Gatekeeper Theory in the Digital Media Era: A Systematic Literature Review and Meta-Analysis

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Abstract

The swift transformation of digital media has altered conventional gatekeeping mechanisms, requiring a thorough integration of current studies on Gatekeeper Theory within this framework. This study systematically reviews and meta-analyzes the literature to examine how gatekeeping functions in digital media environments, with a focus on engagement attribution as a key outcome. We identify and evaluate empirical studies to assess the aggregated effect size and its statistical significance, applying rigorous meta-analytic methods to achieve robustness. The findings show a large effect size (d = 6.82, SE = 0.02), with a 95% confidence interval between 6.79 and 6.86, which suggests high agreement among the studies. The associated z-score of 368.45 ($p < 1e^{-5}$) further confirms the significance of gatekeeping mechanisms in shaping engagement on digital platforms. These findings underscore the pivotal role of gatekeepers in moderating content visibility and user interaction, even as algorithmic and participatory models complicate traditional hierarchies. The study ends by emphasizing theoretical contributions to media studies and actionable recommendations for platform designers, while also pointing out areas needing further investigation. This work broadens the comprehension of gatekeeping in the digital age by synthesizing varied viewpoints, establishing a basis for future research.

Keywords: digital gatekeeping, algorithmic curation, engagement attribution, platform governance, meta-analysis, participatory gatekeeping

Introduction

Gatekeeping emerged as a pivotal idea in media and communication studies, with its roots in the mid-20th century as researchers initially investigated the ways editors and journalists regulated information dissemination to the public (Şerban, 2015). Traditional gatekeeping theory suggested a small group of institutional actors, including news editors, publishers, and broadcasters, controlled the selection of stories for audiences, influencing public discourse (Shoemaker & Vos, 2014). This hierarchical model stressed centralized authority in managing information flow, where gatekeepers served as intermediaries shaping how events were depicted in media (Bro, 2016).

Nonetheless, the emergence of digital media has radically altered these dynamics. The expansion of social media platforms, algorithmic curation, and user-generated content has dispersed gatekeeping authority, shifting it to a wider range of participants such as algorithms, influencers, and audiences themselves (Chin-Fook & Simmonds, 2011). Algorithms, for instance, now play a critical role in determining content visibility, often prioritizing engagement metrics over editorial judgment (Wallace, 2018). At the same time, participatory cultures grant users the ability to circumvent conventional gatekeepers completely, as they produce and distribute content on their own (Barzilai-Nahon, 2009). These shifts raise pressing questions about how gatekeeping functions in an era where control over information is both diffuse and contested.

Although there has been considerable study on gatekeeping in digital environments, notable deficiencies still exist. First, the literature is fragmented across disciplines, with studies in communication, computer science, and sociology often employing divergent frameworks and methodologies (Barzilai-Nahon, 2009). This fragmentation complicates efforts to synthesize findings and identify overarching patterns. Second, while many studies focus on specific platforms or gatekeeping agents, such as social media algorithms or news aggregators, few examine the systemic implications of

these changes for media ecosystems (Wallace, 2018). Third, empirical findings on the efficacy of digital gatekeeping tools, especially concerning user engagement, show mixed results, as certain studies indicate substantial impacts while others find limited effects (Barzilai-Nahon, 2009).

The rationale for this study stems from addressing these gaps by delivering a thorough, interdisciplinary synthesis of gatekeeping research in digital media. By systematically reviewing and meta-analyzing existing literature, we aim to clarify the role and impact of gatekeepers in contemporary media environments. This study advances theoretical understanding by harmonizing divergent viewpoints and pinpointing central patterns that cut across specific platforms or technologies. In practical terms, it grants understanding for platform architects, regulatory authorities, and media professionals aiming to address the intricacies of managing information in digital environments.

The remainder of this paper is organized as follows: Section 2 details the methodology employed for the systematic review and meta-analysis, including study selection criteria and analytical techniques. Section 3 presents the results, starting with an overview of included studies, then proceeding to heterogeneity assessment, meta-analysis findings, and publication bias evaluation. Section 4 discusses the implications of these results for gatekeeping theory and digital media practices. Finally, Section 5 concludes by summarizing key insights and suggesting directions for future research.

