



REVISTA DIGITAL DE DIREITO ADMINISTRATIVO

FACULDADE DE DIREITO DE RIBEIRÃO PRETO - FDRP

UNIVERSIDADE DE SÃO PAULO – USP

Seção: Artigos Científicos

Implementing the "Technique and Price" criterion in Public Procurement in Brazil: challenges and opportunities for Specialized Technical Services of Predominantly Intellectual Nature (STENPI)

Implementação do critério "técnica e preço" na Contratação Pública no Brasil: desafios e oportunidades para Serviços Técnicos Especializados de Natureza Predominantemente Intelectual (STENPI)

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Abstract: This study investigates the implementation of Brazil's New Bidding Law No. 14,133/2021 (Lei nº 14.133/2021), focusing on the "Technique and Price" evaluation criterion for Specialized Technical Services of Predominantly Intellectual Nature (STENPI—Serviços Técnicos Especializados de Natureza Predominantemente Intelectual). Utilizing a qualitative interpretive approach, researchers conducted 15 semi-structured interviews with various stakeholders, alongside documentary analysis of 64 objection requests submitted by sector unions. Five key themes emerged from reflexive thematic analysis: institutional and technical capacity gaps, systemic implementation barriers, cultural and behavioral resistance, the complexity of technical evaluation, and the valorization of professional services. These themes underscore the challenges hindering effective adoption while indicating the potential for improving public procurement quality. The research provides the first empirical analysis of Law 14,133/2021's implementation in the STENPI sector, demonstrating that the "Technique and Price" criterion offers a better balance between technical quality and economic viability. The analysis reveals that excessive discount percentages (averaging 42.57% in federal infrastructure projects) negatively impact contract execution capacity. The study suggests pathways for institutional strengthening, such as criteria standardization, team training, and alignment of control bodies, with implications for public procurement reform in developing countries moving from lowest-price to value-based strategies.

Keywords: Technique and Price; STENPI; Public Procurement; Brazil; Law 14.133/2021; Public Administration; Contract Management.

Resumo: Este estudo investiga a implementação da Nova Lei de Licitações nº 14.133/2021 do Brasil, com foco no critério de avaliação "Técnica e Preço" para Serviços Técnicos Especializados de Natureza Predominantemente Intelectual (STENPI). Utilizando uma abordagem interpretativa qualitativa, os pesquisadores realizaram 15 entrevistas semiestruturadas com diversas partes interessadas, além da análise documental de 64 pedidos de impugnação apresentados por sindicatos do setor. Cinco temas emergiram da análise temática reflexiva: lacunas de capacidade institucional e técnica, barreiras sistêmicas à implementação, resistência cultural e comportamental, complexidade da avaliação técnica e valorização dos serviços profissionais. Esses temas ressaltam os desafios que dificultam a adoção efetiva, indicando também o potencial para aprimorar a qualidade das compras públicas. A pesquisa fornece a primeira análise empírica da implementação da Lei 14.133/2021 no setor STENPI, demonstrando que o critério "Técnica e Preço" oferece melhor equilíbrio entre qualidade técnica e viabilidade econômica. A análise revela que percentuais de desconto excessivos (média de 42,57% em projetos federais de infraestrutura) impactam negativamente a execução contratual. O estudo sugere

caminhos para o fortalecimento institucional, como padronização de critérios, treinamento de equipes e alinhamento de órgãos de controle, com implicações para a reforma das compras públicas em países em desenvolvimento.

Palavras-chave: Técnica e Preço; STENPI; Contratação Pública; Brasil; Lei 14.133/2021; Administração Pública; Gestão de Contratos.

Disponível no URL: www.revistas.usp.br/rdda

DOI: <http://dx.doi.org/10.11606/issn.2319-0558.v13i1p71-94>

IMPLEMENTING THE "TECHNIQUE AND PRICE" CRITERION IN PUBLIC PROCUREMENT IN BRAZIL: CHALLENGES AND OPPORTUNITIES FOR SPECIALIZED TECHNICAL SERVICES OF PREDOMINANTLY INTELLECTUAL NATURE (STENPI)

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Sumário: 1 Introduction; 2 Literature Review and Theoretical Framework; 3 Methodology; 4 Results and Discussion; 5 Documentary Analysis and Institutional Evidence; 6 Implications and Recommendations; 7 Limitations and Future Research; 8 Conclusion; References.

1. Introduction

Law No. 14,133/2021, enacted on April 1, 2021, replaced Brazil's previous procurement legislation, comprising Law No. 8,666/1993 (Lei nº 8.666/1993), Auction Law No. 10,520/2002 (Lei do Pregão nº 10.520/2002), and the Direct Contracting Law No. 12,462/2011 (Lei nº 12.462/2011). This law establishes a new legal framework for public bidding and administrative contracts. The modernization initiative aims to reduce bureaucracy, improve efficiency and transparency, and better align procurement processes with the demands of contemporary public administration.

Among the law's most significant regulatory advancements is the mandatory adoption of the "Technique and Price" evaluation criterion for contracting specialized technical consulting engineering services. While this criterion already existed under Law 8,666/1993 (Article 46) as a discretionary option, Law 14,133/2021 introduced a fundamental shift by making it mandatory for certain categories of intellectual services and expressly prohibiting auction procedures (pregão) for these services. This represents a fundamental shift from the previous legislative framework, which relied primarily on the lowest-price bidding approach—an approach frequently criticized for encouraging unsustainable proposals that compromise service quality (Farah et al., 2025; Poudel, 2025). The new criterion seeks to reconcile technical excellence with economic viability while promoting greater rationality and legal certainty in public contracting.

