creative design, and seeks to answer the following research question: **How can a Creative Framework generate innovative and sustainable solutions for the challenges of Brazilian penal execution?** The overall objective is to analyze the capacity of the Creative Framework proposed by Alves *et al.* (2024) to produce feasible ideas that contribute to the social sustainability of the sentence enforcement system (Alves *et al.*, 2024). The specific objectives are: (i) to map the main creativity techniques applicable to legally rigid contexts; (ii) to apply the Creative Framework in a real case of a criminal law firm; (iii) to assess the feasibility and sustainability potential of the ideas generated; and (iv) to identify the framework’s contributions to public resource efficiency and to the reduction of the socio-environmental impacts of incarceration (Serrat, 2017; Amabile; Pratt, 2016).

The scientific and social relevance of this research lies in the scarcity of studies articulating creative design methodologies with penal execution issues from a sustainability perspective. While legal scholarship focuses predominantly on normative and jurisprudential analysis, and design studies center on business and technological applications, this investigation advances a transdisciplinary approach that recognizes penal execution as a “wicked problem” requiring solutions that transcend traditional disciplinary boundaries (Rittel & Webber, 1973; Manzini, 2015). Furthermore, by demonstrating the applicability of creative frameworks in rigid regulatory environments, the study expands the methodological repertoire available for innovative and sustainable public sector management, particularly in the field of criminal justice policy (Susskind, 2017; Sabatier & Weible, 2014).

2 THEORETICAL FRAMEWORK

2.1 SOCIAL SUSTAINABILITY IN PENAL EXECUTION

Brazilian sentence enforcement provides a privileged field for analyzing social sustainability, a dimension often overshadowed by the environmental and economic pillars of sustainability (Sachs, 2009). Social sustainability refers to the equitable distribution of income and resources so as to reduce the gap between the living standards of the rich and the poor, and to the expansion of fundamental rights and guarantees for the

population as a whole (Sachs, 2009). In the prison context, this dimension is expressed through the protection of prisoners' rights, the promotion of dignified conditions for serving sentences, and the implementation of reintegration mechanisms that reduce criminal recidivism (IPEA, 2015; Brasil, 2022).

The Brazilian Law on the Enforcement of Sentences (Lei de Execução Penal, Law No. 7.210/1984) establishes that the purposes of penal execution are “to enforce the provisions of criminal judgments and decisions and to provide conditions for the harmonious social integration of convicted and interned persons” (Brasil, 1984). This dual purpose—retributive and rehabilitative—aligns with sustainability principles when effectively implemented, fostering restorative justice, reducing social costs, and preserving human dignity (Mulgan, 2007; Manzini, 2015). Silva and Oliveira (2024) argue that electronic monitoring and alternatives to incarceration represent significant advances toward more sustainable penal systems, as they reduce operational expenditures and mitigate the negative impacts of imprisonment on families (Silva & Oliveira, 2024; MJSP, 2023).

The concept of legal design emerges as an innovative approach to rethinking legal systems through user-centered methodologies (Hagan, 2018; 2020). In contrast to traditional legal practice, which focuses on abstract legal norms, legal design proposes that legal services and procedures be designed around the real needs, capabilities, and lived experiences of citizens (Susskind, 2017). Applied to sentence enforcement, legal design raises critical questions: How can legal benefits be made more accessible to incarcerated people? How can procedural bureaucracy that blocks regime progression be reduced? How can administrative workflows that directly affect vulnerable individuals be humanized?

Fernandes (2021) documents that alternative models of penal execution, such as the APAC (Association for the Protection and Assistance of Convicted Persons), reach recidivism rates below 15%, in stark contrast with rates around 70% in the conventional system (Fernandes, 2021; IPEA, 2015). These results are grounded in a human-centered approach that prioritizes education, work, and psychological and spiritual support, showing that investments in social sustainability yield outcomes superior to purely punitive and custodial responses (Manzini, 2015).

The economic sustainability of the prison system also demands attention. Empirical studies on recidivism and prison costs indicate that each prisoner imposes a substantial monthly burden on the State, adding up to annual expenditures in the tens of billions of reais (IPEA, 2015; SAE, 2018). Penal alternatives based on monitoring technologies, community restitution, and employability programmes operate at significantly lower costs — often a fraction of incarceration — and free resources that can be reallocated to preventive investments in education, health, and income generation in highly vulnerable communities (MJSP, 2023).

From the standpoint of the Sustainable Development Goals (SDGs), reforming sentence enforcement is directly connected to SDG 16 (Peace, Justice and Strong Institutions), but also to SDG 10 (Reduced

Inequalities), SDG 8 (Decent Work and Economic Growth), and SDG 3 (Good Health and Well-Being) (ONU, 2015). This multidimensionality reinforces the need for systemic and transdisciplinary approaches capable of articulating legal, social, economic, and technological dimensions (Rittel & Webber, 1973; Sabatier & Weible, 2014).

2.2 CREATIVITY, SOCIAL INNOVATION AND DESIGN METHODOLOGIES

Creativity is a fundamental human capability for addressing complex problems and generating original solutions in challenging contexts. Sternberg (2000) defines creativity as the capacity to produce work that is both new (original, unexpected) and appropriate (useful and adapted to task constraints), integrating novelty and usefulness in a single construct (Sternberg, 2000; Amabile, 1983). In the field of social innovation, creativity transcends the individual level and manifests as a collective phenomenon in which diverse actors co-create alternatives to persistent social problems (Mulgan, 2007; Phills, Deiglmeier; Miller, 2008).

Brown (2008) systematized design thinking as a human-centered approach to innovation structured in five stages: empathy, definition, ideation, prototyping, and testing (Brown, 2008; 2017). Design thinking has been successfully applied in public policy, public health, and education, demonstrating its effectiveness in transforming complex systems through iterative, user-centered experimentation (Kimbell, 2011; Kolko, 2015).

Creativity techniques play an instrumental role in the ideation phase. Brainstorming, developed by Osborn (1953), proposes free idea generation in a non-critical environment that emphasizes quantity before quality assessment (Osborn, 1963; Amabile & Pratt, 2016). Serrat (2017) confirms the effectiveness of brainstorming for tackling complex problems when it is conducted under clear protocols that protect psychological safety and support divergent thinking (Serrat, 2017). The 6–3–5 method, a structured form of brainwriting, organizes idea generation as follows: six participants each generate three ideas in five minutes and then pass their sheets on for incremental development, producing up to 108 ideas in 30 minutes (Geschka, 2006; Serrat, 2017).

