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Research Article

Digital Legitimacy: A Narrative Analysis of the Utilization of Management Information Systems for CSR Program Transparency in Public Companies

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Abstract

The increasing demands for transparency and social accountability in the digital era have encouraged public companies to utilize Management Information Systems (MIS) in managing their Corporate Social Responsibility (CSR) programs. This study aims to explore how MIS is used not only as an operational tool but also as a strategic means to build digital legitimacy in the eyes of stakeholders. This study uses a qualitative approach with a systematic literature review to analyze (1) the legitimacy narrative built by management through MIS, (2) the challenges of CSR data integration, and (3) the changing dynamics of communication between companies and stakeholders. The data used are sourced from content analysis of public secondary data from two public companies in the mining sector, PT. Tambang Emas Nusantara and banking, PT. Bank Mandiri. The findings of this study indicate that the companies build narratives of "Technocratic Accuracy" and "Total Transparency" through the use of online sustainability dashboards and reports. However, the main challenge faced is the standardization of qualitative data in CSR reports. In addition, the use of MIS has also transformed corporate communication into a more dialogic one, especially through social media, although this creates an expectation of instant responses from the company. The conclusion of this study indicates that digital legitimacy is formed through transparency narratives curated and disseminated by information systems. This research highlights the importance of a more organic integration between CSR strategies, communications, and information technology to

build authentic and credible legitimacy in the eyes of stakeholders.

Keywords: Digital Legitimacy, Management Information Systems, CSR, Transparency, Legitimacy Theory, Stakeholder Communication.

INTRODUCTION

In the ever-evolving digital era, demands for transparency and corporate social accountability are increasing.(Yufriadi et al., 2024)Stakeholders, including the public, regulators, and investors, are increasingly demanding that companies demonstrate their commitment to sustainability and social responsibility in an open and accountable manner. This is driving public companies to adopt technology that can facilitate the management and reporting of Corporate Social Responsibility (CSR) activities more efficiently and transparently. One tool used to meet these demands is the Management Information System (MIS).

SIM, which was originally designed to support operational and managerial activities, is now also used as a strategic tool in conveying information to the public.(Tahir, 2024)Utilizing MIS for CSR programs allows companies to not only report on their social activities but also build digital legitimacy—a legitimacy formed through a narrative of transparency and accountability curated and disseminated through digital platforms. By using MIS, companies can visualize data in real time, provide easier access for stakeholders to access information related to CSR policies, and enable more open, direct interactions through social media and other online platforms.

However, while the use of MIS provides advantages in terms of reporting efficiency and increased transparency, the use of this technology also poses certain challenges.(Herden et al., 2021)One of the main challenges is the often inconsistent integration of data, especially when companies must combine different quantitative and qualitative data. Furthermore, while MIS allows for more open and direct communication of CSR reports and data, there is also a risk of misinterpretation or information gaps, particularly if the data presented is unclear or reporting standards are not well-defined.

On the other hand, changes in the communication dynamics between companies and stakeholders have also become a significant phenomenon in the digital era. Social media and digital communication platforms enable faster and more

open two-way interactions.(Elendu et al., 2023)However, these interactions also bring new expectations—especially regarding the speed of response to comments, questions, or criticisms raised by stakeholders. This requires companies not only to manage data and information accurately but also to adapt to the expectation of more instant interactions.

This study aims to examine how public companies utilize MIS in their CSR programs and how MIS plays a role in building digital legitimacy in the eyes of stakeholders. Specifically, this study focuses on three main issues: (1) how legitimacy narratives are constructed through MIS, (2) the challenges companies face in integrating CSR data, and (3) changes in stakeholder communication dynamics triggered by the use of MIS.(Sugiana et al., 2024). In this case, this study adopts a qualitative approach with a systematic literature review study method, and content analysis of secondary public data obtained from two public companies in the mining sector, PT. Tambang Emas Nusantara and banking, PT. Bank Mandiri.

This research is expected to provide deeper insights into the relationship between information technology, CSR, and digital legitimacy in the context of public companies.(Sagar, 2024). In addition, this study also aims to provide recommendations for companies in managing CSR data more efficiently and optimizing the use of MIS to build more credible and authentic relationships with stakeholders.

