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CHALLENGES AND STRATEGIES IN THE PARTICIPATION OF ENTREPRENEURS IN PUBLIC BIDS FOR MEDICAL PRODUCTS IN THE STATE OF AMAZONAS

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Abstract: The participation of entrepreneurs and distributors in public tenders for the supply of medical supplies in the State of Amazonas involves a set of challenges that go beyond the regulatory and administrative dimensions. In addition to the technical and bureaucratic requirements present in the notices, the regional context imposes severe logistical obstacles, such as the precarious condition of the BR-319 highway, dependence on river transport, and the high costs of air transport. Added to this is the instability of budget transfers and payment delays (SOUZA, 2025), which undermine trust between suppliers and the public administration. The study analyzes these elements based on a review of the literature, institutional documents, and empirical reports, highlighting how competitiveness in the sector is conditioned not only by the lowest price offered but also by the technical, financial, and strategic capacity of suppliers. It concludes that the sustainability of government health procurement in Amazonas depends on a combination of regulatory rigor, logistical investments, fiscal predictability, and the inclusion of small suppliers, in order to ensure greater efficiency and security in regional hospital supply.

Keywords: Public tenders, Amazonian logistics, hospital supply, government procurement, CEMA-AM.

INTRODUCTION

The public procurement system in Brazil is one of the main instruments for the acquisition of essential goods and services, playing a strategic role in guaranteeing the constitutional right to health. In the specific area of medical and hospital supplies, tenders are even more important, as they determine the availability of medicines, equipment, and materials that support the functioning of the Unified Health System (SUS) throughout the national territory.

Regulatory modernization, consolidated by Law No. 14,133/2021 of April 1, 2021, introduced significant advances in the public procurement process by incorporating principles of planning, transparency, and contractual innovation (GOIS et al., 2023). However, the practical application of this legislation faces limitations when transposed to complex regional contexts, such as the Amazon, where structural and institutional factors impose additional challenges to the efficient execution of contracts.

In the state of Amazonas, the Medicines Center (CEMA-AM) plays a central role in the procurement, storage, and distribution of supplies for the public health network. However, its performance is marked by difficulties that go beyond the simple logic of competitive bidding. Logistical barriers, such as the poor condition of the BR-319 highway (CARDOSO, 2025), the slowness of river transport, and the high cost of air transport, compromise the predictability of deliveries and increase the risk of contractual non-compliance (ROCHA et al., 2021).

In addition, technical and legal requirements in public notices, although essential to ensure quality and legality, create obstacles to the participation of micro and small companies, which often lack the administrative structure and working capital to face contractual risks (MANDARINO; GOMES, 2023). Added to these elements are budgetary instability and recurring payment delays by the government, which compromise institutional credibility and reduce the attractiveness of tenders.

Given this scenario, understanding the challenges and business strategies in public tenders for medical supplies in Amazonas is essential to propose solutions that increase competitiveness, strengthen trust between the state and suppliers, and ensure the continuity of hospital supplies. The research developed

here therefore seeks to critically analyze the barriers faced by local and national entrepreneurs and distributors, while identifying successful practices and public policies capable of making the bidding environment more efficient, inclusive, and sustainable.

PUBLIC PROCUREMENT SYSTEM IN BRAZIL AND LAW NO. 14,133/2021

The Brazilian public procurement system is one of the main instruments of state policy to ensure the supply of essential goods and services, especially in the area of health. Public procurement, in addition to representing a significant budgetary volume—estimated at around 6.5% of Gross Domestic Product (GDP), according to a report by the Organization for Economic Cooperation and Development (OECD, 2021)—is a strategic mechanism for promoting administrative efficiency, regional economic development, and guaranteeing the right to health.

Historically, the legal framework for public procurement in Brazil was governed by Law No. 8,666/1993, which established general rules for public procurement, in addition to complementary legislation such as Law No. 10,520/2002, responsible for institutionalizing the auction, and Law No. 12,462/2011, which created the Differentiated Contracting Regime (RDC). However, regulatory fragmentation and excessive bureaucracy created obstacles for both the public administration and suppliers (MANDARINO; GOMES, 2023).

In this context, the enactment of Law No. 14,133/2021, known as the “New Law on Bidding and Administrative Contracts,” represented a milestone in the Brazilian legal system. The new law sought to integrate and modernize the previous regimes, consolidating them into a single legal text, with the aim of reducing complexity, increasing transparency, and expanding competitiveness in bidding processes

(GOIS et al., 2023).

Law No. 14,133/2021 states: “Art. 18. The preparatory phase of the bidding process is characterized by planning and must be compatible with the annual procurement plan [...]”. It should be noted that there have been significant innovations with regard to the importance of public procurement planning. By requiring preliminary technical studies, risk management, and the preparation of an annual procurement plan, the rule shifts the focus of bidding from mere bureaucratic compliance to a logic of strategic management (BRAZIL, 2021). This represents an important step forward in the attempt to align administrative efficiency and results in public policies.

