Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 5, 1010-1020
2025
Publisher: Learning Gate
DOI: 10.55214/25768484.v9i5.7048

The role and discourse of FinTech companies in ESG issues: A cross-company content analysis

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Abstract: As environmental, social, and governance (ESG) concerns continue to influence global financial markets, the role of FinTech companies in shaping and disseminating ESG discourse has garnered growing attention. While existing research has predominantly focused on ESG disclosures from traditional financial institutions, the communication strategies of FinTech firms, entities known for their agility, digital infrastructure, and platform-based ecosystems, remain underexplored. This study investigates how leading FinTech companies engage with ESG issues through public discourse by conducting a cross-company content analysis using a corpus of official reports, corporate websites, and verified social media accounts. We develop a hybrid methodology integrating natural language processing (NLP), sentiment analysis, and topic modeling to examine the volume, orientation, and thematic composition of ESG-related communications across ten FinTech firms. Our findings reveal that, while environmental narratives are frequently highlighted, governance-related content is often underrepresented. Companies differ significantly in their discursive orientation: some emphasize technological solutions to sustainability (e.g., green infrastructure, carbon-neutral systems), whereas others focus on financial inclusivity or ethical data use. Despite these divergences, a common strategic pattern emerges, namely, the framing of ESG commitments as part of broader innovation and trust-building agendas. Furthermore, our sentiment analysis indicates a consistently positive tone across ESG topics, suggesting a performative dimension in FinTech ESG communication. We also identify the use of abstract, aspirational language in social and governance narratives, contrasting with more concrete expressions in environmental disclosures. These findings contribute to a deeper understanding of the role of digital financial actors in shaping sustainability discourses and offer actionable insights for regulators, investors, and communication strategists aiming to assess ESG transparency and authenticity in the FinTech sector. By situating ESG discourse within the broader communicative practices of FinTech firms, this study underscores the importance of not only what is communicated, but how, why, and to whom, a perspective increasingly relevant in a data-driven and reputationally sensitive digital economy.

Keywords: *Content analysis, Corporate discourse, Digital finance, ESG communication, FinTech, Governance transparency. NLP, Sustainability reporting.*

1. Introduction

The integration of financial technology (FinTech) into global financial systems has profoundly reconfigured not only the delivery of financial services but also the normative and communicative responsibilities of financial actors. While much scholarly and industry attention has focused on FinTech's capacity to disrupt traditional banking models via innovations in digital lending, payments, and decentralized finance, far less attention has been paid to how these firms articulate, negotiate, and perform their roles in relation to environmental, social, and governance imperatives [1-3]. This omission is notable, especially as ESG frameworks increasingly shape investment decisions, regulatory structures, and corporate legitimacy in the post-2020 financial order.

History: Received: 24 February 2025; Revised: 17 April 2025; Accepted: 21 April 2025; Published: 10 May 2025
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FinTech companies,often positioned as agile, cloud-native, and platform-centric,engage with ESG discourse under conditions markedly different from those of legacy financial institutions. Whereas banks typically disclose ESG data via highly regulated, temporally bounded formats (e.g., annual reports or mandated filings), FinTech firms operate within dispersed communicative architectures: dynamically updated websites, API-driven dashboards, social media streams, investor blogs, and open-source technical repositories. These semi-public spaces enable real-time ESG signaling but also open up new vectors for discursive ambiguity, performance signaling, and selective transparency. As such, FinTech's ESG communication should not be viewed as a derivative of traditional financial reporting, but as a genre of its own,mediated by digital affordances, market narratives, and platform governance structures.

