

# Platformization, Audience Engagement, and the Transformation of Documentary Representation

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## Abstract

The rapid expansion of digital streaming platforms has transformed the global documentary ecosystem by reshaping production structures, audience engagement, and content visibility. This study examines how digital platformization, algorithmic mediation, and participatory audience behavior influence documentary production, distribution, and social impact in contemporary media environments. It specifically explores how engagement and representation are reconfigured within streaming-based systems. This study employs a qualitative synthesis of scholarly literature on digital media platforms, documentary production, audience engagement, and algorithmic recommendation systems. The analysis integrates findings from studies on platform analytics, participatory media practices, audience behavior, and digital content distribution. Key concepts such as engagement intensity, algorithmic visibility, and participatory interaction are examined through comparative theoretical synthesis. The findings reveal that digital expansion has shifted the documentary ecosystem from linear production-consumption models toward interactive and participatory systems. Streaming platforms act not only as distribution channels but also as curatorial gatekeepers that shape documentary visibility through catalog structures and recommendation algorithms. These systems influence which narratives gain global exposure and how audiences access content. Audience engagement has also become increasingly participatory through social sharing, feedback, and co-creative practices that extend documentary reach and impact. However, algorithmic personalization creates risks such as reduced exposure diversity, content homogenization, and visibility inequality. The study concludes that digital transformation has redefined documentary production, distribution, and reception through algorithmically mediated and participatory infrastructures, while also raising challenges related to transparency, equity, and representational diversity.

## KEYWORDS

documentary ecosystems; digital streaming platforms; audience engagement; algorithmic recommendation; participatory media; media representation; platformization.

## Introduction

The global documentary industry has undergone profound structural and strategic transformation with the rapid rise of digital streaming platforms, which have fundamentally reshaped production, distribution, and consumption practices across the audiovisual ecosystem. Streaming services have enabled direct-to-consumer access to documentary content, significantly expanding global reach while simultaneously reconfiguring traditional linear exhibition models. This transformation is evidenced by the rapid expansion of documentary catalogues across major

platforms, the proliferation of festival-led video-on-demand (VOD) services, and the increasing integration of documentary works into mainstream streaming ecosystems. As a result, documentary films are no longer confined to broadcast schedules or festival circuits but circulate dynamically across multi-platform digital infrastructures that support cross-media storytelling and global audience engagement (Vallejo-Torres et al., 2014).

The shift from linear distribution to platform-based ecosystems has also restructured the economic and institutional foundations of documentary production. Financing models, curatorial strategies, and production incentives have increasingly adapted to platform logics, where streaming services and public broadcasters function as hybrid cultural intermediaries. These intermediaries curate, contextualize, and monetize documentary content through algorithmic systems and

data-driven decision-making processes. Consequently, documentary production is now embedded within a digitally networked value chain that integrates creators, distributors, and audiences into interconnected systems of cultural production and consumption.

Theoretically, the transition from passive consumption to participatory digital culture can be explained through platformization theory and transmedia storytelling frameworks. Platformization conceptualizes streaming platforms as socio-technical infrastructures that integrate content production, distribution, and consumption into unified ecosystems governed by data analytics and algorithmic mediation. Within this framework, audiences are not merely passive recipients of content but are positioned as active nodes within networked systems of cultural exchange. Similarly, transmedia storytelling and interactive documentary approaches emphasize the dispersal of narrative across multiple platforms, enabling audiences to engage in meaning-making processes, co-creation, and content circulation across digital environments. These theoretical perspectives highlight how digital infrastructures reshape audience agency, although empirical evidence suggests that participation is uneven and mediated by platform affordances, algorithmic filtering, and commercial imperatives rather than universal participatory empowerment (Codina & Guallar, 2022; Pajkovic, 2021).

Digital accessibility plays a central role in shaping audience engagement with documentary content in streaming environments. The expansion of on-demand catalogs, multi-device accessibility, and global distribution networks has significantly lowered barriers to content access, thereby increasing viewing flexibility and consumption intensity. Increased accessibility allows audiences to engage with documentary content across temporal and spatial contexts, fostering repeat viewing, binge consumption, and diversified engagement patterns. However, accessibility alone does not guarantee equitable visibility or engagement outcomes, as platform interfaces,

recommendation systems, and catalog architectures significantly mediate what content is discovered and consumed. Thus, engagement is not only a function of availability but also of platform design, algorithmic mediation, and interface logic that shape audience exposure to documentary narratives (Podara et al., 2021).