In addition, the law reinforces mechanisms for transparency and social control by requiring the use of the National Public Procurement Portal (PNCP), which centralizes and makes available information on public notices, minutes, and contracts. This measure aims to mitigate collusion and corruption, which are often identified in public procurement processes in the health sector.

In the specific context of healthcare procurement, the new law addresses historical supply challenges, especially in remote and hard-to-reach regions, such as the Amazon. Recent studies (ROCHA et al., 2021) show that geographical dispersion, poor logistics infrastructure, and high transportation costs directly impact the attractiveness of companies to participate in auctions in the region. Thus, by providing for more flexible modalities, such as competitive dialogue (Article 32 of the law) and the expansion of the use of electronic auctions, the legislation seeks to create a more inclusive environment for suppliers of different sizes and origins.

The effectiveness of legal innovations depends not only on regulatory provisions, but also on the institutional capacity to implement them (COSTA et al., 2023). The reality

of Amazonian states reveals that the combination of advanced rules and precarious structural conditions can create a gap between norm and practice, especially when added to budgetary instability and recurring delays in financial transfers (REDAÇÃO 18 HORAS, 2023).

Thus, the public procurement system in Brazil, although modernized by Law No. 14,133/2021, continues to face significant challenges when applied to the Amazonian reality. Overcoming these barriers requires not only a robust legal framework, but also public policies for investment in logistics, process digitization, and fiscal predictability, in order to bring the objectives of the law closer to their effective realization in the supply of essential medical supplies.

THE AMAZONAS MEDICINES CENTER (CEMA-AM)

The Amazonas Medicines Center (CEMA-AM) is the agency linked to the Amazonas State Health Secretariat (SES-AM) responsible for the acquisition, storage, and distribution of medicines and hospital supplies for the entire state public network. Its role is strategic for the functioning of the Unified Health System (SUS) in the state, especially due to the geographical and logistical particularities of the Amazon region.

In the national context, pharmaceutical supply centers play a fundamental role in ensuring the regular supply of medicines, preventing shortages that compromise the care provided in health facilities. In the case of CEMA-AM, this function is amplified by regional difficulties, such as long distances, dependence on river and air transport, and poor land infrastructure—factors that directly impact costs and delivery times (ROCHA et al., 2021).

Audit reports indicate that the center repeatedly faces problems with operational efficiency and inventory management, resulting

in interruptions in the supply of essential medicines and allegations of corruption (TCU, 2024). This situation is exacerbated by irregularities in budget transfers, late payments, and contractual failures, which weaken relationships with suppliers and reduce the interest of private companies in participating in public tenders (REDAÇÃO 18 HORAS, 2023).

Electronic auctions have increased transparency and competitiveness in CEMA-AM's purchases, but simply adopting this model has not been enough to overcome regional obstacles. Logistics remains a decisive factor, and suppliers who are able to maintain local stocks in Manaus are better able to meet contractual deadlines and are less at risk of administrative sanctions.

Another important challenge is quality assurance. CEMA-AM's public notices strictly require the presentation of ANVISA and Inmetro certifications, in addition to technical capacity certificates. Although these requirements are in line with national standards, excessive bureaucracy leads to companies being disqualified for formal errors in documents, compromising the speed of the processes and, in some cases, resulting in deserted bidding processes (MANDARINO; GOMES, 2023).

In light of these problems, studies point to the need for institutional restructuring of CEMA-AM. It is recommended that risk management tools be adopted in contracts (SANTIAGO, 2024), that purchasing and inventory processes be computerized, and that budget predictability mechanisms be created to provide greater financial security to contracted companies. These measures, combined with investments in logistics infrastructure, are essential for the center to fulfill its strategic function of ensuring the continuous supply of medicines in the state.

Thus, the analysis shows that the challenge of managing supplies in the Amazon transcends the bureaucratic dimension of public

tenders. It is intrinsically linked to the state's capacity to articulate logistics, governance, and financial stability, creating an environment capable of attracting reliable suppliers and ensuring the effectiveness of public health policies.

LOGISTICAL CHALLENGES IN THE AMAZON REGION

Logistics is the biggest bottleneck for the supply of medical supplies in Amazonas, making it a decisive factor in the success or failure of public contracts. The state's size, combined with low population density and poor transport infrastructure, imposes high additional costs, long delivery times, and permanent risks of supply discontinuity (ROCHA; CAMARGO, 2021).