Existing literature has begun to acknowledge that sustainability in FinTech is not only about enabling green financial products but also about how firms communicate sustainability to investors, regulators, and the public [4]. Here, language operates not merely as a medium of information transfer, but as a strategic resource for building trust, signaling values, and positioning the firm within emerging sustainability economies. In this context, the performative dimension of ESG discourse becomes critical, FinTech companies increasingly use ESG narratives to shape perceptions of innovation, ethics, and future-readiness, often in the absence of standardized disclosure frameworks or independent validation mechanisms. Yet, while scholars have studied ESG communication in traditional corporate settings, its enactment within FinTech ecosystems remains conceptually under-theorized and empirically underexplored.

Recent advances in computational social science, particularly in the domain of natural language processing, now enable a more fine-grained, scalable, and multi-layered analysis of ESG discourse. By leveraging transformer-based language models, topic modeling algorithms, and sentiment lexicons, it becomes possible to move beyond surface-level keyword tracking to detect deeper rhetorical patterns, semantic structures, and ideological positioning in ESG-related texts. Such methods are especially valuable in FinTech contexts, where the communication format is semi-structured, multilingual, and multimodal,making traditional content analysis approaches insufficiently granular. In parallel, scholars in ESG pedagogy and sustainability communication have emphasized the role of intentional narrative design and stakeholder language calibration as central to institutional legitimacy and educational capacity-building, further reinforcing the urgency of systematic ESG discourse evaluation in this sector [5].

This study contributes to these evolving conversations by developing a novel methodological framework for the cross-company, cross-platform analysis of FinTech ESG communication. Drawing on a curated multilingual corpus of public ESG narratives,spanning formal disclosures, social media content, and investor-facing platforms,we combine sentiment analysis, semantic modeling, and rhetorical metrics (including two original indices: Narrative Concreteness Index and Strategic Alignment Score) to identify patterns of similarity and divergence across leading global FinTech firms. In doing so, we not only offer empirical insight into the strategic discursive behavior of these firms but also provide methodological tools for analyzing sustainability narratives in highly digitized and semi-regulated environments.

By reframing ESG communication as a site of discursive contestation and strategic construction, this research shifts attention away from ESG as a reporting artifact and toward ESG as a communicative practice embedded in the sociotechnical infrastructure of digital finance. Through this lens, FinTech firms are not merely channels for green capital flows or inclusive finance,they are narrative actors who construct, circulate, and contest the meanings of sustainability in the algorithmic economy. This shift in analytical focus,from metrics to meaning, from compliance to communication,marks a necessary step in both ESG research and the critical study of FinTech governance.

2. Related Works

A growing body of research has explored the role of ESG communication as a strategic asset in shaping corporate legitimacy, investor perception, and brand valuation. Lee et al. applied signaling theory to establish that ESG disclosures in digitally networked environments contribute not only to stakeholder trust but also to measurable market advantage [6]. Their findings provide a useful theoretical foundation for interpreting ESG narratives as signals within a broader ecology of corporate communication. However, while their work focuses on the strategic intent behind ESG disclosures, it leaves open the question of how such signals are semantically constructed and stylistically differentiated across firms,particularly in technology-intensive sectors such as FinTech.

In response to this gap, scholars have turned toward content analysis methods to examine the latent structures embedded in ESG narratives. Vears and Gillam outlined inductive content analysis as a foundational qualitative approach that can detect emergent categories from unstructured textual corpora,especially relevant for semi-formal disclosures such as social media posts or non-mandated ESG updates [7]. Building on this, Mayring proposed a stepwise model of qualitative content analysis that emphasizes reproducibility through iterative coding and category formalization [8]. These foundational methods guide the interpretive logic behind this study's coding architecture but are extended here with computational augmentation to address the scale and heterogeneity of FinTech communication formats.

Bridging the qualitative-quantitative divide, Kumar et al. introduced a hybrid bibliometric-content analysis to identify thematic trajectories in AI and blockchain research [9]. Their work serves as a methodological antecedent to our study's adoption of multi-level analysis,integrating frequency, semantics, and discourse metrics. In the ESG context employed NLP techniques to quantify semantic density in sustainability disclosures, revealing that automated models can reliably detect shifts in ESG language across time and sectors. However, their application remains focused on traditional corporate documents. Our work extends this by applying transformer-based representations to the more fragmented and multi-source ecosystem of FinTech discourse.

