



The Chinese Experience in Startups Support: Current Situation and Prospects

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Abstract:

This research paper aims to study and analyze the current situation and prospects of supporting startups in the People's Republic of China in order to evaluate the success of the Chinese experience in the management and operation of this sector. This research is based on the descriptive approach, as it helps in the description and analysis of the outcomes of the Chinese public policy in supporting and promoting the startup sector, as well as the institutional performance evaluation approach to assess the performance of startups in China.

This work concludes that the recently adopted Chinese policies and strategies have focused largely on supporting startups specializing in biotechnology industries, as enshrined in the "Little Giant" program, in addition to companies that are dedicated to artificial intelligence. This has contributed to enabling many startups, most notably Deep Seek, to gain the ability to compete with global leaders in the field of artificial intelligence.

Keywords: Startups; Little Giant Program; Deep Seek; Artificial Intelligence; Chinese Policy.

L'expérience chinoise en matière de soutien aux start-ups : situation actuelle et perspectives

Résumé :

Cet article de recherche vise à étudier et analyser la situation actuelle et les perspectives du soutien aux start-ups en République populaire de Chine afin d'évaluer le succès de l'expérience chinoise dans la gestion et le fonctionnement de ce secteur. Cette recherche s'appuie sur une approche descriptive, car elle aide à décrire et analyser les résultats de la politique publique chinoise en matière de soutien et de promotion du secteur des start-ups, ainsi que sur une approche d'évaluation des performances institutionnelles pour évaluer les performances des start-ups en Chine.

Ce travail conclut que les politiques et stratégies chinoises récemment adoptées se sont largement concentrées sur le soutien aux start-ups spécialisées dans les industries biotechnologiques, comme le prévoit le programme « Little Giant », en plus des entreprises qui se consacrent à l'intelligence artificielle. Cela a contribué à permettre à de nombreuses start-ups, notamment Deep Seek, d'acquérir la capacité de rivaliser avec les leaders mondiaux dans le domaine de l'intelligence artificielle.

Mots-clés : *Start-ups ; programme Little Giant ; Deep Seek ; intelligence artificielle ; politique chinoise.*



Introduction:

The People's Republic of China is one of the most important global economic powers of the 21st century, thanks to the sound public policies it has adopted to reform and develop various sectors, most notably the economic sector. Startups occupy a significant position in the development of the economic system, as they represent a source of diversified products and services that meet local and international needs, particularly in terms of their compatibility with the technological and knowledge revolution, most recently artificial intelligence. This has made this type of enterprise a major focus of interest for Chinese public policymakers, embodied in the effort to provide a suitable environment that helps these enterprises achieve their goals, particularly those related to gaining the ability to compete in international markets, and thus contribute to the development of the national economy. From this perspective, This work is an attempt to explore the most important mechanisms adopted by the Chinese government to support start-ups and evaluate the major outcomes of this process, including the main significant results achieved by Chinese start-ups.

Research Problem:

To which extent the chinese government contributed to the development of Startup sector?

Sub-questions:

The research problem can be divided into the following questions:

- 1) what is the importance of the mechanisms that are applied by china to promote the sector of Start-ups?
- 2) What are the drivers of the chinese focus on Startups?
- 3) What are the outcomes of the Chinese startup support policy?

Hypotheses:

As a preliminary answer to the problem at hand, the following hypotheses are formulated :

- 1) Startups are considered as a modern model for reforming and developing the economic sector in China.
- 2) There is a relationship of influence and impact between the People's Republic of China's adoption of a startup support policy and the enhancement of the production level of biotechnology and artificial intelligence models.
- 3) The greater the level of support for startups in the People's Republic of China, the greater the development level of biotechnology and artificial intelligence models.

Significance of the Study:

This study's importance is reflected in:

- Defining the general meaning of the term "start-ups."
- Identifying the most important factors that have prompted the People's Republic of China to strengthen its startup support policy.
- determining the main modern mechanisms adopted by the Chinese government to support startups in the fields of biotechnology and artificial intelligence.



