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AI and Data Systems for Credible University CSR: Technology-Driven Impact Measurement and Reporting in Philippine Private Higher Education Institutions

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ABSTRACT

In recent years, expectations of accountability in the Philippines have expanded beyond traditional measures of higher education performance such as enrollment, board examination results, and graduate employability. Private higher education institutions were assessed by how responsibly they cared for students, engaged communities, treated employees, and managed institutional resources. Although CSR initiatives were visible across the sector, this study examined how digital systems supported corporate social responsibility in private higher education institutions. A document-based multiple-case approach was used to analyze governance practices, measurement routines, and reporting patterns across institutions. Findings showed that technology strengthened CSR only when measurement and reporting were embedded in governance and decision-making, rather than treated as communication activities. Institutions using clear indicators, assigned responsibility for data, and conducted regular reviews demonstrated stronger alignment between stated commitments and actual practices. Student-centered responsibilities, scholarships, learning support, and welfare services, emerged as the most credible areas of technology-enabled CSR because they were directly experienced by stakeholders. The study found that opaque use of data weakened trust when issues of privacy and fairness were not addressed. Digital systems supported responsible practice only when grounded in accountability, transparency, and institutional care.

Keywords: corporate social responsibility, private higher education, learning analytics, artificial intelligence

INTRODUCTION

CSR in a university setting is often visible through scholarships, outreach missions, volunteer work, community extension, and service-learning. In Philippine private HEIs,

these initiatives can be genuine expressions of mission and faith-based identity, community roots, or long-standing institutional culture. Yet the current environment makes it difficult to rely on activity lists and good intentions. Students and parents now ask sharper questions about fairness and care, partners ask for proof of outcomes, and accreditors increasingly expect evidence of responsiveness to stakeholder needs. In this environment, private HEIs are pushed from "doing good" to "showing good," and that shift requires measurement discipline.

This credibility pressure arrives during a period of intensified digitalization. The pandemic accelerated adoption of online learning and hybrid delivery across Philippine higher education. CHED formalized the shift through guidelines on flexible learning, emphasizing institutional readiness, learning continuity planning, and student support systems (CHED, 2020). Subsequent guidance sustained expectations for flexible options and gradual campus reopening, reinforcing that digital learning capability is now a core institutional feature rather than a temporary patch (CHED, 2021). For many private HEIs, this meant expanded LMS use, online enrollment and payment systems, digital student services, remote advising, and data dashboards. These systems now generate continuous information about learning engagement, course participation, student progress, welfare service use, and community program administration.

The purpose of this study is to examine how private HEIs can use digital tools and AI to strengthen CSR governance, impact measurement, and reporting credibility. Technology-enabled CSR is framed here as an institutional capability: the ability to translate social commitments into measurable indicators, collect and manage data responsibly, use insights to improve programs, and communicate outcomes in a way that can be examined. This is not a claim that every HEI should become a data laboratory. Instead, it is a claim that credible responsibility work requires a minimal evidence chain, even if the institution operates with limited resources.

In higher education, AI and analytics are often discussed as tools for personalization, retention, and administrative efficiency. Those benefits matter, but they also become CSR outcomes when they reduce dropout risk, strengthen learner support, and expand access for disadvantaged groups. The same tools can undermine trust when they are opaque, when they embed bias, or when students experience them as surveillance rather than support. In practice, a private HEI can lose credibility if it claims to be student-centered while using digital systems in ways that students do not understand or cannot contest. That is why privacy, transparency, and fairness are not optional add-ons to technology-enabled CSR in education.

National guidance supports this framing. The Education Sector Advisory on data privacy and online learning issued in 2020 provides recommendations for protecting personal data in online learning contexts (Data Privacy Council Education Sector, 2020). Even when institutions vary in implementation, the advisory functions as a public benchmark for what responsible digital practice should look like. For private HEIs, alignment with privacy guidance is directly linked to stakeholder trust, reputational risk, and the legitimacy of data-driven interventions.