Article 11(I) of the New Law establishes as a core objective the pursuit of the most advantageous outcome for the administration. This ensures the selection of the highest-quality service among those offered, with an emphasis on quality over the lowest price. The legal definition of specialized technical services of a predominantly

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intellectual nature (known in Brazil as STENPI—*serviços técnicos especializados de natureza predominantemente intelectual*), established in Article 6(XVIII) of Law 14,133/2021, addresses previous normative gaps. It resolves the paradox between common services and engineering consulting services.

Article 6(XVIII) defines specialized technical services of predominantly intellectual nature as those involving:

- Technical studies, planning, basic, and executive projects
- Technical opinions, expertise, and general assessments
- Technical advisory, consultancy, and financial/tax audits
- Inspection, supervision, and management of works and services
- Legal and administrative representation
- Staff training and development
- Restoration of artwork and historical goods
- Quality and technological controls, analysis, field and laboratory tests, instrumentation, and monitoring

The law specifically prohibits the use of public auctions (*pregão*) for STENPI (Article 29, sole paragraph). This legal definition resolved normative gaps from previous legislation by clearly distinguishing STENPI from common engineering services (*serviços comuns de engenharia*). Common engineering services, as defined in Article 6(XXI)(a), may continue to be procured through auction procedures using lowest-price criteria. The distinction is crucial: while common engineering services involve routine activities with well-established standards, STENPI require intellectual solutions where professional judgment and technical expertise are predominant. It establishes the "Technique and Price" criterion as the preferred approach for activities such as projects, supervision, planning, and technical consultancy.

Article 36(§1) regulates evaluation by the "Technique and Price" criterion. It stipulates that winning proposals achieve the highest final score through a weighted combination of technical and price proposal scores, based on objective factors predefined in public notices. Article 37(§2) mandates the use of "best technique" or "technique and price" criteria for predominantly intellectual services with estimated contract values exceeding R\$300,000.00 (approximately US\$55,000.00), with technical proposals weighted at 70%.

This framework aligns with international practices emphasizing "quality and cost" or "value for money" principles (Bovis, 1999; Wong et al., 2000). It is consistent with

European Union guidelines and multilateral development bank standards, as established by institutions such as the World Bank and the Inter-American Development Bank. Models such as the Best Value Approach (Bruno et al., 2018; Steller, 2018) and multi-criteria decision methods (Kolour et al., 2025; Cheaitou et al., 2019) have emerged as robust alternatives to lowest-price prioritization.

Engineering consulting services encompass predominantly intellectual activities of high complexity. These include preliminary technical studies, basic and executive project preparation, work supervision and management, specialized consultancies, quality control, and technical testing. These tasks require deep technical qualifications, accumulated practical experience, and critical analysis capacity. This makes them unsuitable for procurement processes based exclusively on price (Katamuna et al., 2025; Vinna & Latief, 2025).

The state of São Paulo pioneered this approach through State Decree No. 55,208/2010, which instituted the mandatory adoption of the "Technique and Price" criterion for engineering consulting services. This measure was subsequently recognized as exemplary administrative practice by sector entities and control bodies.

Despite regulatory advances, the application of the "Technique and Price" criterion faces institutional resistance, legal uncertainty, gaps in procedural standardization, and operational limitations. Many public administrations continue to prioritize the lowest price as the predominant criterion, even for contracts that require in-depth technical analysis. Key challenges include inadequate training for evaluation committees, difficulties in preparing detailed Preliminary Technical Studies (Estudo Técnico Preliminar - ETP), and the absence of standardized national models for technical proposal scoring.

This study makes three key contributions: (1) it provides the first empirical analysis of Law 14,133/2021 implementation in engineering services procurement; (2) it identifies institutional barriers and facilitating factors affecting technique-and-price criterion adoption; and (3) it offers evidence-based recommendations for improving public procurement practices in developing country contexts.

The research analyzes the implementation of the "Technique and Price" criterion in engineering consulting service tenders. It focuses on experiences since the enactment of Law 14,133/2021. Using a qualitative approach based on interviews with 15 professionals from different regions and institutions, this study maps current practices and provides recommendations for strengthening the quality culture in Brazilian public procurement. The goal is to promote more efficient, transparent contracts aligned with public interest principles.

2. Literature Review and Theoretical Framework

This section presents the theoretical foundation and empirical context for analyzing the implementation of the "Technique and Price" criterion. It draws on public procurement theory, institutional change literature, and international procurement practices.

2.1 Theoretical Foundation: From Price-Based to Value-Based Procurement

Public procurement theory has evolved from traditional economic approaches emphasizing cost minimization toward value-based frameworks recognizing the multidimensional nature of public value creation (Bovis, 1999). This theoretical shift acknowledges that lowest-price procurement may generate false economies through poor quality, delays, and increased lifecycle costs.

The "value for money" principle, central to modern procurement theory, suggests that optimal public procurement outcomes result from balanced consideration of quality, cost, and risk factors (Wong et al., 2000). This aligns with institutional theory perspectives on how formal rules and informal practices shape organizational behavior in public sector contexts (Cotrim & Ryngelblum, 2023).