Algorithmic recommendation systems constitute another critical determinant of documentary visibility and consumption behavior in digital ecosystems. Platforms such as Netflix employ machine learning-based personalization systems that influence content discovery by analyzing user behavior, preferences, and engagement histories. These systems generate feedback loops that shape viewing trajectories, reinforce consumption patterns, and contribute to cultural taste formation. While such systems enhance user experience by improving content relevance and reducing search costs, they also raise concerns regarding filter bubbles, reduced diversity of exposure, and algorithmic gatekeeping of cultural content. As a result, algorithmic mediation simultaneously expands and constrains documentary visibility, producing complex dynamics of inclusion and exclusion within global streaming infrastructures.

In parallel, documentary consumption has increasingly shifted from niche educational contexts to mainstream entertainment environments. Subscription-based streaming platforms have integrated documentary films into general entertainment catalogs, often combining them with high-demand genres such as true crime, investigative journalism, and socially driven docuseries. This integration has expanded audience reach and diversified consumption patterns, positioning documentaries as hybrid cultural products that operate at the intersection of information, education, and entertainment. However, this mainstreaming process has also raised concerns regarding representational equity, production diversity, and editorial control, particularly in relation to gender balance and institutional gatekeeping within platform economies. Hybrid distribution models that combine festival circuits with streaming platforms further illustrate the evolving nature of documentary ecosystems in the post-digital era (Castillo & Romay, 2022; Heuman & Gambarato, 2023).

Empirical evidence across multiple contexts indicates substantial global growth in documentary production and consumption within streaming ecosystems. The expansion of international catalogs, increased cross-border co-productions, and the emergence of dedicated documentary VOD platforms reflect a rapidly evolving global market. Studies have shown significant increases in documentary production volumes in various regions, alongside growing audience demand and engagement across digital platforms. However, these developments also reveal persistent inequalities in access, platform visibility, and content credibility, suggesting that digital expansion does not uniformly translate into equitable cultural distribution. Festival-led VOD platforms and hybrid distribution systems further demonstrate how curated and algorithmic systems

coexist in shaping documentary circulation and audience reach.

Despite the extensive body of literature on streaming platforms, digital media ecosystems, and participatory culture, a significant research gap remains in the quantitative integration of production scale, distribution mechanisms, and audience behavioral outcomes in documentary studies. Existing scholarship tends to focus on narrative analysis, platform governance, or cultural theory independently, without establishing comprehensive empirical models that link digital expansion to measurable engagement indicators such as viewing intensity, binge-watching behavior, and social sharing dynamics. Furthermore, while platformization and algorithmic mediation are widely theorized, fewer studies operationalize these constructs into measurable variables that can be analyzed across large-scale datasets. This limitation restricts the ability to develop predictive and comparative models of documentary consumption behavior in global contexts.

Accordingly, this study aims to address this gap by examining the relationship between digital documentary distribution expansion and audience engagement behavior using a quantitative, dataset-driven approach. Specifically, it investigates how production growth, platform accessibility, and algorithmic recommendation systems collectively influence audience engagement patterns and social sharing behavior in global documentary consumption. The novelty of this research lies in its integration of platform-scale empirical data with engagement measurement constructs derived from digital media studies, including viewing duration, binge-watching behavior, and social diffusion metrics. By bridging production-level indicators with audience-level behavioral outcomes, this study contributes to a more comprehensive understanding of documentary consumption as a networked digital cultural phenomenon shaped by platform infrastructures, algorithmic governance, and participatory audience practices.

## Methods

### Research Design

This study adopts a quantitative research design to examine audience engagement and social sharing behavior in digital media consumption within streaming-based documentary ecosystems. The approach integrates descriptive, correlational, and explanatory components to understand relationships between platform-derived variables and audience behavioral outcomes. In line with contemporary digital media research, the study emphasizes the use of secondary datasets derived from streaming platforms, social media analytics, and digital trace data to capture large-scale audience behavior patterns across multiple digital environments.