A second driver is the rising expectation for credible reporting. Sustainability reporting is moving toward standardization and assurance. IFRS S1 and IFRS S2, issued by the ISSB in 2023, formalize expectations for governance, strategy, risk management, and metrics and targets in sustainability-related disclosures (ISSB, 2023a, 2023b). COSO argues that trustworthy sustainability reporting requires controls similar to those used in financial reporting, including clear objectives, risk assessment, control activities, information and communication, and monitoring (COSO, 2023). GRI 1: Foundation 2021 also encourages internal controls and evidence-based reporting practices and explains how reporting information should be gathered and documented so that it can be examined (GRI, 2021). ISSA 5000 further signals that sustainability information is expected to be reviewable through assurance engagements (IAASB, 2024). Private HEIs may not be required to apply these standards, but the broader direction shapes partner expectations, donor requirements, and reputational competition.

Finally, AI changes the communications environment. Generative AI can produce polished reports quickly, which increases the risk that narrative quality outpaces measurement quality. Research on AI and sustainability reporting warns that AI can amplify impression management if governance is weak and verification is limited (de Villiers et al., 2024). In higher education, the equivalent risk is "impact-washing," where institutions present strong CSR claims but rely on weak definitions, incomplete data, and limited verification. This study treats that risk as a governance problem rather than a writing problem.

This research plan centers on Philippine private HEIs and examines a practical question: what digital and AI practices genuinely strengthen CSR outcomes and credibility, and what practices mainly improve the appearance of impact? By mapping data flows, governance routines, and stakeholder perceptions, the study aims to produce grounded guidance that private HEIs can use to move from activity reporting to outcome reporting and from persuasive storytelling to evidence-backed accountability.

LITERATURE REVIEW

Evidence from recent research suggests that digital capability can strengthen CSR outcomes The literature on technology in education is marked by both promise and caution. Technology can expand access, improve monitoring, and support new learning designs, but it can also widen gaps, shift power toward vendors, and reduce learning to what can be measured. The UNESCO Global Education Monitoring Report on technology in education emphasizes that technology should be introduced based on evidence and appropriateness and highlights governance gaps that can undermine equity and quality when technology is adopted without careful oversight (UNESCO, 2023a). For private HEIs, this caution matters because the sector includes institutions with different tuition levels, infrastructure, and student socioeconomic profiles. Technology-enabled CSR must therefore be evaluated not only by the presence of tools but by who benefits, who is burdened, and whether the institution's choices protect student welfare.

Digital transformation research in Philippine higher education aligns with this broader view. The World Bank's report on the digital transformation of Philippine higher education frames digitalization as a system-level shift requiring readiness, shared services, and governance capacity (World Bank, 2022). It emphasizes that effective digital transformation depends on management capability and institutional processes rather than platform adoption alone. This perspective is relevant to CSR because it suggests that digital systems should be judged by social outcomes, such as whether they support disadvantaged learners, improve learning continuity, and strengthen student services, rather than by implementation counts.

Learning analytics and AI in higher education offer a direct bridge between technology and internal social impact. Learning analytics can support early warning systems, enhance feedback, and guide interventions to improve student success. Banihashem and colleagues' systematic review of learning analytics in feedback found that analytics can enrich feedback by providing timely information about learning processes and performance, but effectiveness depends on alignment between analytic methods and educational purposes (Banihashem et al., 2022). In a CSR framing, analytics becomes a responsibility tool when it improves inclusion, reduces dropout risk, and directs support to those who need it most.

However, the literature consistently warns about ethical and privacy risks. Cerratto Pargman and McGrath mapped the ethics of learning analytics in a systematic review of empirical research and found persistent gaps around transparency, consent, and student agency (Cerratto Pargman & McGrath, 2021). Liu and Khalil's systematic review of privacy and data protection in learning analytics highlights that privacy issues occur across the entire learning analytics life cycle, from data collection and storage to analysis and intervention, and that governance arrangements are often underdeveloped (Liu & Khalil, 2023). These concerns are especially relevant in education settings where students may feel unable to refuse data collection without academic consequences.

Trust is therefore a central concept for technology-enabled CSR in private HEIs. Slade, Prinsloo, and Khalil argue that learning analytics initiatives should be evaluated through trustworthiness, not only technical performance, because students and staff need confidence that analytics will not be used to harm them (Slade et al., 2023). This trustworthiness lens fits CSR because responsibility in education is not only about producing outcomes but about producing outcomes in a way that respects student rights and dignity. In private HEIs where trust is a strategic asset, ethics failures can undermine institutional legitimacy quickly.