Soumission : 26/06/2025 Acceptation : 28/07/2025 Publication : 01/09/2025

- Evaluating the performance of Chinese startups in the fields of biotechnology and artificial intelligence.
- Introducing the recent Chinese experience in supporting startups and marketing their most important outputs, with the aim of contributing to providing modern models and mechanisms that help support and strengthen the startup sector in Algeria.

Methodology:

The nature of the research problem of the current study needs certain methods and approaches that help in analyzing and addressing it.

Therefore, the study relies on a descriptive method by employing the descriptive approach, as it helps to describe and analyze the study variables and determine the nature of the relationship between them. Some approaches related to the nature of the study topic are also used, such as the institutional performance evaluation approach, as it is necessary to evaluate the performance of startups in the People's Republic of China in the fields of biotechnology and artificial intelligence.

Study Plan:

To analyze and address the research problem and verify the validity of the hypotheses mentioned above, the work is divided into three parts:

- **Part One:** The conceptual framework for startups.
- **Part Two:** Supporting startups in the field of biotechnology industries – the Little Giant Project as a model.

- **Part Three:** The Actual situation of startups in the field of artificial intelligence, DeepSeek, as a model.

1. The Conceptual Framework of Startups

There is no doubt that startups reflect a modern economic trend or strategy prevalent in many countries that adopt a capitalist approach with the goal of developing the economic structure, first and foremost, and then the ability to develop the political and social structure, secondarily. This makes the startup model important on both a scientific and practical level. Accordingly, some data will be presented that enables to understand the conceptual framework of startups.

1.1. Definition of Startups (Startup)

According to the English dictionary, a startup is defined as: "...a small project that has just begun. The word 'start-up' consists of two parts: 'start,' which refers to the idea of launching, and 'up,' which denotes the strong growth" (Hussein et Sadiki 2021, 70).

The term startup began to be adopted immediately after World War II, with the actual emergence of venture capital firms, and the term subsequently became widespread (Mimouni , Boukataya et Basouih 2021, 405).

Professor and entrepreneur Steve Blank defines startups as not a miniature version of large corporations, but rather as companies that move from failure to failure rapidly until they finally reach success. They continually learn from customers, which enables them to adapt (Hussein et Sadiki 2021, 70).

Paul Graham, founder of the Y Combinator incubator, also defined them as: "A company designed to grow rapidly" (Taibi et Lamri 2021, 504). According to Graham, good



growth is between 5 and 7 percent per week, and may reach 10 percent in exceptional cases (Targhini 2020/2021, 5).

It can also be defined, according to Eric Ries in his book *The Lean Startup*, as follows: "A startup is a human entity designed to create a new product or service under conditions of extreme uncertainty" (Ben Ayad 2022, 159).

There is also a definition provided by Neil Blumenthal, who helped found and manage the sunglasses retailer Warby Parker, which states that startups are companies working to find a solution to a problem where it is unclear how it can be solved and the success of this solution is not guaranteed (Talat 2023).

1.2. Characteristics of Start-ups

Start-ups are characterized by many unique characteristics that distinguish them from other companies, perhaps the most important of which are the following:

1.2.1. Modernity:

Start-up businesses are characterized by being new and young, and they have two options: either develops and achieves success, or closes their doors and suffers losses (Hotmart Platform 2019).

1.2.2. Gradual, increasing Growth:

Among the characteristics that define a startup is its ability to grow rapidly and generate revenues much faster than the costs it requires to perform its work. This means that a startup has the opportunity to rapidly scale its business, i.e., increase production and sales levels without increasing costs. This results in significant growth in the

organization's profit level. Therefore, startup businesses are not limited to achieving small profits due to their being newly established institutions. On the contrary, they have the potential to achieve significant levels of profit (Hotmart Platform 2019).

1.2.3. Reliance on Technology:

One of the characteristics that distinguish startups is that their businesses are based on innovative ideas. Therefore, they focus on meeting market needs in smart and modern ways. Therefore, reliance on technology is one of the key elements that startup founders take into consideration. This is the process through which they seek to enhance the level of growth and progress of the organization, as well as obtain greater funding opportunities through electronic platforms and support from business incubators (Hotmart Platform 2019).

