Technology-Driven Sustainable Transformation in Indonesia's Insurance Industry: A Qualitative Media-Based Study

Karin Amelia Safitri[1] and Erwin Harinurdin[2]

[1] Vocational Education Program, Universitas Indonesia
[2] Vocational Education Program, Universitas Indonesia
karinamelia@vokasi.ui.ac.id

Abstract. This study examines how media discourse presents digital transformation and sustainable business innovation in Indonesia's insurance industry. As the need for risk protection grows and consumer expectations continue to shift, insurers are increasingly expected to offer technology-enabled services, expand digital distribution channels, improve operational efficiency, and build trust in online interactions. To investigate how these events are publicly narrated, this study employs qualitative content analysis of online news items, regulatory press re-leases, industry association publications, and other publicly available docu-ments published between 2022 and 2025. To determine how insurance digitization is framed as part of a larger trend toward sustainable business change, the gathered documents were coded, categorized, and interpreted thematically. Six recurrent themes emerge from the analysis: increased access to insurance protection, digital service innovation, insurtech collaboration, digital consumer interaction, operational efficiency, and digital trust. Practically, the results offer insights for insurers looking to design digital strategies that enhance customer service and corporate sustainability. Conceptually, this study contributes to the literature on green digital innovation in financial services by positioning the insurance industry as an important component of technology-driven and sustainability-oriented economic transformation.

Keywords: digital transformation, insurance industry, insurtech, sustainable business innovation, qualitative content analysis.

1 Introduction

Insurance has an important function in supporting the stability of a country's financial system. Through insurance mechanisms, long-term funds can be mobilized, risks faced by individuals and businesses can be transferred, and economic resilience can be strengthened. Despite this strategic role, Indonesia's insurance sector has not yet reached its full potential. For more than twenty years, insurance penetration has remained below three percent of gross domestic product, reaching only around 2.7 percent in early 2025. This level is still lower than several regional and global comparators, including Malaysia at 4.8 percent, Japan at 7.1 percent, and Singapore at 11.4 percent

© The Author(s) 2026
P. N. G. Akbar and K. A. Safitri (eds.), *Proceedings of the 8th International Conference of Vocational Education, Applied Science and Technology (ICVEAST 2026)*, Advances in Social Science, Education and Humanities Research 1034,
https://doi.org/10.2991/978-2-38476-620-8_47

in 2023 [1]. The gap becomes even more noteworthy when placed alongside Indonesia's digital landscape. The country has approximately 229 million internet users, representing more than 80 percent of the total population [2].

This contrast between limited insurance penetration and widespread digital connectivity has made digital transformation increasingly central to the future development of the insurance industry. Regulators, industry associations, and insurance companies have begun to frame technology adoption not merely as a way to modernize marketing or sales channels, but as a pathway toward a more inclusive, efficient, and sustainable insurance sector. This direction is reflected in the Insurance Development and Strengthening Roadmap 2023–2027 issued by the Financial Services Authority, or Otoritas Jasa Keuangan (OJK). The roadmap targets insurance penetration of 3.2 percent by 2027 and projects that digital channels may contribute up to 45 percent of insurance sales by that year [1]. At the same time, the growth of insurtech companies and embedded-insurance partnerships indicates that changes in distribution models, product development, and customer interaction are already taking place.

Nevertheless, technological investment alone does not fully explain the direction of industry transformation. Public interpretation also matters. The way journalists, regulators, and industry actors describe digitalization can influence its legitimacy, shape consumer expectations, and affect the strategic priorities adopted by insurance companies [3], [4]. From this perspective, media narratives do not simply report industry change; they also participate in constructing the meaning of that change. However, existing studies on insurance digitalization in emerging markets have tended to focus on adoption factors, organizational capabilities, or consumer intention. Far less attention has been given to how digital transformation in insurance is represented and framed in public discourse.

This study addresses that gap by analyzing media narratives concerning digital transformation and sustainable business innovation in Indonesia's insurance industry during the period 2022 to 2025. The study is guided by three research questions. First, how is digital transformation in the insurance sector portrayed in media narratives? Second, what dominant themes emerge when digitalization is associated with sustainable business innovation? Third, what implications do these narratives have for insurers' digital strategies and customer service practices? By answering these questions, the study offers practical insights for insurance companies seeking to develop digital strategies that support long-term business sustainability. It also contributes to the growing body of literature on green digital innovation in financial services [5], [6] by placing insurance within the broader context of technology-driven and sustainability-oriented economic transformation.

