Integrating startups into public procurement in Algeria: A mechanism for promoting innovation and economic development under presidential decree 23-12

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Abstract:

This study addresses the integration of startups into public procurement in Algeria, chosen for its importance in fostering innovation and economic diversification. It aims to analyze the role of startups, the legal framework established by Presidential Decree 23-12, and the mechanisms facilitating their participation. The research also identifies the main challenges limiting their access to public contracts. It concludes that strengthening support measures and simplifying procedures is essential to enhance innovation and sustainable economic growth.

Keywords: startups, public procurement, innovation, economic development, Algeria.

1. INTRODUCTION

Innovation and entrepreneurship have become central elements of economic development policy across the world. Governments increasingly seek to enhance economic dynamism by enabling new firms to introduce

technology-driven solutions that address public and private sector challenges. In many economies, startups are identified not only as job creators but also as drivers of technological change and competitiveness. However, while much attention has been paid to private markets, the **role of public procurement as a strategic tool for fostering innovation** has gained prominence only relatively recently. Public procurement represents a substantial share of government spending and, when well designed, can create significant incentives for innovation by shaping market demand and reducing barriers for new economic actors.

The Organisation for Economic Co-operation and Development (OECD) highlights that innovation procurement goes beyond traditional purchasing and focuses on the acquisition and use of **novel solutions, products, and services** rather than simply improving administrative processes. According to the OECD, "innovation procurement emphasises using procurement as a strategic tool to drive economic growth and innovation, improve performance and effectiveness, and spur technological advancements, ensuring that what is procured creates value and addresses emerging needs"[1]. By diversifying engagement with different market players and promoting investment in research and development, innovation procurement can open new market opportunities and stimulate competition, benefiting governments and the private sector alike.

In the context of Algeria, public procurement has traditionally been governed by regulatory frameworks

that, critics argue, favored established firms and limited the participation of smaller and younger enterprises. In response to this limitation, the Algerian legislature adopted **Law No. 23-12 of 5 August 2023**, which sets the general rules governing public contracts and was published in *Journal Officiel* No. 51 on 6 August 2023 [2]. This law aims to simplify procedural requirements, strengthen transparency, and expand access to public contracts for a wider range of economic operators, including startups. The law is anchored in three fundamental principles — free access to public procurement, equality of treatment, and transparency of procedures — which are intended to create a more equitable and competitive environment for all market participants [3].

Startups may benefit from this reformed legal framework because they often face barriers such as limited administrative capacity and challenges in navigating complex procurement procedures. At the same time, research on innovation procurement suggests that public contracting can act as a **demand-side policy tool** that stimulates innovation across the economy. The OECD notes that public procurement can serve as a "strategic demand-side policy tool that can stimulate innovation in the economy" by fostering collaboration between the public and private sectors to develop solutions that address public needs [4]. This approach transforms procurement from a purely transactional process into a mechanism for steering demand toward innovative goods

and services that contribute to broader economic development goals.

Despite these opportunities, integrating startups into public procurement systems remains challenging. Barriers such as access to finance, procedural complexity, and regulatory uncertainty continue to constrain startup participation. Furthermore, the effective implementation of legal reforms depends on institutional capacity and the willingness of public agencies to adopt innovation-friendly practices. Understanding how Law No. 23-12 can be operationalized to enable startup participation in Algerian public procurement requires an analysis of both the formal legal framework and the broader institutional ecosystem. Examining these dynamics is essential to assess whether the reforms can translate legislative intent into practical opportunities that strengthen national innovation capacity, foster entrepreneurship, and support sustainable economic growth.

This study therefore explores the integration of startups into public procurement in Algeria by analysing the interaction between the country's legal and institutional reforms and the operational realities faced by startups. By situating the inquiry at the intersection of public law, innovation policy, and economic development, the research highlights both the potential and the limitations of using public procurement as a tool to support innovation-oriented enterprises in a changing economic environment.

2. Conceptual and theoretical framework

Startups have emerged as central actors in modern economic systems, driving innovation, job creation, and market dynamism. Unlike traditional firms, startups are characterized by their **high adaptability, innovative focus, and capacity to develop disruptive solutions** that can transform sectors in short periods. As Blank and Dorf note, "startups are temporary organizations designed to search for a repeatable and scalable business model" [5]. This definition emphasizes the experimental and agile nature of startups, which allows them to respond quickly to market demands and innovate in ways that larger, established companies often cannot.