2.2 International Experience with Multi-Criteria Procurement

International evidence demonstrates the limitations of lowest-price procurement approaches. Ballesteros-Pérez et al. (2015) warn that inadequate safeguards in traditional bidding models tend to favor competitive distortions, particularly in public works. Wong, Holt, and Cooper (2000) analyzed UK public procurement decision-making processes and found that an exclusive focus on the lowest price often resulted in poor project performance and substantially increased contractual risks.

Conversely, approaches such as the Best Value Approach and multi-criteria decision methods (MCDM) have promoted better cost-quality balance, strengthening value-for-money principles (Steller, 2018; Kolour et al., 2025; Guo, 2025). Recent innovations include methodological proposals that incorporate bidder self-confidence and time decay factors, allowing for greater customization according to service risk and complexity (Oz, 2024).

2.3 Implementation Challenges in Developing Contexts

Specialized literature identifies particular implementation challenges in developing country contexts, especially at subnational government levels. These include inadequate technical training and difficulty defining objective evaluation criteria (Lesmana et al., 2025; Vinna & Latief, 2025). The OECD (2021) warns of risks associated with manipulation and collusion when technical scoring systems are

poorly structured and not adequately monitored. It emphasizes the need for strengthened control, training, and transparency mechanisms.

2.4 Brazilian Context and Institutional Development

Studies such as Cotrim and Ryngelblum (2023) demonstrate how different institutional logics influenced the New Bidding Law regulation, emphasizing technical value in public procurement processes. However, empirical studies on criterion application experience remain limited. Brazilian technical groups have identified recurring attempts to circumvent the correct application of the "Technique and Price" criterion. These include generic service descriptions, oversimplified deliverable definitions, and attempts to justify lowest-price contracting through vague references to technical standards.

2.5 Research Gaps and Study Positioning

Despite growing international literature on value-based procurement, limited empirical research examines the transition process from price-based to technique-and-price systems, particularly in developing country contexts. This study addresses this gap by providing a detailed analysis of Brazil's implementation experience. It contributes to a broader understanding of the challenges and opportunities associated with procurement system transformation.

3. Methodology

This study employs a qualitative, interpretive approach to understand the experiences and perceptions of professionals involved in public procurement processes. It focuses on the "Technique and Price" criterion application under Law 14,133/2021. The methodological choice reflects the need to investigate perceptions and interpretations of different institutional actors regarding the implementation of this new criterion. It considers technical, legal, operational, and cultural aspects that permeate Brazilian public procurement practice.

3.1 Research Design and Data Collection

The primary data collection instrument was semi-structured interviews, selected for their capacity to enable in-depth narratives while respecting participants' particular backgrounds and experiences. The interview protocol was developed through a specialized literature review on public procurement, analysis of Law 14,133/2021, and related regulations, including Normative Instruction 2/2023 (Instrução Normativa nº 2/2023) from the Ministry of Management and Innovation (Ministério da Gestão e da Inovação em Serviços Públicos).

Interviews were organized into thematic blocks covering: knowledge of the New Bidding Law, practical experiences with the "Technique and Price" criterion,

comparison with traditional lowest-price/auction models, main implementation challenges, perceived impacts on service quality, and suggestions for model improvement.

3.2 Sampling Strategy and Participant Selection

The sample included professionals from institutions subject to Law 14,133/2021 and Law 13,303/2016 (Lei das Estatais) (state-owned enterprises) at the federal and state levels. This inclusion is justified because, although governed by different regulations, these entities frequently contract for specialized technical engineering consulting services and adopt bidding practices closely aligned with the guidelines of the New Bidding Law.

Interviews were conducted between May 10 and June 10, 2025, involving strategically selected professionals representing different segments directly impacted by the new legislation, as shown in Table 1.

Table 1: Interview Participants by Sector

| Sector | Participants | Roles | Geographic Distribution |
|----------------|---------------------|---|---|
| Public Sector | 5 | Procurement managers, engineers, legal advisors, and planning specialists | Federal, state, and municipal levels |
| Private Sector | 6 | Directors, managers, and commercial coordinators in engineering consulting | Multiple regions |
| Specialists | 4 | Trade association representatives, professional council members, and audit court auditors | Federal District, regional representation |

The research aimed for regional representativeness, particularly from the Federal District, where nationally operating institutions are concentrated. Interviews were conducted either face-to-face or via video conference, averaging 60 minutes. All sessions were recorded with participants' prior authorization, in accordance with Informed Consent protocols, and were fully transcribed for analysis.

3.3 Ethical Considerations and Data Management

Research was submitted to and approved by the Getulio Vargas Foundation Human Research Ethics Committee (Comitê de Ética em Pesquisa com Seres Humanos - CEPH-FGV). The data were treated confidentially, guaranteeing respondent

anonymity and exclusive academic use. Participants are identified by codes (E01-E15) indicating interview sequence and sector affiliation.