2 Literature Review

2.1 Digital Transformation in Financial Services and Insurance

Digital transformation is commonly understood as a process through which digital technologies create disruptions that require organizations to respond strategically. Such

responses often involve changes in value creation, organizational structures, and business models [7]. Digital transformation has a deeper and wider organizational influence than simple digitization, which primarily transforms current processes into digital formats. It can alter strategy, culture, customer relationships, and the ways firms deliver value [8], [9]. In financial services, digitalization has changed value chains, reduced transaction costs, and created opportunities for new entrants to separate, redesign, and repackage services that were traditionally offered as integrated bundles [10], [11].

Compared with banking, the insurance sector has traditionally advanced more slowly in adopting digital transformation. This slower speed can be connected to the complexity of insurance products, lengthier product development cycles, dependence on intermediaries, and rigorous regulatory requirements. Even so, digital technologies are now increasingly present across the insurance value chain. They influence product design, underwriting, distribution, claims management, and customer service. The availability of greater data and continuous monitoring systems has also begun to change the bounds of insurable risk [12]. In practical terms, digital transformation in insurance includes the development of digital and microinsurance products, direct and platform-based distribution, data-driven underwriting and claims processes, and digital modes of customer engagement.

2.2 Insurtech and Collaborative Innovation

Insurtech refers to the application of emerging technologies and digital business models within the insurance sector. It has become one of the most prominent markers of ongoing transition in the sector. Stoeckli et al. [13] explain that insurtech innovation can reshape value propositions, operational processes, and interactions among actors in the insurance ecosystem. In many contexts, the relationship between insurtech firms and incumbent insurers has been more collaborative than disruptive. Rather than replacing established insurance companies, technology-based firms often provide digital distribution capabilities, data resources, and improved customer experience. In contrast, incumbent insurers contribute underwriting expertise, regulatory licenses, capital strength, and institutional trust [12], [13].

One clear example of this collaborative pattern is embedded insurance. In this model, insurance protection is integrated into platforms such as e-commerce, travel, mobility, and fintech services, allowing customers to access coverage at the point of need. This model is particularly relevant in emerging markets because platform ecosystems can reach customer segments that are not easily served through conventional agency networks [14]. As a result, insurtech collaboration is not only changing how insurance products are distributed, but also expanding the possibilities for broader access to protection.

2.3 Sustainable Business Innovation and Green Digital Innovation

Sustainable business innovation refers to innovation that creates long-term value by integrating economic viability with social and environmental considerations. In many

cases, this requires firms to rethink and redesign their business models rather than simply introduce new products or processes [15], [16]. Earlier studies on green innovation mainly emphasized environmental technologies and their potential contribution to competitive advantage [17], [18]. More recent research has expanded this perspective by examining how sustainability is connected with digital technologies, organizational capabilities, and broader processes of business transformation [19].

A growing body of work examines the intersection of digitalization and sustainability variously labeled digital sustainability or green digital innovation. George et al. [5] argue that digital technologies open new pathways for sustainable value creation, while Guandalini [6] shows that research on sustainability through digital transformation remains fragmented and concentrated in manufacturing and energy contexts. Financial services remain underrepresented in this conversation, even though digital finance is widely credited with advancing financial inclusion and stability themselves core dimensions of socially sustainable development [14], [20]. Positioning insurance digitalization within green digital innovation thus extends the concept from environmental technology toward technology-enabled, inclusion-oriented, and trust-based transformation of a service industry.

2.4 Media Narratives, Framing, and Legitimation

Organizational and institutional research has long recognized that media discourse shapes the legitimacy of industries and practices. Legitimacy the generalized perception that actions are desirable and appropriate within socially constructed norms is produced and maintained partly through public narratives [3], and media reputation constitutes a strategic resource in its own right [4]. Framing theory explains the mechanism: to frame is to select aspects of a perceived reality and make them more salient, thereby promoting particular problem definitions, causal interpretations, and treatment recommendations [21].