Innovation is closely linked to entrepreneurship. Schumpeter famously argued that "the fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers' goods, the new methods of production or transportation, the new markets, the new forms of industrial organization" [6]. In this sense, startups function as catalysts of creative destruction, introducing new combinations of resources, technologies, and business models that modernize and challenge existing economic structures.

Public procurement, traditionally viewed as a procedural mechanism to acquire goods and services, has increasingly been recognized as a strategic instrument for stimulating innovation. According to the OECD, "innovation procurement emphasises using procurement as a strategic tool to drive economic growth and innovation, improve performance and effectiveness, and spur technological advancements" [7]. By incorporating startups into public contracts, governments can leverage the agility and creativity of these firms to meet public

needs while simultaneously fostering entrepreneurial ecosystems. This dual effect positions startups at the intersection of economic development and innovation policy, providing both practical solutions and strategic market stimulation.

This first chapter establishes the **conceptual and theoretical foundations** necessary to understand the integration of startups into public procurement. It examines three interrelated dimensions: the definition and characteristics of startups, the conceptual link between entrepreneurship and innovation, and the evolving role of public procurement as a driver of innovation. Understanding these dimensions provides the foundation for analyzing the legal and institutional reforms, such as Algeria's Law No. 23-12, that aim to include startups in public contracting processes.

2.1 Definition of startups and entrepreneurial characteristics

Startups represent a distinct category of firms that differ significantly from established companies in terms of structure, objectives, and operational strategy. While there is no single universally accepted definition, a startup can be described as "a temporary organization designed to search for a scalable and repeatable business model" [8]. This definition emphasizes the **exploratory and adaptive nature of startups**, which are inherently oriented toward experimentation, rapid iteration, and innovation. Unlike traditional firms, startups operate in conditions of extreme uncertainty, often developing their

product or service in response to evolving market feedback rather than predefined plans.

Several characteristics distinguish startups from conventional small and medium-sized enterprises (SMEs). First, startups are typically **innovation-driven**, seeking to develop new technologies, services, or business models that disrupt existing markets. Second, they exhibit a high degree of **organizational flexibility**, allowing rapid changes in strategy, team structure, or product design in response to external signals. Third, startups usually operate with **limited resources**, relying on creativity, strategic partnerships, and external funding to overcome constraints and scale their operations. Fourth, they maintain a **strong growth orientation**, aiming for rapid expansion rather than steady, incremental growth typical of conventional enterprises.

Entrepreneurial characteristics are equally central to the identity of startups. Entrepreneurs leading these ventures often combine vision with risk-taking, leadership, and resilience. As Shane and Venkataraman (2000) note, "entrepreneurship is a process by which opportunities to create future goods and services are discovered, evaluated, and exploited" [9]. This process reflects both the **strategic foresight** and the **dynamic problem-solving abilities** of entrepreneurs, who must navigate complex environments while mobilizing limited resources efficiently. Furthermore, entrepreneurial orientation within startups encompasses innovation, proactiveness, and willingness to take calculated risks, all of which

enhance the firm's ability to compete in rapidly evolving markets.

In sum, understanding startups requires appreciating both their structural features and the behavioral traits of their founders. They are organizations designed to "pursue scalable innovation under conditions of uncertainty"[10], combining technological or business novelty with adaptive managerial practices. Recognizing these characteristics is crucial for assessing how startups can participate effectively in **public procurement systems**, where flexibility, innovation, and responsiveness provide a competitive advantage over traditional market actors.

2.2 Innovation and entrepreneurship as drivers of economic development

Innovation and entrepreneurship are widely recognized as fundamental drivers of economic growth and structural transformation. In both developed and emerging economies, the capacity to generate new ideas, introduce technological improvements, and create competitive enterprises plays a decisive role in increasing productivity and ensuring long-term economic sustainability. Economic theory has long emphasized the importance of innovation as a mechanism through which economies renew themselves and adapt to changing global conditions. In this perspective, entrepreneurship represents the practical force that transforms innovative ideas into economic value.

