



Development Value, Path and Strategy of Aerospace Theme Cultural and Creative Products

Xiaoxia Guo*, Yuelin Ma and Jinghao Xu

Zhengzhou University of Aeronautics, Zhengzhou, Henan, 450000, China

*gxx@zua.edu.cn

Abstract. Aerospace themed cultural and creative products integrate the advantages of multiple fields such as technology, art, and culture, providing a new learning and experience platform for the general public. They are an important component of the new quality productivity in the cultural field. Its product development requires the comprehensive application of dialogue thinking, innovative thinking, distinctive thinking, product thinking, system thinking, long-term thinking, and global thinking, to carry out multi subject, multi strategy, multi symbol, multi channel, multi ecology, multi value, and multi link construction; We need to follow the design concept of "people-oriented" and enhance user experience and cognition through strategies such as multisensory design, flow design, and narrative design.

Keywords: Aerospace theme; Cultural and creative products; Development; Thinking; People Oriented

1 Introduction

"Exploring the nature of things and questioning the cosmos"—aerospace symbolizes humanity's enduring pursuit of the universe, rich in mystery and inspiration. Cultural and creative products (CCPs), as the integration of culture and innovation, carry special significance in this field. Combining aerospace themes with creative design not only raises public awareness and meets cultural, artistic, and experiential needs, but also supports cultural heritage, fosters identity, promotes public engagement, and drives related industries.

The concepts of "Dao (way), Fa (principle), Shu (technique), Qi (tools), and Shi (potential)", drawn from Laozi's *Tao Te Ching*, represent the core of classical Chinese strategic philosophy. "Dao" refers to fundamental values, ideals, original intention, and mission; "Fa" denotes the overarching methods, principles, legal frameworks, and strategic paths that realize those values; while "Shu" represents the concrete techniques and actions that operate on a technical level. Dao clarifies direction, Fa establishes the foundation, and Shu determines tactics. Effective strategies are grounded in harmony among these three layers: techniques must comply with principles, and principles must derive from values.

This paper focuses on the three dimensions of Dao, Fa, and Shu, discussing the value, development paths, and strategic approaches in the design of aerospace-themed cultural and creative products.

2 Cultural and Creative Products and Aerospace-Themed CCPs

2.1 Cultural and Creative Products

Cultural and creative products (CCPs) are culturally rooted goods that combine symbolic meaning with practical value through creative processing of cultural elements. Their core inspiration derives from specific cultural themes or memories, and their added value lies in design and functional innovation, distinguishing them from ordinary consumer products^[1]

2.2 Aerospace-Themed CCPs

Compared with general CCPs, aerospace-themed CCPs exhibit distinct advantages in technical depth, cultural significance, and user engagement. While general CCPs often emphasize aesthetic appeal or regional characteristics, aerospace-themed CCPs integrate advanced scientific concepts, embody the national spirit of exploration, and convey cutting-edge technological achievements. In educational contexts, they creatively merge aerospace knowledge with design thinking, offering immersive and inspiring experiences. This unique combination not only enhances public understanding of aerospace development but also fulfills multifunctional roles—meeting aesthetic and cultural demands, fostering national identity, supporting science education and public welfare, and driving the growth of related cultural and high-tech industries.

3 The Value of Developing Aerospace-Themed Cultural and Creative Products

3.1 Knowledge Dissemination and Creative Thinking

Popularizing Science through Creative Design. Aerospace technologies often appear distant and complex. The development of campus CCPs can visualize and simplify these concepts, making them accessible and engaging. For instance, DIY rocket kits help students learn basic principles through hands-on activities. With the integration of VR, AR, and MR technologies, interactive models and apps allow users to explore rocket structures and functions intuitively, offering new ways to understand sophisticated aerospace knowledge.

Encouraging Exploration and Innovation. Aerospace-themed CCPs offer new perspectives for engaging with the field, stimulating curiosity and creative thinking. In university design competitions, students are encouraged to create products inspired by aerospace elements, blending tradition with modernity. Such projects cultivate

interdisciplinary collaboration, creative problem-solving, and project management skills.

3.2 Cultural Inheritance and Identity Building

Carrying Forward Aerospace Heritage. China's aerospace achievements—from launching its first satellite to constructing a space station—represent significant milestones in national development and scientific progress. CCPs serve as media to record and promote these accomplishments. For instance, China Post's aerospace-themed stamps integrate symbolic imagery such as rockets, astronauts, and orbital trajectories to visualize historic moments, making abstract technological achievements more tangible and memorable for the public. By embedding historical narratives into design elements, such products reinforce cultural memory and collective pride.