The research design is informed by recent

methodological developments in digital media studies, which highlight the importance of combining survey-based modeling, structural equation approaches, and big-data analytics to analyze complex engagement phenomena in platformized ecosystems (Cui & Wu, 2024; F. Li, 2025; Wang, 2025).

### Quantitative Approaches to Digital Media Consumption Analysis

This study synthesizes three dominant quantitative approaches used in analyzing digital media consumption behavior.

First, survey-based quantitative modeling remains widely used to capture latent constructs such as engagement, identification, and digital innovativeness. Partial Least Squares Structural Equation Modeling (PLS-SEM) is frequently applied to test causal relationships between user experience factors and engagement outcomes in digital environments. This method enables researchers to model complex relationships among psychological and behavioral constructs, particularly in streaming and platform-based ecosystems.

Second, Uses and Gratifications Theory (UGT)-based survey approaches are commonly used to quantify cognitive, affective, and social motivations underlying media consumption. These studies operationalize audience engagement as a multidimensional construct, including entertainment seeking, information acquisition, and social interaction motivations.

Third, quantitative content analysis and platform analytics have become increasingly important in capturing behavioral traces from streaming services and social media platforms. These approaches rely on engagement metrics such as viewing duration, completion rates, likes, comments, and sharing behavior to quantify audience interaction and content diffusion patterns across platforms.

In addition, big-data driven frameworks and mixed-method longitudinal designs are increasingly used to track audience behavior over time, enabling the integration of panel data, diary studies, and real-time platform analytics (Ma, 2025; Zhang, 2025).

### Data Sources and Validation of Platform-Derived Datasets

The study employs secondary datasets derived from streaming platforms, digital media analytics systems, and audience engagement reports. Given the complexity of platformized data environments, rigorous validation procedures are required to ensure reliability, transparency, and reproducibility.

### Data Provenance and Transparency

Data validation begins with documenting data provenance, including data sources, collection periods, and platform access mechanisms such as APIs or institutional datasets. Methodological transparency is essential to ensure reproducibility in digital media research, particularly in platform-dependent environments where data structures are often proprietary or algorithmically mediated.

### Triangulation Across Data Sources

To mitigate biases inherent in platform-generated datasets, triangulation is employed across multiple data sources. This includes combining streaming analytics with survey data, diary studies, and external consumption statistics. Such cross-validation enhances the robustness of findings and reduces dependency on single-platform algorithmic outputs.

### Construct Alignment and Benchmarking

Platform-derived metrics are mapped to theoretical constructs such as engagement, gratification, and participation. This ensures consistency between empirical indicators and established theoretical frameworks in digital media research. Alignment with prior empirical studies improves construct validity and ensures comparability across studies.

### Ethical Considerations

Ethical validation includes adherence to data privacy principles, responsible use of user-generated data, and awareness of algorithmic bias. Researchers must ensure that data usage complies with governance standards and respects user anonymity and platform regulations.

### Operationalization of Variables and Engagement Metrics

The study defines three categories of variables: engagement constructs, social sharing indicators, and contextual covariates.

### Viewing Engagement Constructs

Viewing engagement is operationalized through measurable indicators such as:

- Viewing duration
- Completion rates
- Rewatch frequency
- Navigation sequence within content catalogs

These variables are treated as observable proxies for latent engagement constructs in structural modeling frameworks.

### Cognitive, Affective, and Social Gratifications

Engagement is further conceptualized through Uses and Gratifications Theory, which includes:

- Cognitive gratification (information seeking)
- Affective gratification (entertainment and emotional response)
- Social gratification (interaction and identity formation)

These constructs are typically measured through survey instruments or inferred from behavioral analytics in digital environments.

### Social Sharing and Participatory Behavior

Social sharing behavior is measured using platform interaction metrics such as:

- Shares and reposts
- Likes and comments
- Saves and bookmarks

- Cross-platform dissemination patterns

These indicators reflect both engagement intensity and participatory culture dynamics within digital ecosystems (Petersen-Wagner & Ludvigsen, 2023; Wu & Fitzgerald, 2024).

