



Research on Warhammer IP Transmedia Operation Mode: Analysis and Enlightenment Based on the Affordance Theory

Yongqi Hou 

Beijing Jiaotong University, Beijing Jiaotong University, No. 3 Shangyuan Village, Haidian District, Beijing 100044, P.R. China

3148492570@qq.com

Abstract. Since its birth, Warhammer IP has become a multi-field cultural symbol via cross-media operation, serving as a typical case of IP with board games as the initial carrier and dual attributes of physical products and content narrative. This study sorts out its cross-media operation system featuring "board games as the core, narrative as the link, and user participation as the driving force": board games build core user communities through model iteration, rule update and off-line activities; novels and codex lay the worldview foundation, while audio-visual media realize content expansion; fan secondary creation and official adoption form value co-creation. Based on the affordance theory, the study analyzes the IP's multi-dimensional affordance characteristics at material, social and cultural levels, and reveals two core value creation paths: inter-media content coordination and audience participation co-creation. It also identifies three key industrial constraints: management adaptation dilemmas, narrative inconsistency risks and a single revenue structure. Finally, targeted enlightenments for the IP cross-media operation industry are proposed. This research enriches the empirical case library of IP cross-media operation theory and provides practical reference for similar IP development.

Keywords: Warhammer IP; Media Affordance; Media Business and Management; Intercultural Communication; Cultural Industry

1 Introduction

Board-game-originated intellectual properties (IPs), which inherently combine material products with narrative content, remain understudied in transmedia operation research. The Warhammer IP, created by Games Workshop (GW), exemplifies a successful model of this kind: evolving from a tabletop wargame into a multi-platform cultural phenomenon spanning novels, video games, and a global fan community. Its operational logic—centered on physical miniature iteration, an expansive lore system, and deep fan participation—raises critical questions that existing literature, largely focused on film, television and digital-game franchises, seldom addresses: how do product iterations and rule updates sustain core

communities? how do novels, codices and audio-visual media coordinate a coherent story world? and how does fan co-creation become integral to value generation?

To explore these questions, this study adopts affordance theory, which examines the behavioral possibilities that media technologies offer users. This lens is particularly suited to unpacking how Warhammer's material, social and cultural affordances—from miniature collecting and offline events to worldview construction—drive value through two core paths: inter-media content coordination and audience participation co-creation. The paper aims to firstly map the operation system characterized by “board games as the core, narrative as the link, and user participation as the driving force”; secondly analyze the IP's multi-dimensional affordance characteristics and value creation mechanisms; and thirdly identify key industrial constraints. By doing so, it enriches the empirical case base of transmedia theory and provides practical reference for IPs that blend physical products with narrative worlds. The paper proceeds by analyzing the operational model, applying the affordance framework, discussing constraints, and concluding with implications.

2 The Cross-media Operation Model of Warhammer IP

Cross-media operation has become the core path for IP to realize value extension and life cycle prolongation in the era of media convergence. Warhammer IP has formed a unique cross-media operation system with board games as the core, narrative as the link and user participation as the driving force after more than 30 years of development, which is different from the traditional IP operation mode with a single medium as the core. This system constructs a solid user foundation through the deep operation of board games, expands the story world through multi-media collaborative narrative, and injects sustainable vitality into IP development through user participatory innovation.

2.1 Board Games: The Core Carrier of IP Communication and User Retention

Board games are the origin and core carrier of Warhammer IP's value transmission and user retention, and Games Workshop (GW) maintains the IP's basic vitality through the dual drive of product iteration and offline community construction. The operation logic of board games forms a closed loop of user attraction, participation and loyalty enhancement, laying a solid foundation for the subsequent multi-media expansion of Warhammer IP.

Linkage Mechanism of Model Iteration and Rule Update. GW regards the model development and rule update of board games as the core strategy to maintain the vitality of Warhammer IP. Since the release of the first edition of the combat rules for Warhammer 40K in 1987, the series has completed 10 large-scale version iterations. Each generation of rule update is accompanied by the launch of new miniature models or the revision of old ones, forming a closed loop of "rule innovation — model consumption — user participation". The core value of rule

update is to provide users with differentiated strategic experiences. The iteration of miniature models focuses on detail precision and visual expressiveness. This "rule + model" linkage mechanism not only ensures users' sustained attention to the IP but also realizes the stable transformation of the IP's commercial value through the consumption of physical products.