1.2.4. They are low-cost organizations:

A startup requires minimal operating and production costs compared to the profits it generates, and these profits are usually generated quickly and somewhat suddenly (Hotmart Platform 2019).

1.3. Stages of Establishing a Startup

There are a number of stages that startups go through during their establishment process, the most important of which are listed below (Majarra s.d.):

1. Validating the idea: It is very important to test the effectiveness of the idea before investing in it, as the idea may be unrealistic.



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2. Having a co-founder: Having more than one co-founder usually contributes to increasing the likelihood of success of the startup.
3. Developing the business model: This means working to develop the final structure based on which it is clear how to implement the idea on the market level and, consequently, the ability to generate profits.
4. Setting the business plan: The business plan must include a comprehensive explanation of the organization's activities and the tasks and responsibilities of each department and employee.
5. Branding the idea: This is the process through which the idea is branded and transformed into a trademark, which provides a clear identity for the project.
6. Official registration of the establishment: The establishment must be officially registered with government agencies to facilitate its operation in the market and preserve property rights.
7. Searching for secure sources of funding: This is one of the most important and a difficult stage, as the success of this process affects the success of the entire project idea. Therefore, careful consideration must be given to choosing the right financier and communicating with them correctly.
8. Launching stage: This is the stage in which the establishment begins to implement its activities effectively after securing appropriate funding.

Based on our discussion of the conceptual aspects of startups, it can be argued that this type of organization represents a strategy with economic, social, and political

dimensions aimed at achieving comprehensive and sustainable development.

2. The Chinese Experience in Managing and Operating Startups

The significant and unlimited expansion of Chinese economic institutions across various international markets is an indicator of the significant level of economic development achieved by China, on the one hand. On the other hand, it reflects the great importance China places on investment and entrepreneurship policy, embodied by the ongoing efforts of official and unofficial decision-makers to develop and implement strategies that enable the enhancement and development of the performance of all commercial institutions, particularly startups. From this perspective, the focus of this study will be on the Faster Capital digital business incubator and its policies for supporting and developing startups. The second phase, is dedicated to address the modern strategy adopted by the Chinese government to develop the startup sector, represented by the "Little Giant" program.

2.1. Faster Capital Digital Incubator and its Policies for Supporting Startups in China:

Faster Capital is a digital incubator for startups in the People's Republic of China. It supports and incubates startups by providing a range of services, including technical and business development, and providing financial support in exchange for equity shares at the startup level (Faster Capital Business Incubator s.d.).



Among the services provided by the Faster Capital Business Incubator to startups in the People's Republic of China are the following:

2.1.1. *Services related to the field of financial technology* (Faster Capital Business Incubator s.d.):

The most important services included in this field are:

- Raising capital for financial technology startups.
- Technical development for financial technology startups.
- Searching for sales and marketing consultants for financial technology startup products.
- Searching for investors and mentors in the field of financial technology.
- Starting the startup in financial technology-related activities.

2.1.2. *Support for technical startups* (Faster Capital Business Incubator s.d.):

Support is provided to technical startups by focusing on the following elements:

- Raising capital for technology startups.
- Finding a technical co-founder and a technical team for technical startups.
- Searching for angel investors or venture capitalists, and finding sources of funding for technical startups.
- Providing technical consultants, as well as sales and marketing specialists, for these institutions' products.
- Searching for investors and mentors in technology fields.
- Starting the startup in technology-related activities.

2.1.3. Supporting startups specializing in educational technology (*Faster Capital Business Incubator s.d.*):

Services provided to this type of organization include:

- Raising capital for startups specializing in educational technology.
- Providing a co-founder and a technical team for this type of startup and building the product or application.
- Searching for angel investors, venture capitalists, or other funding sources for educational technology.
- Providing technical advisors and experts specializing in sales and marketing for educational technology startups.
- Searching for investors and mentors in the educational technology field.
- Starting the startup in educational technology-related activities.