Road Transport: BR-319 and its obstacles: road transport is extremely limited in Amazonas. BR-319, the main highway connecting Manaus and Porto Velho, remains largely impassable during the rainy season and lacks regular maintenance. The delivery time for products that depend on this route can take weeks, directly impacting the ability to fulfill contracts. The irregularity of the road network causes average delays of 15 days in tendered contracts, which increases the incidence of administrative penalties (FERREIRA; FRANCHI, 2020).

River transport is the most widely used in the region, due to its ability to reach riverside municipalities. However, it has significant limitations: seasonality of rivers, slowness, and lack of adequate port infrastructure. Logistics costs can be higher than in more accessible regions of the country (PEREIRA et al., 2025). Air transport, despite its speed, involves extremely high costs, making it a viable alternative only in emergency situations. The combined use of both modes is frequent, but places an even greater burden on suppliers, who need to pass on costs in proposals or risk financial

unviability.

The precariousness of Amazonian infrastructure not only affects delivery times but also the quality of the supplies delivered. Prolonged transport in inadequate conditions compromises heat-sensitive medicines and fragile hospital supplies, requiring more sophisticated packaging and greater investment in specialized logistics (ROCHA; CAMARGO, 2021). Reports from the Amazonas Medicines Center () (CEMA-AM) indicate that dozens of companies have already been notified for breach of contract due to delivery delays exceeding R\$20 million in certain periods (AMAZONAS ATUAL, 2019).

Recent cases show that logistical fragility even leads to temporary shortages in the public network. In 2023, healthcare companies announced a reduction in services contracted by the state due to the accumulation of late payments, coupled with transportation and supply difficulties in more isolated municipalities (REDAÇÃO 18 HORAS, 2023). This scenario highlights the direct relationship between poor infrastructure, financial instability, and contractual vulnerability in Amazonas.

FINANCIAL AND CONTRACTUAL RISKS

The supply of medical supplies to the public sector in Amazonas is not only conditioned by logistical and bureaucratic factors, but also by financial and contractual risks. These risks directly affect the sustainability of supplier companies and compromise the attractiveness of bidding processes, resulting in a vicious cycle of lower competitiveness and greater institutional vulnerability.

Current legislation provides for strict penalties for suppliers who do not meet contractual deadlines, including fines, temporary suspension from contracting with the public administration, and, in more serious cases, disqualification from participating in new

bids (BRAZIL, 2021). The Amazonas Medicines Center (CEMA-AM) has already notified dozens of companies for delays in the delivery of supplies, with penalties on products exceeding R\$20 million in certain periods (AMAZONAS ATUAL, 2019).

These penalties, although necessary to protect the public interest, can further weaken small and medium-sized companies, which often already operate with reduced profit margins and limited working capital (MANDARINO; GOMES, 2023). In some cases, delays are not due to poor management by the supplier, but to external conditions, such as logistical difficulties on the BR-319 highway or the seasonality of Amazonian rivers (PEREIRA et al., 2025).

One of the main risk factors for suppliers is instability in budget transfers. Reports from the TCU (2024) point out that delays in contract payments are recurrent in the state of Amazonas, compromising the confidence of suppliers and leading many to give up participating in new processes. This default creates a cycle of shortages: the withdrawal of companies reduces competition, raises prices, and increases the fragility of the public health system.

Recent cases illustrate this problem. In 2023, medical companies contracted by SES-AM announced a reduction in services due to the accumulation of debts for 2021, 2022, and 2023, claiming that it was unfeasible to continue operating without a payment schedule (REDAÇÃO 18 HORAS, 2023). The lack of fiscal predictability thus becomes one of the main obstacles to the sustainability of contracts.

The recurrence of penalties, defaults, and contractual failures compromises the institutional credibility of public administration. To reverse this situation, recent research suggests the adoption of contractual risk management tools. Santiago (2024), for example, proposes

the Supplier Distrust Index (IDF), which uses economic, financial, and legal variables to anticipate the probability of default. This type of tool could be applied by CEMA-AM as a way to select more reliable suppliers and reduce the risk of execution failures.

In this sense, improving institutional credibility involves a combination of three factors: (i) greater fiscal predictability and regularity in transfers; (ii) transparent mechanisms for monitoring and evaluating suppliers; and (iii) public policies that favor the inclusion of new agents in the market, without compromising contractual security.

BUSINESS STRATEGIES AND BEST PRACTICES

Despite the adverse environment characterized by bureaucracy, logistical fragility, and budgetary instability, some companies have been successful in participating in public tenders for medical supplies in Amazonas. These cases demonstrate that the adoption of integrated strategies, which go beyond the mere criterion of lowest price, is fundamental to ensuring competitiveness and sustainability in the sector.

One of the key points for success is rigorous document management. Suppliers who invest in specialized teams to monitor notices, check deadlines, and meet all regulatory requirements significantly reduce the risk of disqualification due to formal errors. In addition, the use of digital tools to monitor bids and automate document submission processes has proven to be an effective practice.