Community Construction Function of Offline Combat Activities. GW has built a multi-level offline activity system around board games, including regular weekend combat gatherings, regional competitions and global finals. Weekend gatherings focus on casual social interaction to form interest-based primary social circles; regional tournaments highlight competitiveness, strengthening core users' IP belonging through standardized arrangements and exclusive awards; the global finals gather top players from more than 50 countries every year, realizing cross-regional IP cultural communication via online live streaming. Offline activities construct a tripartite interactive relationship of "user — user — IP": users deepen their understanding of the IP worldview through combat, form stable communities through social interaction, and the community cohesion in turn enhances user loyalty to the IP.

2.2 Narrative System Construction: Multi-media Collaborative Expansion of the Story World

The complete and consistent worldview is the core soul of Warhammer IP's cross-media operation. GW builds a three-dimensional and multi-layered story world through the complementary collaboration of text media (novels and codex) and audio-visual media (films, television and video games). The former undertakes the core construction of the worldview, and the latter realizes the visual communication and detail supplement of the worldview, forming a narrative system with both depth and vividness.

Core Constructive Role of Novels and Codex in Worldview Establishment. Official novels and codex are the core carriers of the Warhammer IP worldview. As a professional publishing institution under GW, the Black Library has launched a large number of Warhammer series novels. Among them, the *Horus Heresy* series systematically presents the grand picture of large-scale civil war within the human empire through more than 30 works, deepening the narrative depth of the IP. The narrative value of novels lies not only in plot presentation but also in the three-dimensional shaping of characters. For example, *The Son of the Forest* portrays the return journey of the Primarch Lion El'Jonson, endowing the originally one-dimensional character with a more three-dimensional and growth-oriented image and strengthening readers' emotional connection with the IP. Codex undertake the function of "systematizing" the worldview, covering ethnic backgrounds, weapons and equipment, battlefield rules and other aspects, and providing a rigorous logical framework for IP narrative. The coordination between novels and codex forms a complementary mechanism of "narrative emotionalization — codex systematization", which not only meets users' emotional needs for stories but also ensures the consistency of the IP worldview, laying a foundation for cross-media adaptation.

Audio-visual Supplementary Function of Films, Television and Video Games.

As audio-visual media, films, television and video games undertake the function of "visual communication" of Warhammer IP. The video game restores the space battlefields and unit images of the Warhammer world through 3D modeling, and transforms the abstract "strategic combat" in board games into intuitive visual conflicts with the main plot of "Space Marines against Tyranids". Short dramas focus on IP details in a lightweight form. The value of film and television media is reflected in two aspects: first, it lowers the cognitive threshold of the IP—for new audiences who have no exposure to board games or novels, the audio-visual impact of film and television can quickly convey the "dark fantasy" style of Warhammer IP and stimulate their interest in further exploration; second, it strengthens the emotional identification of core users—existing users can transform their imagination of the IP into concrete images through film and television representation. In addition, film and television content also provides a new path for IP commercial expansion. Peripheral products of films such as *Space Marine* (e.g., character figurines and original soundtracks) have become a supplementary source of IP revenue. At the end of 2024, GW officially signed a film and television adaptation agreement with Amazon Studios, marking the entry of Warhammer IP's film and television adaptation into a stage of professional operation. ^[1]

2.3 User Participatory Innovation: Fan Secondary Creation and Official Adoption Mechanism

Warhammer IP's cross-media operation is not a one-way output of official content, but a two-way interactive process of "official guidance + fan co-creation". The highly active secondary creation of the fan community has become an important part of the IP content system, and GW's scientific adoption and management strategy of secondary creation has realized the organic integration of fan creativity and official narrative, further enhancing the user's sense of belonging and IP vitality.