METHOD

This study uses a qualitative method with a systematic literature review study approach to examine the use of Management Information Systems (MIS) in the Corporate Social Responsibility (CSR) programs of public companies.(Issalillah & Hardyansah, 2024)This approach was chosen because it provides a deep understanding of how companies build digital legitimacy through the use of information technology and how challenges and changes in stakeholder communication dynamics occur along with the use of MIS in the context of CSR.

Research Design

This study uses a descriptive analytical research design, which aims to comprehensively analyze and describe the phenomenon of MIS utilization in CSR

programs. The focus of this research is to identify and analyze three main aspects: (1) the legitimacy narrative constructed through MIS, (2) challenges in CSR data integration, and (3) changes in communication dynamics between companies and stakeholders.(Amalia et al., 2025).

Data source

The data sources in this study use public secondary data, which includes information that is openly available through company annual reports, sustainability reports, online dashboards, and content published on company social media.(Alhawamdeh et al., 2024)This data was obtained from two public companies representing two different industrial sectors: the mining sector, PT. Tambang Emas Nusantara, and the banking sector, PT. Bank Mandiri. These two companies were selected because they actively implement CSR programs integrated with SIM and have a significant presence on social media and digital platforms.(Tjiwidjaja, 2025a).

Data Collection Process

Data is collected through two main stages:

1. Systematic Literature Study

   The first stage is collecting literature relevant to the topics of CSR, SIM, and digital legitimacy(Tarigan & Wardana, 2023)The literature taken comes from scientific journals, articles, industry reports, and other sources that discuss related topics.(Oktris et al., 2025), including theories underlying the concept of digital legitimacy and the use of information technology in CSR programs.

2. Content Analysis

   The second stage was a content analysis of the collected secondary data, including annual reports, sustainability reports, and content posted by companies on their social media platforms. The content analyzed included the use of online dashboards and published sustainability reports by companies, as well as the company's interactions with stakeholders through social media, such as responses to public comments and feedback.(Tjiwidjaja, 2025b).

Data Analysis Techniques

The collected data was analyzed using thematic analysis to identify key patterns related to the three aspects that were the focus of the research.(Allil, 2024)The analysis process begins with data coding, where each relevant data element is labeled to facilitate identification of key themes.(Sidik et al., 2025)These themes were then categorized and further analyzed to gain an understanding of how companies build digital legitimacy, the challenges they face in integrating CSR data, and changes in stakeholder communication.(Anugrah, 2024).

Steps of thematic analysisincludes:

1. Identify the main themeswhich emerged from the analysis of literature and content.
2. Data groupingbased on themes relevant to the legitimacy narrative, data integration challenges, and communication with stakeholders.
3. Interpretation of findingsto gain insights into how the use of MIS affects corporate legitimacy and changes in communication with the public.(Darma & Fajri, 2023).

Data Source Selection Criteria

The data sources used in this research must meet the following criteria:

- Relevance: Data sources must be relevant to the research topic, namely the use of SIM in CSR and the formation of digital legitimacy.
- Credibility: Only trusted and accredited sources are used, including reports published by the companies concerned and articles reviewed by experts in the field.
- Accessibility: The data used is publicly available data and can be accessed by anyone, to ensure transparency in data collection.(SALSABIILA, 2024).

Limitations of the Method

This literature review study approach has several limitations, including:

1. Limitations of PerspectiveThis study relies solely on secondary data and does not involve interviews or primary data collection from internal company

stakeholders. Therefore, insights into how management directly manages and utilizes MIS in CSR cannot be deeply explored.(Ramadian et al., 2024).

2. Context LimitationsThis study only covers two industrial sectors, namely mining and banking, which may not be fully representative of all existing industrial sectors. Therefore, these findings need to be further tested in other industrial contexts.

RESULTS AND DISCUSSION

Construction of Digital Legitimacy Narratives

In the digital era, information and data have become highly influential tools in shaping public opinion and the legitimacy of various policies and entities. One crucial aspect in the formation of this legitimacy is the way narratives are constructed through digital media, particularly on data-driven platforms that employ a technocratic approach. The construction of digital legitimacy narratives encompasses the various ways in which information technology is used to affirm or undermine the authority and credibility of an institution or process. Two key sub-chapters within this narrative are "The Narrative of Technocratic Accuracy and Objectivity" and "The Narrative of Openness and Accessibility."

