Communication Effects and Optimization Strategies of Marine Culture Short Videos in China from the Perspective of Agenda Setting

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Abstract

As new media technology advances, short videos have become a key medium for spreading ocean culture to the public. However, biases in agenda-setting during their dissemination process limit their communicative value. This research uses agenda-setting theory as a framework and employs literature review, content analysis, and case study methods to explore the current status, biases, and dissemination issues of these short videos and to analyze how these biases affect communication outcomes from cognitive, emotional, and behavioral perspectives. The study also proposes strategies for improving their dissemination. The findings show that current short videos of this kind have shallow content, a utilitarian orientation, and localized distribution. These biases lead to one-sided audience understanding, insufficient emotional resonance, and improper guidance of behavior. Strategies such as optimizing agenda content, standardizing agenda orientation, and strengthening collaboration among stakeholders can improve the quality of these videos' dissemination. This improvement supports the preservation of ocean culture and the spread of ecological protection concepts.

Keywords

agenda setting theory, marine culture, short videos, communication effect, optimization strategy

1. Introduction

With the development of new media technologies and the widespread use of short-video platforms, short videos have become a central channel for information dissemination and cultural transmission. Marine culture is an important part of China's outstanding traditional culture. Its effective communication helps improve public understanding of the ocean, strengthen awareness of ecological protection, and support the national strategy of building China into a maritime power. Policy documents such as the *14th Five-Year Plan for Cultural Development* have also promoted innovation in its communication practices. "However, within an algorithm-driven communication environment, the agenda networks formed by official media, opinion leaders, and the public show clear structural separation. The intermittent interactions among these actors weaken the ability of official media and opinion leaders to guide public cultural understanding. At the same time, the closed circulation of this system causes cultural values to be gradually diluted in the competition

for online traffic". "The agenda setting of short video news dissemination has gradually replaced the agenda setting of traditional mass media. Overly catering and regular recommendations gradually weaken the audience's attention to social issues related to news content. The limitations of this information may affect the audience's comprehensive understanding and thinking of social issues, leading to a single dependence on the source of information". Agenda-setting theory provides a useful theoretical framework for analyzing these challenges and improving communication strategies.

Existing studies mainly focus on agenda setting in short videos across general fields, while systematic research on marine culture short videos and their unique communication features remains limited. In recent years, domestic research on marine culture short videos has largely developed in two directions. The first focuses on the current state of communication and its problems. "Fast-paced short videos can quickly attract audience attention, but they often struggle to present systematic marine knowledge. Many forms of marine cultural content are compressed into clips lasting only a few dozen seconds and rely mainly on visual stimulation. As a result, essential background information and logical connections are often missing. Researchers have also noted clear differences in content quality. There is a significant resource gap between professional marine institutions and ordinary content creators. In many cases, highly popular content tends to be eye-catching but less rigorous self-media productions rather than authoritative scientific information" . At present, marine culture short videos face several problems, including content homogenization, insufficient professionalism, and a lack of ecological orientation. The second research direction focuses on optimization strategies. However, most existing studies provide relatively superficial suggestions and fail to develop systematic solutions based on communication theories. For example, "Yu Anran (2020), in a study on communication strategies for Quanzhou Maritime Silk Road culture through short-video platforms, proposed several approaches. The study suggested presenting Maritime Silk Road culture in diverse ways, identifying and supporting high-quality media organizations to better tell Maritime Silk Road stories and improve aesthetic experience, and expanding international communication to strengthen the global influence of Maritime Silk Road culture". The third research direction mainly focuses on practical suggestions, such as content presentation, institutional support, and international communication. However, these studies remain at a surface level and do not develop a complete optimization framework grounded in communication theory. For example, "Kang Jiawei (2021) proposed corresponding measures for the communication of Guangxi marine culture from perspectives such as communication vision and platform construction". These suggestions were mainly based on practical considerations related to communication perspectives and platform building, and they did not establish a systematic framework for improving communication effectiveness based on communication theory.

This study combines agenda-setting theory with the communication of marine culture short videos. The study aims to expand the practical application of this theory and enrich research perspectives on marine culture communication. Through empirical analysis, the study identifies agenda bias and key problems in this type of short video content. Based on these findings, the study proposes optimization strategies. These strategies can guide communication actors and provide a reference for relevant regulatory authorities. The study also seeks to support the transmission of marine culture and promote public awareness of ecological protection.