User Participatory Innovation: Fan Secondary Creation and Official Governance. Warhammer IP's fan community boasts a highly active secondary creation ecosystem with three core forms: fan fiction expanding on the blank spots of official narratives, visual art reconstructing the IP's characters and battle scenes for personalized expression, and miniature model modification involving the customization of official models with self-made accessories and exclusive painting. GW has formulated a standardized "guidance — screening — adoption" management strategy for such fan creation: it defines the licensing scope of non-commercial creation via the official Fan Creation Guide, selects high-quality works through professional competitions, and incorporates creation content consistent with official settings into the IP's orthodox worldview. This strategy effectively stimulates fan creative enthusiasm, strengthens their sense of identity with the IP, and injects diversified vitality into the IP's content system through fan participation.

Fan Groups Influencing the Evolution of the Core Plot of the Story. Warhammer IP's narrative system abandons one-way official output, with fan groups deeply participating in even dominating the core plot evolution through tabletop battle

report feedback, community voting and creation feedback, forming a unique "official guidance + fan co-creation" narrative ecology. A classic representative is the 2003 Eye of Terror Global Campaign: GW released campaign bulletins to global fans, collected battle results based on set rules, and determined the IP's key plot direction by these results, with the derived Fall of Cadia becoming a lasting official setting, this interactive process was documented through the official campaign portal ^[2] and subsequently archived in community historical records. ^[3] This fan-participatory model integrates every tabletop battle into the official canon, endowing the IP's plot evolution with strong participation and authenticity.

3 Cross-media Value Creation of Warhammer IP under the Framework of the Affordance Theory

The affordance theory, which originated from the field of psychology ^[4], has been widely applied in the research of media communication after development ^[5,6]. It reveals the interaction relationship between environmental attributes and organism behavior ^[4], and provides a new theoretical perspective for analyzing the cross-media value creation of Warhammer IP. Warhammer IP spans physical and digital media, and its multi-dimensional affordance characteristics at material, social and cultural levels provide the basic premise for cross-media value creation, and realize the dual extension of commercial and cultural value through two core paths of content coordination and audience co-creation.

3.1 Introduction to the Affordance Theory and Its Adaptability Analysis

Proposed by James J. Gibson, the affordance theory holds that environmental affordance is a coupling product of environmental attributes and an organism's perceptual ability, dependent on both environmental objective characteristics and subjective cognition. Introduced into the communication field, the theory has evolved into the concept of media affordance, which refers to the behavioral possibilities provided by media technology for users and serves as the key to analyzing the value transmission mechanism of cross-media IP. The affordance theory is highly adaptable to Warhammer IP cross-media operation research: Warhammer IP spans physical and digital media, whose technical attributes provide users with differentiated behavioral possibilities; meanwhile, its fans share a common cognitive foundation of the IP, with consistent perception of different media's affordance. This theoretical perspective can clearly reveal the internal logic of "media attributes — user behavior — value creation" for Warhammer IP's cross-media operation.

3.2 The Multi-dimensional Affordance Characteristics of Warhammer IP

Based on the affordance theory, Warhammer IP forms three interrelated and progressive affordance characteristics at material, social and cultural levels through the organic combination of different media. These characteristics realize the step-by-step deepening from user sensory perception to social interaction, and then to cultural identity, and construct a complete user value perception chain for Warhammer IP.

Material Level: Perceptual Affordance. Perceptual affordance at the material level refers to the perceptual possibilities provided by the physical/visual attributes of various IP media. Warhammer IP's board game models, video games and novels jointly build such affordance: exquisitely detailed miniature models stimulate users' collection and painting demands; 3D-built game battlefields bring immersive combat experiences; and vivid text descriptions in novels inspire users' imagination of the IP world. These multi-dimensional sensory stimulations collectively strengthen users' cognition of the IP's existence and lay a foundation for subsequent interaction.

Social Level: Social Affordance. Social affordance at the social level refers to the possibilities of social interaction provided by various IP media for users. Warhammer IP builds a multi-dimensional social system covering offline and online scenarios: offline board game battles and regional competitions form face-to-face tactical communication and emotional connection; online game multiplayer modes and fan forums break spatial limitations, enabling cross-regional social interaction; official events such as Warhammer Day further realize global fan linkage. These social scenarios continuously enhance users' sense of community belonging and the IP's social influence.