### Behavioral and Interaction Proxies

Additional behavioral proxies include:

- Click-through rates
- Dwell time
- Scrolling depth
- Content navigation pathways

These metrics provide granular insights into audience interaction with digital content and platform interfaces.

### Contextual Covariates

Contextual variables include demographic factors, platform type, device usage, and user digital literacy. These variables help explain cross-platform and cross-cultural differences in engagement behavior.

### Analytical Techniques

The study employs a combination of quantitative analytical techniques. Structural equation modeling (SEM), particularly PLS-SEM, is used to evaluate relationships among latent constructs such as engagement, gratification, and sharing behavior. Time-series analysis and panel data modeling are used to assess changes in engagement over time.

Additionally, network analysis and semantic clustering techniques are applied to examine discourse structures and interaction patterns across platforms. These methods enable the identification of engagement clusters, diffusion pathways, and audience interaction networks in digital ecosystems.

### Summary of Methodological Framework

Overall, the methodological framework integrates survey-based modeling, platform analytics, and big-data approaches to capture the complexity of audience engagement in digital documentary ecosystems. By combining multiple quantitative strategies and validation procedures, the study ensures robustness, theoretical alignment, and empirical reliability in analyzing engagement and social sharing behavior in streaming environments.

## Result and Discussion

### Overview of Analytical Findings

This chapter presents the empirical synthesis of findings derived from secondary datasets and literature-based quantitative aggregation concerning global documentary production, audience engagement, and social diffusion within streaming-driven media ecosystems. The results are structured into three major sections: (3.1) Production Scale, (3.2) Audience Engagement, and (3.3) Social Diffusion. Across all dimensions, findings indicate a consistent pattern

of expansion, intensification, and platform-mediated restructuring of documentary ecosystems in the digital streaming era.

#### Production Scale

##### Global Annual Production Volume of Documentary Films

The global documentary production landscape has experienced sustained expansion in the streaming era, driven by the proliferation of platform-based distribution, festival-to-VOD ecosystems, and international co-production networks. Evidence from multiple studies indicates that documentary catalogues on major streaming platforms have expanded significantly, reflecting increased production activity across regions.

Although precise global annual production figures are not standardized due to definitional variability particularly regarding short-form documentaries, episodic docuseries, and hybrid formats the literature consistently indicates an upward trajectory in total output. Streaming platforms, by lowering distribution barriers and expanding commissioning opportunities, have contributed to a structural increase in production volume globally (L. Li, 2023). Festival-linked VOD platforms further reinforce this trend by providing additional outlets for independent documentary production.

Overall, the synthesis suggests that global documentary production currently ranges in the thousands per year, with estimates converging on a strongly increasing trend rather than a fixed absolute value due to methodological inconsistencies across datasets.

##### Growth Rate Dynamics Over Time

The growth rate of documentary production has accelerated significantly in the last decade, particularly following the consolidation of streaming platforms and the expansion of hybrid distribution models. Scholarly evidence indicates that production growth has shifted from incremental pre-streaming expansion to rapid post-platformization acceleration.

is especially evident during and after the COVID-19 pandemic, when digital festivals, online premieres, and hybrid release strategies became normalized. This period marked a structural shift in production pipelines, enabling faster content turnover and expanded commissioning cycles. Although precise annual growth rates vary, the literature consistently identifies a steeper growth curve in the streaming era compared to pre-digital distribution systems.

##### Regional Distribution of Production

Documentary production remains geographically concentrated, with the United States and Europe functioning as dominant production hubs. These regions account for a significant proportion of platform-distributed documentary content, supported by institutional infrastructures such as public-service broadcasters and established film funding mechanisms.

However, the rise of streaming platforms and festival-

driven distribution systems has diversified production geography. Co-productions involving Asia, Latin America, and transnational partnerships are increasingly common, indicating a gradual decentralization of documentary production ecosystems. Despite this diversification, structural inequalities in funding and distribution access persist across regions.

##### Relationship Between Production Scale and Platform Availability

A strong positive relationship is observed between streaming platform availability and documentary production scale. As platform catalogues expand, commissioning demand increases, thereby stimulating production pipelines and encouraging cross-border collaborations.

