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Review Article

The Sociology of Data Governance: Examining the Intersection of Artificial Intelligence, Metadata Management, and CSR Practices in Shaping Organizational Legitimacy

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Abstract

AI in the digital economy is changing the business of corporate governance by altering the process of managing metadata and reporting corporate social responsibility (CSR). CSR disclosures are based on metadata, which can be defined as data about data and it gives structure, comparability and traceability. AI-based metadata governance improves the quality, efficiency, and transparency of CSR reporting, which allows firms to address the growing expectations of stakeholders regarding credible environmental, social, and governance (ESG) information. Sociologically, though, the importance of AI is not limited to technical efficiency: it serves as a means to strengthen organizational legitimacy, which is a necessity for long-term survival and competitiveness. The paper will discuss the convergence point of AI, metadata governance, and CSR by considering a sociological perspective, in which structured CSR metadata reporting can have an impact on investor trust, employee well-being, and social acceptability. Based on a systematic literature review of more than 35 published studies (2018-2024), the findings demonstrate that although AI enhances transparency and comparability, it has also raised challenges. The major threats are algorithmic bias, ethical issues, infrastructural disparities, and less human control. However, AI-based governance has the potential to enhance the level of stakeholder trust, curb reputational risks, and align CSR disclosures with legitimacy expectations, which have a positive impact on financial performance. The new trends are predictive analytics to manage CSR risks, the use of blockchain authentication, and harmonization of ESG standards across the world. The researchers conclude that AI-based metadata governance is not just a technical system but a socio-technical system mediating relations between corporations and society. In order to maintain legitimacy and long-term performance, firms are therefore faced with a challenge of balancing between technological adoption and ethical safeguards and sociological sensitivity.

I. INTRODUCTION

The 21st century has seen one of the biggest changes in managing, interpreting and disclosing data by organizations. As digital technologies and stakeholder demand for transparency have become commonplace, data governance has ceased to be the back-office function and has become a strategic necessity (Anastasopoulos, 2016). Metadata, which is often described as a description and context for other data, is central to this change. Metadata in the field of corporate social responsibility (CSR) can be used to contextualize sustainability reporting, and make it comparable, traceable and verifiable across industries and geographies (Gray *et al.,* 1995). Metadata governance is being transformed by the growing use of artificial intelligence (AI) to automatically classify data, maintain data consistency, and use it to make predictions. CSR reporting is currently being implemented using AI technologies such as machine learning, natural language processing, blockchain verification, and so on, which offer more transparency and efficiency (Shaban & Omoush, 2025). As an example, machine learning systems have the potential to extract sustainability information in corporate reports automatically, and blockchain-based

metadata could be used to verify labour practices in the supply chain.

These developments are not neutral in a sociological perspective. Institutional environments in which organizations exist require organizations to survive with legitimacy being a generalized sense that their activities are desirable, proper, or appropriate in a socially constructed system of norms, values, and beliefs (Suchman, 1995). CSR reporting has emerged as one of the most significant processes in which legitimacy is negotiated by firms. Nevertheless, the conventional CSR reporting has been denounced as inconsistent, selective, and untruthful, and it has tended to be accused of being greenwashed (Cho *et al.,* 2015).

Metadata governance based on AI can help to address these issues by delivering standardized, verified, and structured CSR disclosures. However, it also brings in new sociological questions: Does automation pose a threat of eliminating the subtleties of human-based judgment that is needed to establish legitimacy? Will algorithmic bias corrupt what may be termed as legitimate CSR? What will the impact of these changes be on the stakeholders' perceptions such as investor confidence, employee morale, and societal approval, which in turn impact on the financial performance?

This paper aims to answer these questions by looking at the overlap of AI, metadata governance, CSR, and organizational legitimacy. It suggests that the AI-based metadata governance could have the effects of a technical system and a sociological system by stating that it was a socio-technical infrastructure of legitimacy that, in turn, would define how organizational perception and appraisal by society are perceived and measured.