Applied to insurance digitalization, these perspectives imply that media narratives do more than report technological change; they define what the transformation is for efficiency, growth, inclusion, trust and thereby legitimize particular strategic agendas. Analyzing such narratives is especially informative in a market where public trust in insurance has been repeatedly tested and where the regulator explicitly communicates transformation goals through the press. Qualitative content analysis provides an established methodological bridge for this purpose, allowing the systematic yet interpretive reduction of large text corpora into codes, categories, and themes [22], [23], [24], [25].

3 Method

3.1 Research Design

This study employs a qualitative research design using qualitative content analysis (QCA) of publicly available texts. QCA is appropriate when the aim is to understand

how meaning is constructed in written communication, combining systematic coding procedures with interpretive theme development [22], [24]. Following the typology of Hsieh and Shannon [22], the study adopts a directed-conventional hybrid: sensitizing concepts from the literature on digital transformation and sustainable innovation orient the analysis, while open coding allows unanticipated categories to emerge from the data.

3.2 Data Sources

This The corpus comprises four types of publicly available documents published between January 2022 and December 2025: (1) online news coverage of insurance digitalization in national business and financial media; (2) press releases and public communications of the Financial Services Authority (OJK), including the Insurance Development and Strengthening Roadmap 2023–2027; (3) publications and performance reports of industry associations, principally the Indonesian Life Insurance Association (AAJI) and the Indonesian General Insurance Association (AAUI); and (4) related public documents, including insurtech company disclosures reported in the media and the national internet penetration survey of the Indonesian Internet Service Providers Association [2]. Documents were identified through systematic keyword searches (e.g., digitalisasi asuransi, insurtech, transformasi digital asuransi, asuransi digital) and included when they substantively addressed the digitalization of the Indonesian insurance industry; purely promotional advertorials were excluded. The 2022–2025 window captures a distinct phase of the transformation: post-pandemic acceleration of digital adoption, the enactment of the Financial Sector Omnibus Law (P2SK) in early 2023, the launch of the OJK roadmap, and the maturing of the insurtech segment.

3.3 Analysis Procedure

The analysis proceeded in three stages. First, open coding was applied to narrative segments addressing digitalization and sustainability, producing an initial set of codes documented in a codebook with definitions and decision rules. Second, codes were grouped into categories reflecting recurring narrative patterns across source types. Third, categories were abstracted into overarching themes that capture how digitalization is framed as sustainable business transformation [23], [26]. Coding was iterative, with constant comparison between new segments and existing codes.Trustworthiness was pursued through the criteria of Lincoln and Guba [27]. Credibility was supported by source triangulation across journalistic, regulatory, and industry texts, with themes established only when supported across source types; dependability by an audit trail comprising the codebook and analytical memos; confirmability by anchoring every theme in verbatim text segments from a publicly verifiable record and through peer debriefing, including deliberate search for negative cases; and transferability by thick description of the Indonesian regulatory and market context. Because the data are naturally occurring public texts rather than participant accounts, member checking is not applicable; its protective function is fulfilled by the public verifiability of the corpus.

4. Results and Discussion

4.1 Digital Service Innovation

The first and most pervasive theme portrays digital channels and technology-based products as the industry's growth engine. Narratives across all source types converge on a directional claim: digital distribution is transitioning from experiment to mainstream. Association data circulating in the media anchor this claim AAJI reported that premium income from the e-commerce distribution channel grew 36.1 percent during January–September 2024, from a small base while the regulator's roadmap projects that digital channels may contribute up to 45 percent of insurance sales by 2027 [1]. The narrative emphasis is prospective rather than retrospective: current digital volumes are acknowledged to be modest, but the framing consistently positions digital service innovation as the inevitable trajectory of the industry. This forward-looking framing functions as legitimation [3]: it renders investment in digital capabilities not merely advantageous but necessary.

4.2 Insurtech Collaboration

The second theme frames the relationship between incumbents and technology firms as collaborative rather than disruptive, consistent with international evidence on insurtech ecosystems [13]. Narratives celebrate partnership models insurers embedding protection into e-commerce checkouts, online travel bookings, ride-hailing services, and fintech lending. Performance figures reported in the business press dramatize the theme: the digital insurer Simas Insurtech recorded gross premiums of approximately Rp3.7 trillion by November 2024, roughly double the prior year, attributing growth to partnerships with marketplaces, online travel agents, and fintech platforms; the publicly listed digital insurer Asuransi Digital Bersama reported first-quarter 2025 premiums of approximately Rp110 billion, up 162 percent year-on-year, driven by travel and micro insurance sold through digital platforms. In these narratives, collaboration is framed as the mechanism by which the industry reaches consumers that agency distribution never reached linking the insurtech theme directly to the access theme discussed below.