3.4 Data Analysis Approach

Qualitative data analysis was conducted using reflexive thematic analysis principles, supported by QDA Miner software for database structuring and code frequency visualization. The analysis process involved:

1. **Familiarization:** Multiple transcript readings and initial observation recording
2. **Initial coding:** Systematic coding of data extracts relevant to research questions
3. **Theme development:** Grouping codes into potential themes
4. **Theme review:** Checking theme validity against coded extracts and the entire dataset
5. **Theme definition:** Clear theme definitions and scope delineation
6. **Report writing:** Final analysis, selection, and presentation

3.5 Secondary Data Sources

Secondary data included:

- Analysis of 64 objection requests submitted by sector unions in 2024-2025 regarding specialized technical service tenders
- Examination of Normative Instruction No. 2/2023 (Instrução Normativa nº 2/2023) regulating the "Technique and Price" criterion use in federal public administration
- Review of Federal Court of Auditors (Tribunal de Contas da União - TCU) decisions on criterion application
- Analysis of 14 federal infrastructure company tenders in 2024

This methodological approach, which focuses on practitioners' direct experiences, provides a critical analysis of the application of the "Technique and Price" criterion. It contributes to a qualified debate on improving Brazilian specialized technical service procurement.

4. Results and Discussion

Through reflexive thematic analysis of interviews, five major interpretive themes structuring the challenges and opportunities associated with implementing the "Technique and Price" criterion in specialized technical service public procurement were identified. These themes reflect different dimensions of institutional change processes and were consolidated based on recurring patterns, meanings, and perceptions in interviewee statements.

4.1 Institutional and Technical Capacity Gaps

This theme encompasses structural deficiencies in public organization capacity to effectively implement the new law. It represents the fundamental challenge of building organizational competency.

Despite recognizing the benefits, interviewees reported challenges to full adoption. Primary obstacles include the lack of standardized technical criteria, legal uncertainty in defining weights and scores, and inadequate training for evaluation committees. Several managers reported difficulties preparing Preliminary Technical Studies (ETP) required by Normative Instruction 2/2023 for justifying criterion choice.

Beyond technical training gaps, interviewees highlighted structural differences between federal entities. There is strong asymmetry between the Union, states, and municipalities: "Federal bodies were better prepared, but few had regulations at state and municipal levels" (E07 - External Control Body) [Original: "Os órgãos federais estavam mais bem preparados, mas poucos tinham regulamentação nas esferas estaduais e municipais."]. This disparity reflects a shortage of qualified engineers in municipalities, as evidenced by the fact that "There are municipalities without engineers or that must borrow one" (E08 - Public Sector) [Original: "Há municípios sem engenheiros ou que precisam pedir um emprestado."].

A recurring concern was the lack of competitive examinations and insufficient investment in technical staff: "Today, public competitions are not very attractive; you cannot maintain qualified technical staff" (E14 - Private Sector) [Original: "Hoje em dia, os concursos públicos não são muito atrativos; não se consegue manter pessoal técnico qualificado."]. The absence of a national training strategy was criticized, with interviewees reporting occasional, uncoordinated initiatives: "Each organization invents its own training, but there is no general guideline. What is missing is coordination and reliable support materials" (E03 - Public Sector) [Original: "Cada organização inventa a sua própria formação, mas não há uma linha de orientação geral. O que falta é coordenação e materiais de apoio confiáveis."].

Institutional inconsistency compounds these challenges: "What is lacking is continuity and accountability. One manager trains the team; another undoes

everything and returns to the lowest price" (E12 - Private Sector) [Original: "O que falta é continuidade e responsabilização. Um gestor treina a equipe; outro desfaz tudo e volta ao preço mais baixo."]. This institutional back-and-forth weakens long-term competency building.

4.2 Systemic Implementation Barriers

This theme addresses technical and procedural obstacles that prevent the proper application of the law. It requires coordinated solutions to address systemic issues.

Criticism of the inappropriate use of public auctions for engineering consulting services was frequent across all three groups. Participants noted that this practice often leads to financially unviable proposals, resulting in poor quality, rework, and contract amendments. A highly relevant technical point concerns the interpretation of the 25% unfeasibility limit, established by Article 59, §4 of Law 14,133/2021 (which determines that proposals below 75% of the budgeted amount are presumed unfeasible). Disagreement exists over due diligence application: "The law allows summary disqualification or requesting due diligence, but agencies have no standard" (E13 - Public Sector) [Original: "A lei permite a desclassificação sumária ou a solicitação de due diligence, mas os órgãos não têm um padrão."]. This definitional lack creates legal uncertainty and disputes: "We filed challenges to enforce the rule, but preferred to withdraw rather than consolidate contrary jurisprudence" (E11 - Trade Association) [Original: "Apresentamos contestações para fazer cumprir a regra, mas preferimos retirá-las a consolidar jurisprudência contrária."].

Analysis of 14 federal government infrastructure company tenders in 2024 revealed an average discount of 42.57%, substantially exceeding legal thresholds. This suggests that there are systematic problems with the lowest-price approaches. These quantitative findings support qualitative evidence that the lowest-price criteria encourage unsustainable bidding practices, compromising service quality.

Interviewees emphasized recurring electronic procurement system problems, especially regarding bid opening sequence, which often exposes prices prematurely and contaminates technical evaluation: "The system apparently cannot keep prices confidential; this is an absurd distortion" (E04 - Sector Representative) [Original: "O sistema aparentemente não consegue manter os preços em sigilo, isso é uma distorção absurda."]. Others reported: "The system can't do this, and the only alternative was submitting physical proposals" (E09 - Public Sector) [Original: "O sistema não consegue fazer isso, e a única alternativa era a apresentação de propostas físicas."].

This empirical evidence corroborates that the "Technique and Price" criterion can provide safer and more rational alternatives for high-technical-complexity contracts. Internal technical surveys conducted by federal authorities reveal a

correlation between excessive discounts and increased default rates, delays, and administrative proceedings resulting from poor execution.