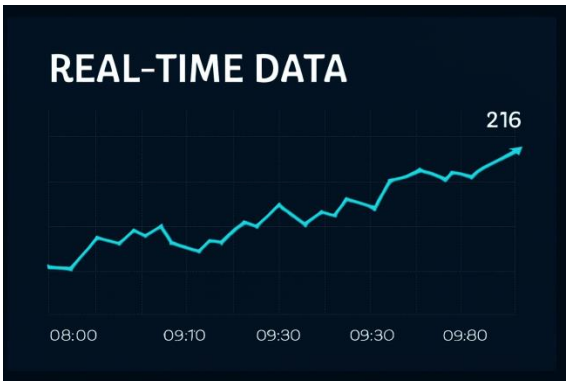
1. Technocratic Narrative of Accuracy and Objectivity

The technocratic narrative of accuracy and objectivity refers to efforts to establish legitimacy through claims that the information presented is the result of objective, precise data processing, and free from subjective bias. This narrative emphasizes scientific accuracy and truth achieved through the use of advanced technology and tools. One piece of evidence supporting this narrative is the use of real-time graphs and claims of being "data-driven" in published reports.

Evidence 1: Use of Real-Time Charts

Real-time charts are used to present data that is always updated according to the latest developments.(Hidayatullah & Suartana, 2025), giving the impression that the information provided is the most up-to-date and reliable. These graphs often appear in various forms, such as interactive maps, bar graphs, or line charts that show

dynamic trends. In this context, users will feel they are accessing up-to-date data, not simply static data that may be outdated.



Real-time graphics

The real-time graph above shows how data moves and updates in real time. In this graph, the cyan line depicts the recorded data changes, which increase from 8:00 AM to 9:80 AM. Each point on the line represents updated data at that specific time.(Purnadi, 2021).

This graph serves to convey the impression that the data presented is up-to-date and reliable, given that the information displayed is dynamic and constantly changing. By displaying constantly updated data, users perceive that the information they access is not merely static and outdated, but rather reflects current developments.

Additionally, elements such as timestamps and numeric values displayed along the horizontal and vertical axes clarify the time and amount of data at each point. This provides greater transparency in monitoring data fluctuations over time.

Overall, this real-time graph is used to show that the information presented has high validity and accuracy, because the data is taken from a system that is continuously working and updated according to the latest conditions.

The use of these graphs also conveys the impression that the information presented is more valid and accurate because, technically, the data is obtained from a continuously operating system and is unaffected by irrelevant external factors. This builds the narrative that the information is far more accurate than narratives

disseminated through more conventional, traditional media.

Evidence 2: "Data-Driven" Claims in the Report

Claims that the resulting reports and policies are data-driven imply that decisions are based on data obtained through in-depth quantitative analysis. This implies that every decision has undergone an objective, evidence-based evaluation process, reducing the room for subjectivity and bias. This claim suggests that the resulting policies or programs are more rational, transparent, and accountable.

However, it should be noted that while this approach increases credibility, there is the potential for hidden bias in the selection of data or in the way it is analyzed, which can reduce true objectivity.

Narrative of Openness and Accessibility

The narrative of openness and accessibility focuses on the idea that information should be freely and unhindered accessible to everyone. Within the framework of digital legitimacy, this narrative aims to demonstrate that everyone has equal rights to access the data and information they need, ensuring that no one feels left behind or marginalized. This narrative is often used by organizations, governments, and digital platforms to build public trust in their policies or programs.

Evidence 1: The Existence of a Public Dashboard

One key piece of evidence supporting the narrative of openness and accessibility is a public dashboard that presents information transparently to the public. These dashboards typically present data in easy-to-understand formats, such as graphs, tables, or interactive maps, allowing users to understand trends, statistics, and the progress of a policy or program. With a public dashboard, the public can monitor the progress and outcomes of a policy without intermediaries.

This dashboard also serves to reduce reliance on third-party narratives that may have their own agendas. When data is directly available to the public, it opens up space for greater public participation in the evaluation and feedback process on ongoing policies.

Proof 2: Free Downloadable Report

Freely downloadable reports are another element that supports the transparency narrative. By providing full access to reports and related documents, the entity publishing the information demonstrates its commitment to transparency. This provides the public, researchers, and policy observers with greater access to the information needed to assess the policy. Furthermore, freely downloadable reports allow the public to conduct more in-depth analysis, enhancing accountability.