4.3 Digital Customer Engagement

The third theme concerns the customer side of transformation. Media narratives frame Indonesia's connected population approximately 229 million internet users, a penetration rate of 80.66 percent [2] as both an opportunity and an obligation: insurers are expected to meet consumers on the digital channels they already inhabit, with seamless onboarding, electronic know-your-customer processes, mobile self-service, and responsive digital claims. The engagement narrative is reinforced by evidence of an expanding customer base: AAJI reported that the number of insured individuals in the life insurance industry grew 8.6 percent to 168.03 million in 2025. Discursively, the theme reframes the customer relationship from intermediated and episodic toward direct and

continuous a shift the digital transformation literature identifies as central to value-creation change [7], [8].

4.4 Operational Efficiency

The fourth theme frames digitalization as an efficiency project: streamlining underwriting, claims, and distribution to lower costs. Industry voices in the media explicitly link artificial intelligence and big data to faster risk analysis, fraud detection, product personalization, and reduced servicing costs. Crucially, the efficiency narrative is not framed as an end in itself; it is the causal bridge to affordability. Lower operational costs are narrated as the condition under which simple, low-premium products: micro-insurance for gig workers, travel protection, device protection become commercially viable. Efficiency thus connects technology to affordability, and affordability to inclusion, giving the theme a distinctly sustainability-oriented meaning consistent with the logic of sustainable business model innovation [15], [16].

4.5 Digital Trust

The fifth theme is the most critical in both senses of the word. Narratives repeatedly identify trust as the binding constraint on the industry's digital ambitions. Survey data circulating in the discourse quantify the constraint: insurance literacy reached approximately 45 percent in 2025, while insurance inclusion remained around 28.5 percent a persistent gap between knowing insurance and using it, deepened by past failures of insurance companies. Media narratives frame regulatory digitalization as the institutional response: in June 2025, OJK launched the Indonesia Insurance Agents Database and the Indonesia Insurance Policies Database, explicitly narrated as a digital transformation milestone toward a transparent, accountable, and customer-oriented industry. The theme resonates with research showing that trust is a precondition of technology-mediated financial relationships [28]; in the Indonesian narrative, digital transparency infrastructure is framed as the mechanism for rebuilding institutional trust, making trust-building itself a technological project.

4.6 Expanded Insurance Access

The sixth theme frames digitalization as the pathway to inclusion. The access narrative is anchored in the penetration gap: approximately 2.7 percent of GDP in early 2025, against the roadmap target of 3.2 percent by 2027 and far below regional peers [1]. Digital distribution especially embedded and micro insurance with premiums calibrated to low and irregular incomes is narrated as the instrument for reaching the uninsured majority. This framing aligns the industry's commercial growth agenda with a social inclusion agenda, echoing the digital finance literature's claim that digitalization advances financial inclusion [14]. It is precisely this alignment that gives the overall storyline its sustainability character: expansion is narrated not as market capture but as protection extended to previously excluded segments.

4.7 Discussion

Read together, the six themes reveal a structured narrative architecture. Digital service innovation and insurtech collaboration describe the means; customer engagement and operational efficiency describe the organizational transformation; digital trust and expanded access describe the ends. The ends are social as much as commercial, trust and inclusion which is what allows the transformation to be narrated as sustainable rather than merely digital. In terms of framing theory [21], the narratives define the problem as exclusion and distrust, diagnose the cause as an analog, intermediated industry model, and prescribe digitalization as the remedy.

Two critical observations qualify the storyline. First, there is a gap between narrative and realization: digital channels still account for a small share of premiums, and the literacy–inclusion gap has not closed despite years of digital investment suggesting that the narratives are partly aspirational and legitimating rather than descriptive. Second, the sustainability vocabulary in the corpus is predominantly social and economic (inclusion, trust, viability) rather than environmental; the 'green' dimension of green digital innovation appears mostly implicitly, through paperless processes and efficiency claims. Both observations are theoretically productive: they show that in service industries of emerging markets, green digital innovation is discursively constructed with inclusion and trust not environmental performance as its core sustainability content, extending the predominantly manufacturing-based conceptualizations in the literature [5], [6].