National guidance in the Philippines reinforces that privacy is a concrete institutional responsibility. The Education Sector Advisory on data privacy and online learning provides recommendations for schools and educational institutions to protect personal data during online learning activities (Data Privacy Council Education Sector, 2020). Even if the advisory allows flexibility, it sets expectations around data protection measures and risk reduction. For private HEIs, alignment with privacy guidance supports

trust and reduces risk when using third-party platforms, online proctoring tools, and student engagement analytics.

When AI is introduced, the governance challenge becomes sharper. The NIST AI Risk Management Framework positions trustworthy AI as requiring attention to validity, reliability, safety, security, transparency, accountability, and fairness throughout the AI life cycle (NIST, 2023). UNESCO's Recommendation on the Ethics of AI emphasizes human rights, equity, and non-discrimination, and UNESCO's guidance on generative AI in education urges safeguards, institutional policies, and human-centered oversight in educational contexts (UNESCO, 2021; UNESCO, 2023b). These frameworks provide usable standards for private HEIs to define what "responsible AI" means for student support systems, scholarship screening, chatbot services, and automated communications.

CSR measurement research suggests that data-driven approaches only work when organizations have the capability to analyze and use data for decisions. Choi and Park found that data-driven CSR initiatives are associated with improved CSR performance when big data analytics capability is strong, implying that data collection alone does not guarantee impact (Choi & Park, 2022). Although this evidence is drawn from corporate settings, the mechanism applies to private HEIs. Dashboards and analytics reports do not improve student outcomes unless institutions have clear indicators, staff capacity, and decision routines that turn insights into action.

Measurement choices also affect comparability and credibility. Berg and colleagues showed substantial divergence among ESG ratings, driven by differences in scope, weighting, and measurement (Berg et al., 2022). In higher education, CSR and sustainability reporting faces similar fragmentation. Literature reviews on sustainability reporting in HEIs describe uneven reporting practices, where institutions often report what is convenient or reputationally useful rather than what is comparable and outcome-focused (Leal Filho et al., 2022; Abello-Romero et al., 2024). For private HEIs, this suggests that credible reporting requires a small set of stable indicators that stakeholders can understand and track over time.

Community engagement is particularly difficult to measure with simple metrics. Farnell notes that community engagement is context-specific and notoriously difficult to measure quantitatively, and proposes an approach that focuses on participative and qualitative dimensions rather than ranking-style metrics (Farnell, 2022). This insight matters for private HEIs in the Philippines because community extension programs often involve long-term relationship building. Technology can help track activities and follow-up, but it should not flatten community engagement into superficial counts. A credible approach must balance quantitative indicators with qualitative evidence and partner feedback.

Accreditation and quality assurance expectations in the Philippines create additional pressures for evidence-based reporting. PAASCU's quality standards approved in 2020 emphasize institutional mission, stakeholder responsiveness, and evidence of implementation quality (PAASCU, 2020). The PAASCU accreditation guidebook also frames community engagement and service as an area of evaluation, implicitly

demanding evidence of outcomes (PAASCU, 2021). These standards are not labeled as CSR, but they reinforce the expectation that private HEIs should document outcomes of student support and community work, which is aligned with CSR credibility.

Global reporting and assurance developments strengthen the idea of "checkable impact." IFRS S1 and IFRS S2 formalize disclosure expectations around governance, strategy, risk management, and metrics and targets (ISSB, 2023a, 2023b). COSO provides a framework for internal control over sustainability reporting that emphasizes defined reporting objectives, documented processes, monitoring, and accountability for data quality (COSO, 2023). GRI 1: Foundation 2021 also explains that organizations should design information systems and documentation so reported information can be examined and supported by evidence (GRI, 2021). IAASB's ISSA 5000 sets baseline requirements for sustainability assurance engagements, reinforcing the expectation that sustainability and impact information should be reviewable (IAASB, 2024). Private HEIs can treat these developments as reference points for improving internal discipline even if they do not publish corporate-style sustainability reports.