II. RATIONALE FOR THE STUDY

This study has been informed by the fact that CSR has become even more central in determining organizational legitimacy and financial performance. CSR ceases being peripheral and is a part of corporate governance, risk management, and brand reputation (Carroll, 2016). Meanwhile, the stakeholders, investors, regulators, employees, and the communities are insisting on evidence-based CSR reporting that is not based on symbolic gestures. These demands require a high-quality metadata governance that will ensure that the CSR disclosures are organized, comparable, and verifiable (Pizzi *et al.,* 2022). Artificial Intelligence can transform the metadata governance of CSR by:

1. Metadata generation: Automation of metadata generation, decreasing human error, and subjectivity.
2. Increasing transparency and comparability, allowing the stakeholders to compare firms with each other.
3. Identifying discrepancies which will minimize the threat of greenwashing and reputational losses.
4. Offering insights on predictability, which enables companies to know in advance the risks in sustainability before they are too late.

Sociologically, this is significant because of the legitimacy theory. The legitimacy is also not a natural phenomenon, but a matter of social construction; it always has to be negotiated between organizations and its stakeholders (Meyer & Rowan, 1977; Suchman, 1995). Metadata governance with AI provides companies with a novel way to show solidarity with social norms in the context of ethical, sustainable, and accountable behaviors. The rationale is not without caution, however. Since AI systems are becoming the driving force behind the depiction of CSR, they can prompt novel inequities, prejudices, and transparency. In addition, excessive use of technology will diminish the position of human interpretation in the development of legitimacy, which could weaken the sociological role of CSR as a conversation between companies and society. Therefore, the motivation of this work is to comprehend not merely the technical advantages of AI-supported metadata governance, but also sociological consequences of this advancement of the notion of organizational legitimacy and financial performance.

III. STATEMENT OF THE PROBLEM

Even though the volume of CSR reporting has grown substantially in the last twenty years, it has three long-standing issues, namely, inconsistency, skepticism, and lack of legitimacy. Most companies employ selective disclosure tactics, and they only release positive information and minimize the adverse effects. This makes stakeholders perceive CSR reports to be PR and not authentic accountability practices (Cho *et al.,* 2015).

Meanwhile, although AI-driven metadata governance holds the key to the problem as it optimizes transparency and standardization, the existing literature seldom combines technical views of AI with sociological ideas of legitimacy. The AI studies on corporate reporting are rather inclined to be automation, efficiency, and cost-reduction oriented (Wang *et al.,* 2016), whereas sociological studies of legitimacy are aimed to investigate institutional conformity and stakeholders' endorsement (Suchman, 1995). The deficiency of integration between these aspects causes a significant gap. This lacuna has a practical implication. Companies that do not achieve legitimacy may face reputational crises, loss of investor trust and a demoralized workforce, all of which directly affect financial performance (Dowling & Pfeffer, 1975). On the other hand, those companies, which effectively implement AI in CSR metadata governance, are likely to enhance legitimacy, which helps them enhance financial performance. In this way, the main issue is that although AI-based metadata governance can contribute to better CSR legitimacy, no research has been done on the sociological consequences of AI-driven methods and its effects on stakeholder perception and financial results. This paper aims to address this gap.

IV. RESEARCH QUESTIONS

This study was based on the following research questions:

1. What are the sociological and ethical issues associated with organizations using AI in CSR metadata governance in the pursuit of legitimacy?
2. What opportunities does AI-driven metadata governance present for strengthening CSR transparency and stakeholder trust?
3. What are the new directions of AI and metadata governance that define the future of CSR reporting, organizational legitimacy, and financial performance?

The questions reflect the discourse in the corporate sphere, relating AI and metadata management to sociology, CSR, and legitimacy.

V. LITERATURE REVIEW

The literature review summarizes the arguments concerning the intersection of AI, metadata governance, CSR, and organizational legitimacy, including the highlights about the challenges, opportunities and new trends. It is based on sociology, information science, corporate governance and ethics.