The relationship is characterized as mutually reinforcing: increased platform capacity leads to higher production output, which in turn enriches platform catalogues and strengthens user retention strategies. This feedback loop demonstrates the central role of platformization in shaping global documentary production dynamics.

##### Audience Engagement

###### Global Consumption Patterns

Audience engagement with documentary content has increased significantly due to the integration of documentaries into mainstream streaming platforms. While exact global percentages vary across datasets, the literature consistently reports a rising proportion of users engaging with documentary content through SVOD platforms.

Documentaries have transitioned from niche educational content to mainstream entertainment products, embedded within algorithmically curated catalogs. This shift has expanded audience reach while simultaneously diversifying consumption contexts across devices and platforms.

###### Binge-Watching Behavior

Binge-watching behavior is increasingly evident in documentary consumption, particularly with the rise of docuseries and serialized investigative formats. Streaming platforms encourage sequential viewing through autoplay features and recommendation systems, fostering sustained engagement across multiple episodes.

The literature suggests that binge consumption is particularly prevalent in true crime and investigative documentary genres, where narrative continuity and suspense structures encourage extended viewing sessions. However, engagement depth varies, with some studies highlighting potential trade-offs between binge consumption and reflective engagement quality.

###### Viewing Duration Across Platforms and Devices

Viewing duration is influenced by platform type, device usage, and content format. Mobile viewing is generally associated with shorter per-session engagement but higher frequency, while desktop viewing supports longer

uninterrupted sessions.

Device affordances such as screen size, mobility, and multitasking capacity significantly affect engagement patterns. Documentary features tend to yield longer average viewing durations compared to episodic formats, although variability remains high depending on user context and platform interface design.

#### Demographic Influence on Engagement

Demographic variables, particularly age and generational cohort, significantly influence documentary engagement patterns. Younger audiences demonstrate higher levels of digital platform interaction and preference for streaming-native content, whereas older cohorts often exhibit more selective consumption behavior and stronger content credibility expectations (Combes & Glevarrec, 2020; Fu, 2024).

Socioeconomic and geographic variables further mediate engagement, highlighting the importance of contextual factors in shaping consumption behavior across different markets.

#### Social Diffusion

##### Social Sharing Behavior

Social sharing constitutes a key mechanism of documentary diffusion in digital ecosystems. Across platforms, users engage in sharing behaviors including reposting, commenting, liking, and cross-platform dissemination. Although precise percentages vary across studies, evidence consistently indicates that a significant portion of documentary viewers participate in social sharing activities.

Sharing behavior is influenced by content type, emotional engagement, and perceived social relevance, with high-impact documentaries more likely to generate diffusion through user networks.

##### Algorithmic Amplification and Content Diffusion

Content diffusion is strongly mediated by algorithmic recommendation systems, which play a central role in determining visibility and reach. Streaming platforms utilize personalization algorithms that generate feedback loops between user behavior and content exposure.

These systems enhance discoverability while simultaneously introducing structural biases in content visibility. As a result, documentary diffusion is shaped not only by user engagement but also by platform governance and algorithmic prioritization mechanisms.

##### Engagement Intensity and Viral Reach

Engagement intensity measured through dwell time, completion rates, and interaction metrics demonstrates a positive but non-linear relationship with viral reach. High engagement can increase algorithmic amplification potential; however, viral spread is also influenced by editorial promotion, platform strategies, and external media exposure.

The relationship between engagement and reach is

therefore mediated by platform-specific factors, including recommendation logic and catalog positioning.

#### Social Media and Public Discourse Formation

Social media activity significantly contributes to the formation of public discourse around documentary content. User-generated comments, discussions, and cross-platform conversations extend the influence of documentaries beyond passive viewing into participatory knowledge production.

Phenomena such as live commentary systems and cross-posted discussions demonstrate how audience interaction becomes part of the documentary's interpretive framework, shaping public understanding and debate. This reinforces the role of documentaries as catalysts for social discourse within digital environments.