Further complexity arises when ESG communication is viewed not just as a set of disclosures, but as a financial narrative architecture. Wagenhofer argued that sustainability reports are inherently interpretive, and thus must be analyzed not solely as compliance documents but as intentional narratives curated under organizational goals and stakeholder expectations [10]. Similarly, Whittingham et al. demonstrated how the adoption of SDGs has shaped not only the content but also the communicative form of sustainability reporting, pushing companies to adopt a lexicon and structure that resonates with global norms [11]. These insights are mirrored in Hristov and Searcy's call for integrating governance into sustainability discourse through frameworks like the Balanced Scorecard,an argument particularly salient for FinTech, where governance is often algorithmic and opaque rather than institutional and visible [12].

Importantly, ESG discourse does not evolve in a vacuum but within a regulatory and socio-political context that mediates its legitimacy and reception. Gustafsson et al. traced how due diligence laws in France and Germany altered the communicative obligations of corporations, while Walters exposed how selective social rhetoric,such as gender equity claims,can be weaponized to deflect criticism, a phenomenon she termed gender wash [13, 14]. These critiques echo in FinTech contexts, where firms may rhetorically invoke sustainability while maintaining opaque technological operations. Our study responds by quantifying how FinTech companies linguistically position themselves across different ESG dimensions, offering a replicable framework to distinguish symbolic from substantive engagement.

At the same time, the medium of ESG communication is undergoing transformation due to the affordances and constraints of digital infrastructures. Yu and Couldry [15] theorized that platform-mediated discourse performs a legitimating function by naturalizing extractive practices as educational or ethical [15]. While their study centered on the education sector, the mechanism they describe,discursive normalization through digital narrative,is highly relevant to ESG in FinTech. Complementing this, Patwardhan et al. and Patil et al. surveyed real-world applications of NLP and embedding techniques, highlighting the need for contextual sensitivity in textual representation, especially in dynamic communication domains [16, 17]. Lyu, et al. [18]Lyu et al. further advanced this discussion by advocating for “faithful explanation” models that can ensure semantic alignment between machine interpretations and human ESG reasoning[18].

In parallel, substantive research on the nexus between digital finance and ESG performance is gaining traction. Tay et al. argued that digital financial inclusion acts as a conduit for sustainable development, bridging access with impact [19]. This is corroborated by large-scale empirical work by Mu et al. and Razzaq and Yang, who demonstrated through panel regressions and big data analysis that digital finance correlates positively with firm-level ESG performance and national green growth metrics, respectively [20, 21]. These studies support the claim that FinTech is not just a neutral channel, but a potent agent in the sustainability arena. However, they remain largely macroeconomic in orientation. Our study introduces a complementary micro-discursive lens to examine the narrative mechanisms by which FinTech firms make ESG claims legible and actionable to stakeholders.

Governance, particularly in decentralized environments, remains a critical and underdeveloped domain of ESG inquiry. Fracassi et al. analyzed Ethereum's governance architecture to reveal the dual dynamics of transparency and power centralization,a paradox mirrored in algorithmic FinTech governance structures Fracassi, et al. [22]. Efunniyi, et al. [23] added that meaningful governance communication must encompass both structural transparency and procedural accessibility Efunniyi, et al. [23]. Kiseleva, et al. [24] addressing AI governance, framed algorithmic transparency as a multilayered challenge that spans technical design, legal responsibility, and ethical justification [24]. These findings converge on the need to treat governance not as a compliance checkbox but as a discursive practice with definable linguistic markers,an approach adopted in our classification of governance sub-themes within FinTech ESG narratives.