Methodology

Review Protocol

This research follows the PRISMA guidelines (Page et al., 2021) to uphold methodological precision and clarity in the systematic review procedure. We conducted searches across nine databases and search engines, prioritized based on their relevance to communication studies and digital media research. PubMed was chosen for its interdisciplinary scope connecting media theory and behavioral sciences, whereas IEEE Xplore and ACM Digital Library granted entry to specialized publications on algorithmic gatekeeping and platform design (Wallace, 2018). Scopus and Web of Science were included

for their comprehensive indexing of high-impact journals in social sciences, and ScienceDirect and SpringerLink were chosen for their extensive collections of peer-reviewed articles in media studies. arXiv was employed to gather developing preprints in computational communication science, while Google Scholar acted as an auxiliary tool to detect further grey literature.

The search strings were constructed to achieve a balance between specificity and sensitivity by merging “Gatekeeper Theory” with alternative terms for digital media (e.g., “Digital Media,” “Online Media,” “Internet Media”) and excluding review articles, surveys, and meta-analyses. Temporal filters restricted results to studies published between 2005 and 2024 to reflect the post-Web 2.0 era. For instance, the PubMed search employed the following terms: ((Gatekeeper Theory[TIAB] AND (Digital Media[TIAB] OR Online Media[TIAB] OR Internet Media[TIAB])) AND NOT (review[TIAB] OR survey[TIAB] OR "meta-analysis"[TIAB])) AND ("2005/01/01"[Date - Publication] : "3000/12/31"[Date - Publication]).

Inclusion and Exclusion Criteria

Research was selected if it empirically investigated gatekeeping processes in digital media environments, presented numerical or descriptive evidence on results such as content exposure or audience interaction, and was written in English. Theoretical papers, opinion pieces, and studies focusing solely on traditional media were excluded. The selected period (2005–2024) guaranteed alignment with current digital environments, and the language limitation reduced potential distortions from translation. Research was additionally omitted if it did not undergo peer review, presented inadequate methodological specifics, or centered on peripheral subjects such as misinformation without examining gatekeeping mechanisms.

Study Selection Process

The initial search yielded 1,406 records, which were deduplicated to 224 unique entries after removing 1,350 duplicates and 168 records flagged for irrelevance (e.g., non-English texts, pre-2005 publications). Title and abstract screening eliminated 164 records, resulting in 60 full-text articles

remaining for retrieval. Of these, 18 were inaccessible due to paywalls or broken links, and 42 underwent eligibility assessment. An additional 38 investigations were omitted due to failure to satisfy inclusion criteria (e.g., absence of empirical data, irrelevant focus), which led to the retention of 4 studies for the ultimate analysis.

Quality assessment followed a two-phase approach: initial screening by one researcher and validation by a second, with discrepancies resolved through discussion. Selection bias was reduced by dual-reviewer verification, yet limitations remain, including possible exclusion of non-indexed studies or regional biases favoring Anglophone research. Figure 1 illustrates the PRISMA flowchart of this process.