The persona technique, originating in interaction design, consists of creating fictional yet empirically grounded representations of typical users, incorporating demographic, behavioural, motivational, and frustration profiles (Cooper, 1999). By humanizing abstract data, personas facilitate empathy and orient solutions toward real needs rather than generic averages (Brown, 2008). In the context of sentence enforcement, personas can represent incarcerated people, their family members, public defenders, and justice system operators, making visible multiple perspectives that are often marginalized in doctrinal and bureaucratic debates.

STEEP analysis (Social, Technological, Economic, Environmental, and Political) is a foresight tool used to identify macro-environmental trends that can affect organizational systems (Fahey & Narayanan, 1986). Unlike SWOT analysis, which focuses primarily on internal diagnostics and current conditions, STEEP

is explicitly future-oriented and supports the anticipation of contextual transformations that should inform long-term strategies. This technique is particularly relevant for legal systems, which are traditionally marked by institutional inertia and resistance to change (Susskind, 2017; Sabatier & Weible, 2014).

Álvarez-Marín, Castillo-Vergara, and Alfaro-Castillo (2014) argue that integrating creativity and innovation into educational and professional processes is imperative for responding to twenty-first-century challenges (Álvarez-Marín, Castillo-Vergara, & Alfaro-Castillo, 2014). Complementarily, Amabile and Pratt (2016) demonstrate that structured ideation processes and supportive work environments are essential in contexts of constant change, enabling agile adaptation and the generation of sustainable value (Amabile & Pratt, 2016).

2.3 CREATIVE FRAMEWORK: STRUCTURE AND APPLICABILITY

The Creative Framework developed by Alves et al. (2024) represents a methodological advancement in the systematization of creative processes in organizational and social contexts (Alves et al., 2024). Structured into three interconnected stages — Organization, Clients, and Activation — the framework integrates established creativity techniques into a coherent flow that balances creative exploration with critical analysis (Alves et al., 2024; Serrat, 2017).

The Organization stage focuses on the internal perspective of the organization or system under analysis, exploring its sector, domain, values, and core activities. This phase employs guiding questions that encourage deep reflection on the business or service model and help identify leverage points for innovation (Alves et al., 2024). Defining core activities — the essential set of activities that generate distinctive value — subsequently guides idea generation aligned with the system's identity and capabilities (Manzini, 2015).

The Clients stage shifts the focus to the external perspective, aiming to understand users, beneficiaries, or stakeholders in a systemic way. The construction of personas anchors this understanding, followed by journey mapping that identifies touchpoints, pain points, and opportunities for improvement along the service trajectory (Cooper, 1999; Brown, 2008). Applying STEEP analysis to personas anticipates trends that may affect their future needs, thereby orienting solutions toward prospective rather than merely reactive responses (Fahey & Narayanan, 1986).

The Activation stage manages the ideas generated in the previous phases by promoting selection, prioritization, and implementation planning. This phase differentiates the framework from purely ideation-oriented methods by incorporating a pragmatic dimension that is essential for turning creativity into effective innovation and concrete change (Serrat, 2017; Amabile & Pratt, 2016).

Alves et al. (2024) report that applying the framework across diverse contexts — including technology start-ups, third-sector organizations, and educational projects — has generated feasible ideas even when participants did not possess prior technical expertise in the problem domain (Alves et al., 2024). This feature,

namely the democratization of the creative process, is particularly valuable in intersectoral and transdisciplinary contexts, where diversity of perspectives significantly enriches the solution space (Mulgan, 2007; Manzini, 2015).

The theoretical foundations of the framework are anchored in cognitive psychology of creativity, especially Amabile's componential theory, which identifies domain expertise, creativity-relevant skills, and intrinsic motivation as essential components of creative performance (Amabile, 1983; Amabile & Pratt, 2016). The framework addresses these components by (i) building minimum domain knowledge through its initial diagnostic activities, (ii) structuring techniques that stimulate both divergent and convergent thinking, and (iii) fostering a psychologically safe environment that supports intrinsic motivation among participants (West, 2012).

Applying the framework to legally rigid contexts such as sentence enforcement requires careful adaptation to field-specific constraints. Unlike business environments, where innovations can be implemented autonomously, innovations in legal systems face regulatory barriers, binding precedents, and conservative institutional cultures (Susskind, 2017; Sabatier & Weible, 2014). Nonetheless, these constraints do not eliminate innovation opportunities — particularly in operational, technological, and process-management dimensions — making the Creative Framework a potentially transformative tool when properly contextualized and co-designed with legal practitioners, public managers, and affected communities (Hagan, 2018; CNJ, 2023).

3 METHODOLOGICAL PROCEDURES

3.1 RESEARCH DESIGN

This study is characterized as an exploratory–descriptive investigation with a qualitative approach, oriented toward analyzing the applicability of creative methodologies to sentence enforcement in Brazil from a social sustainability perspective (Gil, 2017; Marconi & Lakatos, 2019). The exploratory nature is justified by the scarcity of prior research that systematically articulates creative design frameworks with penal execution problems, which calls for an initial inquiry capable of mapping possibilities and generating hypotheses for future studies (Gil, 2017). The descriptive dimension lies in the systematic documentation of the Creative Framework's application process and in the analysis of the ideas generated, thereby providing an empirical basis for understanding the phenomenon under investigation (Marconi & Lakatos, 2019).

3.2 LITERATURE REVIEW PROCEDURES

The theoretical foundation of the study was built through a combination of exploratory and systematic review procedures, following a protocol adapted from Ferenhof and Fernandes (2016) and Page *et al.* (2021). The exploratory review, conducted between June and July 2024, aimed to map the state of the art in three

thematic domains: sentence enforcement and social sustainability; creativity and innovation in legal contexts; and design thinking frameworks and methodologies (Mulgan, 2007; Manzini, 2015).

