The Impact of Otome Games' Intellectual Property Joint Strategy on Social Media Exposure

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Abstract. As an important branch of the women's entertainment market, Otome Games' IP joint strategy has become a key means to increase exposure. The existing research focuses on the emotional connection and consumption behavior of players, and there is an empirical gap in the influence mechanism (such as IP type and publicity methods) on the effect of joint branding. This article aims to explore the influence path of Otome Games' IP joint strategy on social media exposure. Based on the social exchange theory, this study collected data from Xiaohongshu and Weibo (topic views, post interactions) of 55 top Otome Game joint cases from 2021 to 2025 and built a multivariate linear regression model to analyze the moderation effect of joint type, IP popularity and offline promotion. Research has found that the beauty category significantly increases the number of comments, while the catering category reduces the number of views. IP popularity only increases the number of comments in conjunction with the beauty category. Offline promotion has an inhibitory effect on the technology, culture and catering categories. The joint branding effect depends on type matching and the control of cognitive cost.

1 Introduction

Otome Game, a role-playing game for female users, promotes the development of love dramas by interacting with virtual male characters. In recent years, Otome Games have shown a booming trend in the Chinese market and have become an integral part of young women's daily entertainment. With the intensification of market competition, Otome Game developers have increasingly adopted the method of cooperating with brand IP to increase game exposure and user participation. For example, "Love and Deepspace" has successively cooperated with brands such as KFC and Gaode Map, which have repeatedly triggered hot searches on Weibo. However, the surge in joint cases has also led to homogeneity in the market, and some cooperation has been poor, which has, in turn, aroused the industry's attention to the effectiveness of IP selection and publicity strategies.

Discussing how to effectively increase the exposure of Otome Games through brand collaboration is not only of real value but also provides a reference for companies to formulate more targeted marketing strategies. The success of Otome Games no longer

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depends solely on game content and interactive experience. Its positioning in the market, players' purchasing motivation, and how to enhance brand influence through cooperation are gradually becoming a hot topic of research. Although research has widely discussed the reasons for the popularity of Otome Games, there are still research gaps in how the joint strategy can improve the exposure of the game, especially the key factors that affect the effectiveness of the joint, such as IP type, promotion methods, etc. The current literature mainly focuses on the micro-level aspects, such as the emotional connection between players and games and in-game consumption behavior and lacks a systematic analysis of the macro brand effect brought about by IP joint branding.

Based on this, this study will be based on social exchange theory, starting from the perspective of resource complementarity and mutual benefit of value, and taking the "joint branding type" as the independent variable. Taking the number of views of Otome Games on related topics on Weibo and Xiaohongshu during the event, the number of likes, comments, and forwardings posted by the official account, etc., as the dependent variables. Examine the moderating variables of joint IP popularity and offline promotion and set the number of promotional posts and word counts as control variables to construct a multivariate linear regression model to analyze the relationship and moderation effects between variables, and explore the factors affecting the exposure of Otome Games on social media in cooperation with different types of IPs.

The innovations of this study are mainly reflected in the following aspects: First, by focusing on the brand joint-branding practices in the segment of Otome Games, this article fill the gap in the empirical research on the effects of IP joint-branding marketing in the gaming industry, especially women's game field; second, from the multi-dimensional selection of joint-branding IPs to the design of publicity strategies, and then to the response of social media users, a systematic joint-branding effect analysis framework will help provide developers with more targeted strategic suggestions; finally, through quantitative empirical methods, verify the relationship between different variables, verify the strength and direction of the relationship between different variables, and provide operational data support and solid theoretical basis for Otome Games companies and the entire gaming industry to make marketing decisions, helping them optimize the joint-branding strategy in the increasingly fierce market competition, and achieve more effective brand exposure and user reach.

2 Literature review

The existing literature mainly develops from the perspectives of user behavior motivation, brand cooperation mechanism, and communication path, providing a theoretical basis for this research.

In terms of user behavior motivation, social exchange theory is widely used to explain users' interaction intentions. Mishra and Mund found that users tend to participate in activities that bring emotional identity and social rewards [1]. In the social media context, users forward or like brand content in exchange for recognition and belonging. This exchange mechanism is considered an important driving force for users to spread spontaneously [2,3].

The degree of fit between the brand and the joint branding type also affects the willingness to disseminate content. Bauer et al. proposed that when the brand image is highly consistent with the spokesperson or co-branded IP in terms of values and style, it will enhance the user's brand identity and positive reaction [4]. Janssen et al. also confirmed the existence of this "fit effect" in Instagram advertising experiments [5]. Especially in entertainment and cultural products, the degree of matching directly determines the popularity of joint social communication.

