

**ANALYSIS OF INNOVATION APPLICATIONS
AND VALUE DRIVEN BY AIGC TECHNOLOGY:
An Early Investment Perspective
in the Chinese Market**

Case Series Overview

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Abstract

This case series explores the innovative applications and value analysis driven by AIGC (AI-generated content) technology from the perspective of early-stage investments in the Chinese market. We analyse the influence of core factors such as technology progression, market demand, policy environment, industry cycles and data on AIGC-driven value creation; case studies are provided to illustrate how AIGC has varying applications across different industries depending on market conditions. This series contains four cases: first, we first explore the investment opportunities of AIGC by combining the core technological value and industrial application status of generative AI, using China's energy industry as a smaller example of the impacts of large-scale sectoral changes. The second case, meanwhile, explores how AIGC may be applied to the development of the Chinese Human Resource market, especially to improve the talent market's efficiency. Case 3 details existing and prospective AI applications in education, a fully 2C market, that raises the efficiency of both institution and students' learning; meanwhile, Case 4 explains the AIGC market's large potential within 2B industries such as the legal industry. In analyzing AI's innovation value from an early venture capital perspective, we see its ability to dynamically interact and adjust within specific industries and enterprises, aligning with venture capital's own value propositions and strategies.

Preface

Assumptions

- **Arrival of the AI Era:** It is a consensus in the industry that by 2029, we may step into the era of Super AGI. From both investment and entrepreneurial perspectives, the priority is not to analyze its feasibility, but to ensure participation and secure a position to avoid being left behind by this transformative wave.
- **Open AI vs. Close AI:** China and the United States follow different technological routes, influenced by distinct open-source ecosystems and cultures.

Science is the synthesis and extension of natural and objective laws; it provides a solid foundation for all innovation and is the inevitable starting point. Technology, on the other hand, represents specific choices in innovation—application decisions grounded in practicality and usability. Business, in turn, verifies technology’s applicability by assessing its cost-effectiveness and market readiness. Thus, the combined innovation of technology, product, and market ultimately achieves value innovation, advancing societal progress. Value innovation is also a core principle in early-stage investment aimed at value capture.

AIGC as the Value Center of the New Kondratiev Cycle

From the perspective of investment valuation expectations, the global economy in the post-pandemic era urgently needs new growth drivers. The rise of e-commerce, AI large models, and advanced manufacturing in hard technology will create trillion-dollar markets and valuation potential. Among various disruptive technologies, the value growth rate brought by AIGC large models is the most impressive.

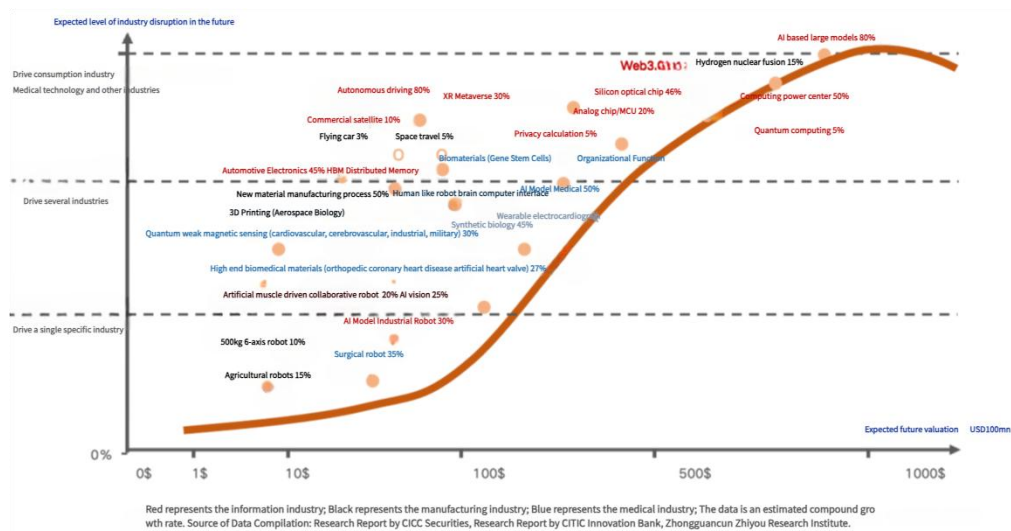


Figure 1: Innovation Opportunities and Value Growth Expectations from Various Hard Technologies (sources: China International Capital Corporation (CICC) Research Report, SDIC Innovation Research Report, Zhongguancun Zhiyou Research Institute)

Investment Themes

Amid the global AI technology wave, the themes of domestic substitution and globalization drive the AI industry's vigorous development. These themes, influenced by factors such as geopolitical shifts, industrial chain rebalancing, upgrades, and transfers, create new investment opportunities and infuse new vitality into the AI sector.