Fostering Emotional Resonance and National Identity. Aerospace-themed CCPs also contribute to shaping national identity by generating emotional engagement, particularly among younger audiences. Through the use of national symbols such as the red flag, space suits, and launch towers, as well as culturally evocative colors like “China Red” and “sky blue,” these products visually reinforce patriotic values. Narratives highlighting figures like Yang Liwei or milestones such as the Beidou satellite system further enrich emotional appeal. By embedding symbolic elements and storytelling into design, aerospace CCPs become cultural icons that strengthen identity, deepen public engagement, and support the transmission of national heritage.

3.3 Public Engagement and Industrial Growth

Promoting Public Good and Sustainability. By engaging the public in meaningful ways, CCPs enhance awareness and support for aerospace initiatives. Partnerships between universities and schools have introduced educational kits and lectures. Initiatives like the “Aerospace Science Box” by the China Space Foundation bring aerospace knowledge to rural areas through hands-on, sustainable materials-based activities, promoting science education and social equity.

Driving the Creative Industry Chain. Aerospace-themed CCPs bridge aerospace and creative industries, opening new commercial opportunities. Events like the China Aerospace Creative Design Competition promote public engagement, encourage innovation, and highlight emerging aerospace technologies and values. “China Space Day” has evolved into a cultural event, spurring development in related sectors such as design, manufacturing, and retail through derivative products like animation and film.

4 Development Pathways for Aerospace-Themed Cultural and Creative Products

4.1 Dialogical Thinking: Co-Creation Among Multiple Stakeholders

Collaborative development involving universities, designers, industry, and users promotes innovation and market expansion. Cross-disciplinary co-creation bridges theory and practice. For example, NASA and design schools co-developed commemorative products, while China's manned space program worked with universities on Shenzhou-10 merchandise—enhancing cultural communication and student engagement.

4.2 Innovative Thinking: Multi-Strategy Integration

Innovation drives the development of aerospace cultural products. Designers are encouraged to integrate advanced technologies and narrative design. AR/VR enhances interactivity, while cultural storytelling deepens user engagement. For example, the “Hang Weiwei” sculpture by Zhengzhou University of Aeronautics combines Chinese characters, campus spirit, and aerospace elements to create a symbolic cultural landmark^[2-3].

4.3 Identity-Focused Thinking: Multi-Symbol Construction

Aerospace-themed products can enhance brand identity by transforming historical and cultural elements into symbolic forms (e.g., logos, colors, sounds). The IP “Kuaixiaozhou,” inspired by the Kuaizhou rocket, uses a playful, cartoon design to strengthen user recognition and engagement.

4.4 Product-Oriented Thinking: Multi-Channel Promotion

User-centered design, clear value propositions, and diversified distribution are key to market success. ESA's collaboration with Mattel on a Barbie astronaut doll promoted STEM among girls via online and offline channels. Similarly, Chinese Long March rocket models are distributed through e-commerce, museums, and specialty shops to expand outreach.

4.5 Systemic Thinking: Multi-Ecosystem Integration

Aerospace cultural products form an integrated ecosystem of design, production, marketing, and services. Cross-industry and cross-cultural collaboration enhances synergy and value. The rising popularity of China's space program has driven IP expansion into fashion, toys, and digital collectibles, broadening cultural impact and market scope^[4].

4.6 Long-Term Thinking: Multi-Value Sharing

Product development should balance short-term profits with long-term social, educational, and cultural value. Talent development and platform building are essential for sustainability. For example, Sichuan Fine Arts Institute formed interdisciplinary teams contributing to national projects like space suits and lunar rovers, fostering innovation and industry-academia integration.

4.7 Global Thinking: Multi-Link Connectivity

Strategic thinking should align local actions with global goals^[5]. As China expands aerospace cooperation, cultural product development must follow suit. Tracking global trends and fostering cross-sector, cross-border collaboration can build an open, integrated development chain spanning R&D, manufacturing, and distribution.

5 Strategies for the Development of Aerospace-Themed Cultural and Creative Products

Renowned psychologist Donald A. Norman proposed that design should be human-centered, aligning with human cognitive characteristics and needs. He categorized design into three levels: visceral, behavioral, and reflective. These levels represent different aspects of how people experience products or services.