However, even if the reports are freely accessible, there are challenges regarding the extent to which the public can truly understand the contents of the reports, especially if the data presented is highly technical or complex.

Challenges in Data Curation: Qualitative vs. Quantitative

In the digital world, data curation is a significant challenge, particularly in terms of how data is collected, analyzed, and presented. There are significant differences between quantitative and qualitative data, creating complex dynamics in the formation of digital narratives and legitimacy. Quantitative data is often considered easier to manage, measure, and understand due to its more objective nature, while qualitative data tends to be more subjective and complex to interpret. Therefore, in a digital world that increasingly relies on data for decision-making, data curation presents a number of challenges, particularly the dominance of quantitative metrics and gaps in real-time reporting. Both of these issues are prominent in many platforms that rely on information to establish legitimacy.

1. Dominance of Quantitative Metrics

The dominance of quantitative metrics is a phenomenon where numbers and numerical data become dominant in assessing the performance, progress, or success of a policy, project, or organization. This quantitative data is easier to calculate and compare, making it more widely accepted and interpreted. However, there are significant challenges related to social impacts or qualitative factors that are difficult to measure with numerical metrics alone.

Evidence: Hard-to-Measure Social Impacts Are Only Reported in Brief Narratives

One example of the dominance of quantitative metrics is how many organizations or entities present the social impact of their policies or programs. These social impacts, such as improvements in quality of life, changes in social behavior, or psychological impacts on communities, are often very difficult to quantify. Therefore, these social impacts are often presented only in brief narratives, without clear standards or measurable metrics.

For example, a project aimed at improving social well-being through education might report only figures on the number of participants involved or increases in formal education levels, but not include measurements of changes in participants' mental or social well-being. These qualitative, long-term impacts, while significant, are often not systematically recorded because they are difficult to quantify or report numerically.

However, the dominance of quantitative metrics often overlooks the broader and deeper dimensions of social change. This can make policies or programs appear more successful or effective than they actually are, simply because the more subjective social impacts are not given sufficient attention.

2. Gaps in Real-Time Reporting

Real-time reporting has become commonplace across platforms that rely on data to provide updates or up-to-date information. Environmental data, for example, is often reported in real-time through dashboards or interactive maps, allowing users to view the latest events or conditions. However, there are significant gaps in real-time reporting, particularly regarding public feedback received through portals or digital platforms.

Evidence: Environmental Data May Be Real-Time, But Public Feedback from Portals Takes a Long Time to Act on

For example, data on air quality, temperature, or weather collected through environmental sensors is often presented in real time, providing the public with a direct picture of these conditions. However, even though environmental data can be monitored directly, the decision-making process or response to public feedback often takes significantly longer. This is due to various factors, such as limitations in existing response systems or a lack of infrastructure that supports real-time interaction with the public.

For example, when citizens report poor air quality or pollution-related complaints, these reports often take a long time for authorities to process and act on them. While air quality data can be readily monitored, responses to these issues—whether through policy changes, direct interventions, or communication with the public—often do not occur immediately. This gap creates a mismatch between what can be seen or monitored in real time and how that feedback translates into concrete actions.

This problem is also related to the lack of effective integration between collected quantitative data and slower or more bureaucratic decision-making processes. While technology allows for real-time data monitoring, reporting and follow-up systems often cannot keep up with the same pace, slowing down responses to issues that could be addressed immediately.

3. Transformation of Stakeholder Relations

With the development of digital technology and the increasing use of social media, companies across various sectors now face challenges in interacting with the public. Previously, companies often engaged in one-way, monologue-like communication, where they controlled the message delivered to the public through advertisements, press releases, or annual reports. However, in today's digital age, particularly with the emergence of social media platforms, this communication pattern has shifted to a more open, two-way dialogue.

This interaction allows consumers or users to provide direct feedback to companies, creating a space for more transparent discussions and responses. However, while companies can now interact more directly with the public, a key challenge lies in how they respond to and handle comments and criticism from the public. This process impacts how companies shape their public image and trust, as well as how well they manage their reputation in the digital world.

Evidence: Analysis of Company Responses to Social Media Comments

One example of this shift can be seen in analyzing companies' responses to comments on social media. Many companies now recognize the importance of building closer relationships with their audiences through social media platforms like Twitter, Facebook, Instagram, and LinkedIn. Responses to comments on these platforms serve as an indicator of how companies are moving from monologue-based communication to a more interactive dialogue.