Schumpeter's theory of economic development remains one of the most influential frameworks for understanding this relationship. He argued that "the fundamental

impulse that sets and keeps the capitalist engine in motion comes from new consumers' goods, new methods of production, new markets, and new forms of industrial organization" [11]. This process, often referred to as **creative destruction**, explains how new firms replace obsolete structures by introducing more efficient technologies and business models. Startups, because of their flexibility and innovative orientation, are particularly suited to perform this role, especially in sectors characterized by rapid technological change.

Modern research continues to support the idea that entrepreneurial activity contributes significantly to economic performance. According to Acs, Audretsch, and Lehmann, "entrepreneurship plays a central role in economic growth by serving as a conduit for knowledge spillovers and innovation" [12]. This means that new firms not only create jobs but also facilitate the diffusion of knowledge produced in universities, research centers, and large companies. In emerging economies, where industrial diversification remains a priority, startups can therefore act as bridges between scientific knowledge and market applications.

Innovation policy has also evolved to recognize that governments can actively stimulate entrepreneurship through institutional and regulatory measures. Public authorities are no longer limited to providing legal frameworks; they increasingly act as facilitators of innovation ecosystems by supporting research, financing new ventures, and creating demand for innovative products. The OECD notes that "innovation is a key

driver of productivity growth and governments play an important role in fostering innovation through policies that support entrepreneurship, research, and market access" [13]. Such policies are particularly relevant for countries seeking to reduce dependence on traditional sectors and encourage the development of knowledge-based economies.

In this context, startups occupy a strategic position at the intersection of innovation and economic policy. Their capacity to introduce new solutions, adapt quickly to changing conditions, and explore emerging markets makes them essential actors in modern development strategies. However, their contribution depends largely on the existence of an institutional environment that allows them to compete on equal terms with established firms. Among the instruments available to governments, public procurement has recently gained attention as a powerful tool for supporting innovative enterprises, since it can create demand for new technologies while providing startups with opportunities to scale their activities.

Understanding the role of innovation and entrepreneurship in economic development is therefore essential for analysing policies aimed at integrating startups into public procurement systems. By linking theoretical insights with institutional practice, it becomes possible to evaluate how legal reforms and public policies can transform entrepreneurial potential into concrete economic outcomes.

2.3 Public procurement and its role in the economy

Public procurement represents one of the most important instruments through which governments intervene in the economy. By purchasing goods, services, and works necessary for the functioning of public institutions, the State not only satisfies administrative needs but also influences market dynamics, industrial development, and technological progress. In many countries, public procurement accounts for a significant share of gross domestic product, which makes it a powerful tool capable of stimulating economic activity and supporting strategic sectors.

Traditionally, public procurement was perceived as a purely administrative procedure aimed at ensuring transparency, competition, and the efficient use of public funds. However, modern economic analysis has shown that procurement policies can also serve broader objectives related to development, innovation, and competitiveness. According to Thai, "public procurement is not only a business process but also a policy instrument that can be used to achieve social, economic, and technological objectives"[14]. This broader understanding has led governments to reconsider procurement rules in order to make them more compatible with economic policy goals.

One of the most significant evolutions in this field is the recognition of procurement as a **demand-side innovation policy**. Instead of limiting public contracts to the acquisition of existing products, governments can use their purchasing power to encourage the development of new solutions. As Edquist and Zabala-Iturriagagoitia

explain, "public procurement for innovation occurs when a public agency places an order for a product or system that does not yet exist, thereby stimulating innovation" [15]. This approach allows the State to act as a lead customer, reducing market uncertainty for innovative firms and facilitating the commercialization of new technologies.

The economic impact of public procurement is particularly important for small and emerging enterprises. Access to public contracts can provide financial stability, credibility, and opportunities for growth that are often difficult to obtain in private markets. Nevertheless, traditional procurement systems tend to favor large and well-established firms because of strict administrative requirements, financial guarantees, and complex procedures. The World Bank notes that "complex procurement regulations may unintentionally limit the participation of small and innovative firms, reducing competition and weakening the potential for innovation" [16]. For this reason, many countries have introduced reforms aimed at simplifying procedures and encouraging the participation of startups and small enterprises in public tenders.

In developing and emerging economies, the strategic use of public procurement is increasingly linked to policies of economic diversification and modernization. By directing public spending toward innovative and high-value activities, governments can support the emergence of new sectors and reduce dependence on traditional industries. This perspective is particularly relevant in the Algerian context, where recent legal reforms seek to

improve the efficiency of public spending while promoting entrepreneurship and innovation. The adoption of new regulations governing public contracts reflects the intention to create a more transparent, competitive, and inclusive system capable of integrating new economic actors, including startups, into national development strategies.