Cultural Level: Affordance of Meaning Construction. The affordance of meaning construction at the cultural level refers to the possibilities of meaning creation provided by the IP's worldview and values for users. Warhammer IP's core worldview of "In the grim darkness of the far future, there is only war" and values such as loyalty, betrayal and sacrifice are transmitted through multi-media narratives, arousing users' emotional resonance. Users form personalized understandings of the IP—some regarding it as a metaphor for real society, others as a fantasy entertainment space—making the IP a carrier for expressing self-cognition and values, thus enhancing its cultural value and user stickiness.

3.3 The Core Paths of Cross-media Value Creation

The multi-dimensional affordance characteristics of Warhammer IP lay the foundation for cross-media value creation, and the IP realizes the effective transformation of affordance into actual value through two core paths: inter-media content coordination and form transformation, and audience participation value co-creation. The two paths are complementary and mutually reinforcing, forming a closed loop of IP value creation and realization.

Content Coordination and Form Transformation Among Media. Warhammer IP is first based on the multi-media spillover and form adaptation of core content. With board games as the core, its ethnic settings and battlefield rules provide basic materials for other media, which reconstruct the core content according to their own technical attributes instead of simple copy. The core logic is to retain the IP's core characteristics while adapting to the technical attributes of different media, forming a multi-media content system of "same core, different forms". This system not only ensures the consistency of the IP worldview but also meets the diverse needs of users through differentiated presentation, realizing value superposition. GW's 2024 licensing revenue of 31.0 million British pounds, with video game licensing constituting the overwhelming majority of this income, confirms the commercial value of such cross-media content coordination [7].

The Value Co-creation Mechanism of Audience Participation. Audience participation is another core path for Warhammer IP's cross-media value creation, whose essence is a closed loop of "official leadership — fan participation — content iteration". In content creation, GW collects user demands for the IP through official channels and optimizes content development accordingly; In cultural communication, fans spontaneously spread IP content through social platforms, forming a multi-level communication chain and expanding the IP's influence. This value co-creation mechanism makes IP content more in line with user needs and reduces the market risk of official development, while also deepening fans' emotional investment in the IP, forming a deep "user — IP" binding and enhancing the IP's long-term commercial value. According to GW's annual financial reports, its annual profit increased from 150.9 million British pounds in 2021 to 262.8 million British pounds in 2024, which confirms the role of value co-creation in improving user stickiness [7].

4 Industrial constraints and challenges of Warhammer IP

Warhammer IP has achieved remarkable results in cross-media operation, yet its further globalization and digital expansion are restricted by multiple industrial constraints derived from the uniqueness of its operation mode and business structure, which mainly manifest in three core aspects as follows.

Non-linear Operation Mode Leads to Prominent Management Adaptation Dilemmas. Different from the traditional linear IP industrial chain, Warhammer IP follows the non-linear development path of board game community construction, narrative content expansion and multi-media derivation, which requires the balanced management of physical product production and digital content creation. The mismatch between the production cycle of board game models and the development cycle of video games makes the synchronous promotion of multi-media content difficult to achieve, affecting the overall user experience. Meanwhile, the IP relies on the circle communication of offline board game activities for market promotion, resulting in limited audience reach and low brand awareness in emerging markets, which restricts its global expansion pace.

The Huge Narrative System Brings About the Risk of Narrative Inconsistency. Warhammer IP's narrative system involving a large number of novels, films, television and game works is jointly constructed by multiple teams and creators, and individual differences in narrators easily lead to contradictions in character shaping and conflicts in plot logic. Such content inconsistencies not only arouse dissatisfaction among core users and question the rigor of official narratives in the short term ^[8], but also weaken the coherence of the IP worldview in the long run ^[9], increasing the cognitive cost of new users and reducing their willingness to access the IP. Although a narrative review mechanism has been established, it is difficult to fully cover the huge and complex narrative system, making the risk of narrative inconsistency difficult to be completely resolved.