2. The Current Situation, Bias, and Communication Problems of Agenda Setting in Marine Culture Short Videos in China

This study selected 23 marine culture–related accounts with more than 100,000 followers from three major short-video platforms—Douyin, Kuaishou, and Video Accounts—during the period from 2024 to 2025. From the videos published by each account, 20–30 videos were randomly selected, resulting in a total sample of 600 videos for analysis. To ensure research reliability, the study adopted a double-coding method. Two coders evaluated the sample videos across three dimensions: agenda content type, depth of content meaning, and regional distribution. After coding was completed, a reliability test was conducted. The Kappa value reached ≥0.8, which ensured coding consistency. The data shown in Table 1, "Statistical Results of the Current Agenda Setting of Marine Culture Short Videos," were obtained by coding the content of the 600 sample videos and then using SPSS software to calculate the number and proportion of each category, with percentages reported to two decimal places.

Table 1: Statistical Results of the Current Agenda Setting of Marine Culture Short Videos

Coding category	Detailed indicators	Category	Quantity	Proportion
Video features	Content type	Documentary life category	274	45.67%
		Science popularization and education category	179	29.83%
		E-commerce product promotion category	92	15.33%
		Cultural inheritance category	55	9.17%
	Depth of connotation	Superficial content	212	35.33%
		Middle-level content	297	49.50%
		Deep content	91	15.17%
Account status	Geographical distribution	Coastal areas	17	73.91%
		Lake area	5	21.74%
		Inland areas	1	4.35%

2.1 Current Situation of Agenda Setting

As shown in Table 1, the agenda setting of marine culture short videos currently shows a clear imbalance. In terms of content type, the structure can be described as "one dominant category with three supporting categories." Documentary-style daily life content plays a leading role, accounting for 45.67%. Science education content accounts for about 29.83%, e-commerce–related content makes up about 15.33%, and cultural heritage content represents only 9.17%. This pattern leads the public to understand marine culture mainly from the perspective of production and daily life, while issues such as marine ecological protection and cultural inheritance receive limited attention.

In addition, the depth of content meaning is unevenly distributed. Shallow entertainment-oriented recordings account for 35.33% and mainly focus on activities such as coastal harvesting, with little in-depth knowledge. Middle-level content accounts for 49.5% and integrates basic science information into everyday life scenes. Deep and professional content represents only 15.17% and is usually based on scientific research discussions related to marine ecology and sustainable development. As a result, the marine knowledge obtained by the public tends to be fragmented, entertainment-oriented, and lacking in professional depth.

2.2 Core Biases in Agenda Setting

Marine culture short videos show three main types of agenda bias. The first is content bias, which appears as the coexistence of superficiality and homogenization. Many videos share similar structures or visual styles. Creators who focus on coastal harvesting commonly follow a three-step format of "going to sea–harvesting–cooking." Seafood e-commerce videos usually follow the sequence of "showing the catch–introducing the price–encouraging purchase," which reflects a lack of innovation.

The second is orientation bias. Entertainment-oriented content is highly prominent, while deeper topics such as ecological protection and cultural heritage receive limited attention. Platform algorithms also tend to recommend highly popular entertainment content, which further encourages creators to adjust their content orientation toward traffic-driven production.

The third is distribution bias. As shown in Table 1, regional concentration is significant. Creators from coastal provinces account for 73.91%, those from lake regions account for 21.74%, and inland areas represent only 4.35%. Inland regions face limitations in content production due to the lack of marine resources.

2.3 New Problems Caused by Agenda-Setting Bias

Content and distribution biases in marine culture short videos lead to one-sided audience understanding. Audiences tend to focus more on entertainment and commercial content, while their understanding of the deeper meanings of marine culture remains limited. As a result, it is difficult for audiences to form a comprehensive knowledge system, which hinders the transmission of marine culture.

Orientation bias also weakens the communication of marine ecological protection concepts. In addition, homogeneous content and rough production quality can cause audience fatigue. This reduces audience

engagement and leads to fragmented communication effects, making it difficult to achieve the long-term dissemination of marine culture.

3. Analysis of the Impact of Agenda-Setting Bias on Communication Effects

From the comment sections of popular videos posted by the 23 accounts identified in Table 1, this study randomly selected comments from three dimensions: cognitive effects, emotional responses, and behavioral effects. A total of 110 comments were collected for each dimension, resulting in 330 pieces of user feedback for coding analysis. The study then used SPSS software to calculate the number and percentage of each category, with percentages reported to two decimal places.