The databases consulted included SciELO, Google Scholar, the CAPES Journals Portal, and Consensus AI, using combinations of keywords such as “sentence enforcement,” “social sustainability,” “legal innovation,” “legal design,” “creative framework,” “design thinking,” “social reintegration,” and “penal alternatives,” combined with Boolean operators (AND, OR). Inclusion criteria were as follows: publications between 2014 and 2024; Portuguese, English, or Spanish; and empirical or theoretical studies relevant to the research questions. Exclusion criteria comprised duplicates, abstracts without full-text access, and non-peer reviewed documents (Ferenhof & Fernandes, 2016; Page et al., 2021).

The systematic review focused specifically on studies addressing the Creative Framework proposed by Alves et al. (2024) and related methodologies, resulting in a final corpus of 47 documents distributed across three thematic domains, namely sentence enforcement and sustainability, creativity and social innovation, and creative design frameworks (Alves et al., 2024; Amabile & Pratt, 2016).

3.3 APPLICATION OF THE CREATIVE FRAMEWORK

3.3.1 Case Context and Justification

The case selected for application of the Creative Framework is a criminal law office based in Natal, Rio Grande do Norte, specializing in sentence enforcement and operating for eight years with approximately 120 clients serving sentences. The choice of this case is justified by three criteria. First, representativeness, as the office faces operational challenges typical of Brazilian sentence enforcement, including case overload, manual calculation of deadlines, and difficulties in systematically monitoring legal benefits (CNJ, 2023). Second, access, since the professionals were available and willing to participate actively in the research. Third, impact potential, given that the solutions generated can directly benefit dozens of incarcerated persons and their families and may be scaled to similar contexts.

3.3.2 Participants and Team Composition

The creative team comprised four participants, selected to ensure diversity of perspectives, in line with methodological recommendations for teamwork and creative processes (West, 2012; Amabile & Pratt, 2016). Participant 1 (P1) is a 28-year-old criminal lawyer with six years of experience in sentence enforcement and a partner at the case office. Participant 2 (P2) is a 26-year-old criminal lawyer with four years of experience, working as an associate. Participant 3 (P3) is a 30-year-old accountant specializing in financial management of law firms, without formal legal training. Participant 4 (P4) is a 22-year-old law student and intern at the Public Defender’s Office, with hands-on experience in attending vulnerable populations.

The deliberate inclusion of a non-lawyer participant (P3) is grounded in evidence that heterogeneous

teams tend to produce more innovative solutions by avoiding professional bias and introducing unexpected viewpoints (West, 2012; Benkler, 2006). The participation of the Public Defender's Office intern (P4) ensured representation of a public institutional perspective that complements the private practice viewpoint of the office.

3.3.3 Application Protocol

The Creative Framework was applied in three in-person sessions held at the law office, totaling seven hours of work distributed across three weeks in August 2024. The protocol followed the stages proposed by Alves *et al.* (2024), with context-sensitive adaptations that were fully documented (Alves *et al.*, 2024).

The first session, corresponding to the Organization stage, lasted two hours and thirty minutes. It began with a detailed presentation of the problem, covering the office's business model, client volume, case types, main operational bottlenecks, and limitations of the existing case-tracking system. Next, a conceptual leveling segment was conducted to explain key legal concepts such as regime progression, parole, and sentence remittance to the non-lawyer participant using accessible language and practical examples (Brasil, 1984). The team then defined the office's core activities through a brainstorming exercise followed by dot-voting, identifying and prioritizing four central activities that generate distinctive value for clients (Osborn, 1963; Serrat, 2017). Ideation proceeded with a modified 6–3–5 method (four participants, three ideas, five minutes per round), generating twelve rounds and a total of 144 raw ideas (Geschka, 1996). The session ended with collective convergence and selection, in which ideas were clustered by similarity and the three most promising, aligned with the core activities, were chosen.

The second session, corresponding to the Clients stage, lasted three hours and focused on user-centered analysis. The team collaboratively constructed two personas representing typical clients: "José," a 35-year-old former prisoner on parole and unemployed, and "Maria," a 58-year-old retired mother of an incarcerated person (Cooper, 1999). Each persona was detailed with demographic attributes, goals, frustrations, daily routines, and relationship with the sentence enforcement system. The group then mapped each persona's journey through legal services, step by step, identifying pain points such as excessive bureaucracy, information gaps, and anxiety, as well as moments of potential delight. Subsequently, the team conducted a STEEP analysis, identifying social, technological, economic, environmental, and political trends likely to affect the personas over the next five years, which were plotted on a probability–impact matrix (Fahey & Narayanan, 1986). This analysis supported a new 6–3–5 ideation round oriented toward the personas' needs, generating an additional set of ideas from which three were selected by consensus as most impactful. During this session a coffee break was purposefully offered, drawing on evidence that glucose availability can affect self-control and cognitive performance in demanding tasks, including creative activities (Gailliot & Baumeister, 2007).

The third session, corresponding to the Activation stage, lasted one hour and thirty minutes and focused

on transforming ideas into implementable proposals. The six priority ideas (three emerging from the Organization stage and three from the Clients stage) were consolidated in a portfolio and systematized in an evaluation matrix. For each idea, the team collaboratively assessed technical feasibility, legal feasibility, estimated implementation costs, social impact potential, and alignment with social sustainability principles (Manzini, 2015). A GUT matrix (gravity, urgency, trend) was then applied to prioritize implementation, and a preliminary action plan was drafted for the top-ranked idea, which consisted of developing an automated monitoring software for sentence enforcement cases.

3.3.4 Data Collection and Analysis

All materials produced during the sessions, including sticky notes, persona sketches, analysis matrices, and idea lists, were photographed and digitized. Group discussions were audio-recorded with participants' consent and later transcribed in full. Qualitative analysis followed a thematic content analysis approach, identifying patterns, convergences, and emergent insights in participants' contributions (Braun & Clarke, 2006).

The generated ideas were categorized into three dimensions: technological solutions based on software, applications, or automation; process-oriented proposals focused on redesigning workflows and internal procedures; and systemic ideas related to legislative changes, public policies, or inter-institutional coordination (Rittel & Webber, 1973; Sabatier & Weible, 2014). For each idea, the study assessed its potential contribution to social sustainability using five indicators: reduction of public costs, enhanced access to justice, reduction of recidivism, preservation of family ties, and operational efficiency (Mulgan, 2007; CNJ, 2023).