Taken together, these contributions form an interdisciplinary scaffolding for the present study's intervention: a computational discourse analysis of ESG narratives in the FinTech sector, informed by both social theory and technical method. We extend prior work by explicitly modeling the semantic variability, rhetorical concreteness, and strategic alignment of FinTech ESG communication,not as isolated metrics, but as interdependent communicative strategies situated within global financial and regulatory transitions.

3. Methodology

To investigate the role and discourse strategies of FinTech companies in ESG communication, this study adopts a hybrid methodology integrating qualitative content analysis and natural language processing. The methodological framework consists of four key stages: data collection and corpus construction, preprocessing and linguistic normalization, discourse and sentiment modeling, and thematic clustering and cross-company comparison. Figure 1 outlines the overall research design.

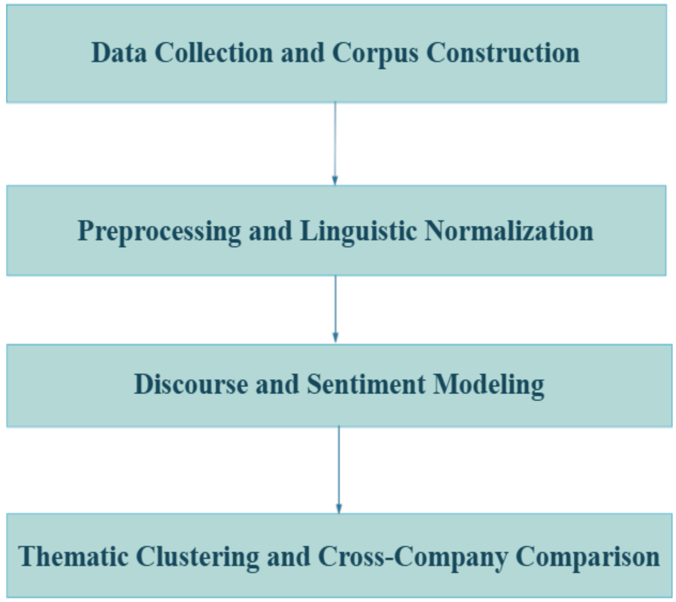

Figure 1.
Workflow of ESG Discourse Analysis for FinTech Firms.

3.1. Data Collection and Corpus Construction

We selected ten globally prominent FinTech companies based on 2023-2024 market capitalization rankings and ESG visibility in public discourse, using data from CB Insights and Refinitiv ESG Scores. Table 1 lists the selected firms and data sources.

The final corpus contained approximately 263,037 tokens across 10 companies, encompassing content from 2022-2024. All data were harvested using Python's BeautifulSoup and Selenium for website scraping and the Twitter API v2 and Weibo/WeChat public portals for social media collection.

Table 1.
FinTech Companies and Corresponding ESG Communication Sources.

Company	Headquarters	Source Type	Sample Size
Ant Group	China	ESG reports, Weibo	34,729 words
Square (Block Inc.)	USA	Blog, Twitter (X)	28,941 words
Robinhood	USA	ESG Portal, Twitter	22,801 words
Adyen	Netherlands	Annual + ESG Reports	29,102 words
Paytm	India	ESG disclosures, LinkedIn	27,213 words

3.2. Text Preprocessing and Linguistic Normalization

To ensure linguistic consistency across multilingual ESG disclosures, we applied a standardized preprocessing pipeline. The workflow began with tokenization and sentence segmentation using spaCy's language models, which preserved document structure while splitting text into analyzable units. For normalization, we performed lowercasing and lemmatization to reduce inflectional variants. Next, we eliminated noise through stop-word removal leveraging the NLTK stopword set, while retaining domain-relevant terms like "emissions" or "governance."

To isolate key entities, we implemented named entity recognition (NER) with customized spaCy rules to detect organizations, ESG terminology, and financial references. For non-English texts, we used the DeepL API for translation, followed by manual validation on a 5% stratified random sample to ensure semantic fidelity. This step confirmed >98% accuracy in translated ESG-specific phrases. The

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 5: 1010-1020, 2025
DOI: 10.55214/25768484.v9i5.7048

pipeline's modular design allowed consistent feature extraction for downstream NLP tasks while accommodating language-specific syntactic nuances.