However, while most companies strive to respond to and address customer comments or criticism, the quality of these responses can vary widely. Some companies may simply provide standard or even automated responses, while others strive to be more personal and transparent in answering questions or handling complaints.

This response analysis often focuses on two main aspects:

Openness and Transparency: Does the company provide clear and open explanations when responding to comments, both positive and negative? Are they willing to admit mistakes and offer solutions?

Speed and Accuracy: How quickly does the company respond? In the fast-paced world of social media, a late or inadequate response can damage a company's reputation.

For example, some technology companies or other large corporations may have active

customer service teams on social media, responding to comments within minutes or hours. However, companies that are less responsive or don't manage comments effectively may experience a decline in trust or even greater public criticism.

Building an Image as a Green and Technological Company

In an effort to build their image and attract customers, many companies are now focusing on portraying themselves as green or high-tech companies. As part of their marketing strategy, companies seek to highlight their commitment to environmental sustainability, technological innovation, and their contribution to a better future.

Evidence: Analysis of Visual and Textual Framing on Instagram and LinkedIn

One way companies shape this image is through the use of visual and textual framing on platforms like Instagram and LinkedIn, both of which have different audiences but are equally important to the company's image.

Instagram: This platform, with its visual power, gives companies the opportunity to project their image in a highly aesthetic and emotional way. Images of natural landscapes, renewable energy sources, or eco-friendly products are often used to emphasize a company's commitment to sustainability. Additionally, companies often share photos of social causes or technological innovations they've developed to support the environment or improve efficiency.

These visuals are often paired with positive messages, such as "reducing carbon footprint," "clean energy," or "sustainable innovation." This framing not only aims to highlight the benefits of their products or services but also to create emotional associations with audiences who are increasingly concerned about environmental and social issues.

LinkedIn: On LinkedIn, companies focus on more formal and weighty textual narratives. They use the platform to share articles, case studies, or reports explaining how their technology is being used to reduce environmental impact or advance

industry innovation. Textual framing on LinkedIn often relates to technological innovations, such as the use of artificial intelligence to solve environmental problems or the development of more environmentally friendly products. Companies also highlight partnerships with research institutions or collaborations with tech startups, projecting their image as companies at the forefront of innovation.

On LinkedIn, companies also frequently post testimonials or stories from their employees involved in green technology initiatives, illustrating that a commitment to sustainability is not only part of the company's image, but also a value that lives within their internal culture.

Through this visual and textual analysis, companies build their image as entities concerned with the future of the planet and with innovation that can drive positive change. However, it's important to note that the success of this framing depends heavily on the authenticity and consistency of the message conveyed. If there's a gap between what's posted and what the company actually does on the ground, this image can quickly be undermined.

CONCLUSION

This study answers the question of how companies utilize Management Information Systems (MIS) to build digital legitimacy through Corporate Social Responsibility (CSR) programs. Findings indicate that companies build strong legitimacy narratives through the use of online dashboards and sustainability reports, which promote transparency and technocratic accuracy. While MIS enhances information disclosure, key challenges lie in the integration of qualitative data and changing communication dynamics, where expectations for rapid responses through social media are increasingly high. Overall, digital legitimacy is created through well-structured narratives disseminated using existing information technology, although a gap remains between digital narratives and actual practices.

Research Limitations

This study acknowledges the limitations of using secondary data, which relies on readily available sources and does not include the internal perspective of company

management. Therefore, it is not possible to gain in-depth insight into the internal processes and decision-making involved in the use of MIS for CSR.

Theoretical Implications

This research contributes to the development of the concept of legitimacy in the digital space by highlighting how information technology and digital media help shape digital legitimacy through publicly accessible narratives of transparency and accountability. These findings enrich legitimacy theories by adding a digital dimension that is more relevant to the current context.

Practical Implications

Based on the research findings, companies are advised to bridge the gap between digital narratives and on-the-ground practices by ensuring that the information presented through MIS reflects their actual CSR actions. Furthermore, regulators need to establish clear and detailed digital reporting standards to ensure that the narratives companies construct can be accurately accounted for.

Suggestions for Further Research

For further research, it is recommended to use interviews with internal company stakeholders to gain a more in-depth perspective on the use of MIS in CSR. Furthermore, further research could encompass more diverse industry sectors to gain a more comprehensive understanding of MIS utilization in different contexts.

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