3.4 ETHICAL CONSIDERATIONS

The research complied with ethical principles governing studies involving human participants. All participants were informed about the objectives, procedures, and intended use of the data and provided informed consent. The identities of participants and any sensitive information concerning the law office's clients were anonymized at all stages of documentation and analysis, in line with good practices for qualitative legal and socio-legal research (Thiollent, 2011).

3.5 METHODOLOGICAL LIMITATIONS

The study acknowledges several methodological limitations. First, the small sample of four participants restricts the range of perspectives captured, although it remains adequate for an in-depth exploratory study (Gil, 2017). Second, the single-case design limits external validity, so generalization to other contexts should be cautious and supported by future replications (Marconi & Lakatos, 2019). Third, self-selection bias is possible, since volunteers may be more favorably inclined toward innovation than the broader population of

legal professionals (West, 2012). Fourth, the ideas generated were not implemented or empirically tested within the timeframe of this research, which prevents assessing their actual effectiveness in practice (Amabile & Pratt, 2016). Finally, temporal constraints meant that the creative process was concentrated in seven hours of group work, which may not fully capture the long-term potential of the framework when embedded in organizational routines (Manzini, 2015; Alves et al., 2024).

4 RESULTS

4.1 CORE ACTIVITIES

The first stage of applying the Creative Framework led to the identification and prioritization of four core activities that define the law firm's distinctive value proposition within the domain of sentence enforcement (Alves et al., 2024). These core activities, collectively defined by the team, are: Core Activity 1, strict compliance with procedural acts within the legally prescribed deadlines; Core Activity 2, agile and human-centered responses to the needs of clients and their families; Core Activity 3, personalized legal services that respect each client's individuality and dignity; and Core Activity 4, continuous professional development combined with the automation of operational processes.

The set of core activities reveals a productive tension between technical-legal dimensions, such as complying with deadlines and maintaining professional qualification, and humanistic dimensions, such as respect for dignity and personalized service, which mirrors the social sustainability principles embedded in the Brazilian Law on the Enforcement of Sentences (Brasil, 1984; Sachs, 2009). Notably, Core Activity 4, by emphasizing automation, anticipates a technological orientation that later becomes central in the portfolio of ideas generated, aligning with broader trends in legal digitalization and legal design (Susskind, 2017; Hagan, 2018).

4.2 PERSONAS AND CLIENT JOURNEYS

The Clients stage produced two detailed personas representing typical user profiles of sentence enforcement services. Table 1 summarizes the main characteristics of each persona.

Table 1 — Characteristics of developed personas

Aspect	Persona 1 — José	Persona 2 — Maria
Age	35 years	58 years
Educational background	Incomplete upper-secondary education	Completed primary education
Legal status	Former prisoner on parole	Family member of a prisoner (mother)
Occupation	Unemployed	Retired

Main goals	Professional reintegration; providing for his family	Peace of mind; seeing her son released
Main challenges	Social stigma; difficulties accessing the labour market; anxiety	Understanding legal procedures; communicating with her incarcerated son; limited resources
Relationship with technology	Low; uses only basic WhatsApp	Very low; needs assistance
Main pain point	<i>“I feel like society has discarded me.”</i>	<i>“I do not know whether my son is being treated properly.”</i>

Source: prepared by the authors.

The construction of these personas revealed dimensions that are often invisible within the formal legal system. These include informational anxiety experienced by both the person serving a sentence and their family, technological vulnerability that hampers access to digitized procedural information, and psychosocial distress associated with the stigma of imprisonment (Cooper, 1999; Brown, 2008). Such dimensions point to gaps in social sustainability that require not only legal remedies but also communicational, technological, and psychosocial responses, echoing the broader notion that access to justice depends on user-centered design of legal services (Hagan, 2018; Susskind, 2017).

4.3 STEEP ANALYSIS AND PROSPECTIVE TRENDS

The STEEP analysis identified ten macro-environmental trends with potential impact on the personas over the next five years (Fahey & Narayanan, 1986). From a social perspective, the team noted, first, experiments with a reduced working week, particularly four-day work schedules, and, second, increasing public awareness of prisoners’ rights, both of which reshape expectations about work–life balance and humane treatment in the criminal justice system (ONU, 2015; CNJ, 2023). On the technological axis, two trends stood out: the rapid expansion of artificial intelligence in legal services and the emergence of independent software tools dedicated to sentence-enforcement calculations, reinforcing the centrality of legal tech in the near future of penal practice (Susskind, 2017; Hagan, 2018).

Economically, the analysis highlighted growing fiscal pressure on public expenditure in the prison system alongside a stronger policy emphasis on employability programmes for ex-prisoners, signalling incentives for solutions that reduce costs while improving social reintegration (SAE, 2018; Brasil, 2022). In the environmental dimension, participants identified concerns about the effects of climate change on prison infrastructure, especially older and overcrowded facilities, together with rising demands that public construction projects comply with sustainability standards (Penal Reform International & UNICRI, 2025). At the political level, two converging dynamics were mapped: reforms to sentence-enforcement legislation aimed at humanization and the expansion of penal alternatives and restorative justice mechanisms, in line with the commitments of the 2030 Agenda and SDG 16 on peaceful and inclusive societies (ONU, 2015; Sachs, 2009).

The probability–impact matrix showed that 60% of these trends were classified as “high probability and high impact,” with particular prominence for automated software for sentence-enforcement calculations, fiscal pressure to reduce prison costs, and humanizing legislative reforms (Umbrex, 2025). Taken together, these converging trends delineate a favourable scenario for adopting sustainable technological solutions and validate the relevance of the ideas later developed in the study, especially those oriented toward legal technology and collaborative open-source tools (Susskind, 2017; Edstellar, 2026).

4.4 PORTFOLIO OF GENERATED IDEAS

The application of the 6–3–5 method during both the Organization and Clients stages initially produced 27 distinct ideas, of which 12 were oriented by the core activities and 15 were guided by the personas’ needs (Osborn, 1963; Geschka, 1996). After a convergence process involving grouping by similarity and collaborative voting, six ideas were prioritized for in-depth analysis. These ideas, together with their descriptions and categories, are presented in Table 2.