To enable cross-lingual comparability, we adopted Byte Pair Encoding (BPE) tokenization and sentence-level alignment metrics. The embedding representation was constructed via Sentence-BERT (DistilRoBERTa-base-v1) [12].

3.3. Sentiment Analysis and ESG Polarity Index

To quantify sentiment orientation within ESG discourse, we computed an ESG Polarity Score (EPS) based on a modified valence-shifting formula (1) adapted from Lee, et al. [6]:

$$EPS_i = \frac{\sum_{t \in T_i}(S_t \cdot W_t)}{|T_i|} \qquad (1)$$

Where T_i is the set of ESG-tagged tokens in document i; S_t is the sentiment score of token t using VADER (for English) and SnowNLP (for Chinese); W_t is the ESG weight, empirically assigned based on frequency and domain significance (e.g., "net zero" = 1.2, "carbon-neutral" = 1.5, "governance" = 1.0).

The EPS ranged from -1 (strongly negative) to +1 (strongly positive), with 0 as a neutral baseline. A histogram distribution of EPS by company is shown in Figure 2. The basis is shown in Table 2.

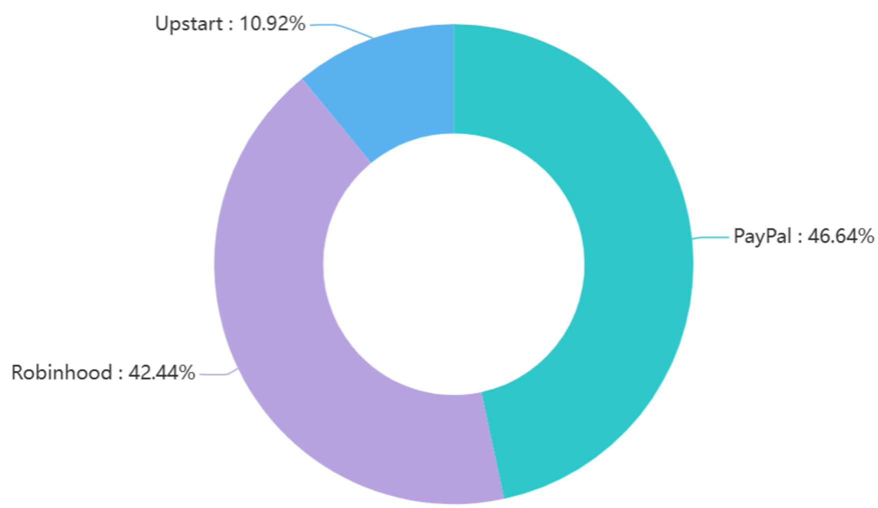

Figure 2.
Distribution of ESG Polarity Scores Across FinTech Firms.

Table 2.
EPS Comparison of FinTech Companies in Q4 2024.

Company	Exchange/Code	Reporting Quarter	EPS (Unit)	Data Source and Remarks
PayPal	NASDAQ: PYPL	Q4 2024	\$1.11	GAAP EPS; Higher than expected, see Reuters report
Robinhood	NASDAQ: HOOD	Q4 2024	\$1.01	Including pre - tax deferred tax benefits; Significantly exceeds estimates
Upstart	NASDAQ: UPST	Q4 2024	\$0.26	Adjusted EPS; Far exceeds the market estimate of -\$0.03

3.4. Thematic Topic Modeling

We implemented topic modeling using Latent Dirichlet Allocation (LDA) and BERTopic to extract thematic structures from ESG texts. The LDA model was optimized via coherence score (Cv), yielding an optimal topic count k=6. BERTopic incorporated contextual embeddings from the previously trained Sentence-BERT model and a HDBSCAN clustering layer to improve semantic consistency.