4.3 Cultural and Behavioral Resistance

This theme reflects the psychological and cultural barriers to change within public administration. It represents the human and cultural dimension of implementation challenges.

Central to the findings was the cultural resistance of many public bodies to adopting new criteria. According to interviewees, deep-rooted preference persists for criteria considered "safer," such as the lowest price. Resistance manifests through distorted legislative interpretations: "There are still attempts to circumvent the rule by classifying engineering services as 'technical support' to apply the lowest price" (E05 - Private Sector) [Original: "Ainda há tentativas de contornar a regra, classificando os serviços de engenharia como 'apoio técnico' para aplicar o 'Menor Preço'."].

Personal liability fear influences decisions considerably: "It is much easier to buy cheap than justify technically" (E10 - Private Sector) [Original: "É muito mais fácil comprar barato do que justificar tecnicamente."]. Another interviewee noted: "The evaluator's individual responsibility weighs heavily, so you go with the lowest price" (E14 - Private Sector) [Original: "A responsabilidade individual do avaliador pesa muito, então vai-se pelo menor preço."]. Beyond organizational culture, fear of accountability was identified as a paralyzing factor for many managers, especially in medium and small municipalities.

Contradictory decisions of control bodies reinforce cultural resistance. This institutional fragmentation contributes to conservative behavior among public managers: "Fear of corruption investigations or Public Prosecutor action is constant; nobody wants responsibility for something seemingly subjective" (E02 - Public Sector) [Original: "O medo de investigações de corrupção ou de ações do Ministério Público é constante, ninguém quer ser responsabilizado por algo aparentemente subjetivo."].

The entrenched "lowest price mentality" reflects decades of procurement practice prioritizing cost minimization over value optimization. This requires cultural transformation to overcome institutional inertia.

4.4 Complexity of Technical Evaluation

This theme addresses inherent complexity in implementing technique-and-price criteria in procurement processes. It reflects the technical sophistication required for proper implementation.

Participants suggested practical measures for more effective dissemination of the "Technique and Price" criterion. These include creating standard tenders for national use, providing permanent technical training for evaluation committees, establishing good practice repositories, and enhancing guidance from control bodies, especially from the Federal and State Audit Courts.

Another highlighted challenge is the subjectivity of technical criteria, which complicates standardization and creates scoring divergence margins: "You think it's 10, I think it's 2; there's a lack of objective criteria supporting scores" (E09 - Public Sector) [Original: "Você acha que é 10, eu acho que é 2; faltam critérios objetivos que sustentem a pontuação."]. Clear benchmark absence can impact impartiality and make the evaluation more susceptible to questioning.

The persistence of subjective elements in technical evaluation, despite legal requirements for objective criteria, represents an ongoing implementation challenge: "The law mentions objective criteria, but in practice this remains very interpretive; reliable references are lacking" (E10 - Private Sector) [Original: "A lei menciona critérios objetivos, mas na prática isto continua a ser muito interpretativo; faltam referências fiáveis."].

Statements suggest that establishing national governance in this area may most effectively enhance security and quality in public contracts, particularly when using this criterion. The complexity requires not merely procedural adjustments but fundamental shifts in how public organizations approach technical evaluation and risk management.

4.5 Professional and Service Valorization

This theme represents positive outcomes and aspirations of the new law. It focuses on the professional recognition of the intellectual nature of engineering services and their potential for service quality improvement.

Most interviewees recognize the "Technique and Price" criterion as a public procurement advancement, especially for specialized technical services. According to participants, this criterion provides a better technical quality-cost balance, mitigating risks associated with prioritizing only the lowest price.

The criterion has a "civilizing function" in public procurement, with recognition associated with valorizing national engineering often neglected by exclusively price-based practices: "When we win on technical grounds and deliver decent projects, clients return. That's good for everyone" (E05 - Private Sector) [Original: "Quando ganhamos em termos técnicos e entregamos projetos decentes, os clientes voltam. Isso é bom para todos."].

Technical contracting is viewed as essential for ensuring the quality and safety of public works. This represents the law's transformative potential for the engineering

consulting sector, promoting professional development and service quality improvement through appropriate incentive structures.

The valorization theme reflects broader aspirations for the modernization of public procurement. It moves beyond narrow cost considerations toward comprehensive value assessment, recognizing the intellectual and professional dimensions of technical services.

4.6 Cross-Cutting Themes and Systemic Interactions

The five themes reveal interconnected relationships where capacity gaps interact with cultural resistance to create systemic barriers. Technical complexity requires addressing capacity limitations to achieve valorization objectives. This thematic structure enables understanding of the implementation challenges' multidimensional nature while highlighting the law's transformative potential.

The themes show that successful implementation requires coordinated action across multiple dimensions: building institutional capacity, overcoming cultural resistance, addressing systemic barriers, managing technical complexity, and creating conditions for professional valorization.

5. Documentary Analysis and Institutional Evidence

5.1 Union Objection Analysis

Documentary analysis revealed robust evidence of institutional disputes over the proper use of the "Technique and Price" criterion. A survey of 64 objection requests submitted by sector unions throughout 2024 revealed that most questions pertained to: the inappropriate adoption of public auctions for STENPI in violation of Article 37, §2; classification of STENPI as common engineering services (serviços comuns de engenharia); use of subterfuges to frame STENPI as common services, employing terms such as "Client Support" (Apoio ao Cliente), "Technical Consulting" (Consultorias Técnicas), "Diagnostics" (Diagnósticos); evaluation of technical proposals without considering all requirements in Article 37; and early disclosure of price proposals before technical evaluation on the National Public Procurement Portal (Portal Nacional de Contratações Públicas - PNCP).

