

The Impact of Information Dissemination Mechanism in Interactive Apps on User Behavior

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Abstract. With the development of social media tools and the widespread adoption of smart devices, social media has become a crucial information source for many individuals. However, the rapid dissemination of information can potentially influence users' behavioral intentions. This study explores the impact of the information dissemination mechanisms in interactive apps on users' behavioral intentions. Interactive apps exhibit instantaneous and diverse information characteristics, coupled with strong social attributes and the dissemination features of algorithmic recommendation mechanisms. These mechanisms exert a dual influence on users' behavioral intentions: high-quality information enhances users' positive behavioral intentions through the single-factor exposure effect, while false information misleads users into irrational behavioral intentions by evoking emotions, shaping subjective norms, and leading to cognitive solidification through information silos. Cross-platform dissemination further amplifies this negative impact. Based on this, the study proposes targeted countermeasures, including optimizing platform algorithms, improving user feedback channels, enhancing media literacy, and strengthening positive guidance, aimed at optimizing the information ecosystem of interactive apps.

Keywords: Interactive APP, False Information, User Behavioral Intention, Communication Characteristics, Cross-Platform Communication

1. Introduction

In the digital era, interactive apps such as WeChat and TikTok have become core information dissemination and social networking tools, profoundly influencing users' behavioral intentions. Their information dissemination exhibits a dual nature: while promoting the efficient dissemination of quality information, it also enables the rapid spread of false information, thereby misleading users' behavioral intentions. Referring to existing literature on information dissemination, cross-platform communication, and the impact on users' behavioral intentions, current research mainly focuses on the information itself and its sources during the dissemination process, as well as the impact of internal information generation and dissemination on employees' work-related behaviors. However, existing research lacks a systematic correlation analysis of the impact of information dissemination on app users' behavioral intentions.

This study revolves around the "Impact of Interactive APP Information Dissemination Mechanism on User Behavior Intentions", with research objectives including: 1) analyzing the

characteristics of information dissemination in interactive APPs; 2) examining its dual impact pathways on user behavior intentions; and 3) proposing targeted governance measures. Following the analytical framework of "characteristics - impact - governance", this study aims to optimize the APP information ecosystem, rationally guide user behavior intentions, and provide theoretical and practical references.

2. Characteristics of information and dissemination of interactive APPs

2.1. Information characteristics

Interactive apps can fully leverage the instantaneous nature of information transmission. Interactive apps enable real-time transmission of information [1]. Whether it's the instant push notifications of news and information apps or the instant chat function of social apps, users can obtain and respond to information in the first place. For example, WeChat, Instagram, and TikTok allow users to chat with friends or strangers in real time and share moments in their lives.

Interactive apps feature a diverse range of content formats. The information is presented in a rich and varied manner, encompassing text, images, audio, video, animations, and other forms, to cater to the needs and preferences of different users. Users can not only engage in conversations with virtual characters through text, but also interact through voice functions. Moreover, dialogues include expressions and action descriptions. Additionally, the new version has upgraded its text-to-image capability, providing users with a richer visual experience.

2.2. Communication characteristics

2.2.1. Strong relationship social attribute of interactive APP

Interactive apps are built upon strong social networks, where members often have close connections such as friends, family, colleagues, and classmates. This strong relationship attribute makes it easier for members to trust and quickly forward information when it spreads within the group. Research shows that people are more inclined to believe information from acquaintances, even if the information lacks scientific basis [2]. For example, in the dissemination of information, when a respected elder or acquaintance in the group shares a "secret" of traditional Chinese medicine health preservation, other members, out of trust, will quickly forward it to other groups or individuals, accelerating the spread of information.

2.2.2. Algorithm recommendation mechanism of social media

On the one hand, interactive apps can achieve precise personalized matching. Interactive apps capture users' core behavioral data in real-time, such as click preferences, interaction frequency within WeChat groups, and dwell time, and algorithms build user personas by analyzing this data, subsequently pushing content that is highly tailored to users' interests.

On the other hand, interactive apps reinforce continuous and recurrent behaviors. Interactive apps can reinforce users' continuous and recurrent behaviors through algorithmic logic, with its core mechanism following a closed loop of "feedback - judgment - adjustment": When users generate positive feedback such as likes, favorites, and shares, the algorithm instantly captures these behavioral signals and binds them with the content tags associated with the user for analysis. If users repeatedly trigger positive interactions with certain types of tagged content, the algorithm determines that such content is of high value to the user. Subsequently, it continues to provide users

with similar content by increasing the frequency of content exposure and optimizing push priority, while reducing the push of low-interaction and low-relevance content, forming a cycle of "positive interaction → precise push → more interaction" [3].

3. Algorithmic mechanism and impact

Interactive apps, through the combination of their information dissemination characteristics and user psychological mechanisms, exert a significant guiding influence on users' behavioral intentions. This influence can be explored from three dimensions: information exposure frequency, attitude and subjective norm shaping, and erroneous cognitive reinforcement. Furthermore, it is highly consistent with theories such as the single-factor exposure effect and the Theory of Planned Behavior [3].