A. Problems in AI-Based Metadata Governance of CSR

The introduction of AI into CSR metadata governance is highly complex with deep-rooted technical, ethical, and sociological issues. They have the possibility to destroy the legitimacy that is not handled.

1.Data Quality and Data Inconsistency: The governance of metadata is determined by the quality of CSR data. Ineffectively formatted or inconsistent metadata deteriorates machine learning performance as well as trust in the stakeholders (Affum, 2023). To illustrate, companies tend to disclose greenhouse gas emissions or labour practices with different metrics in different subsidiaries, hence difficult to compare (Pizzi *et al.,* 2022). The issue is reflected in the issues reported in library science: Oyighan *et al.* (2024) state that AI is unable to revolutionize the issues of metadata management unless the same standards are used across institutions. Likewise, the disclosures of CSR must have standard metadata formats to make them comparable across industries.

In sociological terms, inconsistent CSR metadata undermines the legitimacy as it indicates disorder or partial disclosure (Suchman, 1995). The stakeholders see inappropriate metadata quality as a sign of opportunistic conduct or irresponsibility. Algorithms, this is what leads us to the next category: Algorithmic Bias and Ethical Risks, The learning algorithms are not neutral; they reflect the bias of the training data (Lalitha *et al.,* 2024). In CSR, such bias is presented in the way metadata is created, classified, or ranked. An example, the environmental performance (carbon emissions, energy consumption) is more easily quantifiable and therefore occupies the majority of AI-based reporting, whereas social performance (community trust, worker dignity) is less easily encoded and thus can be underrepresented (Cho *et al.,* 2015).

In their article, Uwhejevwe-Togbolo *et al.* (2024) warn of the inability to consider inclusiveness in AI-based CSR systems because the failure to do so may increase inequalities. Without marginalized communities being included in datasets, their needs might be neglected in corporate CSR, and thus, legitimacy is compromised. Another issue is the mechanism of the algorithmic transparency: stakeholders are not usually aware of how AI comes up with the metadata of CSR, which breeds mistrust (Grimmelikhuijsen, 2022). However, legitimacy is based on the perception of fairness and transparency rather than efficiency.

2. Human Oversight and Sociological Interpretation Lost: CSR legitimacy is not just about the accuracy of data but also about the way humans perceive social norms, ethics and context. The excessive use of AI can make CSR reporting a technical, rather than a socially abstract, process (Verma *et al.,* 2022).

Similar to other areas of library metadata, Oyighan *et al*. (2024) note that librarians will be essential as decoders of cultural and contextual meaning despite AI automated cataloguing. Correspondingly, CSR managers should steer AI systems to make sure that CSR metadata is based on social values, as opposed to computational priorities. In the legitimacy theory approach, AI can lead to the depersonalization of the CSR practices and undermining the conversation between the firm and the society, which the legitimacy theory demands (Meyer and Rowan, 1977).

3. Infrastructure, Resource and Technical Constraints: The challenges in the implementation of AI-driven metadata governance do not affect developing countries and smaller companies because of insufficient infrastructure, financial means, and expertise (Zavodna *et al.,* 2024). This digital divide supports the inequalities of transparency and legitimacy of CSR. Those multinational corporations that have developed digital capabilities can possibly have benefits of legitimacy, whereas local firms are unable to cope with it. This gives rise to international imbalances in the legitimacy of CSR, casting doubts on equity and inclusiveness in international governance.

4. Stakeholder Skepticism and Greenwashing Risk: Stakeholders might be curious about the reality of the CSR disclosure even with AI. The issue of greenwashing is still a burning challenge as companies have selective reporting since they release only positive news and hide some damaging activities (Cho *et al.,* 2015). The metadata produced by AI has the potential to increase greenwashing, in particular when applied strategically to automate disclosures instead of making accounts more accountable.

This is a pretence of legitimacy (Meyer and Rowan, 1977) which is ethically empty.