The visceral level focuses on the user's immediate impressions, emphasizing appearance, texture, and sensory appeal. The behavioral level relates to usability, function, and performance. The reflective level, as the highest stage, incorporates users' emotions, values, and cognition based on their prior experiences. At this level, users integrate personal feelings and values into the product. In contrast, the lower two levels involve emotion without conscious interpretation or awareness^[6].

As basic material needs are increasingly met, modern users place greater emphasis on emotional and cultural experiences, aligning with a human-centered design philosophy. The development of aerospace-themed cultural and creative products should correspond to these three design levels to satisfy users' multifaceted needs and construct value accordingly.

5.1 Multi-Sensory Interaction: Enhancing Emotional Experience Through Sensory Design

Multi-sensory interaction refers to engaging all sensory systems and integrating perceptual information to evoke comprehensive responses. In product design, this entails integrating visual, auditory, olfactory, tactile, and gustatory elements to deliver rich sensory experiences and effectively communicate information.

This approach significantly enhances user engagement and emotional connection, increasing favorability and acceptance of the product. Experimental psychologist Albert Mehrabian found that 83% of information is obtained through vision, 11% through

hearing, and only a small portion via smell (3.5%), touch (1.5%), and taste (1%).

For example, Japanese designer Naoto Fukasawa's "Juice Skin" packaging for kiwi juice mimics the color and texture of real kiwi skin, visually evoking the fruit's tart-sweet taste and fuzzy surface—effectively linking sight to taste and touch to stimulate curiosity and purchasing desire.

Similarly, the Palace Museum's "Palace Snow" lipstick series uses the image of the adorable "Palace Cat" as a visual symbol, embosses elements from palace architecture onto the lipstick body, and incorporates a silky texture and unique scent—delivering a coordinated sensory experience (visual, tactile, olfactory) while reinforcing deeper cultural associations^[7].

Therefore, in the design of aerospace-themed cultural products, it is essential to follow principles of human sensory perception and apply design methods such as element extraction and functional fusion to enhance user experience through multi-sensory integration

5.2 Integration of Knowledge and Action: Applying Flow Theory to Stimulate User Engagement

Human behavior is closely linked to brain function. A key emotional state is that of being fully immersed in an activity—a state known as flow, coined by positive psychologist Mihaly Csikszentmihalyi.

Flow experiences share several characteristics: 1. Intrinsic enjoyment of the activity. 2. Deep concentration and focus. 3. Clear goals. 4. Immediate feedback. 5. A sense of control. 6. Absence of anxiety or worry. 7. Altered perception of time (e.g., losing track of time while engaged). In everyday life, our heart, will, and mind are often fragmented. In a flow state, however, these aspects align, resulting in harmonious, high-energy engagement.^[8]

Incorporating flow theory into the development of aerospace-themed products can deepen understanding of user needs and provide a new perspective for campus cultural product design. Flow theory guides designers in evoking strong emotional responses at the behavioral level. Tasks far below a user's skill level are unchallenging and boring, while those far above it are frustrating and anxiety-inducing. Like game design, aerospace-themed products should set achievable, measurable goals and provide immediate feedback to maintain engagement, stimulate curiosity, and generate a sustained sense of accomplishment.

5.3 Cultural Materialization: Strengthening Deep Cultural Perception Through Narrative Design

Aerospace-themed cultural products combine cultural heritage and innovation. Research indicates users favor products with unique cultural meanings and stories. Narrative design, based on narratology, is increasingly applied in product design to merge aesthetics with symbolism, fostering emotional connection. It uses storytelling to link designer intent with user perception through strategies like form symbolism, experience evocation, and embedded narratives^[9].

Such products should convey aerospace stories by constructing temporal-spatial contexts that trigger users' memories and emotional resonance, building identity. For instance, Beihang University's 70th anniversary paper lantern features the main building symbolizing its spirit, surrounded by aircraft and satellites. Warm lighting and starry elements evoke national aerospace ideals, immersing users emotionally and demonstrating narrative design's impact in cultural product development.

6 Conclusion

The 2024 Government Work Report prioritizes "promoting a modern industrial system and accelerating new quality productive forces." These forces are innovation-driven, high-tech, efficient, and high-quality, aligning with new development goals. Aerospace-themed cultural products combine technology, art, and culture, providing innovative platforms for public learning and experience^[10]. They are a key part of cultural sector productivity. Through collaboration and innovation, these products boost public interest in aerospace and create significant commercial value. Future efforts should focus on advancing their development and promotion to realize diverse value and drive related industries.

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