Experience shows that companies that maintain local inventories in Manaus are more likely to win electronic auctions, as they are able to respond more quickly to demands and reduce the risk of delays. Another recurring practice is the formation of logistics partnerships with regional carriers, which allows for greater capillarity in serving riverside municipalities.

The instability of public transfers requires companies to have robust working capital and preventive financial strategies. Some adopt their own reserves or specific lines of credit to support delays in government payments. In addition, there are records of companies using surety insurance as a way to mitigate contractual risks and ensure greater predictability in the execution of contracts (PEREIRA et al., 2024).

The company's reputation is an informal but decisive factor. Suppliers who accumulate previous deliveries without sanctions, in addition to recognized quality certifications, increase their chances of winning bids and securing subsequent contracts (MANDARINO; GOMES, 2023). In this sense, technical history functions as a strategic asset, since it reduces the perception of risk on the part of the public administration.

Innovative practices have also emerged as a competitive advantage. The adoption of digital traceability systems for medicines, the use of blockchain in supply chains, and the integration of electronic monitoring platforms are initiatives that increase transparency and demonstrate a commitment to process modernization (OECD, 2021).

FUTURE PROSPECTS AND PUBLIC POLICIES

An analysis of the challenges faced by medical supply providers in Amazonas shows that overcoming logistical, bureaucratic, and financial barriers depends not only on business action, but above all on structural public policies. Building a more stable, competitive, and inclusive contractual environment requires long-term measures that link infrastructure, governance, and innovation.

One of the key points for improving the public procurement system in the Amazon is to increase investment in transport infrastructure. Studies by the Amazon 2030 Pro-

ject (ROCHA; CAMARGO, 2021) show that the precariousness of the road network, the seasonality of rivers, and the high cost of air transport limit the participation of suppliers and significantly increase the costs of inputs. Investments in the restoration of the BR-319 highway, the modernization of river ports, and the expansion of the subsidized air network are necessary conditions for reducing logistical bottlenecks and increasing contractual predictability.

The digitization of public procurement has proven to be an essential tool for reducing bureaucracy and increasing transparency. The implementation of the National Public Procurement Portal (PNCP), provided for in Law No. 14,133/2021, offers an opportunity to unify information and monitor contracts in real time (BRAZIL, 2021). In addition, technological innovation experiences, such as the use of blockchain for drug traceability and data analysis platforms for cartel prevention, can strengthen confidence in the bidding process (OECD, 2021).

Recurring delays in transfers undermine trust between the state and suppliers, discouraging the participation of reputable companies. Measures such as the creation of specific accounts for health funds, the implementation of payment schedules linked to the State Treasury, and the adoption of contractual risk indicators (SANTIAGO, 2024) can increase institutional credibility and reduce the incidence of default.

Another strategic axis is the inclusion of micro and small enterprises (MSEs), which face significant barriers due to bureaucracy and the requirement for financial guarantees (MANDARINO; GOMES, 2023). Public policies for training, document simplification, and specific credit lines could increase competitiveness and generate greater market decentralization. Appreciating local suppliers would also contribute to reducing dependence on companies based in other regions, strengthening the regional economy.

CONCLUSION

The study on the participation of entrepreneurs in public tenders for medical supplies in Amazonas shows that the efficiency and sustainability of this system depend on multiple interconnected dimensions. The current legislation, modernized by Law No. 14,133/2021, has brought advances in planning, transparency, and innovation in processes, but its implementation faces significant barriers when applied to the Amazonian reality, marked by geographical distances, poor infrastructure, and high logistics costs.

The requirements of public notices, although necessary to ensure quality and legality, often act as barriers to the participation of local and small businesses, favoring large, already established suppliers. Added to this are financial risks, in particular instability in budget transfers and payment delays, which discourage new competitors from joining and undermine trust between the public and private sectors.

Even so, the scenario is not completely unfeasible. Companies that adopt rigorous document planning practices, local inventory management, logistics partnerships, robust working capital, and a positive technical his-

tory have managed to overcome some of the difficulties and maintain their competitiveness. Such individual strategies, however, do not replace the need for structural public policies that strengthen the institutional environment.

For the public supply of medicines in Amazonas to be continuous and efficient, it is essential to advance on three fronts: investments in logistics infrastructure, computerization and digitization of bidding processes, and fiscal predictability capable of restoring supplier confidence. Additionally, measures to encourage the participation of micro and small businesses can increase competition and reduce market concentration.

It can therefore be concluded that success in bidding for medical supplies in Amazonas is not limited to the criterion of the lowest price. It requires integrated governance that combines regulatory rigor, operational efficiency, financial stability, and long-term public policies. Only with this balance will it be possible to transform bidding into an instrument for regional development and for guaranteeing the fundamental right to health for the population.

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