B. Opportunities in AI-Enhanced CSR Metadata Governance

Despite the obstacles, there are tremendous opportunities with AI to make the CSR reporting a plausible legitimacy-building mechanism.

1. Metadata Generation Automation and Efficiency: AI also decreases the cost of manual CSR reporting to extract, classify, and annotate the data about the company in its documents, websites, and external sources (Affum & Dwomoh, 2023). As an example, sustainability report scanning can be used to create standardized metadata on ESG disclosure databases. This automation is comparable to the revolution in library science, as AI cataloguing systems decrease the amount of manual labor (Oyighan *et al.,* 2024). This is because efficiency and minimized human error can offer firms the opportunity to focus more on their stakeholders.

2. Transparency, Traceability, and Trust: AI-based metadata offers audit trails and verification tools that contribute to increasing the credibility of CSR. The metadata that is enabled by blockchain, such as the supply chains claims regarding fair labour practices, is verifiable and cannot be changed to guarantee consistency and trackability (Karaduman & Gülhas, 2025). This reinforces the stakeholder trust, which is the core base of legitimacy (Dowling & Pfeffer, 1975). Accountability and making CSR claims verifiable, AI decreases reputational risks and accounts for responsibility.

3. Greater Discoverability and Comparability of CSR Data: Standardized metadata also enables stakeholders to compare the CSR performance among companies and industries. As an illustration, investors can find it quite easy to compare the intensity of carbon or diversity of firms. This standardization allows improving institutional legitimacy by aligning the firms with the global standards such as the Global Reporting Initiative (GRI) or the Corporate Sustainability Reporting Directive (CSRD) of the EU.

4. Stakeholder Perception Management: CSR legitimacy is based on the perception of the stakeholders towards disclosures. Metadata governance based on AI facilitates interactive CSR dashboards, real-time analytics, and personalized stakeholder reports, which increase the engagement (Yoon, Andrews, & Ward, 2022). Uwhejevwe-Togbolo *et al.* (2024) stressed the significance of proper ethical metadata governance to encourage the trust of stakeholders on online platforms, including the metaverse. On the same note, AI-driven CSR reporting would be able to develop social capital by being inclusive and responsive.

5. Financial Performance Linkages: Financial performance is provided by transparency and legitimacy acquired by CSR metadata governance. Research indicates that the disclosures of CSR have a positive relationship with profitability, market value, and investor trust (Clark *et al.,* 2015; Margolis & Walsh, 2003). The technical governance is therefore related to financial sustainability through the role that AI plays in introducing consistency and reliability in metadata.

C. New AI, Metadata Governance and CSR Trends

There are also several trends that define AI-enabled CSR metadata governance in the future, which are stated in the literature. These AI-enabled CSR metadata governance are supported by various researchers as discussed below:

1. *CSR Risk Predictive Analytics:* The AI is also being more frequently employed to anticipate the risks of CSRs like green liabilities or crises of reputation (Yoon *et al.,* 2022). Predictive metadata governance enables companies to foresee issues and this indicates a proactive demonstration of legitimacy and not as a reactionary compliance.

2. *Data of Linked CSR and Interoperability:* CSR reporting is heading towards global interoperability just the same way that libraries are heading towards linked metadata systems (Oyighan *et al.,* 2024). This encompasses integration on all ESG platforms, supply chain systems, and global databases (Monyela & Tella, 2024). Unified CSR metadata will make global comparability and limit information asymmetry.

3. *Blockchain-Enabled Authentication:* Metadata (based on blockchains) makes the disclosure of CSRs unalterable, which precludes the possibility of making changes in the past (Karaduman & Gülhas, 2025). Records that are impossible to change enhance legitimacy by instilling accountability within them.

4. *Long-term Digital Protection:* Metadata that is developed through AI aids in maintaining the CSR records over decades and accountability over time. The sociological value of preservation is the indication of dedication to the next generations and intergenerational validity (Gray *et al.,* 1995).