2.2. Newly adopted strategies to support emerging companies in China - the "Little Giant" strategy as a model:

As a result of the sanctions imposed by the US President Donald Trump on a group of Chinese giant companies, including Huawei, Semiconductor Manufacturing International Corp., which prevented them from purchasing vital American products such as chips, industrial software, and smart device operating systems, these sanctions constituted a major impetus for the Chinese authorities to move towards achieving autonomy in vital industries such as those mentioned above (Elaph 2022).

China has launched support for local emerging companies under the slogan "Little Giant," a title granted to



emerging companies that submit an application that includes details related to the following elements (Elaph 2022):

- The financial status of the company.
- The number of patents it has filed.
- The number of research projects the institution has completed.

The criteria used to select the institutions that receive the title of Small Giant are linked to the needs of the local markets of China. The institutions chosen are those whose work aligns with the current pressing policies of the Chinese government (Elaph 2022). This was confirmed by Professor Barnawton, a professor of Chinese economics at the University of California, who said, "It is clear that the selection of these companies is driven by China's specific industrial needs and policies. The companies are chosen not only because they are good companies, but also because they fit the urgent policy needs of the government at the moment" (Al-Riyadh Newspaper 2022).

Li Kai-fu is the founding director of Sinovation, a private equity firm that developed the Little Giant program with the blessing of Chinese President Xi Jinping. This program has become a key component of China's strategy to rebuild its technology industries and address some of the problems resulting from China's adoption of the American Silicon Valley model, which has enabled investors and entrepreneurs to achieve their ambitions with minimal government oversight. This has necessitated curbing the growing power and influence of a group of Chinese giants that have begun to influence multiple levels, such as e-commerce company Alibaba, social media platforms like

Tencent Technology, and ByteDance, owner of the global social media app TikTok. This policy can be viewed as an incentive to adopt startups focused on light and medium-sized technology industries to meet local needs, while simultaneously controlling their influence to encompass their areas of expertise and operational objectives, rather than impacting other sectors (Elaph 2022).

To support the Little Giant program, the Chinese government has taken a series of important measures, including the following:

- Diverting resources and capabilities related to the technology sector toward more strategic areas, such as microchips and large applications.
- Adopting policies that encourage talent attraction to investment in the strategic biotechnology sector, such as providing loans and tax reductions.
- As for the number of startups awarded the "Micro-Giant" title, the Chinese Ministry of Industry and Information Technology has awarded 4,762 startups the title since 2019 (Elaph 2022).

In January 2022, the Chinese Ministry of Finance allocated an estimated 10 billion yuan to finance small and medium-sized enterprises (Al-Riyadh Newspaper 2022).

At the provincial level, no more than 10 companies will be selected for this title, while the major economic cities of Beijing, Shanghai, and Shenzhen would each have 17 Micro-Giant candidates (Elaph 2022).

Therefore, it can be said that the economic policy recently adopted by the People's Republic of China, related to the Little Giant Program, is a strategy with several dimensions, the most important of which is confronting external sanctions, particularly those of the United States, by building



economic institutions focused on vital technological industries that were previously limited to the American market. This enables self-sufficiency, as well as entry into global markets and competition with major international companies, particularly American ones, that dominate this field of technological industries (Elaph 2022).

3. The Reality of Emerging Institutions in the Field of Artificial Intelligence, DeepSeek as a Model

Artificial intelligence is one of the most important outcomes of the technological revolution witnessed in the last three years of the 21st century. It has become a key player in the management and operation of various sectors, particularly those of an economic nature. This is due to its contemporary characteristics, primarily represented by the accuracy and speed of responding to and processing various inputs, transforming them into outputs that meet the needs of individuals, groups, and institutions and keep pace with current and future challenges.

Recent advances in deep learning have produced artificial intelligence systems capable of matching or even surpassing human intelligence in some key functions. However, achieving "artificial general intelligence," or the level at which machines can perform the full range of cognitive tasks capable of being performed by the human mind, will still require decades. However, many machine learning systems have already been developed for specific commercial uses, and their applications are extremely diverse. They are capable of providing customer service, managing logistics, monitoring factory equipment, rationalizing energy consumption, and analyzing Medical

records. Recent research conducted by the McKinsey Global Institute (MGI) has confirmed that machine learning technologies are widely applicable to virtually all industries (McKinsey Global Institute 2017, 3).