3.1. Frequency of information exposure

Under the premise that specific information does not trigger extreme aversion from users, interactive apps significantly enhance the frequency of information exposure through functions such as instant push notifications and group member interactive reposting. The more frequent the contact, the higher the user's liking and acceptance of it. Due to the mere-exposure effect, an individual's familiarity with a certain thing increases with the frequency of exposure, thereby enhancing their preference and acceptance of that thing. This effect provides crucial theoretical support for the reinforcement of precise personalized matching phenomena in interactive apps. Taking WeChat official account, an important form of interactive app, as an example, its operators, in order to compete for traffic and enhance user engagement, often implement high-frequency content push strategies around users' "active periods" (such as morning commuting, lunch break, evening leisure, etc.) [4]. By increasing the probability of users encountering the overall information of the official account, even if users initially have only mild interest in a certain type of content of the official account, or occasionally click through due to personalized recommendations, high-frequency push notifications will still expose users to that content repeatedly. This "purposeless" repeated exposure gradually accumulates familiarity with the official account at the cognitive level of users. This increase in familiarity brought about by the mere-exposure effect will conversely reinforce the personalized matching phenomenon in interactive apps: users are more likely to generate positive feedback such as clicks and dwells in subsequent push notifications due to familiarity with the style of the official account, and these feedbacks will be captured by the app algorithm, prompting it to increase the push weight of that official account's content.

3.2. Shaping of attitudes and subjective norms

Interactive apps can leverage information dissemination as a medium, catering to user expectations to shape positive behavioral attitudes towards specific information. At the same time, they rely on group interactions in social scenarios to establish corresponding subjective norms. These two factors work together to directly drive user behavioral intentions towards a specific direction, based on the Theory of Planned Behavior. Taking WeChat official account operations as an example, some operators, in their pursuit of creating "blockbuster" content and achieving "100,000+" readership, will actively cater to user reading expectations, even fabricating content. When such content is spread in interactive scenarios such as Moments and WeChat groups, it can, on one hand, foster a positive attitude towards "emotional and novel content" among users, gradually leading them to prefer such content for reading, thereby increasing the open rate and sharing willingness of the

relevant official account. On the other hand, trending sharing in Moments and collective discussions among group members can establish a kind of "subjective norm" - users perceive that everyone around them is paying attention to and spreading such content. In order to fit into the social circle, they will also develop a behavioral intention to follow and share. For example, taking health information as an example, the recognition and sharing of folk remedies by other group members can establish a subjective norm that "choosing folk remedies is reasonable". Under the dual influence, people's willingness to seek medical treatment offline will be weakened, and they will instead prefer non-offline medical treatment options [5].

3.3. Fixed misconceptions

Interactive apps can exacerbate the "information cocoon" effect. The "information cocoon" refers to the phenomenon where, in a highly open information dissemination space on the internet, individuals' information biases are reinforced and amplified by algorithmic technology, leading to limited exposure to information. When users encounter false information and develop a high level of credibility perception, they fall into a closed loop of "selectively blocking scientific information and reinforcing erroneous cognition", which solidifies their misconceptions and ultimately leads users to develop behavioral intentions that deviate from rationality and are inconsistent with objective facts. After receiving a large amount of the same type of information, they will form a one-sided cognition and trust towards it, thus forming their own cognitive structure. This information cocoon-like cognition makes it difficult for them to accept the emergence of counter-information [6].

Based on the above mechanisms, generative artificial intelligence has generated false information. The spread of such rumors exhibits a clear cross-platform and multi-channel diffusion effect. Once false information is produced, it can spread simultaneously across multiple platforms and channels. These channels include social media, news websites, forums, blogs, short video platforms, etc., which are intertwined and influence each other. Through sharing, forwarding, commenting, and other means, they jointly promote the widespread dissemination of rumors. The audience groups and dissemination environments on different channels vary, allowing rumors to find suitable audiences for their dissemination on a wider scale.

4. Suggestions

4.1. Strengthen the construction of the platform and optimize the algorithm recommendation mechanism

The platform has established a "Content Creator Qualification Review mechanism", strictly reviewing information publishers and requiring them to provide relevant qualification certificates to prevent non-professionals from spreading incorrect suggestions. Reduce the traffic bias towards "emotional and bizarre content", increase the exposure weight of high-quality and scientific content, and lower the misleading effect of incorrect information on behavioral intentions from the source. Conduct keyword screening and manual verification for high-volume information shared within the group, and mark suspected false information as "risk Warning" to prevent its further spread.