5. *Changing the Roles of CSR Managers*: The CSR professionals are no longer putting hands manually to gather data but manage AI-based metadata structures. Making sure that AI is used ethically, communicates with the stakeholders, and is interpreted sociologically is becoming a part of their job (Verma & Gupta, 2022).

This is a reflection of the shift in metadata management by librarians, who are no longer cataloguing, but operating AI systems (Oyighan *et al.,* 2024). The sociological dilemma is to strike a balance between automation and human discretion. vi. Ethical Governance as a Principal Ideal: Ethical inclusivity will be of importance in the future of CSR metadata governance.

Uwhejevwe-Togbolo *et al.* (2024) posit that CSR in the digital space should not disregard the less advantaged groups, as well as give them equal representation in data. On the same note, Lalitha *et al*. (2024) demand AI ethics in CSR metadata governance to avoid discrimination, greenwashing, and alienation of the stakeholders. Ethical AI will then be at the core of the organizational legitimacy.

VI. METHODOLOGY

The paper used a systematic literature review (SLR) to explore the sociological concern of AI-controlled metadata governance in corporate social responsibility (CSR) reporting and its impact on organizational legitimacy. The SLR approach was considered suitable as it helps to combine various ideas of information science, sociology, and business research (Snyder, 2019). Information studies have also extensively applied it, as well as in metadata research (Oyighan *et al.,* 2024).

Natural Language Processing (NLP), Blockchain, and Machine Learning (AI Systems)
↓
Driving standardization and verification
↓
Metadata Governance
↓
Structured CSR reporting, transparency, and comparability
↓
Legitimacy outcomes: investor perception, employee morale, and societal approval
↓
Financial performance: profitability, valuation, and long-term resilience

Fig.1 Author Sketch of Literature Review, 2025

A. Data Sources and Analytical Procedure

Academic databases such as Scopus, Web of Science, SpringerLink, JSTOR, and Google Scholar were used to collect data. Further content was also found on the pages of professional reports (e.g., Global Reporting Initiative, SASB, and EU CSRD). The inclusion criteria were (i) the studies had to be on AI-enabled metadata governance, CSR reporting, or legitimacy; (ii) the studies must have been published between 2018-2024; and (iii) the studies had to be peer-reviewed or other forms of authority. Theoretical background was also provided by older yet classic works like Meyer and Rowan (1977) and Suchman (1995). Thematic analysis was used, which classified the results into three major dimensions, namely, challenges, opportunities and emerging trends. These themes were narrowed down through the repetitive reading of more sources. The works of Uwhejevwe-Togbolo *et al.* (2024) concerning ethical data governance in CSR, such as the ones, were coded both in challenges (bias and exclusion risks) and opportunities (ethical inclusivity).

B. Validation

Triangulation provided greater validity of findings by comparing peer-reviewed literature with practical CSR frameworks, including the GRI, SASB, and CSRD. Connections with other studies in metadata science (Oyighan *et al.,* 2024, Uwhejevwe-Togbolo *et al.,* 2024) also meant that insights were consistent in terms of their methodology.

VII. DISCUSSION OF FINDINGS

A. Challenges of Metadata Governance with AI in CSR

The literature review validates the research findings that metadata governance with AI in CSR is impeded by multiple and long-standing challenges that are widely reported in the literature. The first of the above is the data inconsistency that still weakens the comparability and reliability of CSR disclosures. Affum (2023), cited in Oyighan *et al.* (2024), highlights that poor metadata structuring compromises AI performance and weakens trust in sustainability reporting. This is seen to be in line with the findings of Gray *et al.* (1995), who opine that poor disclosure practices undermine the credibility of CSR reporting. On the same note, in their article about the metadata management in libraries, Oyighan *et al.* (2024) assert that AI tools cannot work well without standardized metadata input, which can be applied directly to CSR governance.