From the perspective of brand strategy, IP joint branding is regarded as a brand alliance behavior. Ali et al. pointed out that collaborative cooperation among brands can achieve

resource complementarity and expand the coverage of the audience [6]. In game marketing, cross-border cooperation between different industries not only expands communication paths but also helps enhance users' sense of novelty and willingness to interact.

In addition, in an environment where information is highly flooded, the signal theory emphasizes that the "signal" of a brand or IP will affect users' judgment of its quality and value. Connelly et al. believe that high-profile brands can serve as "signal senders" to enhance users' trust and attention to joint content and are especially suitable for the linkage dissemination of emerging or cultural products [7].

At the communication channel level, the Integrated Marketing Communication (IMC) concept emphasizes the synergy between online and offline channels. Keller earlier pointed out that coordination among different media helps to build a unified brand impression [8]. Naik and Raman found empirical evidence that O2O communication strategies can significantly enhance user engagement and conversion effects [9]. This view has also been confirmed by several recent empirical research studies of marketing communication [10].

In summary, some research has revealed the communication mechanism of IP joint strategy from multiple angles, covering dimensions such as user psychology, brand compatibility, resource complementarity and communication collaboration, and has built a relatively systematic research framework. However, current literature still focuses relatively on the relationship between traditional brands and spokespersons, and there is limited exploration of social media co-branding strategies for games, especially women's games, which provides entry space for this study.

3 Method

3.1 Research questions and data sources

This article aims to study the impact of the joint strategy of the Otome Game and IP on social media exposure, focus on analyzing the mechanism of action between the two, and use the multivariate linear regression method to systematically test the impact of the Otome Game on social media exposure after different IP joint strategies are used to jointly sign.

The sample of this study was to obtain 55 joint cases of Otome Game and IP from 2021 to 2025 from the brand' official channels, collecting the number of views on official activities of Xiaohongshu and Weibo, the average number of likes, comments, and forwarding of official posts, covering 6 top games such as "Love and Deepspace" and "Mr.Love: Queen's Choice".

3.2 Research hypothesis

Given the important role of cooperation in increasing the popularity of Otome Games market and user participation, and taking into account the moderation effect of offline promotion and IP popularity, this article proposes the following hypotheses based on existing research on the relationship between brand linkage and user attention: 1. The type of joint brand has a significant impact on the exposure of Oyome games (that is, there are differences in brands of different categories in attracting potential users' attention, which leads to different communication effects on social media). 2. The popularity of the IP itself will positively affect the overall exposure of game collaboration (the higher the popularity of the joint branding type can attract more users' attention and interaction). 3. If the joint campaign includes offline promotion (such as exhibition exhibitions, subway advertising, etc.), the exposure effect will be further enhanced.

3.3 Variable definition

The specific definitions and operational measurement methods of each variable in this study are shown in Table 1, which helps to model and explain subsequent empirical analysis.

Table 1. Variable definition table

Variable Type	Variable Name	Definition	Operationalization
Independent	Collaboration Type	Whether the collaborating IP belongs to the same genre	According to the different characteristics of the joint brand, it is divided into six categories.
Dependent	Exposure	The exposure received by the Otome Game during the campaign period	The total views of the official campaign hashtags and the average number of likes, comments, and shares of official posts on Xiaohongshu and Weibo
Control	Official Publicity	The volume and richness of official promotional content during the campaign	The average number of characters and the total number of posts published by the game's official accounts on the two major platforms during the campaign period
Moderator	Offline Promotion	Whether any offline promotion was conducted (e.g., expo booths, subway ads)	1 = Offline promotion present; 0 = No offline promotion
Moderator	IP Popularity	The popularity of the collaborating IP in its respective industry	For physical industries (e.g., milk tea brands): ranked purchase volume before collaboration; for virtual industries (e.g., anime): original revenue/downloads

3.4 Theoretical framework and model setting

3.4.1 Theoretical framework

This study constructs a regression analysis framework containing regulatory effects as shown in Figure 1 to explore how joint-branding types affect the exposure performance of Otome Games on social media. Among them, offline promotion (such as subway advertising and exhibitions) may expand users' contact and memory points, while high-profile IPs can use their brand influence to bring a "halo effect" and work together to increase exposure. In addition, in order to improve the explanatory power of the model, this study included control variables in the analysis, namely the amount of publicity content and information released by the official during the event, to eliminate the interference caused by the differences in publicity density. This theoretical framework helps systematically understand the mechanism of the influence of Otome Game joint strategy on social media exposure in different publicity situations and IP contexts.