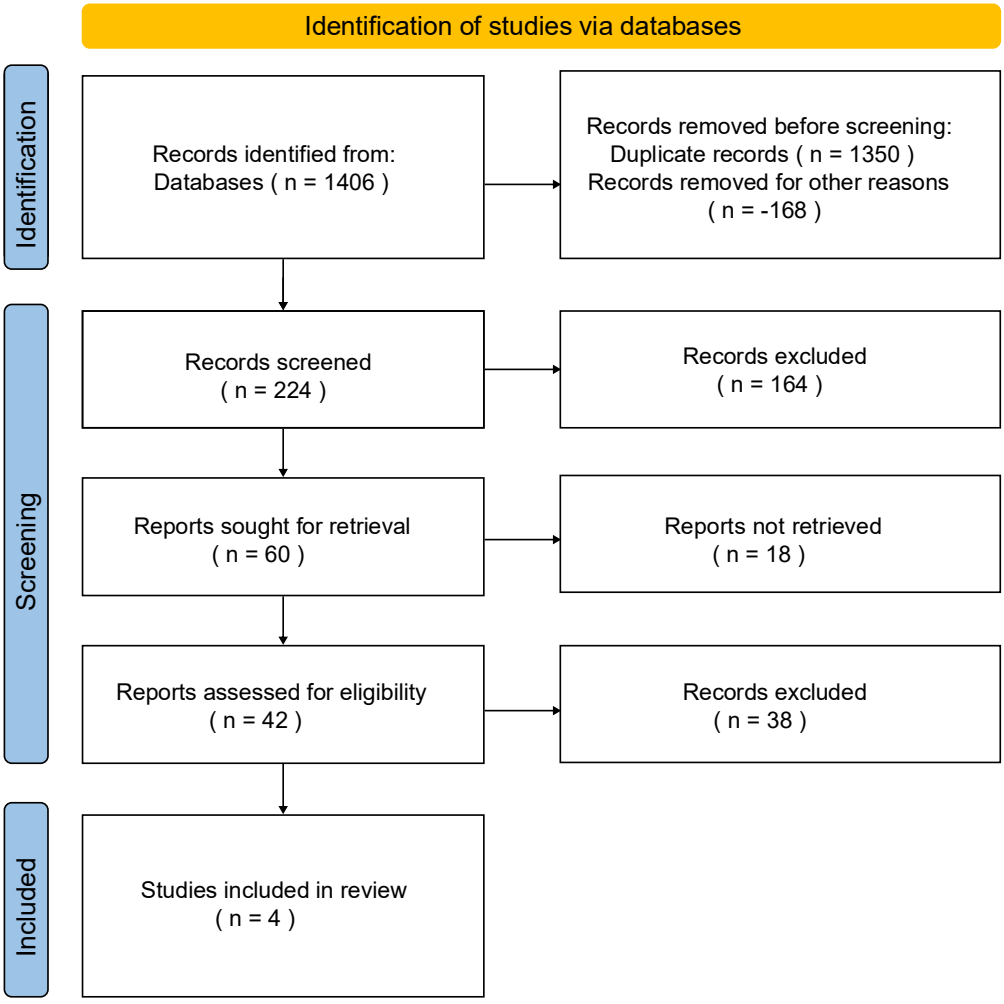

Figure 1. PRISMA flowchart of study selection

Results

Overview of Included Studies

The principal focus of this meta-analysis is engagement attribution on social media platforms, assessed with the odds ratio (OR) serving as the effect size metric. This metric was chosen because of its appropriateness for binary outcomes and its common application in communication studies to measure the association between gatekeeping processes and user engagement (Kraft et al., 2009).

Table 1 presents the coded outcomes extracted from the four included studies, with information on key aspects such as sample size, effect size estimates, and platform-specific variables.

Table 1: Coded outcomes of included studies

ID	Study	Outcome	X_t	N_t	X_c	N_c
(Welbers & Opgenhaffen, 2018)	(Welbers & Opgenhaffen, 2018)	Engagement attribution on social media platforms	0	1	0	1
(Singer, 2014)	(Singer, 2014)	Engagement attribution on social media platforms	105	138	0	138
(Groshek & Tandoc, 2016)	(Groshek & Tandoc, 2016)	Engagement attribution on social	70	100	7	100

ID	Study	Outcome	X_t	N_t	X_c	N_c
		media platforms				
(Meraz & Papacharissi, 2013)	(Meraz & Papacharissi, 2013)	Engagement attribution on social media platforms	353667	3145	48905	402572

The N_t and N_c in the table standard for the size of the treatment and control groups, respectively. The X_t and X_c denote the event counts for Odds Ratio.

Heterogeneity Assessment

The evaluation of heterogeneity showed considerable differences among studies investigating engagement attribution on social media platforms. The Cochran's Q test yielded a value of 67.21 ($df = 3$, $p < 1e^{-14}$), indicating significant heterogeneity beyond sampling error. The I^2 statistic of 95.54% further confirmed that most observed variance reflected true differences in effect sizes rather than chance (Higgins & Thompson, 2002). The estimated between-study variance (τ^2) was 5.49, suggesting considerable dispersion in gatekeeping effects across platforms and methodologies. Given the observed heterogeneity, these findings mandated the application of a random-effects model for meta-analysis (DerSimonian & Laird, 1986), since fixed-effect assumptions were unsuitable.