Factors Influencing AI Development and Investment Analysis

A comprehensive evaluation of several key factors is essential in exploring the early-stage investment potential of the AIGC industry. These factors include, but are not limited to, technology development, market demand, policy environment, industry cycles, data barriers, and human resources.

- **Technological Development:** Technology development is the core driving force advancing the AIGC industry. It is closely tied to real-world applicability, exploring feasible application scenarios, and discovering new business models. (Refer to Chapters 1 and 2)
- **Market Demand:** Market demand significantly impacts the AIGC industry's development. Different industries exhibit diverse and customized demands for AI technology, providing ample opportunities for innovation and new business models within the AIGC sector. (Refer to Chapters 2 and 4)
- **Policy Environment:** Policy environment is an essential factor for AIGC industry growth. The presence of government support policies and regulatory measures around AI will directly affect the industry's direction and pace of development. (Refer to Chapter 3)
- **Industry Cycles and Data Barriers:** Industry cycles and data barriers are also important factors influencing AIGC industry growth. For further insight, refer to Chapter 4 on the integration of corporate life cycles and AIGC business.
- **Human Resources:** Human resources are critical to expanding corporate boundaries. As AI technology sees widespread adoption and rapid industry growth, talent with AI skills and management capabilities has become a key resource for corporate competition.

Table 1: Driving and Restraining Factors for AIGC Industry Development

Drivers of AIGC Industry Development	Barriers to AIGC Industry Development
• Policies • Capital • Talent • Data • Scenarios	• Computational Power Deficiency • Data Quality Issues • High Input Costs • Intellectual Property Ownership • High Energy Consumption • Security and Ethics Concerns

Based on a comprehensive assessment of these influencing factors, we can explore the value trends of AIGC industry development from an early investment perspective. Driven by the dual themes of domestic substitution and globalization, the AIGC industry will face new opportunities and challenges. Investors need to closely monitor changes in technology development, market demand, and the policy environment to seize investment opportunities and mitigate risks. Additionally, investors should pay attention to factors such as industry cycles, data barriers, and human resources, which impact corporate boundaries, to formulate sound investment strategies and plan future growth paths.

Overview and Analysis of Core AIGC Technologies

In the past, analytical AI transformed work processes involving perception, cognition, and decision-making through data analysis and reasoning. Building on this, generative AI learns from vast amounts of data to generate new content, promising to revolutionize content-related workflows. AIGC, or AI-Generated Content, refers to the technology where large pre-trained models and generative adversarial networks (GANs) identify patterns from existing data and generate relevant content through appropriate generalization. Compared to Professional-Generated Content (PGC), which involves high content generation costs, professional expertise, and low overall content production, and User-Generated Content (UGC), which emerged in the internet era with reduced content generation and dissemination costs, AIGC shifts the burden of content production from humans to AI. The key differences lie in production efficiency, the diversity of knowledge graphs, and the provision of more dynamic and interactive content.

AIGC has both narrow and broad definitions. The narrow definition emphasizes content attributes, while the broad definition highlights AI's technical attributes. Specifically, when using the narrow definition, the focus is on the mode of content (Generated Content) generation, comparing whether the final form of content is produced by AI, from the pre-internet content generation modes (PGC & UGC), to differences in the producer (human vs. machine), the upper limit of quantity and scale, and the significant differences in generation speed. Meanwhile, the broad definition focuses on how generative AI technologies can bring changes and breakthroughs in various digital content fields, manifested in:

- Reengineering content workflows
- Changing content quality and cost, interaction effectiveness, and efficiency
- Expanding the definition of "content" to include any digitizable form, such as but not limited to traditional media environments

The development of the AIGC industry is primarily driven by the integrated advancements in algorithms, data, and computing power:

- **Algorithm:** Cross-modal integration
- **Data:** Exponentially increasing available data
- **Computing Power:** Enhanced hardware capabilities

For detailed developments in these three aspects, refer to Figure 2.