In China, research and applications related to artificial intelligence (AI) began to emerge in academia in the late 1970s. In March 1986, the Chinese government launched the "National High-Tech Research and Development Program," also known as the "863 Program." This program included a significant topic in the information technology field, namely the "intelligent computer," coded "306-863." Thanks to in-depth research on this topic, the People's Republic of China has achieved numerous significant research achievements in various fields, including high-performance computers, intelligent interfaces, and intelligent applications. It has also created a large pool of skilled personnel in these fields, which has contributed to laying a solid foundation for the development of AI (Trends Research & Advisory 2025).

According to statistics provided by the AI Index regarding the source of prominent AI models in 2024, the United States led the field with 40 prominent AI models, followed by China with 15, and then France with three (Stanford University Human-centered Artificial Intelligence 2025, 46).

All of this has constituted a major incentive for the People's Republic of China to focus on the field of scientific research and, consequently, the ability to compete in international markets in fields related to modern technologies, most notably artificial intelligence. It is found that 23.2% of global AI publications are produced in the People's Republic of China, and 22.6% of global AI research



citations are from China (Stanford University Human-centered Artificial Intelligence 2025, 7).

Accordingly, artificial intelligence has become one of the most important variables that has received increasing attention among emerging institutions in the People's Republic of China, especially in late 2024 and early 2025. This is aimed at keeping pace with the rapid developments witnessed by many countries seeking to expand their influence in international markets, most notably the United States.

3.1. Evaluation of the chinese process of supporting and promoting artificial intelligence

The People's Republic of China and the United States are currently international leaders in the field of artificial intelligence development. In 2015, they published approximately 10,000 research papers on artificial intelligence in academic journals. In contrast, the United Kingdom, India, Germany, and Japan combined published only approximately half of this number of scientific articles (Mckinsey Global Institute 2017, 5).

The People's Republic of China has adopted a strategy to support AI startups. It is explained as follows:

3.1.1. Early Preparation Phase - before the beginning of 2017:

This phase saw the issuance of several administrative documents by the State Council, primarily: "Guidelines for Promoting Orderly and Healthy Development of the Internet of Things," "Guidelines for Effectively Promoting Internet+ Measures," and "Notice on the Action Plan for

Promoting Big Data Development." These policies have enabled several organizations, including DeepBlue Technology, SenseTime, and Cambricon, to quickly benefit from the development of the AI industry, providing an incentive for entrepreneurship in this field in the People's Republic of China (Trends Research & Advisory 2025).

3.1.2. Acceleration Phase (2017–2020):

At the beginning of this phase, the State Council issued policy documents that included mechanisms to stimulate and regulate AI development, such as the "Next Generation AI Development Plan," in addition to guidelines promoting the expansion of AI integration with the economy, such as the "Guidelines for Promoting Deep Integration between AI and the Real Economy" (Trends Research & Advisory 2025).

A national AI development strategy was adopted, with the primary goal of achieving global leadership in AI theories, technologies, and applications by 2030 (Trends Research & Advisory 2025).

In an effort to promote research, development, and the application of AI technologies, the Ministry of Industry and Information Technology issued the "Action Plan for the Development of the New Generation AI Industry (2018-2020)." The plan included three main axes: establishing AI research institutes, promoting basic research and development of applied technology, and accelerating talent development. All of these measures contributed to the emergence of numerous startups, which helped improve and develop the entire AI industry chain (Trends Research & Advisory 2025).



3.1.3. Industrial Implementation and Organized Management Phase -2020 to date:-

During the Fourteenth Five-Year Development Plan, artificial intelligence (AI) was included among the country's key industries. In an effort to address AI's technological challenges, six (06) ministerial sectors, led by the Ministry of Science and Technology, issued policies in 2022 that included "Guidelines for Accelerating Innovation in Scenes to Promote High-Level AI Application and Achieve High-Quality Economic Development." The same ministry also issued a "Notice on Supporting the Construction of New-Generation AI Application Scenes." These policies focused on planning, stimulating, and building to support and promote the application and development of AI technologies in many areas, most notably smart health, smart transportation, smart cities, and smart manufacturing. This has contributed to increasing the effectiveness of the intelligent transformation of the economy and society in the People's Republic of China. The establishment of the "National Committee for the Management of New-Generation Artificial Intelligence" In 2019, the publication of "Next Generation AI Governance Principles – Responsible AI Development" was a powerful factor in laying a solid foundation for safe, controllable, and reliable AI development in the future (Trends Research & Advisory 2025).

