

Generative AI Reshaping Children's Storybook IP: Opportunities, Challenges, and Collaborative Transformation Paths

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Abstract. The children's book publishing industry is facing the dilemma of market downturn and fierce competition. Generative Artificial Intelligence (AIGC) provides a breakthrough path for the development and dissemination of children's storybook intellectual property (IP). This paper analyzes how AIGC reconstructs the IP value chain and promotes the transformation of the publishing industry from static books to dynamic interactive ecology. Opportunities include reducing development costs, improving efficiency, and amplifying the potential of IP derivatives, such as "millet economy" cross-border. However, its transformation faces challenges such as lack of content quality, security risks, insufficient cultural inclusion, copyright ethics and market integration. To this end, human-AI collaboration, multi-layer filtering, localized training, traceability mechanism and cross-border integration are proposed to help publishers transform IP into sustainable industrial vitality, and realize the upgrade from a single content output to a children's cognitive service provider.

Keywords: Generative artificial intelligence, Children's storybook IP

1. Introduction

According to the data of OpenBook in Beijing in the first half of 2025, Chinese children's books accounted for about 30% of the market. Although it was still the largest category of book retail market, it was down by about 10% year on year [1].

IP development has become the key to breaking the deadlock. Children's book publishers possess rich text resources that can be rapidly transformed into multi modal IP with the aid of AIGC. This paper examines the opportunities, challenges, and practical transformation paths brought by AIGC to children's storybook IP.

2. Context of change

2.1. Historical evolution and current predicament of the children's book market

Since 2020, children's books, the largest category in the book retail market, have continued to face downward pressure. According to Open Book data, from January to June 2025, the volume of children's books dropped by 10.99% year-on-year, and only 36% of publishing houses achieved positive growth [2]. This contraction has led to the increase of market concentration, the head effect is prominent, and the living space of small and medium-sized publishing houses is seriously squeezed. Therefore, non-professional publishers (such as local publishers and university publishers) have withdrawn significantly, which proves that the previous low-threshold model of "all people making children's books" is no longer sustainable, and also reflects the systematic imbalance of the industry ecology.

On the contrary, the "IP fever" reflects the dual face of cultural industry development under the new normal, the first is the innovation consciousness of "content is king", and the second is the business strategy of "copyright is king" [3].

2.2. IP economy comparison

Cultural IP came into being under the background of mass consumption in the 21st century. "A word, a symbol and a name can all be developed under the name of IP" [4]. However, the shaping of high-quality cultural IP must build a "meaning space of multiple identities", and its cultural sources must have a solid spiritual core. Compared with the downturn of children's book publishing market, "millet economy" market has achieved great success by creating one IP after another. As the core assets of cultural output, IP owned by children's book publishing institutions has natural derivative potential, but it is underestimated in the book retail market. From the spontaneous shaping of general cultural IP to the conscious shaping of cultural IP with Chinese characteristics, this is the general trend of cultural IP practice [5].

According to media Consulting data, the market size of China's "millet economy" reached 168.9 billion yuan in 2024, an increase of 40.63% year-on-year, and is expected to exceed 300 billion yuan in 2029 [6]. Pop Mart, a typical IP company, posted revenue of 13.04 billion yuan in 2024, up 106.9% year on year, and net profit of 3.4 billion yuan, up 185.9% year on year [7]. At present, the derivative development and collaborative creation of IP has initially formed a scale, and a complete and efficient production and marketing conversion link has been established [8]. AIGC empowers publishing institutions, providing a solid foundation for the transition from "book IP" to "millet IP".

2.3. Initial penetration and transformation driving force of AI

According to IDC's forecast, the total global investment in AI will exceed \$1.2 trillion by 2029, with a CAGR of approximately 30% in the publishing industry [9]. In the field of Chinese online publishing IP, the initial penetration of AI has achieved initial results, helping a number of institutions to grow against the trend. Internationally, in August 2025, Google launched Gemini Storybook, which can generate personalized, multilingual digital stories in seconds and support the integration of children's paintings, marking the advent of an era of personalized, on-demand creation [10]. IP such as "Little Bear is Busy" incorporating AR interactive elements and multilingual output, aim to achieve a real foreign market share of 3.06% in the book retail market [11]. At the policy level, the country will further increase the driving force of AI transformation. The 14th Five-Year

Plan for the publishing industry emphasizes the improvement of digital and intelligent level, and promotes the development of AI-integrated publishing [12]. The Ministry of Education's 2025 "Notice on the In-depth Implementation of the National Young Students Reading Action" launched the "Science and Technology Empowerment Reading Innovation Project" to encourage AI-driven interactive reading, and provide financial subsidies and resource integration dividends [13].

Therefore, traditional children's book publishing institutions want to reconstruct the children's book IP value chain with the help of AIGC, first of all, in the shrinking market, from static text to dynamic interaction, and then from intensive marketing to accurate delivery, help IP enter the "millet economy" track.

3. AIGC technology principle and intelligent empowering mechanism

3.1. Overview of AIGC technology principle

In the field of children's book publishing, AIGC principle is reflected in multi-modal fusion: The Text generation module, image synthesis module (Stable Diffusion variant creates illustrations and character design), and Speech synthesis module realize the transformation from a single medium to an integrated experience. Typical examples include ATCUALITY brand's Tuntu & Kong AI characters: AI tools are used to create cute animal images (e.g., Kong with pink hair), generate multi-modal content and drive the brand's transformation from product sales to IP storytelling.

3.2. Intelligent empowerment of the whole chain of children's book IP publishing

Children's book publishing chain traditionally covers the subject plan, content creation, editing review, design, production, marketing, distribution and reader feedback six links, however, as the AIGC penetration, the whole life cycle of chain is IP extension: from the idea of incubation, content, prototype builds, extension and global cash to the media, form the "powder molding - derivative -" closed-loop mechanism.