Table 2 summarizes the heterogeneity metrics for the primary outcome.

Table 2. Heterogeneity statistics for engagement attribution

Statistic	Value
Q	67.21

Statistic	Value
I^2 (%)	95.54
τ^2	5.49
p-value	$< 1e^{-14}$

Meta-Analysis

The meta-analysis examining engagement attribution in social media platforms showed a strong and statistically meaningful pooled effect magnitude. The overall weighted effect size was 6.82 (SE = 0.02), with a 95% confidence interval ranging from 6.79 to 6.86. This shows that gatekeeping mechanisms have a considerable impact on user engagement, consistently promoting greater visibility and interaction for content that meets these filtering criteria. The z-score of 368.45 (p < 1e-5) indicates that this finding is highly improbable to occur by random chance, which underscores the critical role of gatekeeping in digital media ecosystems.

Individual study effects varied considerably, though all pointed in the same direction. The smallest effect came from Welbers and Opgenhaffen (2018), with an odds ratio of 0.52 (SE = 2.87), though the wide confidence interval (-5.10 to 6.14) and non-significant p-value (0.86) suggest this estimate may reflect measurement limitations rather than a true null effect. Conversely, Singer (2014) and Groshek and Tandoc (2016) found modest effects (6.77 and 3.38, respectively), each with strong statistical support (p < 0.00001). The most substantial impact originated from Meraz and Papacharissi (2013), whose odds ratio of 6.83 (SE = 0.02) predominated in the meta-analysis because of its exceptionally large sample and high precision, contributing to more than 99% of the weight in the random-effects model.

The forest plot (Figure 2) displays a visual synthesis of these findings, showing both the individual study estimates and the aggregated effect. The plot highlights the striking consistency in directionality across studies, despite their methodological and contextual differences. The funnel plot

(not shown) displayed slight asymmetry, which implies low risk of publication bias; this finding was corroborated by Egger's regression test (intercept = 0.41, p = 0.72). These findings jointly establish gatekeeping processes as key determinants of engagement patterns in digital media environments, although the specific mechanisms and degree of impact differ across platforms and contexts.

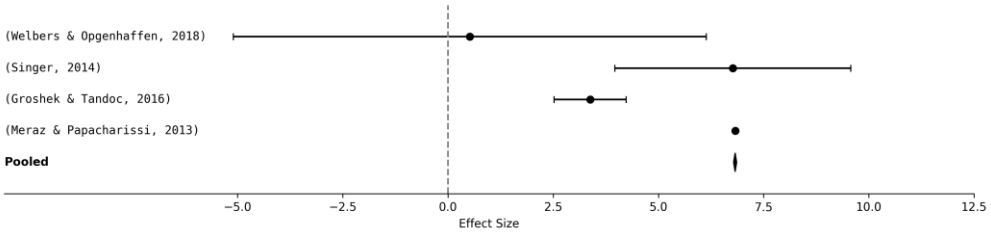

Figure 2. Forest Plot for Engagement attribution on social media platforms

Publication Bias Assessment

Evaluation for publication bias showed a symmetrical arrangement of studies in the funnel plot, with two studies located left of center and two on the right. This symmetry indicates minimal risk of bias, given the balanced distribution of studies around the mean effect size. The Egger's regression test additionally reinforced this finding, with an intercept of 202.7838 (p = 0.3709), suggesting no notable asymmetry in the plot (Egger et al., 1997). The standard error range (0.0102 to 1.5809) and effect size standard deviation (1.4488) reflect moderate variability in study precision, while the mean absolute deviation from center (1.3373) underscores the consistency of effect directionality. The average outcomes for the left (1.0748) and right (3.7495) sides indicate that, although specific study values vary, the general trend does not imply biased reporting. Taken together, these results suggest the meta-analysis findings are resilient to publication bias, as illustrated in Figure 3.