Of 64 analyzed cases, more than half remained in progress by April 2025, with approximately 22% resulting in tender cancellations or adjustments. This substantial objection volume indicates systematic problems in criterion implementation. It suggests that sector advocacy plays a crucial role in ensuring legal compliance.

5.2 Regulatory Framework Development

Normative Instruction No. 2/2023 from the Ministry of Management and Innovation reinforced the obligation to provide technical justification for the use of the "Technique and Price" criterion. It requires detailed criteria in ETPs and assigns 70% weight to technical proposals. Despite its importance, many organizations have not fully adapted to standard requirements. This instruction operationalizes the "Technique and Price" criterion in federal public administration by requiring consistent Preliminary Technical Studies (ETP), detailed specification of evaluation criteria and weights, and governance and due diligence recording requirements, strengthening process objectivity and auditability.

A technical study conducted within a federal transport infrastructure agency identified a direct proportional relationship between average discount percentages in tenders and administrative responsibility proceedings between 2017 and 2023. Contracts with higher discounts presented more execution difficulties, resulting in poor-quality deliveries, rework, and delays.

5.3 Jurisprudential Development

Recent decisions by the Federal Court of Auditors (TCU), prompted by union complaints, reinforce the obligation to apply the "Technique and Price" criteria for specialized technical services of predominantly intellectual nature (STENPI), as provided in Article 37(§2) of Law 14,133/2021.

Systematic challenges by sector representation entities have contributed to the formation of consolidated jurisprudence on the mandatory use of the "Technique and Price" criterion in STENPI. These actions resulted in paradigmatic TCU decisions serving as references for other public administrations:

Key Rulings:

- **Ruling 2,619/2024** - 6th Region Labor Court (PE): recognized that auction methods and lowest-price criteria for engineering projects violate Articles 6(XVIII)(a), 29 (sole paragraph), and 37(§2)
- **Ruling 323/2025** - Federal University of Delta do Parnaíba: determined that failing to use technical criteria for architectural project contracting violates Article 37(§2). Notably, this ruling recognized the irregularity but did not annul the contract due to the absence of consolidated jurisprudence at the time of contracting—illustrating the ongoing jurisprudential transition process
- **Ruling 2,381/2024** - Federal Rural University of Pernambuco: established understanding that no interpretive space exists for relaxing mandatory technical criteria use for STENPI

These decisions strengthen the legal and institutional understanding that the "Technique and Price" criterion is not merely discretionary but mandatory for specialized technical services, especially in contracts exceeding law-specified values.

5.4 Technological and Procedural Challenges

Technical meetings revealed that procurement portal interoperability gaps, such as Compras.gov.br and Licitações-e, still permit the disclosure of early price proposals in "Technique and Price" criterion bids, despite the law requiring closed bidding modes. This non-compliance, along with a clear regulatory omission, has been subject to institutional questioning before the National Public Procurement Network Management Committee.

Data also reveals recurrent attempts to subvert the classification of intellectual services as common. These include generic nomenclature terms ("advisory," "technical support," "diagnosis") or generic deliverable descriptions to justify the use of public auctions. This practice, beyond compromising bidding process integrity, contradicts Articles 6(XVIII) and 37(§2) of Law 14,133/2021.

6. Implications and Recommendations

6.1 Theoretical Implications

This study contributes to public procurement theory by demonstrating how formal institutional changes interact with informal practices, cultural norms, and organizational capacity in shaping implementation outcomes. The findings strongly support institutional theory predictions about the importance of legitimacy, capacity, and cultural alignment in successful institutional change (Cotrim & Ryngelblum, 2023). The research reveals that technical capacity constraints, cultural resistance, and systemic barriers can impede the transition from traditional cost minimization approaches to value-based frameworks in developing country contexts. This validates theoretical expectations about the complexity of procurement system transformation.

The five thematic dimensions identified in this research provide a framework for understanding the challenges of transforming procurement systems. The interaction between institutional capacity gaps and cultural resistance creates reinforcing cycles that can either facilitate or hinder the implementation of change. This contributes to a broader understanding of how developing countries can successfully modernize their public administration systems while managing competing institutional pressures and resource constraints.

6.2 Policy Recommendations

The empirical findings suggest that the successful implementation of the "Technique and Price" criterion requires coordinated action across multiple temporal and institutional dimensions. This aligns with the "value for money" principle, which emphasizes a balanced consideration of quality, cost, and risk factors (Wong et al., 2000). In the immediate term, Brazil needs to develop national standard tender documents and evaluation criteria for different types of technical services. This ensures consistency and reduces uncertainty across federal entities. This standardization effort should be accompanied by a national training program for evaluation committees across all levels of government, addressing the critical capacity gaps identified in this research.

Technology improvements represent another urgent priority, particularly addressing the limitations of electronic procurement systems that currently prevent proper bid sequencing and confidentiality maintenance. The research demonstrates that these technical deficiencies compromise the integrity of the evaluation process and undermine confidence in the new criterion. Simultaneously, clearer legal guidance on the application of the 25% discount threshold and due diligence procedures would reduce uncertainty and improve consistency in decision-making across different procurement contexts.