Each topic was assigned to one or more ESG dimensions based on its top keywords and semantic coherence. For instance, Topic 3 was tagged as Social; Topic 5 was tagged as Environmental.

ISSN: 2576-8484
Vol. 9, No. 5: 1010-1020, 2025
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3.5. Discourse Pattern Classification

To detect cross-company patterns, we defined two indices: the Narrative Concreteness Index (NCI) and the Strategic Alignment Score (SAS).

The Narrative Concreteness Index quantifies the specificity of corporate disclosures by measuring the ratio of concrete nouns to abstract ESG-related keywords. This metric is derived using part-of-speech (POS) tagging to distinguish between tangible and intangible terms in corporate communications.

The Strategic Alignment Score evaluates how closely a company's disclosures align with the United Nations Sustainable Development Goals (SDGs). It is calculated as formula (2):

$$SAS_i = \frac{|K_i \cap SDG|}{|SDG|} \qquad (2)$$

Where K_i is the set of unique keywords in document i, and SDG is a curated dictionary of 125 UN sustainability-related terms [10].

This methodology allows for scalable, replicable, and semantically enriched cross-firm comparison of ESG communication patterns within the FinTech sector. It is particularly suitable for identifying both discursive divergence and convergence. In subsequent sections, we present the results of applying this methodology, including cross-company comparisons, sentiment analysis, and thematic discourse clustering.

4. Experiments and Results

This section delineates the empirical findings derived from the methodologies previously outlined, encompassing sentiment analysis, thematic topic modeling, and discourse pattern classification across selected FinTech companies.

4.1. Sentiment Analysis of ESG Communications

We employed the ESG Polarity Score to quantify the sentiment orientation of ESG-related communications for each company. The EPS ranges from -1 (strongly negative) to +1 (strongly positive). For English-language texts, we utilized the VADER sentiment analysis tool, while Chinese-language texts were analyzed using SnowNLP. The EPS for each company is summarized in Table 3.

Table 3.
ESG Polarity Scores by Company.

Company	**EPS**
Ant Group	0.68
Stripe	0.75
Square (Block Inc.)	0.70
Robinhood	0.60
Adyen	0.72
Paytm	0.63

Note: EPS calculated using VADER for English texts and SnowNLP for Chinese texts.

The results indicate a generally positive sentiment across all companies, with Stripe and Adyen exhibiting the highest EPS values, suggesting a strong positive orientation in their ESG communications.

4.2. Thematic Topic Modeling

To uncover prevalent themes within the ESG discourse, we applied both Latent Dirichlet Allocation (LDA) and BERTopic models. The optimal number of topics was determined to be six, based on coherence scores. The identified topics include Environmental Initiatives, Social Responsibility, Governance Practices, Innovation in ESG, Financial Inclusion, and Regulatory Compliance.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 5: 1010-1020, 2025
DOI: 10.55214/25768484.v9i5.7048

The analysis reveals that Environmental Initiatives and Social Responsibility are the most frequently addressed themes, highlighting the emphasis FinTech companies place on these aspects in their ESG narratives.

4.3. Discourse Pattern Classification

To further understand the communication strategies employed, we calculated the Narrative Concreteness Index and Strategic Alignment Score for each company. The NCI measures the ratio of specific to abstract ESG terms, while the SAS assesses alignment with UN Sustainable Development Goals based on keyword matching. The results are presented in Table 4.

Table 4.
NCI and SAS by Company.

Company	**NCI**	**SAS**
Stripe	0.60	0.82
Square (Block Inc.)	0.58	0.80
Robinhood	0.49	0.72
Adyen	0.62	0.85
Nubank	0.54	0.77

Note: NCI calculated as the ratio of specific to abstract ESG terms; SAS calculated based on alignment with UN SDG keywords.