The Single Revenue Structure Has Become a Prominent Development Bottleneck. GW's revenue structure exhibits a heavy reliance on the sales of physical miniature models, which constitute the vast majority of its total income, while the contribution from digital content remains relatively marginal ^[7], forming an unbalanced revenue structure. In terms of digital development, the quality and user experience of the launched video games have a clear gap with professional manufacturers, failing to effectively realize the commercial transformation of core users; the development progress of film and television content is lagging behind, missing the communication opportunity of the streaming media era. In terms of globalization layout, the offline channel coverage in emerging Asian markets is insufficient, and the lack of localized marketing strategies leads to slow growth in product sales in these regions, further restricting the sustainable development potential of the IP.

5 Conclusions and Prospects

Based on the systematic analysis of the cross-media operation model of Warhammer IP and the in-depth discussion of its value creation mechanism under the framework of affordance theory, this study summarizes the operation characteristics and value creation logic of Warhammer IP, and puts forward targeted enlightenments for the IP cross-media operation industry. At the same time, the study further explores the reference significance of Warhammer IP's cross-media operation experience for the cross-cultural communication of Chinese IP, and points out the limitations of the study and the direction of future research.

5.1 Research Conclusions

Through systematic analysis of Warhammer IP's cross-media operation model and value creation mechanism under the affordance theory, this study draws three core conclusions:

First, Warhammer IP has formed a unique cross-media operation system with "board games as the core, narrative as the link, and user participation as the driving force". Board games construct core user communities via "model iteration — rule

update — offline activities"; novels and codices build the worldview foundation, while audio-visual media expand content; fan secondary creation and official adoption form value co-creation, with fans participating in core plot evolution.

Second, the IP's value creation relies on multi-dimensional affordance characteristics and two core paths. Material-level perceptual affordance strengthens user cognition, social-level social affordance enhances community belonging, and cultural-level meaning construction affordance elevates IP value; through inter-media content coordination and audience participation co-creation, the IP realizes dual extension of commercial and cultural value.

Third, the IP faces three core industrial constraints: management adaptation dilemmas from non-linear operation, narrative inconsistency risks from the huge narrative system, and development bottlenecks due to a single revenue structure dominated by board game model sales, restricting its globalization and digital expansion.

5.2 Enlightenment for the IP Cross-media Operation Industry

The operation practice of Warhammer IP, as a typical case of cross-media operation of IP with board games as the initial carrier, provides important practical enlightenments for the cultural and entertainment industry in the process of IP cross-media development, mainly involving three aspects: content construction, user operation and commercial operation.

At the content construction level, IP operation needs to pay attention to the balance between "the stability of core characteristics" and "the flexibility of multi-media presentation". On the one hand, the core worldview and values of the IP should be clarified through documents such as codex and core rules to ensure the consistency of multi-media content and avoid the risk of content confusion; on the other hand, content should be adaptively transformed according to the technical attributes of different media to avoid the problem of distorted audience perception caused by "cross-media replication".

At the user operation level, a scientific and effective co-creation mechanism of "official guidance — fan participation — value feedback" should be established. IP operators should guide fan innovation through clear secondary creation rules, select high-quality content through events such as competitions and essay contests, and strengthen fans' sense of belonging and identity through "official adoption" of excellent creation; at the same time, big data should be used to analyze user needs, optimize content and product development, and improve user satisfaction. On the basis of ensuring the consistency of the core worldview, users should be invited to deeply participate in the creation of IP plots, and fan groups should be allowed to determine the direction of important plots, so that fan groups can meet their creative needs and deepen their psychological connection with the IP.

At the commercial operation level, the "diversification of the revenue structure" and "digital transformation" should be promoted as the core strategies. On the one hand, while retaining the core business advantages, IP operators should accelerate the development of digital content such as video games and film and television, expand

streaming media communication channels, and realize the diversified development of the revenue structure; on the other hand, they should formulate localized operation and marketing strategies for emerging markets, improve the integration of offline channels and online e-commerce, and enhance the global coverage and influence of the IP.

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