4.2. Improve the user feedback channel

The establishment of a dedicated review team by the platform, the acceleration of the verification speed of reported content, and the immediate removal of true content are the core links to ensure the effectiveness of feedback. If the review period is too long, false information may have already

spread widely among the user group. Even if it is eventually taken down, it will be difficult to reverse the negative impact. The division of specialized review teams enables reviewers to more accurately judge the authenticity of information based on their professional knowledge, avoiding misjudgments or missed judgments due to insufficient review capabilities. Immediately removing confirmed true content can quickly cut off the information dissemination chain, reduce the misleading effect of false information on users' cognition, and also convey to users the signal that "the platform values feedback and actively solves problems", enhancing users' trust in the platform.

4.3. Enhance the media literacy of the user group

Through platform science popularization, offline promotion and other means, enable the user group to learn to distinguish the authenticity of information and rationally view the group interaction behaviors within the group and in the Moments. Online, platform science popularization can be carried out based on the scenarios of the interactive APP itself. Media literacy content can be integrated into the sections that users frequently come into contact with (such as home page recommendations and the menu bar of the official account), allowing users to naturally come into contact with relevant knowledge in their daily use. Offline, diverse publicity forms such as lectures and interactive activities can be adopted. To fill the coverage blind spots of online science popularization for low-frequency users, middle-aged and elderly users and other groups, especially for users who are not familiar with online operations, offline scenarios can lower the threshold for knowledge reception through face-to-face explanations, practical demonstrations and other methods, ensuring that the cultivation system covers users of different ages and with different usage habits, and avoiding the cultivation gap caused by a single dissemination scenario. Effectively ensure the comprehensiveness of the work to enhance quality. Help users establish an "information discrimination awareness" [7].

Enable users to master the core methods for judging the authenticity of information, such as teaching them to verify the authority of the information source and the authenticity of the data basis, rather than deciding whether to forward based solely on subjective feelings or the attitudes of others. The cultivation of this ability not only enables users to independently distinguish the authenticity and filter valuable content when facing various types of information in interactive apps, but also guides them to rationally view group interaction behaviors within groups and on Moments. When users acquire the ability to distinguish information, they will more clearly recognize the possible misguidance brought by the "herd mentality" in group interaction, thereby avoiding blind following and forwarding. This not only reduces the secondary spread of false information but also creates a more rational social atmosphere, which in turn promotes the virtuous cycle of the content ecosystem of interactive apps.

4.4. Strengthen positive guidance

The platform has established a positive behavior incentive mechanism, offering rewards such as points and MEDALS to users for reading and forwarding high-quality scientific content, guiding them to make rational choices and strengthening their willingness to actively obtain scientific information [8]. The choice of reading and forwarding high-quality scientific content as an incentive object is because such behaviors can not only enhance the dissemination breadth of high-quality information but also help users establish a scientific information cognition, which is highly consistent with the governance goals of the platform [9]. The adoption of diverse reward forms such as points and MEDALS is to cover the needs and preferences of different users, enabling users with

different demands to perceive the value of "actively obtaining scientific information", thereby initially guiding them to develop a rational choice tendency. When users complete the behavior of reading and forwarding high-quality scientific content, the immediate rewards they receive will form a positive feedback, enabling users to quickly establish the perception that "high-quality behavior = positive benefits". As rewards accumulate and behaviors are repeated, users will gradually shift from "acting to obtain rewards" to "taking active actions based on habits", internalizing "actively screening scientific information" as a daily usage habit. The strengthening of this behavioral willingness not only enhances users' own information literacy but also has a reverse effect on the content ecosystem of interactive apps - more users choosing high-quality scientific content will drive the platform's algorithm to increase the push weight of similar content, reducing the survival space for low-quality and false information. Form a virtuous cycle of "positive user behavior → platform content optimization → more positive user behavior", and ultimately achieve the sustainable and healthy development of the interactive APP content ecosystem [6].

5. Conclusion

This article focuses on the research of "the impact of the information dissemination mechanism of interactive Apps on users' behavioral intentions", systematically sorts out the characteristics of information dissemination of interactive apps, analyzes their marketing on users' behavioral intentions, and proposes targeted governance countermeasures, forming a complete logical chain of "feature - influence - governance". At the level of information dissemination characteristics, interactive apps not only possess content attributes such as immediacy and diverse forms, but also rely on strong relationship social trust and algorithmic precise recommendation to build a dissemination mechanism. This combination of features not only provides the possibility for information to reach users efficiently, but also poses the risk of false information spreading. At the level of behavioral intention influence, high-quality information can strengthen users' positive behavioral intentions through the single-cause contact effect, while false information misleads users to generate irrational behavioral intentions through three paths: emotional arousal, subjective normative shaping, and information cocoon solidification. Moreover, the cross-platform dissemination feature further amplifies the negative impact.

Based on this, this paper proposes multiple solutions for platforms to optimize their communication mechanisms and for users to enhance their media literacy. The aim is to achieve the optimization of the information dissemination ecosystem of interactive apps by strengthening the regulatory bottom line, blocking the path of incorrect guidance, and enhancing users' rational judgment, thereby promoting their shift from "traffic-oriented" to "value-oriented". Ultimately, balance the positive value of information dissemination with the rational guidance of users' behavioral intentions.

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