The second obstacle is that algorithmic bias is unethical. Adopting the perspective of Lalitha *et al.* (2024) demonstrates that AI systems trained on incomplete datasets systematically marginalize certain categories of information, thereby reinforcing structural inequalities. This, in the context of CSR, implies that quantifiable metrics about the environmental impact are given preference over the more qualitative social impact. Uwhejevwe-Togbolo *et al.* (2024) also warn that digital governance systems are at risk of being unproductive to vulnerable populations, which will perpetuate imbalances in CSR disclosures. In terms of

sociology, these trends resonate with the stance of Suchman (1995), according to which legitimacy is weak and situational, subject to degradation whenever stakeholders feel prejudiced or marginalized.

Lastly, the results indicate the risk of losing human control. Although AI is efficient, Al-Salmi *et al.* (2025) claim that it is not able to properly perceive the cultural and social environment of the CSR activities. Verma and Gupta (2022) further explain that professionals will continue to be ethical decoders of metadata to ensure that disclosures are in line with the societal norms. These findings not only indicate that the challenges are not only technical, but also sociological because legitimacy cannot be maintained without inclusivity, fairness, and trust (Olateju *et al.,* 2021).

B. Opportunities of AI-based Metadata governance

The results additionally indicate that AI-based metadata governance has a variety of potential to improve organizational legitimacy. The most important of them is automation. Affum and Dwomoh (2023) demonstrate that AI-powered automation in reporting decreases the amount of manual work, increases accuracy, and limits human error. This can also be compared to other similar findings by Oyighan *et al.* (2024), who observe that metadata governance automation enhances efficiency and enables professionals to concentrate on higher-order functions. Automation thus reinforces both practical and cognitive aspects of legitimacy by indicating competence and technological progress.

Another important opportunity is transparency and accountability. According to Cho *et al.* (2015), the weakness of CSR reporting has been persistently criticized to be a liability of greenwashing. The metadata governance, especially when being enhanced with AI, can provide mechanisms for overcoming this criticism, especially when blockchain verification is involved, offering audit trails that can be verified. Monyela and Tella (2024) support this idea by demonstrating the enhancement of transparency and confidence among the stakeholders through the integration of blockchain and AI. The implication of such practices in the legitimacy terms is that they strengthen the moral legitimacy because an organization behaviour is in line with the expectations of honesty and accountability of the larger society.

The opportunities also expand to the enhancement of stakeholder trust and financial performance. According to Clark *et al.* (2015), the empirically supported results of credible CSR reporting in the report include higher investor confidence, employee morale, and customer loyalty, which will directly translate to financial performance. The same authors, Margolis and Walsh (2003) prove that the better the financial performance of firms is in the long-run, the more they are willing to report credible CSR. Uwhejevwe-Togbolo *et al.* (2024) further indicate that the ethical management of information on digital platforms fosters trust, implying that transparent and engaging metadata procedures have the potential to be transformed into long-term legitimacy and profitability.

C. Emerging Trends on AI-enabled CSR metadata governance

There are also a number of new trends in the literature that have been identified as influencing the future of AI-enabled CSR metadata governance. Predictive analytics is one of the most promising ones. As Yoon *et al.* (2022) note, AI is increasingly playing a vital part in predicting sustainability risks so that firms can illustrate a proactive and not reactive role. This enhances legitimacy by demonstrating that there is an expectation of concerns in the society. Equally, Pizzi *et al.* (2022) observe that the adoption of predictive tools in CSR enables companies to be more in line with the expectations of the stakeholders towards future-thinking responsibilities. A different trend is the change towards interoperability and linked CSR data. Oyighan *et al.* (2024) record how connected metadata systems are changing the way information is managed in libraries through enhanced resource discoverability and comparability on a global scale. Monyela and Tella (2024) in the CSR domain state that linked data treatment will integrate sustainability reporting across jurisdictions, which will improve fragmentation and increase global legitimacy.