Table 2: Statistical Results of the Impact of Agenda-Setting Bias on the Communication Effects of Marine Culture Short Videos

Coding Category	Detailed Indicators	Category	Quantity	Proportion
Cognitive Effects	Marine Knowledge Acquisition	Gained more marine knowledge	74	67.27%
		Did not gain more marine knowledge	36	32.73%
	Marine Knowledge Mastery	Able to accurately answer basic questions	39	35.45%
		Unable to accurately answer basic questions	71	64.54%
	Regional Differences in Cognitive Understanding	Accurate cognition among coastal users	67	60.90%
		Accurate cognition among inland users	32	29.09%
		Users with inaccurate cognition	11	10%
Emotional Effects	Types of Content Generating Emotional Resonance	Resonance with daily-life content	64	58.18%
		Resonance with marine conservation content	32	29.09%
		No emotional resonance	14	12.73%
	Behavioral Conversion of Marine Conservation Awareness	Recognition of conservation behavior	101	91.82%
		Recognition and participation in conservation behavior	17	15.45%
		Neither recognition nor participation	9	8.18%
	Regional Differences in Emotional Interaction	High interaction rate in coastal regions	86	78.18%
		Low interaction rate in northwest	24	21.82%
Behavioral Effects	Behavioral Conversion of Marine Conservation Awareness	Recognition of conservation behavior	101	91.82%
		Recognition and participation in conservation behavior	17	15.45%
		Neither recognition nor participation	9	8.18%
	Regional Differences in Emotional Interaction	High interaction rate in coastal regions	86	78.18%
		Low interaction rate in northwest	24	21.82%
	Consumption Behavior	Purchased seafood products	46	41.82%
		Have not purchased seafood products	64	58.18%
	Environmental Protection Behavior	Participated in environmental protection activities	17	15.45%
		Did not participate in environmental protection activities	93	84.55%
	Cultural Interest Behavior	Visited marine recreational venues	28	25.45%
		Interested in aquaculture-related majors	9	8.18%
		Others	73	66.36%
	Content Conversion Efficiency	Conversion driven by e-commerce content	4	3.64%
		Participation generated by environmental protection content	17	15.45%

		Retention of cultural heritage content	11	10%
		Conversion of other types of content	78	70.91%

3.1 Impact on Cognitive Effects

As shown in Table 2, agenda-setting bias leads to fragmented and superficial public understanding of marine culture. Users often obtain marine knowledge from short videos in the form of isolated pieces of information rather than a complete knowledge system. Based on an analysis of 110 user comments collected from related video comment sections, 67.27% of users reported that they had learned more marine knowledge through science-related content. However, only 35.45% of users were able to correctly answer basic questions, such as the composition of marine ecosystems.

In addition, clear regional differences exist in users' understanding of marine culture. Coastal users showed an accuracy rate of 60.9% in understanding fishery production, while inland users reached only 29.09%. "Due to the fragmented nature of short videos, the information individuals receive is often unsystematic, and people frequently feel that they seem to have learned a lot but actually have not gained substantial knowledge". Fragmented knowledge acquisition makes it difficult for users to develop deep understanding, while superficial content consumption further reduces users' motivation to seek systematic knowledge.

3.2 Impact on Emotional Effects

As shown in Table 2, agenda-setting bias leads to an imbalance in audience emotional responses. Based on an analysis of user comments on related videos, emotional resonance tends to focus on daily life content and is more easily triggered by simple and entertaining superficial content. For example, 58.18% of users expressed emotional resonance with videos showing A Yumei's filial behavior toward her parents, while only 29.09% of users showed emotional resonance with content related to marine ecological protection.

Second, emotional responses are rarely translated into actual behavior. Although Bingge Bingo's marine protection activities received recognition from 91.82% of users, only 15.45% of users stated that they would participate in similar actions

Third, "China has a vast territory, and significant geographical differences exist between the eastern and western regions. As a result, western inland areas, which are mainly shaped by inland culture, and coastal regions, which are strongly influenced by marine culture, show large differences in their level of understanding of marine culture". Users in coastal areas demonstrate significantly stronger emotional resonance with marine ecological issues than users in inland regions.

3.3 Impact on Behavioral Effects

As shown in Table 2, agenda-setting bias leads to a single and limited pattern in audience behavioral responses. First, consumption behavior becomes dominant. About 41.82% of users reported purchasing seafood products after watching related videos, while only 15.45% of users participated in environmental activities such as beach cleanups.

Second, participation in cultural inheritance activities remains limited. Although 25.45% of users visited marine entertainment venues because of these videos, only 8.18% of users reported developing interest in aquaculture-related studies or professions.