Table 2 — Evaluation matrix of prioritized ideas

ID	Idea	Description	Category
E1	Automated benefit-monitoring system	Software that automatically calculates deadlines for regime progression, parole, and other benefits and issues alerts to the law firm while sending notifications to clients and family members via WhatsApp Business.	Technological
E2	Client satisfaction dashboard	Implementation of periodic satisfaction surveys with an analytical dashboard to identify service improvement opportunities and monitor user experience.	Processual
E3	Post-release reintegration programme	Partnership between the law firm, companies, and NGOs to provide career guidance, job referral, and psychosocial support for ex-prisoners.	Systemic
C1	Public civil action for legislative reforms	Strategic public civil action in coordination with the Public Prosecutor’s Office to challenge unconstitutional practices in sentence enforcement and to press for changes in labour, social security, and enforcement legislation.	Systemic
C2	Collaboration in the development of public software	Joint development of open-source sentence-calculation software with Public Defender’s Offices and courts, democratizing access to legal technology.	Technological
C3	Prison socio-environmental education programme	Proposal of projects through public agencies so that prisoners engage in environmental mitigation activities, combining social reintegration, sentence reduction, and environmental sustainability.	Systemic

Source: prepared by the authors.

The portfolio evidences a balanced distribution among technological, process-oriented, and systemic solutions, which reflects the multilevel nature of the problems faced in sentence enforcement and resonates with the notion of wicked problems in public policy (Rittel & Webber, 1973). Technological ideas such as E1

and C2 directly address information asymmetries and operational overload, whereas systemic proposals like C1 and C3 seek to reshape institutional arrangements and public policies, converging with international debates on green prisons and sustainable justice (Penal Reform International & UNICRI, 2025).

4.5 FEASIBILITY AND SUSTAINABILITY ASSESSMENT OF IDEAS

Each prioritized idea was subjected to a multidimensional assessment considering five criteria: technical feasibility, legal feasibility, implementation cost, social impact, and contribution to sustainability (Manzini, 2015). Table 3 presents the resulting evaluation matrix, using a five-point scale where 1 represents low and 5 represents high, with cost interpreted inversely so that lower cost yields a higher score.

Table 3 — Evaluation matrix of prioritized ideas

ID	Technical feasibility	Legal feasibility	Cost (inverse)	Social impact	Sustainability	Total score
E1	5	5	3	5	5	23
E2	5	5	5	3	3	21
E3	3	4	3	5	5	20
C1	3	3	4	4	4	18
C2	4	5	3	5	5	22
C3	2	4	2	4	5	17

Source: prepared by the authors.

Idea E1, the automated benefit-monitoring system, emerged as the top priority, achieving maximum scores in four of the five criteria. This technological solution directly addresses the three main problems identified in the diagnostic phase: operational overload on lawyers, information deficits experienced by clients, and loss of deadlines for filing benefit requests (CNJ, 2023; Silva & Oliveira, 2024). From a sustainability standpoint, the system contributes to social sustainability by improving access to legal information, reducing anxiety among incarcerated persons and their families, and increasing the rate at which legally due benefits are actually granted; to economic sustainability by reducing repetitive manual work and allowing lawyers to reallocate time to higher-value activities, thereby indirectly lowering incarceration costs through timely regime progressions; and to operational sustainability by minimizing human error in complex calculations, standardizing procedures, and generating data that supports evidence-based management (Manzini, 2015).

Idea C2, the collaborative open-source software, ranked second and stands out for its potential to democratize access to legal technology. Unlike proprietary commercial solutions, a public, open-source tool would simultaneously benefit Public Defender's Offices, small law firms, and university legal clinics, thus

multiplying social impact and aligning with the logic of the digital commons and networked production (Benkler, 2006).

4.6 DETAILING THE PRIORITY IDEA: AUTOMATED SYSTEM

During the Activation stage, idea E1 was elaborated into a set of preliminary functional specifications. The proposed system comprises five modules. The first is a registration and data-import module, which structures client information, including personal, criminal, and procedural data, and allows automated import of information from electronic court systems where integration is available. The second is a legal calculation engine that automates computations related to minimum time requirements for regime progression, parole eligibility, sentence remittance through work and study, pre-sentence detention credit, and sentence consolidation, and is designed to be updated in light of new legislation and case law (Brasil, 1984; CNJ, 2023).

The third module is an alerts and notifications system that sends automatic notifications to the law firm when a client meets objective temporal criteria for a benefit, with a configurable lead time (for example, 30 days), and issues WhatsApp Business messages to clients and registered relatives informing them of deadlines, hearings, and court decisions. The fourth module is a document automation component that uses customizable templates to generate petitions for regime progression, parole, and sentence remittance, automatically populating client data and calculations and reducing drafting time for repetitive documents by an estimated 70% (Susskind, 2017). The fifth module is a management and analytics dashboard that consolidates indicators such as benefit grant rates, average processing time, and client satisfaction, and identifies patterns such as courts with faster processing or benefits with higher success rates, thereby informing strategic decisions.

Informal consultation with legal-tech developers confirmed the technical feasibility of the system and produced an estimated development cost between BRL 80,000 and BRL 120,000 for a functional minimum viable product. Considering that the case law firm currently invests approximately 180 hours per month in manual calculations, corresponding to around BRL 18,000 in qualified work time, the projected payback period is under seven months, even before accounting for the public savings associated with reducing unnecessary incarceration (IPEA, 2015; SAE, 2018).

4.7 SYSTEMIC CONTRIBUTIONS: IDEAS C1 AND C3

Although more complex to implement, ideas C1 and C3 represent systemic innovation proposals with the potential to produce structural change in the sentence enforcement system. Idea C1, a strategic public civil action, targets three constitutional issues identified by participants: the lack of personal notification of incarcerated persons regarding decisions that affect them, delays in adjudicating benefit requests that amount to “illegal incarceration through administrative inefficiency,” and inconsistent interpretive practices across courts that undermine equality before the law (Cardoso, 2012; CNJ, 2023). By mobilizing law firms, Public

Defender's Offices, and the Public Prosecutor's Office, this proposal exemplifies public-interest strategic litigation that uses the justice system not only to resolve individual cases but also to generate precedents and institutional reforms (Cardoso, 2012).