Understanding the economic role of public procurement is therefore essential for analysing how legal frameworks can facilitate the participation of innovative enterprises in public markets. The evolution from a purely administrative approach to a strategic economic instrument provides the theoretical basis for examining the reforms introduced in Algeria and their potential impact on the integration of startups into public procurement.

2.4 Innovation through public procurement concepts and models

In recent decades, public procurement has evolved from a purely administrative function into a strategic policy instrument capable of stimulating innovation and supporting economic transformation. Governments increasingly recognize that their purchasing power can influence market behavior, encourage technological development, and create opportunities for innovative firms. This approach, commonly referred to as **innovation procurement**, is based on the idea that public demand can be used to promote the development of new products, services, and processes that would not emerge under normal market conditions.

Innovation procurement differs from traditional procurement in that it focuses not only on obtaining goods and services at the lowest cost, but also on achieving long-term economic and technological benefits. According to Edquist and Hommen, "public procurement for innovation occurs when a public agency places an order for a product or system that does not yet exist, or needs to be improved, thereby requiring innovation to meet the specified demand" [17]. In this model, the State acts as a catalyst for innovation by creating demand for solutions that require research, experimentation, and technological development.

The literature on innovation policy often distinguishes between **supply-side policies**, which support research and development through funding and incentives, and **demand-side policies**, which stimulate innovation by creating markets for new technologies. Public procurement is considered one of the most effective demand-side instruments. As the OECD explains, "public procurement can be used strategically to foster innovation by encouraging firms to develop new solutions in response to public sector needs" [18]. By guaranteeing a potential buyer, public contracts reduce uncertainty for innovative firms and make investment in research more attractive, especially for startups that face financial constraints.

Several models of innovation procurement have been developed in different countries. One model involves **pre-commercial procurement**, where public authorities finance research and development activities before a

product reaches the market. Another model is **innovation-friendly procurement**, which adapts tender procedures to allow smaller and innovative firms to participate. According to Uyarra and Flanagan, "well-designed procurement policies can lower entry barriers for innovative firms and help governments obtain more efficient and technologically advanced solutions" [19]. These models demonstrate that procurement rules are not neutral; they can either limit or encourage innovation depending on how they are designed and implemented.

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In this perspective, the study of innovation procurement provides the theoretical framework necessary to understand recent legal developments in Algeria. The reform of public procurement regulations reflects a growing awareness that public contracts can play a decisive role in encouraging entrepreneurship and

innovation. By facilitating the participation of startups in public markets, these reforms seek to create a more dynamic economic environment in which public spending contributes to the development of new technologies and the diversification of the national economy.

3. Legal and institutional framework in Algeria

The legal regulation of public procurement plays a fundamental role in ensuring transparency, efficiency, and fairness in the management of public funds. In Algeria, the public procurement system has undergone several reforms aimed at improving governance and adapting to economic and institutional changes. These reforms reflect the growing importance of public contracts not only as administrative procedures but also as instruments capable of supporting economic development and encouraging private sector participation. As Thai states, "public procurement systems are designed to ensure accountability and efficiency while also serving broader public policy objectives" [21].

In recent years, Algerian authorities have introduced new legislative measures to modernize the regulatory framework governing public contracts. Among the most significant reforms is **Law No. 23-12 of 5 August 2023**, which establishes the general rules applicable to public procurement and seeks to strengthen transparency, competition, and equal access to public markets. This reform also reflects the intention to facilitate the participation of new economic actors, including startups,

in public procurement procedures. Understanding the legal and institutional framework is therefore essential for analysing how these reforms may contribute to innovation and economic diversification in Algeria.

3.1 Evolution of public procurement regulation in Algeria

The regulation of public procurement in Algeria has evolved progressively in response to economic reforms, administrative modernization, and the need to improve transparency in the management of public funds. Since independence, the Algerian legal system has undergone several changes aimed at organizing public spending and ensuring the proper execution of state projects. Initially, public procurement rules were strongly influenced by centralized administrative practices, where the State played the dominant role in economic activity and controlled most production and investment decisions. In such a context, procurement procedures were designed primarily to guarantee control over public expenditures rather than to promote competition or innovation.