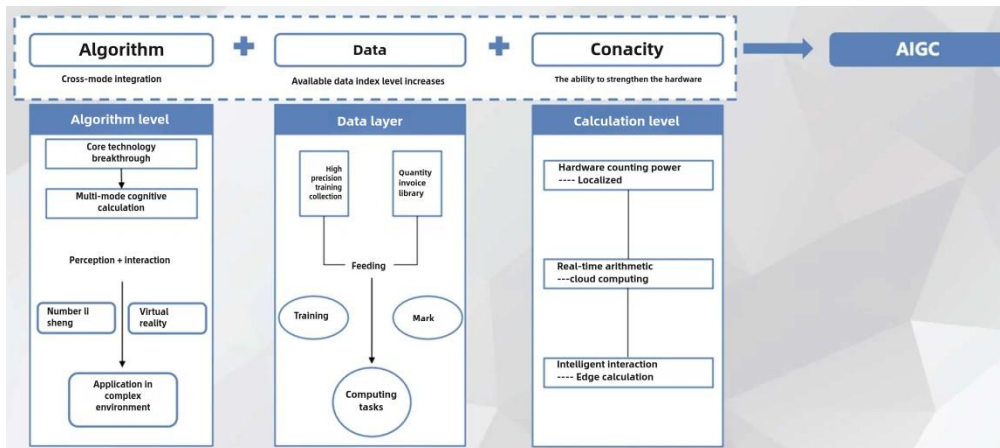


Figure 2 Driving Factors for AIGC Industry Development

(Source: Internal research report compiled by Qifu Capital)

It is also essential to clarify the core logic behind generative AI's technological value (see Figure 3). Generative AI's essence lies in its controllability; our ability to control its thought process and logical reasoning is the most critical factor in the transition from quantitative to qualitative change. To fully take advantage of generative AI's multimodality, long-term attention should be paid to video generation and understanding. Large models are the future, but models with 100 billion parameters or more will certainly be deployed in the cloud. Early opportunities for generative AI usage within the next two years will likely be focused on mobile deployments, such as smartphones, XR devices, and laptops, where customers' core considerations will be user experience, cost, and privacy. Companies in vertical sectors will primarily consider data security when applying large models, particularly to learn how to utilize encryption and decryption technologies without uploading private data. At the application layer, attention should be given to AI-native applications, so that companies can leverage user data from each interaction for rapid training and feedback.

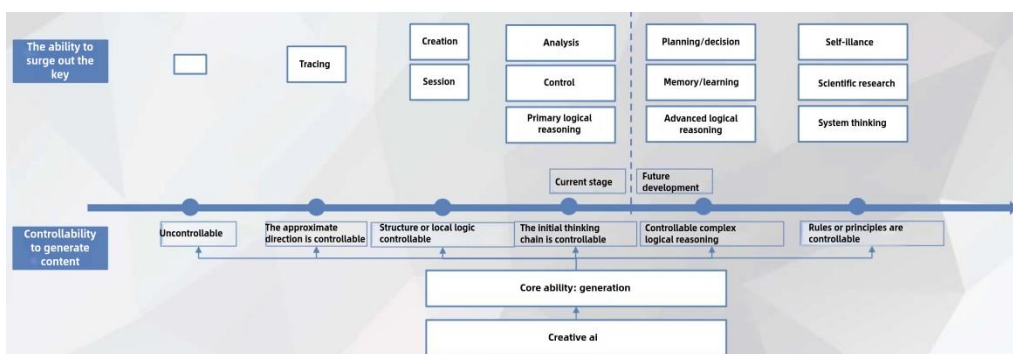


Figure 3 Core Technological Logic of Generative AI

(Source: Internal research report compiled by Qifu Capital)

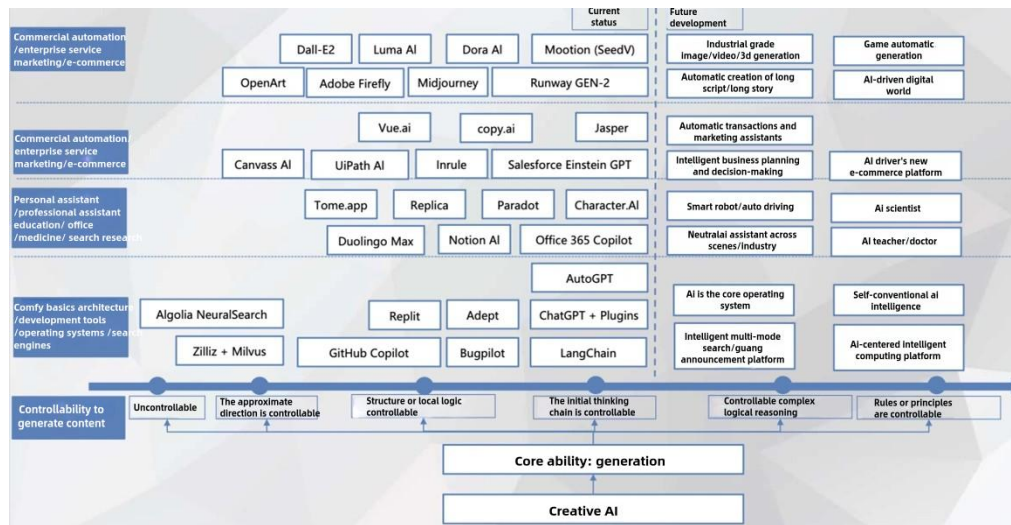


Figure 4 Application fields and cases of generative AI
 (source: Internal research report compiled by Qifu Capital)