Due to cognitive bias and the weak transformation of emotions into action, positive behavioral change among audiences remains limited. The efficiency of content conversion also shows clear differences. The conversion rate of e-commerce content is about 3.64%, while the user retention rate for cultural heritage content is only 10%. Most audiences do not translate their understanding of marine culture or awareness of ecological protection into real actions, which results in weak behavioral communication effects.

4. Strategies for Improving Communication Effects Based on Agenda-Setting Optimization

4.1　Optimization of Agenda Content: Building a Diverse and In-Depth Content System

Communication actors should expand the scope of agendas and develop a diversified structure that combines "light entertainment content with in-depth cultural content." "Creators should further explore marine cultural resources, develop high-quality thematic content, and improve overall content quality". While maintaining an appropriate proportion of shallow and medium-level content, creators should increase the share of in-depth content such as marine science education and historical and cultural interpretation. For example, practical operation videos can include basic knowledge of ecological protection, and landscape videos can explain regional cultural meanings. This approach can integrate entertainment with cultural value and reduce content homogenization. At the same time, creators should move beyond regional limitations by exploring marine cultural resources in less-represented coastal areas and inland regions to produce differentiated content.

Short-video platforms can establish dedicated recommendation channels and adjust algorithmic weighting to provide traffic support for accounts that produce in-depth content. Platforms can also cooperate with relevant institutions or universities to establish a basic professional review mechanism.

4.2　Optimization of Agenda Orientation: Establishing a Value Orientation that Balances Ecology and Culture

Communication actors should take marine cultural communication and marine ecological protection as their core orientation. On the one hand, creators should clearly communicate the concept of sustainable development in their content and avoid presenting inappropriate behaviors in a positive way. On the other hand, creators should further explore the humanistic meaning of marine culture. Short videos can present content such as fishermen's songs, folk traditions, and intangible cultural heritage practices, while explaining their historical value and contemporary significance. This approach can prevent excessive entertainment and maintain the core goal of cultural inheritance.

Sierra I et al. (2024) found in research on marine conservation communication that "certain types of images (e.g. landscapes, conservation actions) generating higher user engagement," and that "images of conservation actions increased feelings of hope and self-efficacy".

At the platform level, algorithms should be optimized to improve the structure of content distribution. Platforms should increase the exposure of content related to ecological protection and cultural heritage, while applying traffic restrictions or warning measures to inappropriate content. In commercial communication, platforms should balance commercial value with public interest and avoid excessive or intrusive marketing that may disrupt cultural expression. In this way, platforms can achieve a balance between communication effectiveness and social responsibility.

4.3　Optimization of Agenda Actors: Building a Collaborative and Professional Communication Structure

Relevant authorities and platforms should strengthen guidance and training for self-media creators. They can improve professional competence and ecological awareness through online courses and industry guidelines, and clearly define standards and orientation requirements for content creation. At the same time, "Multi-actor interaction and collaboration should be strengthened to expand communication networks through shared information sources. Cooperation with government media and online creators in other fields can attract existing users, promote mutual traffic flow, and explore new audience groups or content directions. Collaboration with professional media in specialized fields can also expand user bases and information sources, reduce audience misunderstanding, and improve communication effectiveness" [10].

Government agencies, research institutions, and other professional organizations should also be encouraged to participate in agenda setting. These actors can publish authoritative content such as ecological protection education, policy interpretation, and professional knowledge explanation. This approach can promote a collaborative model in which professional institutions provide expertise, self-media creators offer innovative presentation, and platforms deliver precise distribution. Such coordination can enhance professionalism and credibility and ultimately improve the overall communication quality of marine culture short videos.

5.　Conclusion and Future Prospects

This study adopts agenda-setting theory as its main analytical perspective. Through empirical analysis, it identifies the current communication conditions and key problems of marine culture short videos. The findings show that these videos present several agenda-setting biases, including superficial and homogeneous content, utilitarian value orientation, and uneven regional distribution. These biases lead to limited audience understanding, weak emotional resonance, and ineffective behavioral guidance, which ultimately restrict communication outcomes. Strategies such as optimizing agenda content, regulating value orientation, and strengthening collaboration among communication actors can help address these problems. These measures can improve communication quality and support the transmission of marine culture and the promotion of ecological protection awareness.

Future research can integrate technologies such as artificial intelligence to enrich presentation formats and enhance audience engagement. At the same time, cross-regional and multi-actor collaboration should be strengthened to build a nationwide communication system for marine culture. Subsequent studies can expand sample sizes and apply more quantitative methods to further examine the mechanisms behind agenda-setting bias and evaluate the practical effects of optimization strategies. This work can provide more precise support for the high-quality communication of marine culture short videos.

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