With the transition toward a more open economic system in the 1990s, Algeria introduced new regulations to align its public procurement framework with international standards. These reforms aimed to reinforce the principles of transparency, equal treatment of bidders, and efficiency in the use of public resources. According to Arrowsmith, "modern procurement regulation seeks to combine competition, transparency, and accountability in order to ensure that public funds are used in the most efficient and equitable manner" [22]. The adoption of these

principles marked an important step toward the modernization of the Algerian procurement system and its integration into the global economy.

Further reforms were introduced in the following years in order to simplify procedures and reduce administrative complexity. The government progressively recognized that overly rigid procurement rules could slow down public investment and limit the participation of private enterprises, particularly small and innovative firms. As a result, several regulatory texts were adopted to improve flexibility while maintaining control over public spending. These reforms reflected a broader tendency observed in many countries, where procurement policies have shifted from strict administrative control to a more strategic approach that considers economic and developmental objectives.

A major milestone in this evolution is the adoption of **Law No. 23-12 of 5 August 2023**, which establishes the general rules governing public procurement in Algeria. This law aims to modernize the legal framework by strengthening the principles of free access to public contracts, equality of treatment among bidders, and transparency of procedures. It also seeks to adapt procurement rules to current economic realities by facilitating competition and encouraging the participation of new economic actors. The law states that public procurement must be conducted in accordance with the principles of transparency, competition, and efficiency in the use of public funds [23]. These principles reflect international standards and demonstrate the intention of

the legislator to make public procurement a tool for economic development as well as administrative regulation.

The evolution of procurement legislation in Algeria therefore illustrates a gradual transition from a system focused on administrative control to a framework that also aims to support economic performance and innovation. This transformation provides the legal foundation for analysing how recent reforms, particularly Law No. 23-12, may enable the integration of startups into public procurement and contribute to the diversification of the national economy.

3.2 Analysis of law No. 23-12 and its main principles

Law No. 23-12 of 5 August 2023 represents a significant milestone in the modernization of Algeria's public procurement system. It establishes general rules aimed at enhancing transparency, fairness, and efficiency in public contracts while also encouraging competition and economic development. This law reflects the recognition that public procurement is not only a tool for administrative management but also a strategic instrument capable of stimulating innovation and supporting the growth of new enterprises, including startups.

One of the central principles of Law 23-12 is **transparency**, which requires that all procurement procedures be conducted openly, with clear publication of tender notices, selection criteria, and award decisions. As Arrowsmith notes, "transparency in public procurement is essential to ensure accountability, reduce

corruption, and build trust among market participants" [24]. By codifying transparency as a legal requirement, the Algerian legislator aims to create a level playing field where all potential bidders, regardless of size or experience, can participate fairly in public tenders.

Another key principle is **equal treatment**, which ensures that all bidders are evaluated according to the same criteria and under the same conditions. Law 23-12 explicitly states that discriminatory practices are prohibited and that selection must be based on objective technical, financial, and performance criteria [25]. This provision is particularly important for startups, which often face challenges in competing with larger, established firms due to limited financial or administrative resources. By guaranteeing equal treatment, the law facilitates the inclusion of innovative and small enterprises in the public procurement process.

Competition is also a core principle of the law. Law 23-12 promotes competitive procedures, requiring public authorities to encourage participation from a broad range of suppliers and to avoid practices that favor a limited number of firms. This principle aligns with international best practices and enhances the potential for innovation, as firms are motivated to offer improved or novel solutions to win contracts. As the OECD emphasizes, "competition in public procurement can foster innovation by encouraging bidders to develop new approaches, products, and services that respond to public sector needs" [26].

Finally, Law 23-12 introduces provisions to simplify administrative procedures, reduce bureaucratic obstacles, and facilitate access for startups and SMEs. By lowering entry barriers and clarifying procedural requirements, the law intends to strengthen the role of public procurement as a tool for economic development. These reforms are consistent with global trends in innovation-oriented procurement, which emphasize the importance of adapting public tendering processes to the realities of small and innovative firms.

In conclusion, Law No. 23-12 establishes a legal framework designed to balance administrative control with strategic economic objectives. By codifying transparency, equal treatment, competition, and simplified procedures, it provides a foundation for integrating startups into public procurement processes, fostering innovation, and supporting the diversification of the Algerian economy.