According to a report issued by the McKinsey Global Institute, AI could contribute to enhancing productivity in the Chinese economy, adding between 0.8 and 1.4 percentage points to GDP growth annually, depending on

the speed of adoption of AI systems in the economy (Mckinsey Global Institute 2017, 9).

3.2. DeepSeek- A Model of Chinese AI Startups:

In the field of artificial intelligence, it has been widely believed that producing large, advanced language models requires significant financial and technical resources. This is one of the reasons why the US government pledged to support the STAR GATE project, announced by US President Donald Trump, with a budget estimated at \$500 billion (Sean Mecheal 2025).

However, on January 20, 2025, the Chinese AI startup DeepSeek challenged this notion by releasing AI models at a low cost compared to the enormous costs incurred by other companies to develop their own AI models (Sean Mecheal 2025).

DeepSeek is an AI startup based in Hangzhou, China, founded in May 2023 by Liang Wenfeng, a graduate of Zhejiang University. Wenfeng is also a founder of High-Flyer, a Chinese quantitative hedge fund (Sean Mecheal 2025).

DeepSeek focuses on developing open-source AI software. The first model was released in November 2023, but it did not gain global recognition until the release of its DeepSeek R1 logic model in January 2025 (Sean Mecheal 2025).

What distinguishes DeepSeek is that the monthly cost per user is \$0.50, a small amount compared to the O1 model of ChatGPT. DeepSeek attributes this low cost to the fact that the cost of developing and operating the model is significantly lower than that of competitors. The cost of developing the model and its servers was estimated at only



Soumission : 26/06/2025 Acceptation : 28/07/2025 Publication : 01/09/2025

\$5.5 million, while companies such as Open AI, Meta, and Google required millions of dollars to develop their models (Ahmed Hassan 2025). Given that China's DeepSeek has become the most competitive organization with the American OpenAI, it is important to make a comparison between the two by focusing on the approach adopted by each organization:

Figure 01: The approach adopted by China's DeepSeek and the American OpenAI

	OpenAI	DeepSeek
Founding year	2015	2023
Headquarters	San Francisco, Calif.	Hangzhou, China
Development focus	Broad AI capabilities	Efficient, open source models
Key models	GPT-4o, o1	DeepSeek-V3, DeepSeek-R1
Specialized models	Dall-E (image generation), Whisper (speech recognition)	DeepSeek Coder (coding), Janus Pro (vision model)
API pricing (per million tokens)	o1: \$15 (input), \$60 (output)	DeepSeek-R1: \$0.55 (input), \$2.19 (output)
Open source policy	Limited	Mostly open source
Training approach	Supervised and instruction- fine-	Reinforcement Learning

	tuning	
Development cost	Hundreds of millions of dollars for o1 (estimated)	Less than \$6 million for DeepSeek-R1, according to the company

Source: Sean Mecheal Karner, DeepSeek Explained: Everything you need to know, <https://www.techtaraget.com/whatis/feature/DeepSeek-explained-Everything-you-need-to-know>

➤ **The major models released by DeepSeek:**

Since its founding in 2023, DeepSeek has released a series of generative AI models. The most important of these models can be identified as follows (Sean Mecheal 2025):

1. **DeepSeek Coder:** released in November 2023, this is the company's first open source model designed specifically for coding-related tasks.
2. **DeepSeek LLM:** released in December 2023, this is the first version of the company's general-purpose model.
3. **DeepSeek-V2:** released in May 2024, this is the second version of the company's LLM, focusing on strong performance and lower training costs.
4. **DeepSeek-Coder-V2:** released in July 2024, this is a 236 billion-parameter model offering a context window of 128,000 tokens, designed for complex coding challenges.
5. **DeepSeek-V3:** released in December 2024, DeepSeek-V3 uses a mixture-of-experts architecture, capable of handling a range of tasks. The model has 671 billion parameters with a context length of 128,000.