Generative AI intensifies credibility concerns because it can quickly produce compelling narratives. De Villiers and colleagues argue that AI text generation and processing can influence sustainability reporting and assurance and can enable misleading narratives when governance and verification are weak (de Villiers et al., 2024). In private HEIs, this risk appears when AI is used to draft CSR and sustainability reports, public statements, and website narratives without strengthening the underlying measurement processes. The literature therefore suggests a practical conclusion: technology-enabled CSR must prioritize governance and evidence trails, or technology will merely improve the appearance of responsibility.

Taken together, the literature supports a research focus on how private HEIs actually use technology and AI to plan, measure, and report CSR outcomes, and how those practices affect trust and credibility. It also supports a research approach that evaluates both technical capability and ethical legitimacy: the quality of indicators, the robustness of data governance, and stakeholder perceptions of transparency and fairness. This study contributes by bringing these strands together in the Philippine private higher education context, where flexible learning and digital transformation are now normal and where the pressure for credible student and community impact reporting is increasing.

METHODOLOGY

A qualitative desk-based research design was adopted to examine how Philippine private higher education institutions (HEIs) integrated digital tools and emerging AI-enabled systems into corporate social responsibility (CSR) governance, implementation, and reporting. A documentary multiple-case approach was appropriate because technology-enabled CSR is reflected in formal policies, institutional disclosures, and documented routines rather than in isolated programs. This design allowed systematic comparison across institutions while accounting for differences in mission orientation, resource constraints, and digital capacity.

Cases were selected using purposive and maximum-variation sampling to reflect diversity within the private higher education sector. Selection criteria included institutional size, geographic location, mission or ownership structure, tuition dependence, and visible digital maturity, such as the presence of learning management systems, online student services, and publicly described digital governance practices. Private HEIs were included to balance analytical depth with cross-case comparability, consistent with qualitative research practices in higher education and sustainability studies.

Data consisted exclusively of secondary sources and publicly available documents. These included strategic and development plans, accreditation and quality assurance reports, community engagement and extension documents, service-learning descriptions, scholarship and student welfare policies, faculty and staff policy manuals, privacy notices and data governance statements, public CSR communications, annual or sustainability reports, and institutional descriptions of digital and flexible learning systems. Documents were treated as evidence of how CSR commitments were defined, operationalized, measured, and communicated, as well as how digital systems were positioned within governance and reporting structures.

A structured documentary analysis was conducted using an evidence-strength diagnostic to assess the credibility of CSR measurement and reporting practices. The diagnostic examined the clarity and consistency of indicator definitions, the traceability of data sources, the visibility of assigned data responsibility, the presence of review or validation routines, and the transparency with which limitations were disclosed. Based on these criteria, CSR reporting practices were positioned along a continuum from narrative-driven disclosure to evidence- supported reporting.

Data analysis proceeded in two stages. First, within-case analysis produced institutional CSR integration profiles that mapped documented governance arrangements, digital system use, monitoring routines, and reporting practices. Second, cross-case synthesis identified recurring patterns and integration pathways, highlighting how different combinations of governance discipline, digital capacity, and reporting routines were associated with stronger credibility and accountability. Throughout the analysis, care was taken to avoid over-interpretation by documenting variations in disclosure depth and clearly distinguishing observed practices from inferred implications.

RESULTS AND DISCUSSION

The findings showed that digital tools strengthened corporate social responsibility (CSR) credibility in Philippine private higher education institutions only when they were embedded in governance accountability and routine decision-making. While most institutions had adopted digital platforms, CSR measurement often remained limited to output-based indicators such as activity counts. Higher credibility was observed where CSR commitments were translated into clearly defined indicators, data ownership was assigned, and review routines were documented and linked to management decisions (COSO, 2023).

Student-focused CSR outcomes emerged as the area with the strongest evidence of technology-enabled impact. Digital systems supporting scholarships, student welfare, and learning support improved documentation of eligibility, continuity, and outcomes. Institutions using learning analytics for advising and early intervention showed clearer alignment between CSR commitments and student outcomes, consistent with prior studies (Banihashem et al., 2022).

Trust risks were evident where analytics and AI were applied without transparency. Institutions with unclear privacy disclosures or opaque data practices experienced weaker credibility, reinforcing concerns raised in learning analytics ethics literature (Cerratto Pargman & McGrath, 2021). In community engagement, technology improved coordination and follow-up when used to track beneficiaries and outcomes over time, though credible cases avoided reducing impact to simplistic metrics.