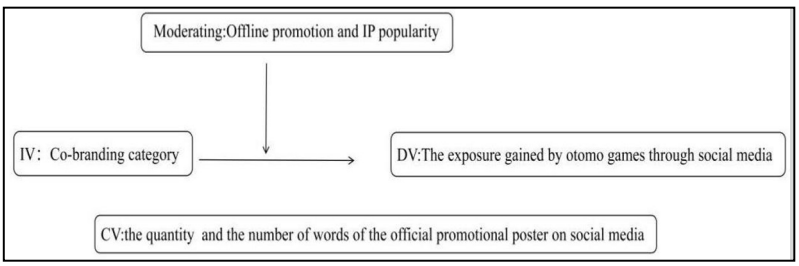

Fig. 1. Model analysis framework

3.4.2 Model setting

This study used a multivariate linear regression model to test the social media transmission effect of the Otome Game IP co-branding strategy through three sets of step-by-step regression:

Basic model (detecting main effects)

$$\text{Exposure}_i = \beta_0 + \sum_{k=1}^{5} \beta_k \cdot \text{CollabType}_i + X_i'\gamma + \varepsilon_i \quad (1)$$

2.The moderation effect model of offline promotion

$$\text{Exposure}_i = \beta_0 + \sum_{k=1}^{5} \beta_k \cdot \text{CollabType}_i + \sigma \cdot \text{OfflinePromo}_i + \sum_{k=1}^{5} \theta_k \cdot \text{CollabType}_i \times \text{OfflinePromo}_i + X_i'\gamma + \varepsilon_i \quad (2)$$

3.The moderation effect model of IP popularity

$$\text{Exposure}_i = \beta_0 + \sum_{k=1}^{5} \beta_k \cdot \text{CollabType}_i + \sigma \cdot \text{IPPopularity}_i + \sum_{k=1}^{5} \theta_k \cdot \text{CollabType}_i \times \text{IPPopularity}_i + X_i'\gamma + \varepsilon_i \quad (3)$$

Among them, represents the social media exposure obtained by Otome Game during the event (including the number of views on topics on Xiaohongshu and Weibo, the average number of likes, comments, and forwardings of official posts); is a virtual variable of the joint-branded type; indicates whether offline promotion is carried out (such as subway advertising, exhibitions, etc.), indicates the popularity of the joint branding type in its industry.is the product of the control variable vector (including the number of promotional posts and the average number of words that the official posts on social media during the event) and its corresponding coefficients, which is used to control the impact of differences in platform content delivery. is the random error term.

4 Results

4.1 Basic model analysis

The core regression results of the basic model are shown in Table 2. Analysis shows that:

Table 2. Regression results

Variable	views_w	comments_avg
col4	-1152.6*	527.6
	(664.1)	(628.8)
col5	-615.8	1637.0*
	(522.1)	(909.8)
words_avg	-0.222	2.692**
	(0.892)	(1.313)
post_count_video	54.26	143.2
	(106.3)	(108.8)

The catering category (col4) significantly reduced the number of views (β = -1152.6, $p < 0.1$), while the beauty category (col5) significantly increased the number of comments (β = 1637.0, $p < 0.1$). This part supports the first hypothesis, confirming that there are differences in the transmission effects of different brand types, but the impact of the beauty category on views and comments is asymmetric. Looking at the control variables, the average word count significantly promotes the number of comments (β = 2.692, $p < 0.05$), and the video content has a positive trend in the number of comments but does not reach a significant level (β = 143.2, $p > 0.1$).

4.2 Moderation effect analysis

Table 3. Regression results

interaction terms	comments_avg
col2#op	-2334.0*
	(1156.3)
col3#op	-1428.7**
	(612.2)
col6#op	-1275.9*
	(665.6)
col6#ip_pop	1567.0***
	(189.7)

Through Table 3, the inhibitory effect of offline promotion can be found, and col2 (β = -2334.0, $p < 0.1$), col3 (β = -1428.7, $p < 0.05$) and col6 (β = -1275.9, $p < 0.1$) significantly reduce the number of comments in combination with offline promotion. This completely deviates from the third assumption. The gain effect of IP popularity is reflected in the combination of the beauty category (col5) and high-profile IP, and the number of comments has increased significantly (β = 1567.0, $p < 0.01$). This part supports the second hypothesis but is also limited to specific co-branding types.