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6. **DeepSeek-R1:** released in January 2025, this model is based on DeepSeek-V3 and is focused on advanced reasoning tasks directly competing with OpenAI's o1 model in performance, while maintaining a significantly lower cost structure. Like DeepSeek-V3, the model has 671 billion parameters with a context length of 128,000.
7. **DeepSeek-R1-0528:** released in May 2025, the R1-0528 model is an updated version of the original R1 model. The model now supports system prompts, JSON output and function calling, making it more suitable for agent AI use cases. DeepSeek also claims it's more accurate with reduced hallucination rates compared to the prior release. R1-0528 also benefits from great reasoning depth, averaging 23,000 tokens per question vs. 12,000 in the previous version.
8. **DeepSeek-R1-0528-Qwen3-8B:** a smaller, distilled version based on Alibaba's Qwen3 model that is intended for systems with limited computational resources. According to DeepSeek, this 8 billion parameter model matches the performance of the larger Qwen3-235B model.
9. **Janus-Pro-7B:** Released in January 2025, Janus-Pro-7B is a vision model that can understand and generate images.

In addition to the above, there are several AI startups in China that are seeking to build and develop their capabilities in this field with the aim of improving the quality of their services and thus enhancing their competitiveness. These include:

3.2.1 StepFun (*Middle East 2025*):

Founded in April 2023 by former Microsoft Senior Vice President Jiang Daxin, StepFun was a relatively latecomer to the AI startup scene, but it quickly became a competitor thanks to its portfolio of core models. It is also committed to building artificial general intelligence (AGI), a mission that many Chinese startups have abandoned.

Thanks to support from investors such as Tencent and funding from the Shanghai government, StepFun has released 11 basic AGI models by 2024, including language, visual systems, video, audio, and multimedia systems.

Step-2 is currently StepFun's largest language model, containing over a trillion parameters (GPT-4 contains approximately 1.8 trillion). Step-2 currently ranks after...

ChatGPT models GPT, DeepSec, Cloud, and Gemini are ranked highly on LiveBench, a benchmarking site that evaluates the capabilities of large language models.

Step-1V, a multimodal model, also ranks highly for its ability to understand visual inputs on Chatbot Arena, a crowdsourcing platform where users can compare and rank the performance of AI models.

The startup is currently working with AI developers who oversee the construction of its models. According to data from Chinese media outlet KR36, demand from external developers using StepFun's multimedia API increased more than 45-fold in the second half of 2024.

3.2.2 ModelBest (*Middle East 2025*):

Founded by researchers from Tsinghua University in 2022 in the Haidian District of Beijing, the company has been characterized by its focus on efficiency and its adoption of small language models.



Its MiniCPM series – often called "Little Powerhouses" in Chinese – is designed for real-time on-device processing on smartphones, personal computers, automotive systems, smart home devices, and even robots. Its customer perspective is that this combination of smaller models and local data processing reduces costs and enhances privacy.

ModelBest's latest model, MiniCPM 3.0, has only 4 billion parameters, but it matches the performance of GPT-3.5 in many ways from the standards.

3.2.3. Zhipu AI Foundation (Middle East 2025):

Zhipu AI was also founded at Tsinghua University and has grown rapidly into an organization with strong ties to government and academia. Zhipu AI is developing core models as well as AI products based on them, including ChatGLM, a conversational model, and a video generator called Ying, similar to OpenAI's Sora.

GLM-4 Plus, the company's most advanced large language model to date, is trained on high-quality synthetic data, reducing training costs and, in turn, rivaling the performance of GPT-4. Zhipu AI has further advanced its models, releasing GLM-4V Plus, a vision model capable of interpreting web pages and videos, marking a step toward more agent-like AI capabilities.