Three CSR integration pathways were identified: platform-first, program-first, and governance-first. The governance-first pathway was most consistently associated with credible CSR outcomes.

The results underscored that CSR credibility in private HEIs depended less on technological sophistication and more on governance discipline. Digital platforms alone did not improve accountability unless supported by clear indicators, assigned responsibility, and routine review. This finding has policy implications for institutional leaders and regulators: guidance on CSR and sustainability reporting should emphasize governance routines and evidence discipline rather than encouraging broad or complex reporting frameworks.

The strong linkage between student-facing systems and CSR credibility suggested that policy frameworks should prioritize education-specific responsibilities, such as scholarship continuity, student welfare protection, and learning support. These areas were most visible to stakeholders and most responsive to disciplined use of data. At the same time, the findings highlighted the need for clearer institutional policies on data privacy and AI use, as opaque practices undermined trust and contradicted CSR claims.

The governance-first integration pathway offers a practical direction for private HEIs operating under resource constraints. Rather than investing immediately in new platforms, institutions benefited from clarifying commitments, defining feasible indicators, and strengthening review routines. For policymakers and quality assurance bodies, this suggests that modest, low-burden expectations focused on evidence quality and transparency may be more effective than expansive reporting requirements. Overall, CSR functioned as a governance practice embedded in core decision-making, reinforcing accountability, trust, and institutional resilience.

CONCLUSION

The study demonstrated that technology and artificial intelligence strengthened corporate social responsibility (CSR) in Philippine private higher education institutions only when measurement and reporting were embedded in governance and decision-making routines. While most institutions had access to extensive digital data through

learning and administrative systems, CSR credibility depended on how effectively this information was translated into accountable, fair, and supportive actions for students and communities. Institutions that treated CSR data as a governance resource—through clear indicator definitions, assigned responsibility, and routine review—showed stronger alignment between stated commitments and actual outcomes.

The findings further indicated that student-centered responsibilities, particularly scholarships, learning support, and welfare services, represented the most credible and measurable expressions of technology-enabled CSR. These areas were directly experienced by stakeholders and allowed institutions to demonstrate continuity and care over time. Conversely, the use of analytics and AI without transparency or clear safeguards introduced trust risks, as technology improved presentation and efficiency without strengthening evidence or accountability.

Overall, the study concluded that digital tools and AI were not inherently transformative for CSR. Their contribution depended on disciplined governance, ethical data use, and attention to equity and privacy. As reporting narratives become easier to produce, private HEIs will be evaluated less by the sophistication of their disclosures and more by their ability to explain, substantiate, and continuously improve CSR practices through credible, evidence-based decision-making.

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Declaration Statement

The authors declare that no external funding was received for this research. The data supporting the findings of this study were obtained exclusively from secondary sources and publicly available documents, including institutional reports, policy documents, CSR-related communications, accreditation materials, privacy notices, and published literature cited in the manuscript. These sources can be accessed through the relevant institutional or organizational websites and the references listed in the article. As the study employed a desk-based documentary research design and did not involve human participants, animals, experimental procedures, or the collection of sensitive personal data, formal institutional ethics approval was not required. The authors further declare that they have no financial or non-financial competing interests that could have influenced the conduct, analysis, interpretation, or reporting of this research.

REFERENCES

Abello-Romero, J., Mancilla, C., Restrepo, K., Saez, W., Duran-Seguel, I., & Ganga-Contreras, F. (2024). Sustainability reporting in the university context: A review and analysis of the literature. *Sustainability*, 16(24), 10888. https://doi.org/10.3390/su162410888

Banihashem, S. K., Noroozi, O., van Ginkel, S., Macfadyen, L. P., & Biemans, H. J. A. (2022). A systematic review of the role of learning analytics in enhancing feedback practices in higher education. *Educational Research Review*, 37, 100489. https://doi.org/10.1016/j.edurev.2022.100489

Berg, F., Kolbel, J. F., & Rigobon, R. (2022). Aggregate confusion: The divergence of ESG ratings. *Review of Finance*, 26(6), 1315-1344. https://doi.org/10.1093/rof/rfac033