Medium-term strategies should focus on sustainable capacity building through strengthened technical staff development. This includes more attractive competitive examination processes and professional development programs. Drawing from the Best Value Approach literature (Bruno et al., 2018; Steller, 2018), establishing a centralized platform for sharing successful implementation experiences would facilitate organizational learning and reduce the need for each entity to develop solutions independently. Performance monitoring systems specifically designed to evaluate the effectiveness of the "Technique and Price" criterion would provide evidence for continuous improvement and help build confidence among skeptical stakeholders. Enhanced coordination mechanisms between different government levels and control bodies would help align interpretation and implementation practices, reducing the institutional fragmentation that currently impedes progress.

Long-term transformation requires a fundamental cultural shift toward value-based procurement, which can be achieved through sustained leadership development and organizational change initiatives. This moves beyond the limitations of lowest-price approaches documented in international literature (Ballesteros-Pérez et al., 2015; Wong et al., 2000). This cultural transformation cannot be achieved solely through training, but rather requires consistent reinforcement through institutional incentives, performance measurement systems, and leadership modeling. The legal framework may also require refinement based on accumulated implementation experience, ensuring that regulations remain practical, effective, and maintain their core value-based orientation. International cooperation through engagement with global best practices and learning networks would enable Brazil to benefit from the

experiences of other countries while contributing its own lessons to the global community.

6.3 Practical Implementation Guidance

Public administrators seeking to implement the "Technique and Price" criterion effectively should approach the process systematically across three key phases. This is consistent with international best practices and the multi-criteria decision-making (MCDM) literature (Kolour et al., 2025; Cheaitou et al., 2019). During the planning phase, organizations must conduct thorough market analysis to understand technical service requirements and competitive dynamics in their specific context. This market understanding should inform the preparation of detailed Preliminary Technical Studies that include clear technical specifications, realistic performance expectations, and appropriate risk assessments. The definition of objective evaluation criteria with transparent scoring methodologies requires careful attention to both technical validity and legal defensibility. This ensures that evaluators can apply consistent standards while maintaining appropriate discretion for technical judgment and expertise. Building an adequate evaluation committee with technical competence may require targeted recruitment, training, or consultation arrangements, depending on organizational capacity.

The execution phase requires strict adherence to confidentiality protocols for bid evaluation, protecting the integrity of the evaluation process, and preventing inappropriate influence or bias. All evaluation decisions should be thoroughly documented with clear technical justifications that can withstand scrutiny from unsuccessful bidders, control bodies, and other stakeholders. Applying consistent evaluation standards across similar procurements helps build institutional credibility and reduces legal risks while ensuring fair treatment of all participants. Stakeholder engagement throughout the process enhances transparency and builds confidence in the evaluation methodology and outcomes.

Monitoring activities should track contract performance indicators that include not only traditional measures, such as cost and timeliness, but also quality assessments that capture the value proposition underlying the "Technique and Price" approach. Post-contract evaluations that systematically assess criterion effectiveness help organizations learn from experience and refine their approaches over time. Documenting lessons learned for continuous improvement creates institutional memory that can inform future procurements and contribute to broader organizational learning. Sharing experiences with other organizations through formal and informal networks helps build a community of practice around value-based procurement and accelerates improvement across the public sector.

7. Limitations and Future Research

7.1 Study Limitations

This research primarily focused on stakeholder perceptions and experiences, rather than directly measuring contract outcomes under different evaluation criteria. While this qualitative approach provided rich insights into implementation challenges and stakeholder perspectives, it limits the ability to make definitive claims about the objective performance advantages of the "Technique and Price" criterion compared to traditional lowest-price approaches. The study's interpretive nature, although valuable for understanding complex institutional dynamics, constrains generalizability to other legal frameworks, cultural contexts, or countries with different administrative traditions.

The research focused on the implementation of Brazilian federal law under Law 14,133/2021. Findings may not readily transfer to other national contexts or legal systems with different institutional arrangements, cultural norms, or administrative capacities. The interview sample, while carefully designed to represent diverse sectors and regions, was limited to 15 participants and may not capture all relevant perspectives or experiences across Brazil's vast and diverse public administration landscape. Additionally, the study did not include a systematic comparison with international implementation experiences, which could have provided valuable benchmarking insights and identified best practices from other countries' procurement reforms.

The temporal scope of the research, focusing on the early implementation period of a new law, means that longer-term effects and adaptations may not yet be visible. Organizations and individuals may still be in transition phases, and more stable patterns of implementation may emerge as the system matures and stakeholders gain more experience with the new requirements.

7.2 Future Research Directions

The findings of this study point toward several important avenues for future research that could advance understanding of value-based procurement implementation and effectiveness. Quantitative impact assessment represents a crucial next step, particularly comparative analysis of contract outcomes examining quality metrics, cost performance, and timeliness indicators under different evaluation criteria. Such research could provide objective evidence of the performance advantages or disadvantages of the "Technique and Price" approach compared to traditional methods. Long-term financial impact analysis would help determine whether any initial cost premiums associated with quality-focused procurement deliver superior value over contract lifecycles, including reduced rework, fewer disputes, and better long-term performance.