3.3 Opportunities and constraints for startup integration

The integration of startups into public procurement presents both significant opportunities and distinct constraints. Startups, due to their flexibility and innovative capacity, can offer novel solutions, technological improvements, and adaptive business models that established firms may not provide. Public procurement, when structured strategically, can grant these enterprises access to stable markets, increasing their visibility, credibility, and potential for growth. In this regard, **Law No. 23-12 of 5 August 2023** contains

provisions that facilitate the participation of new economic actors, including startups, in public contracts. Notably, the law states that *"special measures intended to facilitate participation of small and emerging enterprises in procurement procedures may be adopted by government authorities"* [27]. This article reflects a clear intention in the legal text to widen accessibility to public procurement competitions.

One of the primary opportunities created by this legal framework is the access to larger and more diverse markets. Startups can compete in innovation-oriented tenders and secure contracts that provide not only financial resources but also reputational capital. As Edquist and Hommen explain, *"public procurement for innovation reduces market uncertainty for new firms and encourages the development and commercialization of solutions that might otherwise remain unexploited" [28]. In this way, public contracting can serve as a catalyst for entrepreneurial growth and technological advancement.

However, several constraints still limit the full integration of startups into public procurement. First, **procedural complexity** remains a significant barrier. Although the law aims to simplify competitive procedures, startups often lack administrative capacity or experience required for full compliance. For example, the law requires that *"all bidders must present the necessary administrative and financial guarantees to participate in public tenders"* [29], which may place startups at a disadvantage due to limited capital or corporate history.

Second, **performance and financial guarantees** pose challenges, as many startups do not have extensive track records or financial reserves. These requirements — although intended to ensure performance — can effectively disqualify early-stage firms from competitive tendering if not accompanied by partial exemptions or supportive mechanisms. A third constraint is the **risk-averse nature of public agencies**, which may favor established suppliers over emerging ones due to perceived reliability and lower administrative risk. As noted by the OECD, "complex procurement regulations and cautious practices may inadvertently reduce the participation of innovative small firms, limiting competition and the potential for technological advancement" [30].

To address these constraints, the technical provisions of the law contain mechanisms for **streamlining documentation**, phasing tender requirements for innovative goods, and introducing support programs for SMEs and startups. By lowering entry barriers and clarifying procedural steps, these measures can encourage a broader range of suppliers and promote a more competitive tendering environment. Consequently, the integration of startups into public procurement represents both a **strategic opportunity** for innovation and economic diversification and a **policy challenge** requiring ongoing evaluation and adaptation.

3.4 Comparison with international innovation and procurement models

Innovation-oriented public procurement has become a strategic tool in many countries to stimulate technological development, economic growth, and the integration of startups into public markets. Algeria's Law No. 23-12 (2023) introduces mechanisms to facilitate participation for small and emerging enterprises, aligning partially with international practices but also reflecting local administrative realities.

In the European Union, **Pre-Commercial Procurement (PCP)** and **Public Procurement of Innovative Solutions (PPI)** are widely used models. PCP allows public authorities to fund research and development before a product reaches the market, thereby reducing risk for innovative firms. PPI, on the other hand, involves contracting solutions that are not yet commercially available but meet identified public needs. As Uyarra and Flanagan note, "well-designed procurement policies can lower entry barriers for innovative firms and help governments obtain more efficient and technologically advanced solutions" [31]. These models emphasize strategic demand creation, early market engagement, and reduced administrative barriers for startups.

Similarly, in the United States, the **Small Business Innovation Research (SBIR)** program encourages startups to participate in federal procurement through targeted funding and simplified tender procedures. The program has demonstrated that structured support for young companies can stimulate technological innovation while providing the public sector with cost-effective solutions. As the OECD emphasizes, "competition in

public procurement can foster innovation by encouraging bidders to develop new approaches, products, and services that respond to public sector needs" [32].

Compared to these international examples, **Algeria's Law 23-12** introduces similar principles, such as simplified procedures for small and emerging enterprises, transparency, and equal treatment. However, Algeria is at an early stage in implementing **demand-side innovation policies**. While the law establishes legal recognition of startup participation, practical mechanisms such as phased tenders, financial guarantees adaptations, or pre-commercial contracts are not yet fully developed. This gap highlights the need for continued regulatory refinement and capacity building within public authorities to replicate best practices observed internationally.