Cerratto Pargman, T., & McGrath, C. (2021). Mapping the ethics of learning analytics in higher education: A systematic literature review of empirical research. *Journal of Learning Analytics*, 8(2), 123-139. https://doi.org/10.18608/jla.2021.7254

Choi, H.-Y., & Park, J. (2022). Do data-driven CSR initiatives improve CSR performance? The importance of big data analytics capability. *Technological Forecasting and Social Change*, 182, 121802. https://doi.org/10.1016/j.techfore.2022.121802

Commission on Higher Education. (2020). *CHED Memorandum Order No. 4, s. 2020: Guidelines on the implementation of flexible learning*. CHED.

Commission on Higher Education. (2021). *CHED Memorandum Order No. 20, s. 2021: Guidelines on the implementation of flexible learning options and gradual reopening of campuses for limited face-to-face classes*. CHED.

Committee of Sponsoring Organizations of the Treadway Commission. (2023). *Achieving effective internal control over sustainability reporting (ICSR): Building trust and confidence through the COSO Internal Control-Integrated Framework*. COSO.

Data Privacy Council Education Sector. (2020). *Education Sector Advisory No. 2020-1: Data privacy and online learning*. National Privacy Commission.

de Villiers, C., Dimes, R., & Molinari, M. (2024). How will AI text generation and processing impact sustainability reporting? *Sustainability Accounting, Management and Policy Journal*, 15(1), 96-118. https://doi.org/10.1108/SAMPJ-08-2022-0498

Farnell, T. (2022). *How to measure community engagement in higher education? Towards a European framework for community engagement in higher education* [Presentation]. European Higher Education Area. https://ehea.info/Upload/3%20TEFCE%20TFarnell_BFUG%20WG%20SD_17_02_2022.pdf

Global Reporting Initiative. (2021). *GRI 1: Foundation 2021*. GRI. https://globalreporting.org/standards/gri-standards/gri-1-foundation-2021/

International Auditing and Assurance Standards Board. (2024). *International Standard on Sustainability Assurance 5000 (ISSA 5000): General requirements for sustainability assurance engagements*. IAASB.

International Sustainability Standards Board. (2023a). *IFRS S1: General requirements for disclosure of sustainability-related financial information*. IFRS Foundation.

International Sustainability Standards Board. (2023b). *IFRS S2: Climate-related disclosures*. IFRS Foundation.

Leal Filho, W., Coronado-Marin, A., Salvia, A. L., Silva, A. L., Wolf, F., LeVasseur, T., Doni, F., Paco, A., & Blicharska, M. (2022). International trends and practices on sustainability reporting in higher education institutions. *Sustainability*, 14(19), 12238. https://doi.org/10.3390/su141912238

Liu, Q., & Khalil, M. (2023). Understanding privacy and data protection issues in learning analytics using a systematic review. *British Journal of Educational Technology*, 54(4), 1516-1536. https://doi.org/10.1111/bjet.13388

National Institute of Standards and Technology. (2023). *Artificial intelligence risk management framework (AI RMF 1.0)* (NIST AI 100-1). U.S. Department of Commerce. https://doi.org/10.6028/NIST.AI.100-1

Philippine Accrediting Association of Schools, Colleges and Universities. (2020). *PAASCU Quality Standards* (Approved by the Board of Trustees, August 28, 2020). PAASCU. https://paascu.org.ph/paascu-quality-standards/

Philippine Accrediting Association of Schools, Colleges and Universities. (2021). *2021 accreditation guidebook*. PAASCU.

Slade, S., Prinsloo, P., & Khalil, M. (2023). "Trust us", they said: Mapping the contours of trustworthiness in learning analytics. *Information and Learning Sciences*, 124(9/10), 306-325. https://doi.org/10.1108/ILS-06-2022-0067

UNESCO. (2021). *Recommendation on the Ethics of Artificial Intelligence*. UNESCO.

UNESCO. (2023a). *Global education monitoring report 2023: Technology in education - A tool on whose terms?* UNESCO.

UNESCO. (2023b). *Guidance for generative AI in education and research*. UNESCO.

World Bank. (2022). *Digital transformation of Philippine higher education*. World Bank.