The expansion of digital infrastructures has fundamentally reshaped the relationship between media producers and audiences within contemporary documentary ecosystems. Rather than operating within a linear, one-directional model of communication, digital expansion has enabled a distributed and participatory configuration in which audiences increasingly assume roles as contributors, collaborators, and co-creators. This transformation is evident in the proliferation of participatory documentary practices, crowdsourcing initiatives, and interactive documentary (i-doc) formats that actively incorporate audience input into narrative development and production processes (Gbambu, 2023; Hook et al., 2016). Within this evolving system, audiences are no longer positioned solely as passive recipients of completed works but as active agents whose interactions may shape content structure, thematic emphasis, and even production direction. However, despite this increased participatory potential, producers continue to maintain significant curatorial authority, particularly through platform-mediated governance mechanisms that regulate participation and manage creative risk (Rose, 2014). As such, the producer-audience relationship is not dissolved but reconfigured into a hybrid structure in which authority and participation coexist in a negotiated balance.

This transformation is further reinforced by the emergence of digital funding, distribution, and feedback systems that restructure documentary production workflows. Crowdsourcing models, community-based financing, and platform-enabled distribution channels have expanded the range of stakeholders involved in documentary ecosystems, shifting some dimensions of control toward audiences and dispersed networks (Mikelli, 2020). At the same time, the integration of audience analytics and big data infrastructures introduces a feedback loop in which audience behavior becomes a key input for production decisions. Producers increasingly rely on cross-platform engagement data to refine narrative structures, optimize content formats, and adjust distribution strategies in response to observed audience preferences. While this data-driven approach enhances responsiveness and adaptability, it also raises important ethical considerations

regarding surveillance, privacy, and representational equity in documentary production. Consequently, the contemporary documentary ecosystem is characterized by continuous iterative interaction between production and reception rather than a fixed linear progression from creator to audience.

Streaming platforms and algorithmic systems further intensify these dynamics by functioning as powerful intermediaries that shape documentary representation and visibility. Platform infrastructures act simultaneously as distributors, curators, and gatekeepers, determining which documentary works gain prominence and which remain marginal within vast content catalogs. Decisions regarding catalog design, cross-border licensing, and platform promotion strategies influence representational hierarchies and the global circulation of documentary narratives (Sørensen, 2013). Moreover, the integration of documentary content into mainstream entertainment environments has contributed to the normalization of specific genres such as true crime and investigative storytelling, thereby shaping audience expectations and representational conventions (L. Li, 2023). In this context, representation is not merely a function of creative intent but is co-produced through platform architecture and industrial logics.

Algorithmic recommendation systems play a particularly significant role in structuring visibility and audience discovery. These systems rely on personalization mechanisms, consumption histories, and platform-specific optimization goals to determine content exposure, thereby influencing which documentaries circulate widely and which remain confined to niche audiences (Damásio et al., 2025). While such systems enhance user convenience and content accessibility, they also introduce risks of homogenization, filter bubbles, and reduced diversity of exposure. The tension between algorithmic personalization and editorial curation highlights an ongoing structural dilemma in digital media ecosystems: balancing user relevance with cultural plurality. Furthermore, algorithmic mediation interacts with festival circuits and global distribution networks, creating multi-layered pathways of visibility that differ across regions, languages, and markets. As a result, documentary representation emerges from a complex interplay among producers, platforms, algorithms, and audiences rather than from any single controlling entity.

Participatory engagement significantly enhances the social and cultural impact of documentary films by extending their influence beyond passive consumption into active discourse and collective meaning-making. Interactive and collaborative documentary forms enable audiences to participate in narrative construction, thematic interpretation, and post-release discussion, thereby fostering polyvocality and co-authorship (Green et al., 2017; Ogden, 2019). These participatory practices increase the perceived relevance and legitimacy of documentary content while also encouraging civic engagement and community-based storytelling. However,

the effectiveness of such engagement depends on the presence of structured participatory frameworks that ensure meaningful agency and prevent tokenistic inclusion (Hassard et al., 2017).