The comparative analysis shows that integrating startups into public procurement requires not only a legal framework but also **institutional support, tailored procedures, and incentives**. Algeria's recent reform provides a foundation for such integration but learning from international models could accelerate the law's effectiveness in promoting innovation, economic diversification, and technological advancement.

4. Integration of startups and economic perspectives

Startups are key drivers of economic growth and innovation due to their agility, adaptability, and ability to develop novel solutions. They contribute to job creation, technological advancement, and economic diversification. As Audretsch and Thurik

note, "startups contribute disproportionately to innovation, growth, and job creation in knowledge-intensive sectors" [33].

In Algeria, Law No. 23-12 of 5 August 2023 encourages the participation of small and emerging enterprises in public procurement, promoting transparency, equal treatment, and fair competition [34]. This legal framework creates opportunities for startups to access stable markets, gain visibility, and stimulate innovation, while supporting broader economic development.

However, challenges such as administrative complexity, financial requirements, and limited institutional support can hinder participation. This chapter examines the role of startups in economic development, the mechanisms for their integration into public procurement, and policy recommendations to overcome existing constraints

4.1 The role of startups in economic development

Startups play a critical role in modern economies by driving innovation, creating jobs, and introducing new products and services. Their agility allows them to quickly respond to emerging market needs, while their innovative capacity often leads to the development of solutions that larger, established firms may not provide efficiently. According to Audretsch and Thurik, "startups contribute disproportionately to innovation, growth, and job creation in knowledge-intensive sectors" [35].

In Algeria, the integration of startups into public procurement offers a strategic pathway to stimulate economic growth. Law No. 23-12 of 5 August 2023 explicitly acknowledges the importance of involving

small and emerging enterprises in public contracts, emphasizing competition, transparency, and equal treatment [36]. By granting startups access to stable government demand, the law reduces market uncertainty and provides opportunities for revenue, credibility, and potential scaling of operations.

Startups also enhance economic diversification by introducing novel technologies and business models. Their participation in public projects can lead to improvements in service delivery, cost-effectiveness, and overall efficiency within the public sector. As Edquist and Hommen note, "strategic procurement policies that reduce entry barriers enable startups to contribute to public sector innovation while mitigating risks associated with early-stage firms" [37].

Overall, the role of startups in economic development extends beyond job creation to fostering technological progress, competitive markets, and a more resilient economy. Integrating these enterprises into public procurement processes not only benefits the startups themselves but also strengthens the capacity of the public sector to adopt innovative and efficient solutions.

4.2 Mechanisms for integrating startups into public procurement

The successful integration of startups into public procurement requires specific mechanisms that reduce barriers and facilitate participation. Law No. 23-12 of 5 August 2023 provides a legal framework that encourages the inclusion of small and emerging enterprises in public contracts by promoting transparency, simplified

procedures, and equal treatment [38]. These mechanisms aim to create a fair competitive environment where startups can compete alongside larger, established companies.

One key mechanism is **simplified tendering procedures**. Startups often lack the administrative capacity or experience required for complex public procurement processes. By simplifying documentation, shortening deadlines, and clarifying selection criteria, public authorities can reduce procedural burdens and make participation more feasible for young enterprises. According to Edquist and Hommen, "strategic procurement policies that reduce entry barriers enable startups to contribute to public sector innovation while mitigating risks associated with early-stage firms" [39].

Another important mechanism is the **adaptation of financial and performance guarantees**. Many startups have limited capital or a short business history, which can prevent them from meeting strict financial requirements. Law 23-12 acknowledges this challenge by allowing public authorities to implement measures that facilitate participation, such as phased guarantees, reduced bond requirements, or exemptions for innovative small enterprises [40].

Additionally, **innovation-oriented procurement** encourages the adoption of new technologies and solutions. By designing tenders that target emerging needs or pilot projects, public authorities can incentivize startups to propose creative solutions. International experiences, such as the EU's Pre-Commercial

Procurement (PCP) and Public Procurement of Innovative Solutions (PPI), demonstrate that early engagement and flexible procedures significantly enhance startup participation [41].

Overall, these mechanisms collectively aim to lower barriers, stimulate competition, and promote the development of innovative solutions through the inclusion of startups in public procurement. By implementing these strategies, Algeria can leverage Law 23-12 to create a supportive ecosystem for entrepreneurial growth and public sector innovation.