3.2.4. Infinigence AI (Middle East 2025):

Founded in 2023, Infinigence AI is younger than the aforementioned companies and focuses on infrastructure rather than model development. Its main selling point is its ability to successfully combine chips from multiple brands to perform AI tasks, forming what it calls a "heterogeneous

computing cluster." This is a unique challenge facing Chinese AI companies due to US chip sanctions.

Infinigence AI claims its system can increase the efficiency of AI training by simplifying how different chip architectures—including models from AMD, Huawei, and Nvidia—work in sync.

Furthermore, Infinigence AI has launched the Infini-AI cloud platform, which combines products from multiple vendors for model development and deployment. The organization aims to build an efficient, native, and “Chinese-specific” computing solution for AI training. It claims its HetHub training system can reduce the time required to train AI models by 30% by optimizing the heterogeneous computing clusters that Chinese enterprises often have.

Therefore, based on the above, it can be said that thanks to the sound planning adopted by the Chinese government in dealing with current and future challenges, particularly technological ones, it has enabled it to keep pace with contemporary developments that have come to characterize developed countries, particularly the United States. Its interest in supporting emerging companies of a vital and strategic nature has enabled it to compete with major institutions in critical technological fields, most notably artificial intelligence. Therefore, the DeepSeek Foundation is considered a model of successful experiences in competing to provide the best services to customers in the field of artificial intelligence at the lowest costs.



Conclusion:

By examining and analyzing the three parts previously presented in this study, it can be concluded that the most important startups in the People's Republic of China are technological in nature, focusing on biotechnology industries, most notably electronic chips, and also on producing advanced models of artificial intelligence. This is due to the Chinese government's approach to supporting startups. In this regard, it has focused on supporting and enhancing the capabilities of biotechnology-based companies, with the aim of responding to current and future development challenges, thereby enhancing economic and social development and the ability to compete in international markets in areas that are witnessing increasing demand, most notably biotechnology industries and advanced models of artificial intelligence.

Based on the above, this work's findings are:

Results:

- Startups constitute an integral part of the Chinese economic sector.
- Startups in the People's Republic of China receive political, technical, and financial support to enable them to achieve their goals, develop their businesses, and achieve the overall objectives of Chinese economic policies.
- The Chinese government focuses on supporting startups specializing in biotechnology production, such as microchips, and in the development of advanced artificial intelligence models.

- The "Little Giant" program is one of the most important recent outcomes of the People's Republic of China's general economic policies. It is classified as a strategy that includes three dimensions:
 - ✓ Achieving independence from American dependence in the biotechnology industry, particularly microchips.
 - ✓ Achieving self-sufficiency in the biotechnology industry.
 - ✓ The ability to compete with leading institutions in this field and expand their influence in global markets.
- The Chinese company DeepSeek is an example of a successful startup in the field of developing artificial intelligence models, which has enabled it to compete with leading American institutions in this field and helped it expand its influence in global markets.

Recommendations:

There are a set of recommendations based on the fact of emerging companies in the People's Republic of China. Through these recommendations, the objective is to provide some additional inputs that could contribute to the development of policies related to supporting the emerging companies sector in Algeria:

- Providing political, regulatory, technical, and financial support to investors and entrepreneurs to encourage them to adopt emerging companies in the field of biotechnology production, which is in high demand in local, regional, and international markets. This aims to achieve self-sufficiency and



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independence from dependence on major industrialized countries.

- Concluding partnership and cooperation agreements between emerging companies in Algeria and Chinese emerging companies, particularly those leading in the fields of biotechnology and artificial intelligence, with the aim of gaining the necessary expertise. This is achieved through :
 - ✓ Organizing scholarships in the field of science and technology for Algerian professors and students at leading Chinese universities in this field, with the aim of enabling them to acquire the knowledge, skills, and behaviors that will help manage emerging companies in Algeria.
 - ✓ Organizing training programs for startup owners in Algeria and their employees, including administrators, engineers, and technicians, to enable them to acquire the ability to respond to current and future challenges. These programs should be permanent and ongoing, not temporary.
 - ✓ Organizing international forums between Algeria and the People's Republic of China to assess the status of startups in biotechnology and artificial intelligence in both countries and to explore solutions that help improve the performance of these institutions.

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