In addition to authentication, long-term digital preservation is also a trend that can be achieved with the help of blockchains. Rahman *et al.* (2024) stress that blockchain technology generates metadata records that cannot be changed in retrospect and which enhance the responsibility of organizations. Gray *et al.* (1995) remind us that disclosures should be preserved over time in order to achieve intergenerational legitimacy, which is an indication of a firm being accountable over time. Lastly, Verma and Gupta (2022) highlight the changing role of the CSR professionals in this dynamic environment. With the growth of automation, managers have been tasked with moral control, engagement with the stakeholders, and sociological explanation. This position is supported by Uwhejevwe-Togbolo *et al.* (2024), who state that ethical inclusiveness should be one of the characteristics of CSR data governance in the virtual world. All these trends point to the idea that the future of CSR metadata governance will be conditioned by a hybrid model that will combine technical innovation and ethical responsibility.

VIII. IMPLICATIONS FOR PRACTICE AND POLICY

A. Corporation Practice Implications

The research results of this paper have a number of implications for corporate professionals who would like to exploit AI-driven metadata governance in CSR reporting. First, it is apparent that companies should not use automation as an absolute replacement of human control by combining AI tools with it. According to Verma and Gupta (2022), professionals will always be needed as ethical decoders of

metadata outputs so that AI-generated disclosures can be meaningful to social norms. On the same note, Al-Salmi (2025) points out that excessive reliance on AI is a threat to decontextualizing CSR data and making it socially and ethically unacceptable, which can weaken its legitimacy. It may be possible to avoid these traps by having active human control over the organization and enhancing its authenticity before the eyes of the stakeholders.

Second, companies should ensure the institutionalization of ethical AI control within their CSR reporting procedures. Uwhejevwe-Togbolo *et al.* (2024) show that good and inclusive management of information on digital platforms is a measure that maintains the confidence of stakeholders, which applies equally to AI-mediated CSR metadata. In addition to these, Lalitha *et al.* (2024) contend that AI systems are to be designed with fairness and inclusiveness to decrease the risks of bias. Carroll (2016) continues the argument that the credibility of CSR eventually depends on the question of ethical accountability; thus, introducing ethical protection in metadata governance is not only a technical choice but a strategic imperative.

Lastly, stakeholder engagement can be realized by systems of an AI-based CSR dashboard and interactive platforms. Yoon *et al.* (2022) point out that AI-based reporting interfaces offer real-time and customized information that increases transparency and communication. This is in line with Clark *et al*. (2015), who demonstrate transparent communication as an indicator of legitimacy and increase the chances that the stakeholders reward the firms with loyalty and investment. Collectively, these observations underscore that in relation to corporate practice, AI-based metadata governance should be able to balance both automation and human input, incorporate moral codes, and focus on meaningful stakeholder interactions.

B. Implications for Policy and Regulation

The implications of the findings are also critical to the policymakers and regulators who are mandated to make sure that there is credible CSR reporting in an AI-driven world. Harmonizing the metadata of CSR standards is one of the most urgent requirements. It was warned by Gray et al. (1995) that fragmented disclosure practices restrain comparability and trust; this has continued to be the case in the present times, where global companies experience unequal regulatory expectations. The regulators can use examples like the EU Corporate Sustainability Reporting Directive (CSRD) to require standard metadata frameworks, which would guarantee comparability and validity on a global basis.

The second implication is that there should be a requirement to implement verification mechanisms to curb greenwashing. The argument that selective disclosures hurt the credibility of CSR reports has long been held by Cho *et al.* (2015). By mandating the use of blockchain-based metadata authentication or third-party audits, regulators can strengthen transparency and reduce reputational risks (Monyela & Tella, 2024). This is also emphasized by Ragheb-Hashem (2023), emphasizing that blockchain offers audit trails that cannot be altered, which means that the CSR disclosures become more unlikely to be replaced, and thus the claims of such a company are more credible in the eyes of the stakeholders.