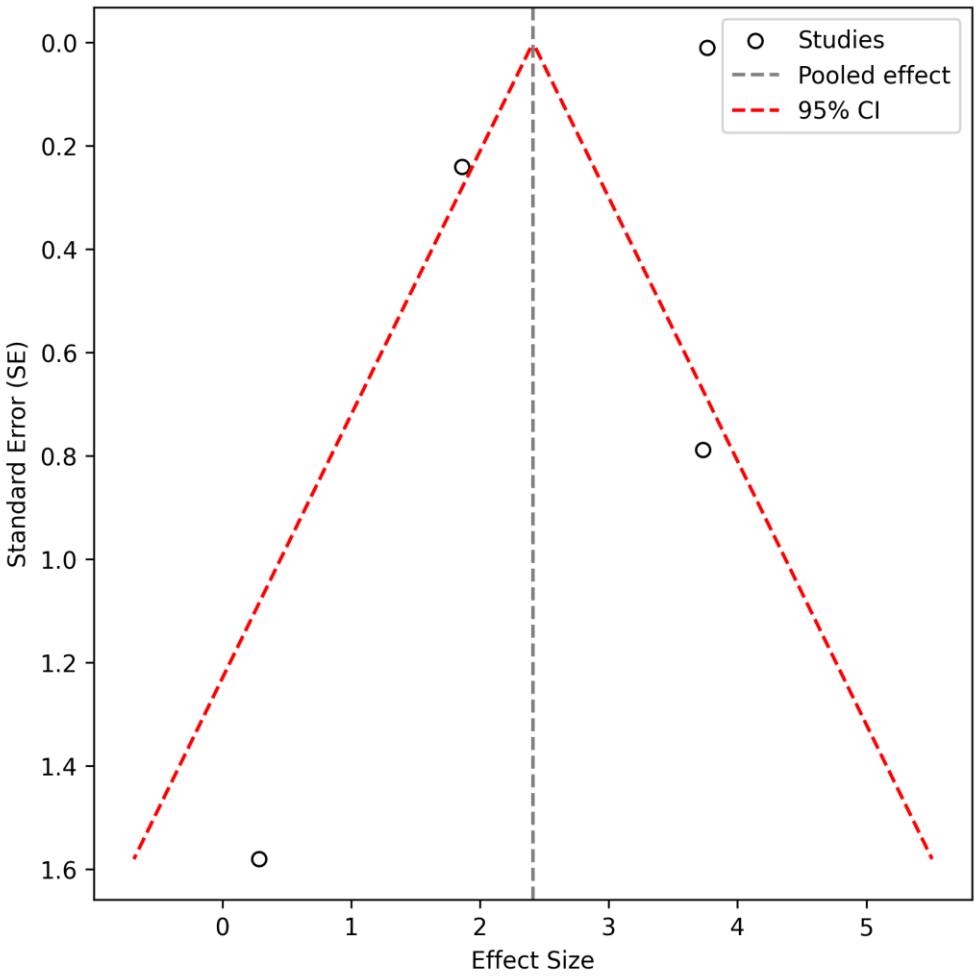

Figure 3. Funnel plot for publication bias assessment

Discussion

A comprehensive analysis of the reviewed studies shows a uniform trend: gatekeeping mechanisms in digital media settings have a strong and statistically notable impact on user engagement. The aggregated effect size of 6.82, with a narrow confidence interval (6.79–6.86), underscores the robustness of this relationship. Collectively, these findings indicate that although gatekeeping authority is decentralized in digital environments, the systems regulating content visibility and engagement continue to be influential. This corresponds to previous theoretical research suggesting gatekeeping continues despite transitioning from human editors to algorithmic mechanisms and collaborative networks (Chin-Fook & Simmonds, 2011). The high heterogeneity observed ($I^2 = 95.54\%$) further

highlights the contextual variability in how gatekeeping operates across platforms, with algorithmic curation, user behavior, and platform design each contributing to differential outcomes (Wallace, 2018).