Idea C3, a prison socio-environmental programme, draws inspiration from international experiences such as green prison initiatives that involve incarcerated persons in reforestation, recycling, and sustainable agriculture projects, combining sentence remittance with professional training and environmental restoration (Penal Reform International & UNICRI, 2025). In Brazil, such a programme could be linked to policies for rehabilitating degraded areas, managing urban solid waste, and supporting family agriculture, thereby connecting social reintegration, ecological recovery, and income generation. This intersection of social, environmental, and economic outcomes illustrates the potential of design for social innovation to reframe carceral policies within a broader sustainability agenda (Manzini, 2015).

4.8 QUANTITATIVE SYNTHESIS OF RESULTS

The application of the Creative Framework yielded several quantitative results. A total of 27 distinct ideas were generated across the ideation stages, of which six were prioritized for in-depth analysis, distributed into three categories: three technological solutions, one process-oriented solution, and two systemic proposals. Two personas were developed, each with twelve detailed attributes, and four core activities were identified as the firm's competitive differentials. Ten STEEP trends were mapped, 60% of which were classified as high-impact. The process involved seven hours of collaborative work across three sessions, and all participants rated the experience as "highly productive" in a post-session survey (West, 2012). These indicators highlight the framework's productivity in generating a substantial volume of structured ideas within a relatively short time, supporting its methodological efficiency.

5 DISCUSSIONS

5.1 FEASIBILITY OF THE CREATIVE FRAMEWORK IN LEGALLY RIGID CONTEXTS

The results confirm the core hypothesis that structured creative frameworks can generate innovative solutions even in domains traditionally resistant to change, such as criminal justice and sentence enforcement (Hagan, 2018; Susskind, 2017). Three factors help explain this outcome. First, the framework provided enough structure to guide the creative process without suppressing ideation freedom. Second, team diversity, including a non-lawyer participant, introduced non-conventional perspectives that expanded the solution space, in line with research on teamwork and creativity in organizations (West, 2012; Amabile & Pratt, 2016). Third, empathy-oriented techniques such as personas and journey mapping humanized otherwise abstract legal problems and fostered emotional engagement that motivates social innovation (Brown, 2008; Cooper, 1999).

Compared with previous studies on design thinking in legal contexts, which tend to focus on improving

user experience in digital legal services, this research advances the field by documenting the ideation process in detail and explicitly evaluating the sustainability dimension of the solutions (Hagan, 2020; Kolko, 2015). It shows that creative design frameworks can address structural public policy issues and not only surface-level service design questions.

5.2 CONTRIBUTIONS TO THE SOCIAL SUSTAINABILITY OF THE PRISON SYSTEM

The ideas generated, particularly the automated monitoring system (E1) and the post-release reintegration programme (E3), align directly with the three pillars of social sustainability proposed by Sachs (2009), namely equity, access to rights, and quality of life (Sachs, 2009). In terms of equity, the automated system and its open-source variant democratize access to accurate legal calculations historically restricted to well-resourced law firms, and extending such tools to Public Defender's Offices would reduce access-to-justice asymmetries among prisoners with different economic means (CNJ, 2023). Regarding access to rights, automated alerts combat the phenomenon of involuntary waiver of rights due to lack of information, a frequent issue in sentence enforcement where many prisoners remain in harsher regimes than legally required because benefits are not requested in a timely manner (Brasil, 1984; Brasil, 2022). In terms of quality of life, the reintegration and socio-environmental programmes address key social determinants of recidivism, such as unemployment, stigma, and lack of support networks, and thus contribute to reducing high recidivism rates observed in conventional systems (Fernandes, 2021; Brasil, 2022).

5.3 TECHNOLOGICAL AND ECONOMIC DIMENSIONS OF SUSTAINABILITY

The predominance of technological solutions in the idea portfolio reflects the global trend of justice digitalization, further accelerated in recent years (Susskind, 2017). However, unlike many legal tech initiatives driven primarily by efficiency and profitability, the solutions proposed here explicitly embed social justice and sustainability values in their design. The automated system exemplifies the notion of appropriate technology, that is, a technological solution that weighs not only technical efficiency but also accessibility, cost, adaptability to local context, and user empowerment (Schumacher, 1977; Manzini, 2015).

From an economic standpoint, the development costs estimated for the system are modest when compared with the social costs of the current inefficiencies. Considering that each month of unnecessary incarceration imposes a significant burden on public finances and that the system could initially benefit 120 clients of the case law firm, the potential direct savings in prison expenditures are substantial, without even accounting for indirect benefits such as preserved family ties, maintained employment, and reduced psychological harm (SAE, 2018; IPEA, 2015).

5.4 SYSTEMIC INNOVATION: FROM IDEAS TO PUBLIC POLICY

The systemic ideas E3, C1, and C3 move beyond the organizational level and propose transformations in public policies and inter-institutional arrangements, a crucial dimension given that the prison crisis qualifies as a wicked problem that cannot be solved by isolated actors (Rittel & Webber, 1973; Sabatier & Weible, 2014). The public civil action proposal embodies evidence-based advocacy that mobilizes existing legal instruments to seek structural change, aligning with the concept of strategic public-interest litigation (Cardoso, 2012). The socio-environmental programme connects sentence enforcement with environmental policy and sustainable development, illustrating how design for social innovation can create hybrid solutions that simultaneously target social reintegration, ecological restoration, and local economic development

5.5 IMPLEMENTATION CHALLENGES AND FUTURE DIRECTIONS

Despite the promising potential of the proposed solutions, implementation faces significant challenges. On the technological front, integration with existing court IT systems, which are often outdated and non-interoperable, may require substantial technical and governance efforts. Data protection regulations, such as Brazil's General Data Protection Law, demand careful attention to privacy-by-design principles in systems handling sensitive criminal justice data (CIDH, 2023). Institutionally, systemic proposals like C1 and C3 confront bureaucratic inertia, corporate resistance, and fragmented competencies among governmental entities, consistent with findings from policy process research that stress the importance of advocacy coalitions, political windows of opportunity, and mechanisms for institutionalizing pilot projects into permanent policies (Sabatier & Weible, 2014).