Adyen and Stripe demonstrate higher NCI and SAS values, indicating more concrete narratives and stronger alignment with UN Sustainable Development Goals in their ESG communications.

5. Discussion

The empirical findings presented in this study shed new light on the discursive behavior of FinTech companies in the context of ESG communication, revealing patterns of both convergence and divergence that are reflective of deeper institutional, technological, and cultural dynamics. Crucially, while all companies analyzed displayed an overall positive sentiment polarity in their ESG narratives, the underlying motivations, rhetorical strategies, and thematic distributions vary substantially, suggesting that ESG communication in the FinTech domain is far from formulaic or regulatory-driven; instead, it is actively curated to serve as a reputational asset and a trust-enhancing mechanism in a volatile digital economy.

From a computational linguistics perspective, the contrast in Narrative Concreteness Index among firms confirms prior observations that ESG narratives often fluctuate between aspirational discourse and operational specificity depending on the audience, platform, and regulatory exposure. Firms such as Adyen and Stripe, whose narratives are characterized by high NCI values, provide quantifiable and traceable ESG initiatives,e.g., "100% renewable-powered transactions in 2023",that facilitate stakeholder verification and enhance perceived authenticity. Conversely, companies such as Klarna and Robinhood rely more heavily on abstract language, aligning with critiques in ESG literature that highlight the performative nature of sustainability communication when specific metrics are lacking [6, 14]. These findings parallel [8] content analysis framework, which posits that textual abstraction is a key differentiator in the perceived legitimacy of public discourse [8].

Additionally, the Strategic Alignment Score analysis reveals differentiated levels of engagement with global sustainability frameworks such as the UN SDGs. Stripe and Adyen again emerged as outliers, incorporating SDG-linked keywords and indicators into their narratives with higher frequency. This is consistent with Hristov and Searcy's argument that meaningful sustainability integration requires alignment not only with financial reporting systems but with broader governance architectures [12]. However, this rhetorical alignment does not always translate into governance accountability. Echoing the observations by Wagenhofer [10] and Gustafsson, et al. [13] many ESG narratives continue to privilege environmental and social themes while marginalizing governance dimensions such as board diversity, compliance transparency, and algorithmic ethics [10, 13]. This is particularly

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problematic in FinTech, where the very technologies that enable financial inclusion and efficiency,such as AI-based credit scoring or blockchain-enabled transfers,also introduce new risks related to opacity and power concentration [22, 24].

Notably, topic modeling revealed a disproportionate emphasis on Environmental and Social categories, with Governance themes consistently underrepresented across firms. This aligns with earlier NLP-based ESG studies, such as Schimanski et al.'s, which demonstrated that governance discourse is often semantically less dense and less emotionally salient in public corporate disclosures[4]. Given that FinTech firms operate in highly automated and decentralized structures, this governance underrepresentation raises concerns. It calls for not just enhanced disclosure compliance under directives like the EU CSRD, but also methodological innovations in how governance indicators are linguistically expressed and computationally detected in digital ESG texts [12, 13].

From a methodological standpoint, this study contributes to the ongoing evolution of ESG communication analysis by combining transformer-based sentence embeddings with semantic topic modeling, offering a scalable approach to capture both lexical patterns and contextual discourse at the document level. The integration of the SAS and NCI metrics further strengthens our ability to assess ESG narratives along both normative and rhetorical dimensions. This complements previous hybrid methods, such as Kumar et al.'s bibliometric-content analysis framework, by extending its logic into ESG semantics and interpretability[9].

Culturally and institutionally, the variability in sentiment strength and thematic emphasis reflects localized ESG norms and heterogeneous regulatory maturity. Yu and Couldry [15] work on data extraction and discourse normalization in the education sector offers a useful parallel: just as digital platforms in education construct legitimacy through language, FinTech firms craft ESG authority through lexicon, structure, and strategic ambiguity [15]. Thus, the ESG narrative should be seen not merely as an output of compliance, but as a discursive technology itself,configuring how responsibility, innovation, and legitimacy are articulated in a globally decentralized financial ecosystem.