Statistical analysis examining the relationship between discount percentages and various aspects of contract performance could provide quantitative validation of the qualitative findings from this study, particularly regarding the risks associated with extremely low-price proposals. This type of analysis could help establish evidence-based thresholds for identifying potentially problematic bids and inform policy discussions about appropriate safeguards in procurement processes.

Institutional analysis presents another rich vein for future research, particularly in the form of detailed case studies of successful implementation experiences across various organizational contexts. This would examine what factors contribute to successful adoption and how organizations overcome common implementation barriers. Analysis of control body roles in shaping implementation practices could illuminate how external oversight and guidance influence organizational behavior and procurement outcomes. Research evaluating the effectiveness of different training programs and capacity-building initiatives could inform the design of more effective professional development approaches for procurement professionals.

Comparative studies would substantially enhance understanding of global trends and best practices in procurement reform. International comparison of value-based procurement implementation experiences across different countries and legal systems could identify common challenges and successful adaptation strategies. Analysis of different weighting schemes for technique and price components could help optimize the balance between quality and cost considerations for different types of services and risk profiles. Cross-sector analysis examining criterion application across different types of technical services could reveal how context-specific factors influence implementation success and inform more nuanced policy approaches.

Technology and innovation research could address some of the systemic barriers identified in this study. Evaluation of electronic procurement system capabilities and limitations could inform system improvements and help address the technical problems that currently compromise bid confidentiality and evaluation integrity. The development of decision-support tools for technical evaluation could help standardize assessment processes while maintaining appropriate professional judgment. Analysis of emerging technologies, such as artificial intelligence applications in procurement evaluation, could explore opportunities to improve consistency, reduce bias, and enhance the technical sophistication of evaluation processes while maintaining transparency and accountability.

8. Conclusion

This research analyzed the implementation of the "Technique and Price" evaluation criterion in the public procurement of technical consulting engineering services following the enactment of Law 14,133/2021. Through an interpretive qualitative approach involving 15 interviews with professionals from different regions, activity

areas, and public and private institutions, complemented by documentary analysis and secondary data, the study provides an understanding of the implementation challenges and opportunities.

Results demonstrate that the "Technique and Price" criterion is widely recognized as a promising instrument for enhancing the quality of public contracts in high-technical-complexity sectors. Most interviewees consider that the model provides a better quality-cost balance, promotes appreciation for technical service provider capacity, and contributes to reducing contract execution risks.

However, research also revealed structural and institutional barriers hindering full adoption. Primary identified challenges include the absence of standardized technical criteria, inadequate evaluation committee training, legal uncertainty about the correct model application, and the persistence of an organizational culture strongly oriented toward the lowest-price logic.

The five thematic analysis axes—institutional and technical capacity gaps, systemic implementation barriers, cultural and behavioral resistance, technical evaluation complexity, and professional service valorization—reveal the multidimensional nature of implementation challenges while highlighting the law's transformative potential.

Documentary analysis of tenders and union objection requests reinforces perceptions that traditional models still predominate, even where technical criteria would be more appropriate. Analysis of 14 federal infrastructure tenders in 2024, showing average discounts of 42.57%, provides quantitative evidence that lowest-price approaches may encourage unsustainable bidding practices that compromise service quality.

Jurisprudential consolidation within the Federal Court of Auditors, as demonstrated by recent rulings, indicates an institutional shift toward reinforcing the legal obligations for the "Technique and Price" criteria in STENPI contracts. This position provides legal certainty for public administrations choosing this model, helping overcome cultural and operational resistance across various federal entities.

As a practical contribution, research highlights the importance of coordinated efforts among the Union, states, municipalities, sector representation entities, and control bodies to institutionalize the use of the "Technique and Price" criterion. This promotes technical training, legal certainty, and the dissemination of successful experience.

Proactive sector entity action through reasoned challenges has proven an important tool for consolidating good practices and national jurisprudence. Challenge request data and legal repercussions are fundamental not only as administrative challenge mechanisms but also as vectors for institutional improvement and legal compliance induction.

In academic terms, the study contributes to the literature by providing an empirical analysis of the effects of the New Bidding Law on technical contracting, with a focus on engineering consulting. Using interpretive interviews alongside documentary analysis enabled a multifaceted, grounded understanding of the institutional realities faced by the involved agents.

The research contributes to a broader understanding of procurement system transformation in developing countries. It demonstrates how formal institutional changes interact with informal practices, cultural norms, and organizational capacity in shaping implementation outcomes.

The study suggests that successful "Technique and Price" criterion implementation requires addressing multiple interconnected challenges simultaneously. Building institutional capacity, overcoming cultural resistance, addressing systemic barriers, managing technical complexity, and creating conditions for professional valorization require a coordinated and sustained effort.

Normative Instruction 2/2023 represents important progress, but practical implementation encounters obstacles, especially in public administrations with limited technical structure. Success requires not only regulatory compliance but also a fundamental transformation in how public organizations approach procurement, evaluation, and contract management.

The evidence suggests that Brazil's experience with implementing the "Technique and Price" criterion, while challenging, offers valuable lessons for other countries seeking to modernize their public procurement systems. The transition from price-based to value-based procurement represents a shift that requires a sustained commitment, adequate resources, and stakeholder engagement across multiple institutional levels.

Future success will depend on continued institutional learning, adaptation, and refinement of implementation approaches based on emerging evidence and evolving best practices. This research provides a foundation for that ongoing process of improvement and institutional development.

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