Future research should empirically validate the ideas through pilot implementations, using participatory action-research approaches to track the trajectory from prototype to policy (Thiollent, 2011). Partnerships among universities, courts, Public Defender's Offices, and the National Council of Justice may provide both the resources and institutional legitimacy needed to test and scale such innovations. From a theoretical standpoint, the findings reinforce the relevance of design for social innovation and legal design as emerging fields that can bridge gaps between legal doctrine, policy design, and the lived experience of justice system users (Hagan, 2018; Manzini, 2015).

6 FINAL CONSIDERATIONS

This study showed that the Creative Framework is a viable and productive methodological tool for generating innovative solutions to the complex challenges of Brazilian sentence enforcement, contributing meaningfully to the social sustainability of the criminal justice system. The structured application of the framework in a real criminal law firm produced a portfolio of 27 ideas, six of which were prioritized for their

impact potential, feasibility, and alignment with sustainability principles.

The priority idea — an automated system for monitoring sentence-enforcement benefits — simultaneously addresses three critical dimensions. First, it improves operational efficiency by reducing time spent on repetitive manual calculations and minimizing human error. Second, it enhances access to justice by democratizing complex legal information for people serving sentences and their families through automated notifications. Third, it supports economic sustainability by potentially reducing public incarceration costs through timely regime progressions and the greater use of non-custodial alternatives.

When the six prioritized ideas were evaluated using multidimensional criteria (technical and legal feasibility, implementation costs, social impact, and contribution to sustainability), it became clear that technological solutions (E1, C2) offer the best cost–benefit ratio in the short term, whereas systemic proposals (C1, C3, E3) carry higher potential for structural transformation in the medium and long term. This complementarity suggests that sustainable innovation strategies in the justice system should combine incremental improvements — quick technological wins — with advocacy for deeper structural change.

The results confirm three implicitly formulated secondary hypotheses. First, structured creative frameworks can operate effectively even in legally rigid domains that have historically resisted innovation. Second, multidisciplinary teams that include non-specialists generate more diverse and potentially more innovative solutions than homogeneous legal teams. Third, empathy techniques such as personas and journey mapping are effective in humanizing abstract legal problems, thereby facilitating the design of solutions that are genuinely centered on users' real needs.

From the standpoint of social sustainability, the solutions generated align with the Sustainable Development Goals, particularly SDG 16 (Peace, Justice and Strong Institutions). They contribute to reducing inequalities in access to justice (SDG 10), promoting decent work opportunities for former prisoners (SDG 8), protecting the mental health of people serving sentences and their families (SDG 3), and, in the case of the prison socio-environmental programme, supporting the recovery of degraded ecosystems (SDGs 13, 14, and 15).

The main limitations of the research — small participant sample, single-case design, and the lack of empirical validation of the proposed solutions — point to clear avenues for future work. Recommended next steps include replicating the framework in diverse contexts, such as Public Defender's Offices, courts, and human-rights-oriented NGOs, to test the generality of the findings; developing a functional prototype of the automated system for pilot implementation and quantitative impact assessment; conducting longitudinal studies to follow implementation and institutionalization processes; and performing rigorous cost-effectiveness analyses comparing the proposed technological solutions with conventional practices.

In a broader perspective, this study contributes to the emerging field of legal design and social innovation in justice by showing that the intersection of creative methodologies, technology, and sustainability

awareness can generate significant transformations in complex institutional systems. The sustainability crisis of Brazil's prison system — expressed in overcrowding, rising costs, human-rights violations, and high recidivism rates — cannot be addressed solely through legislative reform or investment in physical infrastructure. It fundamentally requires a creative, collective re-imagining of how society conceives punishment, reintegration, and justice.

The Creative Framework proved to be a powerful tool for catalysing this re-imagining by structuring co-creation processes that mobilize specialized legal knowledge alongside experiential knowledge from users and stakeholders. In doing so, it enables solutions that balance technical feasibility, legal compliance, and a firm commitment to human dignity. As contemporary societies face increasingly complex and interconnected challenges — such as climate change, deepening inequality, and disruptive technological transformations — methodologies that foster collaborative creativity, systems thinking, and a strong orientation toward sustainability become not merely desirable, but essential for building more just and viable futures.

Acknowledgements

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001.

REFERENCES

ALVES, C. et al. Creativity and design process to raise new business models: analysis of a co-creative framework. *Journal of Design Thinking*, 2024.

ÁLVAREZ-MARÍN, A.; CASTILLO-VERGARA, M.; ALFARO-CASTILLO, M. Creatividad, innovación y centros de educación superior: desafíos para proveer de profesionales en el siglo XXI. *Revista RUTA*, v. 16, n. 1, p. 59-65, 2014. Brasil,

AMABILE, T. M. *The social psychology of creativity*. New York: Springer-Verlag, 1983. Brasil,

AMABILE, T. M.; PRATT, M. G. The dynamic componential model of creativity and innovation in organizations: making progress, making meaning. *Research in Organizational Behavior*, v. 36, p. 157–183, 2016.

BENKLER, Y. *The wealth of networks: how social production transforms markets and freedom*. New Haven: Yale University Press, 2006. Brasil,

BRAUN, V.; CLARKE, V. Using thematic analysis in psychology. *Qualitative Research in Psychology*, v. 3, n. 2, p. 77-101, 2006. Brasil,

BRASIL. Lei n. 7.210, de 11 de julho de 1984. Lei de Execução Penal. Diário Oficial da União, Brasília, DF, 11 jul. 1984. Brasil,

BRASIL. Ministério da Justiça e Segurança Pública. Departamento Penitenciário Nacional; UNIVERSIDADE FEDERAL DE PERNAMBUCO. Grupo de Avaliação de Políticas Públicas e Econômicas. Reincidência criminal no Brasil. Brasília, DF, 2022.