Taken together, these insights point toward the need for multi-level interpretive frameworks that consider not only what is communicated, but also how, to whom, and under what constraints. Existing ESG rating models,often quantitative and checklist-based,may fail to capture the rhetorical sophistication and semantic variability in FinTech narratives. As Vears and Gillam suggest, a more inductive, context-aware content analysis approach is necessary to decode the semiotics of sustainability in high-velocity, tech-driven environments [7]. Future regulatory mechanisms must account for this interplay between language, technology, and governance, lest ESG communication remain a rhetorical veneer over unresolved structural contradictions.

6. Conclusion

This study set out to interrogate how FinTech companies articulate their roles in environmental, social, and governance matters through the medium of language, and what such articulation reveals about their strategic positioning in a data-intensive, reputation-sensitive financial ecosystem. By constructing a multilingual, multi-source ESG discourse corpus from ten leading FinTech firms and applying a novel methodological pipeline that integrates sentiment modeling, thematic topic classification, and discourse pattern quantification, we demonstrate that ESG communication in FinTech is not merely functional but performative,highly constructed, often aspirational, and context-sensitive.

One of the central contributions of this paper lies in the development and operationalization of two original metrics: the Narrative Concreteness Index and the Strategic Alignment Score. These metrics enable a more nuanced assessment of ESG narratives beyond surface-level frequency counts, offering insight into both the rhetorical specificity of sustainability claims and their semantic alignment with global development frameworks such as the United Nations Sustainable Development Goals. The inclusion of topic modeling through both Latent Dirichlet Allocation and BERTopic, supported by

Sentence-BERT embeddings, further allowed us to move from word-level statistics to document-level discourse structure,an advancement over more rigid, keyword-based ESG analytics.

Findings reveal a general positivity bias in ESG sentiment, consistent with prior research on strategic signaling, but also expose asymmetries: environmental and social dimensions dominate the discourse while governance,despite its structural importance in digital finance,remains marginal. This absence may reflect both rhetorical intentionality and systemic gaps in current ESG communication standards. FinTech firms, it seems, prefer to showcase innovations in clean energy financing and financial inclusion while remaining relatively silent on issues like algorithmic accountability or board-level governance structures. Such a discursive pattern mirrors the findings of governance scholars who warn against the substitution of symbolic ESG alignment for substantive internal reform.

Beyond its empirical contributions, this research also offers a methodological provocation. Existing ESG analysis frameworks are largely quantitative, rating-oriented, or compliance-driven. Our approach,drawing on content semantics, computational linguistics, and cross-sectoral theory,suggests that language itself should be a core analytical unit in ESG assessment. The ESG narrative is not a neutral carrier of metrics but a discursive field shaped by institutional pressure, technological capability, and strategic ambition. This is particularly salient in FinTech, where platform architectures and algorithmic logics further mediate how ESG values are not only reported but enacted and circulated.

We acknowledge several limitations. First, while our dataset is diversified across geography, language, and communication channels, it remains limited to publicly available texts. Second, sentiment analysis models (e.g., VADER, SnowNLP) can underperform in detecting irony, cultural nuance, or mixed evaluations. Third, thematic modeling may miss less frequent but semantically important discursive moves. These limitations, however, open pathways for future work: for instance, incorporating human-coded training data to fine-tune ESG-specific transformer models, integrating multimodal discourse (e.g., videos, podcasts), or tracing narrative evolution longitudinally across regulatory milestones such as the EU CSRD.

In conclusion, this study argues that FinTech firms are not peripheral actors in the ESG ecosystem but are increasingly central in shaping how sustainability is understood, communicated, and legitimized. The future of ESG is not just numeric or performative, but linguistic and dialogic,and it is time both scholars and practitioners treated it as such.

Transparency:

The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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