The multi-modal content generation engine is the "heart" of AI-enabled IP, and its technical core constructs a set of intelligent creation system spanning multiple media such as text, audio, and 3D models. This multi-modal fusion directly improves the immersion of IP, fits the symbolic representation requirements of children's pre-operation stage and lays the foundation for subsequent expansion. On this basis, the reinforcement learning decision system forms a complete closed loop of "perception - decision - action - feedback", which further optimizes IP resource allocation.

4. The dilemma of children's storybook IP

While AIGC technology rapidly empowers the full link of children's storybook IP, the intelligent transformation driven by AIGC faces multi-level difficulties. These difficulties are not only caused by the limitations of the technology itself, but also closely interwoven with the particularity of IP development: as the core asset of publishing, IP needs to be sustainable operation in the whole life cycle from idea incubation to cross-media expansion. The deviation of any link may amplify the risk and lead to an "infinite cycle" from content generation to market realization. According to the 2025 publishing industry report, although the application of AIGC in the field of children's books has improved production efficiency, it has also caused systemic difficulties in quality control, ethical norms and market adaptation. This paper analyzes these dilemmas from the perspective of IP development, with reference to the controversy caused by the application of Google's "Gemini Storybook" and the latest discussion in the publishing industry in 2025: Original depth of the lack of

content quality threat IP, enlarge safety hazard risk, interactive children culture include lack of restricting global expansion, copyright creator ecological ethical dilemma erosion, contraction obstacle aggravate industry technology market integration. The following discussion is conducted one by one. These dilemmas are interwoven in IP links, as described below.

4.1. Content quality and lack of creativity

The content generated by AIGC is "bland and devoid of soul", which has become the primary dilemma for AIGC to drive the transformation of children's storybook IP.

The publishing industry discussion in 2025 has further deepened this dilemma. At the Bologna Children's Book Fair, illustrators emphasized that the "convenience trap" of AIGC art can lead to "cognitive laziness", and that human beings rely on AIGC for rapid generation while ignoring deep creation, ultimately threatening human creativity [14]. In IP development, this problem directly affects long-term operation. If the content lacks underlying logic, it is easy to lead to low efficiency or distorted quality when extended to animation or toys.

The Spines 2025 report points out that while AIGC's role in children's book innovation is significant, consistency challenges remain a major barrier, with low adoption rates in professional production [15].

4.2. Children's healthy development and content security risks

In theory, the problem stems from the phenomenon of model "hallucination" : AIGC produces deviating content, such as inappropriate visual elements or violent metaphors, based on a probability distribution when it is not constrained. While some parents appreciate its convenience, such as Sarah Dooley, founder of the US company AI Empowered Moms, who used the app to generate stories about twin sisters going to school to help ease their children's back-to-school anxiety and promote parent-child conversations, safety concerns still dominate the overall debate [16].

This dilemma was further highlighted during the 2025 publication discussion: Facebook's children's book writers strongly objected to the use of AIGC art, arguing that it could introduce harmful stereotypes and affect children's emotional development. According to the analysis of the Medium article in 2025, AIGC picture books often add unnecessary descriptions, squeeze the illustration space, damage the visual-emotional collaboration, and exacerbate the fragmentation of children's attention [17].

4.3. Inadequate cultural diversity and inclusion

AIGC training data is biased towards Western culture, resulting in generating stories that ignore multiple perspectives, which is the third dilemma of transformation and restricts the balance between global expansion and localization in IP development. Children's books need to broaden children's horizons, but AIGC is dominated by global data sets, so that the development of original IP in the Chinese market lags behind. AIGC generation is easy to ignore local elements, such as festival customs or multi-ethnic images. In 2025, The Bookseller predicted that AIGC's dominance in children's reading needs to give priority to inclusion, otherwise it will intensify the controversy of "cultural colonization" [18].

5. The intelligent transformation path of AI-driven children's book publishing

Facing the multiple difficulties of AIGC driving the IP transformation of children's storybook, publishing institutions need to build a systematic path to realize the transformation from risk to opportunity. These paths emphasize human-AIGC collaboration, normative framework and cross-border integration to ensure the full-link sustainability of IP from incubation to monetization. The Publication Industry Report 2025 shows that through targeted strategies, AIGC application can significantly improve production efficiency, such as automated content creation and personalized recommendation, while mitigating ethical and quality risks. For example, AIGC's integration in publishing workflows has reduced editorial time by more than 20% and optimized inventory management through data-driven insights, driving the market size to grow from USD 2.8 billion in 2023 to USD 41.2 billion in 2033, at a CAGR of 30.8%. Combining the perspective of IP development, this paper puts forward the corresponding paths: strengthening human collaboration to improve the depth of content, multi-layer filtering to ensure safety and health, localized training to promote cultural inclusion, traceability mechanism to maintain copyright ethics, and cross-border integration to optimize market adaptation.

6. Concluding remarks

AIGC is reshaping the whole-chain IP of children's books and sparking the "goods economy," yet it brings fivefold dilemmas. A "children-first" co-governance system among government, platforms and creators must be built to keep AIGC-driven children's-book IPs on a high-quality, sustainable and culturally rooted track and release lasting vitality.

However, as discussed in Chapter 3, these opportunities are also accompanied by multiple dilemmas: the lack of content quality threatens the soul of the narrative; Security risks amplify children's psychological risks; The lack of cultural tolerance restricts the localization of expression; Copyright ethics erodes creator ecology; And barriers to market integration exacerbating industry contraction. These problems are not only caused by technical blackboxes and data bias, but also highlight the tension between innovation and responsibility, which requires a systematic response.

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