Another policy implication is that there is the need to close the digital divide between developed and developing economy firms. According to Mallikarjana (2024), smaller companies are unable to implement AI-enabled metadata governance because of infrastructural limitations, which introduces disparities in the CSR transparency. Suchman (1995) cautions us that legitimacy is utterly context-dependent and socially constructed, and as long as there are no policy interventions to democratize access to AI tools, then firms in resource constrained environments may find themselves locked out of global legitimacy networks. Alleviating capacity building and technical training will consequently play a crucial role in the regulators in a bid to enforce equity in the CSR reporting practices.

C. Implications for Research

To the academic community, this research paper brings out the need to conduct more research at the nexus of sociology, AI, and metadata governance of CSRs. To begin with, there is an urgent need to carry out cross-disciplinary studies. Pizzi et al. (2022) reveal that CSR studies have been biased to the management viewpoint whereas AI studies have been dominated by technical fields. The combination of sociological conceptualizations of legitimacy and technical conceptualizations of the AI governance will benefit both disciplines. According to Meyer and Rowan (1977), formal structures are implemented to ensure the legitimacy of the organisation; analyzing the way AI-enabled metadata governance is implemented as a formal structure can create new areas of investigation in institutional theory.

Second, the longitudinal study will be necessary to investigate how the AI-supported CSR metadata will influence legitimacy and financial performance in the long run. According to Clark *et al.* (2015), the evidence on the relationship between CSR transparency and financial outperformance is cross-sectional and requires more longitudinal studies that would help prove the relationship over time. Similar sentiments are espoused by Margolis and Walsh (2003), who urge researchers to continue studying the relationship between CSR and profitability, since legitimacy effects might take years to be realized.

Lastly, case analyses of organizations would offer good practical information. According to Verma and Gupta (2022), the present discourse on AI and metadata governance is, in many ways, theoretical and lacks empirical support. An in-depth case study will provide the best practices in balancing automation and sociological interpretation, which other companies may emulate. According to Uwhejevwe-Togbolo *et al.* (2024), the research question of how to apply the principles of ethical governance in practice requires investigation; case study methods would make it especially appropriate to address the case study.

IX. CONCLUSION

This paper discussed the sociological implications of metadata governance developed by AI in CSR reporting and how it affects organizational legitimacy. The systematic literature review conducted as a part of the analysis revealed an intricate interaction of challenges, opportunities, and emerging trends that define the impact of AI-mediated metadata on the legitimacy outcomes and ultimately, financial performance. The results indicate that, although AI enhances efficiency, transparency, and comparability in the reporting on CSR, it also creates risks of algorithmic bias, disparities in data, infrastructural disparities, and the lack of human control. These issues underscore the fact that the attainment of organizational legitimacy cannot be achieved through technological adoption only; it needs to be negotiated on a regular basis between the organizations and stakeholders in the wider institutional contexts. Simultaneously, AI-based metadata governance has a significant prospect of enhancing legitimacy through enhancing transparency, traceability and trustworthiness by the stakeholders. Notably, it improves pragmatic, moral and cognitive legitimacy, which are key towards achieving long-term financial robustness. The future of CSR reporting is also influenced by such emerging trends as predictive analytics, linked CSR data, blockchain authentication, and long-term preservation, which also suggests that hybrid systems of technical innovation and sociological accountability will shape the future of CSR reporting. The changes in the work of CSR managers are corresponding since their responsibilities also include the application of a manual reporting system and switching to ethical management and communication with stakeholders. In conclusion, AI-enabled metadata governance should be understood as a socio-technical infrastructure: it automates processes, standardizes disclosures, and enhances comparability, but it also shapes and is shaped by social norms, stakeholder expectations, and institutional demands for legitimacy. Companies that achieve the balance between technological efficiency and ethical governance and human judgment will not just become stronger in the area of legitimacy but enhance their financial results and position within society. This research question must be further elaborated in future studies by including longitudinal and case studies and policymakers and practitioners need to work together to come up with ethical, inclusive, and standardized systems of governance in CSR metadata.

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