The generative AI application roadmap shows current application areas and related cases of generative AI (see Figure 4). We can see that the application fields are mainly distributed across business automation, enterprise services, marketing, e-commerce, personal assistants, professional assistants in education, office tasks, healthcare, research, as well as infrastructure, development tools, operating systems, and search engines.

In terms of controllability and application direction, generative AI currently exhibits four different levels of controllability, each corresponding to specific application directions based on the content that can typically be generated:

- **Uncontrollable:** Practically unusable, uncontrolled doodles (e.g., DeepDream).
- **Roughly Controllable:** Elementary assistance in design or creation, such as low-controllability text generation by GPT-2/3 and low-controllability text-to-image generation by GANs.
- **Structurally or Partially Controllable:** Next-generation search and knowledge Q&A platforms, business and personal assistants, assisted design, and assisted art creation, such as multi-turn dialogues and business writing platforms like ChatGPT, or high-controllability text-to-image platforms like SD+ControlNet.
- **Initial Chain of Thought Controllability:** Copilot mode efficiency tools and industry applications, AI-assisted programming for business process automation, marketing, and content generation for social media, such as simple code/instruction sequences by ChatGPT, chain of thought and toolchain applications like AutoGPT, cross-modal understanding short videos, and 3D generation.

In the future, generative AI's controllability and corresponding application directions and typical content might include:

- **Complex Logical Reasoning Controllability:** AI-centric efficiency tools and industry solutions; AI as OS; robotics or autonomous driving. Also includes AI-centric content, e-commerce, social or entertainment platforms, such as high-quality complete code for basic system design; reasoning, planning and decision-making for complex systems; and complex storyline generation for animations, films, and games.
- **Rule or Principle Controllability:** Self-iterating and updating software and hardware system design and development, such as advanced system design AI self-upgrading and /self-iterating; frontier scientific exploration and discovery in human-machine collaboration, using AI to, for instance, establish scientific principles and discoveries; and human-machine fusion evolving into digital worlds and ecosystems, where AI assists with,, system rule design, and digital world construction strategies.

For a detailed framework on controllability and application directions, refer to Figure 5.

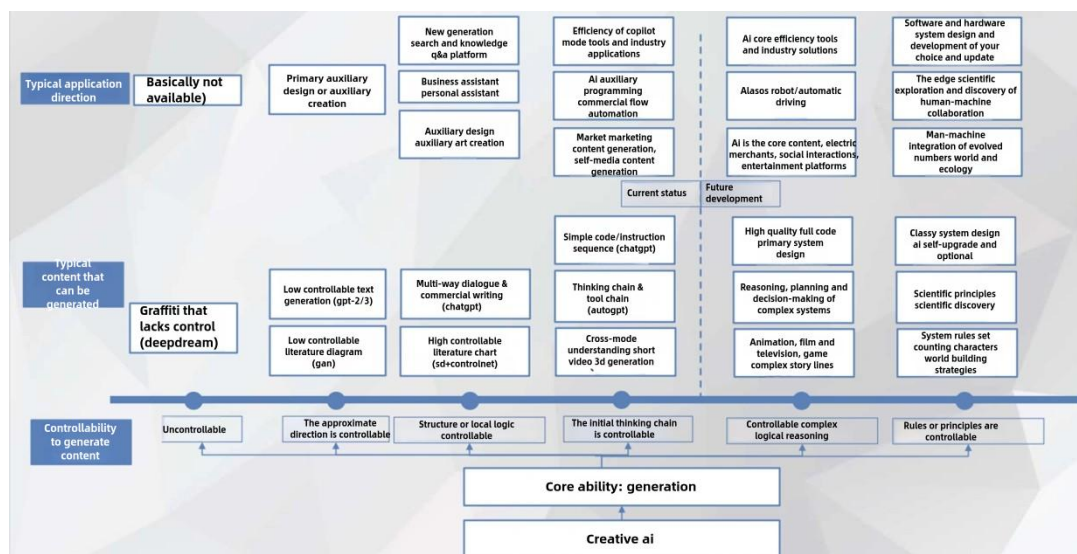


Figure 5 Controllability and application direction of generative AI

(Source: Internal research report compiled by Qifu Capital)

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