4.3 Challenges and policy recommendations

Despite the legal framework established by Law No. 23-12 of 5 August 2023, the effective integration of startups into public procurement still faces several challenges. While the law promotes competition, transparency, and the participation of new economic actors, practical obstacles such as administrative complexity, financial requirements, and institutional rigidity may limit the ability of startups to compete in public tenders. The law requires that bidders comply with administrative and financial conditions to ensure the proper execution of contracts, which may constitute a significant barrier for young enterprises with limited resources [42].

One of the main challenges is the **complexity of procurement procedures**. Startups often lack experience in preparing tender documents, understanding legal requirements, or providing the guarantees required by public authorities. As the OECD notes, “complex procurement regulations may discourage small and

innovative firms from participating in public markets, reducing competition and limiting innovation potential" [43]. This situation may result in the dominance of large companies, even when startups are capable of offering more innovative or cost-effective solutions.

Another difficulty concerns **financial and technical guarantees**. Public procurement systems are designed to minimize risk for the administration, but strict guarantee requirements may unintentionally exclude startups. These enterprises often do not possess sufficient capital or long operational history, making it difficult to meet eligibility criteria. To address this issue, several countries have introduced flexible mechanisms such as reduced guarantees, phased contracts, or pilot projects for innovative firms. According to Edquist and Hommen, "innovation-oriented procurement requires flexible procedures that balance risk control with the need to encourage new entrants" [44].

In order to improve startup participation, several policy recommendations can be proposed. First, public authorities should develop **training and support programs** to help startups understand procurement procedures and prepare competitive bids. Second, the implementation of **simplified tendering processes** and **adapted financial guarantees** would reduce entry barriers while maintaining transparency and accountability. Third, public institutions should adopt **innovation-friendly procurement strategies**, encouraging pilot projects and experimental solutions

that allow startups to demonstrate their capabilities before competing in large-scale contracts.

Finally, strengthening institutional coordination between economic authorities, innovation agencies, and contracting bodies could enhance the effectiveness of the legal framework. By combining regulatory reforms with practical support measures, Algeria can fully benefit from the opportunities offered by Law 23-12 and promote a procurement system that supports innovation, entrepreneurship, and sustainable economic development.

5. CONCLUSION

Public procurement represents an essential instrument of economic policy, allowing governments not only to acquire goods and services but also to influence market dynamics, encourage innovation, and support national economic development. The adoption of **Law No. 23-12 of 5 August 2023** marks an important reform in the Algerian public procurement system, aiming to strengthen transparency, competition, and equal access to public contracts. By recognizing the participation of small and emerging enterprises, the law creates new opportunities for startups to contribute to public projects and to benefit from stable market demand [45].

Throughout this study, it has been shown that the evolution of public procurement in Algeria reflects a gradual transition from a strictly administrative approach to a more strategic and economic vision. The new legal framework introduces principles that are consistent with international practices, including fairness in competition,

simplification of procedures, and the possibility of facilitating the participation of innovative enterprises. These reforms demonstrate the growing awareness of the role that public procurement can play in promoting innovation and economic diversification.

The analysis also highlights the importance of startups in modern economies. Due to their flexibility, creativity, and technological orientation, startups can provide efficient and innovative solutions that improve the performance of public services. Their integration into public procurement can stimulate job creation, encourage research and development, and strengthen competitiveness. However, despite the legal recognition provided by Law 23-12, several constraints remain, including administrative complexity, financial guarantees, and limited institutional support, which may restrict the effective participation of young enterprises in public tenders.

In comparison with international models, such as innovation-oriented procurement policies adopted in the European Union and other developed economies, Algeria has established a promising legal foundation but still needs practical mechanisms to fully support startup participation. Simplified procedures, flexible guarantees, training programs, and innovation-friendly procurement strategies are necessary to ensure that the objectives of the reform are achieved in practice.

In conclusion, the integration of startups into public procurement represents both an economic opportunity and a regulatory challenge. Law 23-12 provides a solid

framework for improving access to public markets, but its success depends on effective implementation and continuous adaptation to economic realities. By strengthening support measures and encouraging innovation, Algeria can use public procurement as a strategic tool to promote entrepreneurship, technological progress, and sustainable economic development.

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