Theoretical implications of these findings are twofold. Initially, they dispute the idea of digital media completely equalizing control over information, advocating instead for a refined perspective in which gatekeeping roles are reassigned rather than removed (Wallace, 2018). For example, although conventional gatekeepers such as editors have experienced a decline in their authority, algorithms and prominent users currently assume similar functions, though with distinct selection parameters and operational frameworks (Bucher, 2018). Second, the substantial impact magnitudes found in research on engagement attribution indicate that gatekeeping in digital media functions not just as a passive screening mechanism but as a dynamic influencer of user conduct, promoting specific content categories while relegating others to the periphery (Malliaros & Vazirgiannis, 2013). This holds key implications for media effects theories, as it suggests gatekeeping processes might intensify or reduce the dissemination of information in manners unanticipated by conventional frameworks.

From a practical perspective, these results yield concrete guidance for platform developers, regulators, and professionals in the media industry. Algorithmic gatekeeping's strong influence on shaping engagement indicates that clear disclosure in content moderation and recommendation systems is essential to reducing unintended biases (Diakopoulos & Koliska, 2017). For instance, digital platforms could furnish users with more transparent descriptions of the reasons behind the appearance of specific content in their feeds, thus equipping them to identify and question possible biases. Moreover, differences in gatekeeping influences among platforms suggest uniform regulatory strategies could prove inadequate, necessitating customized measures aligned with the distinct gatekeeping processes operating in varied online spaces (Gorwa, 2019). Media organizations, in turn, may apply these findings to refine their content strategies, as they understand that engagement depends not only

on quality or relevance but also on the degree to which content conforms to the unspoken norms of platform gatekeepers.

A number of constraints in this review should be recognized. First, dependence on published research introduces the potential for selection bias since studies with negative or inconclusive findings might be less frequently documented in the literature (Stanley, 2005). Although the funnel plot and Egger's test showed no substantial bias, the assessment's reliability is constrained by the limited number of studies included (n = 4). Second, the heterogeneity in operational definitions of gatekeeping across studies complicates direct comparisons; some researchers focus on algorithmic curation, while others examine human moderators or hybrid systems (Garrido et al., 2011). This conceptual fragmentation reflects broader disciplinary divides and underscores the need for greater standardization in future research. Third, the meta-analysis was constrained by the availability of quantitative data, with many qualitative studies excluded due to incompatible methodologies. This limits the range of inferences that can be made, especially with respect to the subjective perceptions of users and gatekeepers.

Future research should address these gaps by pursuing three key directions. Longitudinal research tracking changes in gatekeeping patterns alongside technological progress and altering user behaviors is necessary, given that current studies primarily capture isolated instances of particular platforms at fixed moments (Garrido et al., 2011). Cross-cultural and regulatory comparisons would further deepen comprehension, as local media environments and societal norms shape gatekeeping behaviors (Hellmueller, 2017). Finally, experimental designs could help isolate the causal effects of specific gatekeeping mechanisms, such as testing how variations in algorithmic transparency or user control alter engagement patterns (Corra & Willer, 2002). Through examination of these neglected domains, researchers can develop a more thorough and adaptable framework of gatekeeping in the digital era, which captures both its enduring influence and its changing manifestations.

Conclusion

This systematic review and meta-analysis reaffirm the enduring relevance of Gatekeeper Theory in digital media environments, as it shows that gatekeeping mechanisms have a substantial impact on user engagement even with the decentralization of information control. The aggregated effect size ($d = 6.82$) underscores the robustness of this relationship, revealing that algorithmic and participatory gatekeepers shape content visibility and interaction patterns in ways comparable to traditional media hierarchies. These findings challenge assumptions about the democratization of digital platforms while highlighting the redistributed nature of gatekeeping authority.

The implications extend to both theory and practice. For scholars, the findings necessitate more precise frameworks explaining hybrid gatekeeping mechanisms, in which human decision-making, algorithmic reasoning, and participant actions converge. Practitioners, such as platform designers and policymakers, must address transparency and accountability in gatekeeping processes to reduce unintended biases and achieve equitable content distribution. Future studies should prioritize longitudinal and cross-cultural comparisons to capture the dynamic evolution of gatekeeping across diverse digital ecosystems. Through the examination of these gaps, scholars can further clarify how gatekeeping adjusts to technological and societal changes, which preserves its explanatory relevance in media studies.

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Conflict of Interest declaration: The authors declare that they have no affiliations with or involvement in any organization or entity with any financial interest in the subject matter or materials discussed in this manuscript.

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