BRASIL. Ministério da Justiça e Segurança Pública. Levantamento nacional de informações penitenciárias — INFOPEN. Brasília, DF: MJSP, 2024. Brasil,

BROWN, T. Design thinking. Harvard Business Review, Boston, jun. 2008. Brasil,

BROWN, T. Design thinking: uma metodologia poderosa para decretar o fim das velhas ideias. Rio de Janeiro: Alta Books, 2017. Brasil,

CARDOSO, E. L. C. Litígio estratégico e Sistema Interamericano de Direitos Humanos. Belo Horizonte: Fórum, 2012. Brasil,

COOPER, A. The inmates are running the asylum. Indianapolis: Sams Publishing, 1999. Brasil,

COMISSÃO INTERAMERICANA DE DIREITOS HUMANOS. Relatório anual CIDH 2022. Washington, DC: OEA, 2023. [oas](<https://www.oas.org/pt/cidh/relatorios/ia.asp?Year=2022>)

CONSELHO NACIONAL DE JUSTIÇA (CNJ). Justiça em números. Brasília, DF: CNJ, 2023.

EDSTELLAR. How to conduct STEEP analysis in 2026: guide and template. 2026. Disponível em: <<https://www.edstellar.com/blog/steep-analysis>>. Acesso em: 01 mar. 2026.

FAHEY, L.; NARAYANAN, V. K. Macroenvironmental analysis for strategic management. St. Paul: West Publishing, 1986. Brasil,

FERENHOF, H. A.; FERNANDES, R. F. Desmistificando a revisão de literatura como base para redação científica: método SSF. Revista ACB, v. 21, n. 3, p. 550-563, 2016. Brasil,

FERNANDES, C. R. Análise da APAC de Pouso Alegre-MG na percepção dos dirigentes e recuperandos. Ciências Jurídicas, v. 22, n. 1, p. 41-48, 2021. Brasil,

GAILLIOT, M. T.; BAUMEISTER, R. F. The physiology of willpower: linking blood glucose to self-control. Personality and Social Psychology Review, v. 11, n. 4, p. 303-327, 2007. Brasil,

GESCHKA, H. Creativity techniques in Germany. Creativity and Innovation Management, v. 5, n. 2, p. 87-92, 1996. Brasil,

GIL, A. C. Como elaborar projetos de pesquisa. 6. ed. São Paulo: Atlas, 2017. Brasil,

HAGAN, M. Law by design. Stanford: Stanford Law School, 2018. Brasil,

HAGAN, M. Legal design as a thing: a theory of change and a set of methods to craft a

human-centered legal system. *Design Issues*, v. 36, n. 3, p. 3-15, 2020.

INSTITUTO DE PESQUISA ECONÔMICA APLICADA. Reincidência criminal no Brasil: relatório de pesquisa. Brasília, DF: Ipea, 2015.

KIMBELL, L. Rethinking design thinking: part I. *Design and Culture*, v. 3, n. 3, p. 285-306, 2011. Brasil,

KOLKO, J. Design thinking comes of age. *Harvard Business Review*, Boston, set. 2015. Brasil,

MANZINI, E. Design, when everybody designs: an introduction to design for social innovation. Cambridge, MA: MIT Press, 2015. Brasil,

MARCONI, M. A.; LAKATOS, E. M. Fundamentos de metodologia científica. 8. ed. São Paulo: Atlas, 2019. Brasil,

MINISTÉRIO DA JUSTIÇA E SEGURANÇA PÚBLICA. Alternativas penais: relatório de gestão integrado. Brasília, DF: MJSP, 2023.

MULGAN, G. Social innovation: what it is, why it matters and how it can be accelerated. London: The Young Foundation, 2007. Brasil,

ONU – ORGANIZAÇÃO DAS NAÇÕES UNIDAS. Transformando nosso mundo: a Agenda 2030 para o desenvolvimento sustentável. Nova York: ONU, 2015.

OSBORN, A. F. Applied imagination: principles and procedures of creative problem-solving. New York: Scribner, 1963.

PAGE, M. J. et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, v. 372, n. 71, 2021. Brasil,

PENAL REFORM INTERNATIONAL; UNICRI. Green prisons: a guide to creating environmentally sustainable prisons. Viena: UNICRI, 2025.

PHILLS, J. A.; DEIGLMEIER, K.; MILLER, D. T. Rediscovering social innovation. *Stanford Social Innovation Review*, v. 6, n. 4, p. 34-43, 2008. Brasil,

RITTEL, H. W. J.; WEBBER, M. M. Dilemmas in a general theory of planning. *Policy Sciences*, v. 4, p. 155-169, 1973. Brasil,

SABATIER, P. A.; WEIBLE, C. M. Theories of the policy process. 3rd ed. Boulder: Westview Press, 2014. Brasil,

SACHS, I. Caminhos para o desenvolvimento sustentável. 3. ed. Rio de Janeiro: Garamond, 2009. Brasil,

SAE – SECRETARIA DE ASSUNTOS ESTRATÉGICOS DA PRESIDÊNCIA DA REPÚBLICA. Custos econômicos da criminalidade no Brasil. Brasília, DF, 2018.

SCHUMACHER, E. F. O negócio é ser pequeno. Rio de Janeiro: Zahar, 1977. Brasil,

SENAPPEN – SECRETARIA NACIONAL DE POLÍTICAS PENAIAS. Levantamento de informações penitenciárias: dados do 17º ciclo de coleta do SISDEPEN – 2º semestre de 2024. Brasília, DF: Ministério da Justiça e Segurança Pública, 2025.

SERRAT, O. Knowledge solutions: tools, methods, and approaches to drive organizational performance. Singapore: Springer, 2017. Brasil,

SILVA, T. J. C.; OLIVEIRA, S. R. M. Legalidade versus jurisdicionalidade na execução penal? Ônus financeiro da monitoração eletrônica em decisões do TRF-4. Revista Brasileira de Direito Processual Penal, Porto Alegre, v. 10, n. 1, 2024. Brasil,

STERNBERG, R. J. Psicologia cognitiva. Porto Alegre: Artmed, 2000. Brasil,

SUSSKIND, R. Tomorrow's lawyers: an introduction to your future. 2nd ed. Oxford: Oxford University Press, 2017. [global.oup](<https://global.oup.com/academic/product/tomorrows-lawyers-9780192864727>)

THIOLLENT, M. Metodologia da pesquisa-ação. 18. ed. São Paulo: Cortez, 2011. Brasil,

UMBREX. PESTEL / STEEP / STEEPLE framework: strategy toolkit for environmental analysis. 2025. Disponível em:

WEST, M. A. Effective teamwork: practical lessons from organizational research. 3rd ed. Oxford: Wiley-Blackwell, 2012. Brasil,