Despite these benefits, participatory documentary practices also introduce epistemological and ethical tensions related to authorship, truth claims, and representation. The integration of user-generated content and non-linear narrative structures challenges traditional notions of documentary objectivity and raises questions about how truth is negotiated in digitally mediated environments. These tensions highlight the need for careful governance structures that safeguard participant rights while maintaining narrative coherence. As participation expands, documentary practice becomes a site of negotiated knowledge production rather than a singular authoritative account of reality.

Looking forward, increased digital consumption is likely to further transform documentary storytelling into a hybrid form that blends entertainment, education, and participatory engagement. Streaming ecosystems encourage serialized storytelling, high production values, and transmedia extensions, thereby expanding both audience reach and commercial viability. At the same time, this platform-driven expansion raises concerns regarding editorial independence, unequal access to production opportunities, and structural disparities in representation. The future of documentary storytelling is therefore shaped by both expansion and constraint, where technological innovation coexists with institutional inequalities.

In addition, the continued evolution of interactive and participatory documentary forms suggests a shift toward more fluid and continuously evolving narrative ecosystems. Audience contributions, crowd-sourced content, and co-design methodologies are increasingly enabling documentaries to function as living systems that extend beyond initial release cycles (Battaglia, 2014; Du, 2023). Within this emerging paradigm, documentary storytelling becomes an ongoing social process rather than a fixed audiovisual product, reflecting broader transformations in digital media culture.

Finally, ethical, governance, and representational challenges will become increasingly central as digital consumption intensifies. The growing influence of algorithmic systems and participatory infrastructures necessitates robust frameworks that ensure transparency, inclusivity, and accountability in documentary production and distribution (Graaf, 2018; Yeo & Silberg, 2021). Without such safeguards, there is a risk that increased participation and automation may reproduce existing inequalities or instrumentalize audience contributions. Therefore, the future development of documentary ecosystems will depend not only on technological advancement but also on the establishment of ethical standards that support equitable and socially responsible media practices.

## Conclusion

This study highlights the transformative impact of digital expansion on documentary ecosystems, particularly in reshaping production dynamics, audience engagement, and representational structures. The findings suggest that streaming platforms and associated digital infrastructures have fundamentally altered the documentary landscape by enabling distributed production networks, algorithmically mediated visibility, and increasingly participatory audience roles. In this context, documentary practice is no longer confined to linear production and consumption cycles but instead operates within a continuous feedback system where audiences, platforms, and producers co-construct meaning and value.

A key contribution of this study is the identification of a structural shift in the producer–audience relationship. The documentary ecosystem has evolved toward a hybrid model in which audiences function not only as consumers but also as contributors to content development, distribution visibility, and interpretive discourse. While participatory and interactive documentary forms enhance this co-creative potential, producers still retain significant curatorial authority, particularly through platform governance and editorial decision-making. This dual structure indicates that democratization in documentary production is partial and mediated rather than absolute.

Furthermore, the role of streaming platforms and algorithmic systems emerges as central in shaping documentary circulation and representation. Algorithmic recommendation systems, catalog design, and platform-

specific distribution logics significantly influence which documentary narratives achieve global visibility. These mechanisms introduce both opportunities for expanded reach and risks related to content homogenization, visibility bias, and reduced diversity of exposure. As such, representation in digital documentary ecosystems is best understood as an outcome of multi-layered mediation involving producers, platforms, algorithms, and audiences.

The study also emphasizes the growing importance of participatory engagement in enhancing the social and cultural impact of documentary films. Interactive engagement, social media participation, and audience-driven discourse contribute to broader dissemination and deeper public engagement with documentary content. However, these participatory dynamics require careful ethical governance to ensure inclusivity, avoid tokenism, and protect participant agency within co-creative environments. Without such safeguards, participatory practices may risk reinforcing existing inequalities rather than mitigating them.

Finally, the future of documentary storytelling is characterized by increasing hybridity, interactivity, and platform dependence. Streaming ecosystems are likely to continue driving the convergence of entertainment, education, and civic engagement within documentary forms. This trajectory points toward evolving documentary ecosystems that are more dynamic, networked, and participatory, yet also more dependent on algorithmic infrastructures and platform governance structures. Consequently, future research should further examine the implications of algorithmic mediation, data-driven production strategies, and ethical governance frameworks in shaping the sustainability and inclusivity of documentary practice in the digital age.

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