4.3 Robustness test

Table 4. The robustness of key interactions

Examination	comments_avg
col3#op	-1428.7**
	(612.2)
col5#ip_pop	1567.0***
	(189.7)
col6#op	-1275.9*
	(665.6)

Table 4 reports the results of robustness checks on the key interaction terms. A comparison between the original and sparse model coefficients indicates that the positive effects associated with the beauty category (col5) and IP popularity ($p < 0.01$), as well as the negative effects of the technology category (col3) and offline promotion ($p < 0.05$), remain statistically significant and robust across model specifications. In addition, the negative effect of the catering category with offline promotion (col6#op) reappears in the robust model and remains significant at the 10% level ($p < 0.1$), suggesting that this interaction may still play a role, albeit with weaker statistical support.

5 Discussion

Hypothesis 3 is that offline promotion will enhance the exposure effect, but the data shows that it has a significant negative impact on the joint brand of culture, technology, beauty, and catering categories. This deviation can be explained by cognitive resource theory: offline activities require users to invest additional time and space conversion costs. When the joint content is incompatible with the user's daily behavior patterns (such as fast food restaurants placing game cards), it will instead form a participation barrier. Empirical results show that the joint categories of science and technology combined with offline pro

Hypothesis 2 believes that IP popularity generally increases and is exposed, but only the beauty category (col5) has achieved significant gains. This is in line with the theory of

emotional fit: the visual expression of beauty products (such as lipstick color matching echoes the character theme color) is highly synergistic with the "emotional aesthetics" of Otome Games, while other types (such as catering category) lack narrative correlation, and high popularity IPs trigger cognitive disintegration.

Based on the above empirical results, this paper proposes three strategic suggestions. First, when Otome Game chooses beauty IP for joint branding, it should give priority to high-profile partners, so that the maximum number of comments can be gained (expected to increase by 1,600); secondly, when Otome Games chooses fast-selling joint branding such as catering, although offline activities cannot be avoided, it can be optimized by reducing the frequency of offline promotion and increasing different types of offline promotion forms, and at the same time, it should also try to turn to the online lightweight cooperation model to better promote the improvement of exposure; finally, when Otome Games chooses IP joint branding, it needs to strictly evaluate the tone matching degree, avoid the combination of cognitive conflict risks, and try to choose IPs with high tone matching degree with their own game to achieve an increase in exposure.

There are two core limitations in this study: the inaccurate partial effect estimates are caused by too small sample size and the uncaptured user emotional tendency data. This is related to the development time of the Otome Game in the Chinese market. It has only been 9 years since the release of the first well-known Otome Game in China, "Mr.Love: Queen's Choice". In addition, social media is also gradually developing. With improvements in sample size and exposure tracking, the impact of the Otome Game IP joint strategy on social media exposure is likely to be quantified with greater precision. Future research may involve analyzing emotional polarity using natural language processing techniques and verifying the differences in conversion paths between "Beauty × High Popularity IP" and "Catering × Lightweight Online" through controlled experiments, thereby offering insights into whether the exposure generated by user engagement on social media is beneficial or detrimental.

6 Conclusion

Through empirical analysis, this article has the following findings: 1. The type of joint brand determines the direction of exposure. The beauty category is consistent with the "emotional aesthetics" of Otome Games, such as enhancing the sense of "immersive interaction", which will significantly increase the amount of interaction; while the catering category may lead to negative exposure due to scene splits. Therefore, IP selection requires a prioritized assessment of emotional synergy. 2. IP popularity must be based on tone matching. Its gain only appears in high-fit combinations, which in turn causes cognitive conflicts. 3. offline promotion creates a paradox of cognitive cost. The joint brand category of technology and culture, combined with offline promotion, significantly reduces the number of comments, as user participation costs offset the exposure benefits, which shows that the traditional O2O model needs to transform to lightweight online cooperation.

This paper breaks through the inherent understanding of offline channels by IMC at the theoretical level, and proposes a negative moderating mechanism for "cognitive cost" to make up for the empirical gap in the research on the joint-branding effect of women's games field; at the practical level, it establishes an "emotion-narrative" dual-dimensional evaluation system for developers (such as giving priority to high-profile beauty IP) and optimizing fast-selling joint-branding online strategies to help reduce trial and error costs.

The current study is limited by the lack of emotional data in sample size. In the future, NLP technology can be used to analyze the emotional polarity of user comments and refine the exposure effect evaluation; through the comparison experiment, verify the difference in the transformation path between "beauty × high-profile IP" and "catering × lightweight online" strategies; expand cross-cultural comparisons (such as the difference between China

and Japan Otome Game joint branding), and deepen the universality verification of cognitive cost theory.

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