5 Conclusion

This study analyzed how media narratives in 2022–2025 frame the digital transformation of Indonesia's insurance industry as sustainable business transformation. Using qualitative content analysis of online media coverage, regulator press releases, industry association publications, and related public documents, the study identified six themes digital service innovation, insurtech collaboration, digital customer engagement, operational efficiency, digital trust, and expanded insurance access that together narrate technology as the instrument and sustainability as the goal of industry transformation.

Practically, the findings imply that insurers' digital strategies should be sequenced around trust: the seventeen-point gap between insurance literacy and inclusion indicates that channel expansion alone does not convert awareness into protection. Transparent claims processes, simple and affordable products, and alignment with regulatory transparency infrastructure are narrated and are likely to function as preconditions for sustainable digital growth and improved customer service. Theoretically, the study enriches green digital innovation research by extending it into financial services and by showing that, in this context, the sustainability content of digital innovation is constructed primarily around inclusion and trust.

The study has limitations that define an agenda for future research. Media narratives capture public framing, not organizational practice; interviews with insurers, regulators, and consumers would test how narratives translate into strategy and behavior. The corpus is national in scope; comparative studies across emerging markets with similar

connectivity–penetration profiles would probe the transferability of the narrative architecture identified here. Finally, as the environmental dimension of insurance digitalization becomes more salient through climate risk analytics and sustainable investment mandates, future work should trace whether the green dimension of the narrative becomes explicit.

References

1. Otoritas Jasa Keuangan (OJK), Peta Jalan Pengembangan dan Penguatan Perasuransian Indonesia 2023–2027. Jakarta, Indonesia: OJK, 2023.
2. Asosiasi Penyelenggara Jasa Internet Indonesia (APJII), Survei Penetrasi Internet Indonesia 2025. Jakarta, Indonesia: APJII, 2025.
3. M. C. Suchman, "Managing legitimacy: Strategic and institutional approaches," Acad. Manag. Rev., vol. 20, no. 3, pp. 571–610, 1995.
4. D. L. Deephouse, "Media reputation as a strategic resource: An integration of mass communication and resource-based theories," J. Manag., vol. 26, no. 6, pp. 1091–1112, 2000.
5. G. George, R. K. Merrill, and S. J. D. Schillebeeckx, "Digital sustainability and entrepreneurship: How digital innovations are helping tackle climate change and sustainable development," Entrep. Theory Pract., vol. 45, no. 5, pp. 999–1027, 2021.
6. I. Guandalini, "Sustainability through digital transformation: A systematic literature review for research guidance," J. Bus. Res., vol. 148, pp. 456–471, 2022.
7. G. Vial, "Understanding digital transformation: A review and a research agenda," J. Strateg. Inf. Syst., vol. 28, no. 2, pp. 118–144, 2019.
8. P. C. Verhoef et al., "Digital transformation: A multidisciplinary reflection and research agenda," J. Bus. Res., vol. 122, pp. 889–901, 2021.
9. D. Schallmo, C. A. Williams, and L. Boardman, "Digital transformation of business models — best practice, enablers, and roadmap," Int. J. Innov. Manag., vol. 21, no. 8, art. 1740014, 2017.
10. P. Gomber, J.-A. Koch, and M. Siering, "Digital finance and FinTech: Current research and future research directions," J. Bus. Econ., vol. 87, no. 5, pp. 537–580, 2017.
11. T. Puschmann, "Fintech," Bus. Inf. Syst. Eng., vol. 59, no. 1, pp. 69–76, 2017.
12. M. Eling and M. Lehmann, "The impact of digitalization on the insurance value chain and the insurability of risks," Geneva Pap. Risk Insur. Issues Pract., vol. 43, no. 3, pp. 359–396, 2018.
13. E. Stoeckli, C. Dremel, and F. Uebernickel, "Exploring characteristics and transformational capabilities of InsurTech innovations to understand insurance value creation in a digital world," Electron. Mark., vol. 28, no. 3, pp. 287–305, 2018.

14. P. K. Ozili, “Impact of digital finance on financial inclusion and stability,” Borsa Istanbul Rev., vol. 18, no. 4, pp. 329–340, 2018.
15. N. M. P. Bocken, S. W. Short, P. Rana, and S. Evans, “A literature and practice review to develop sustainable business model archetypes,” J. Clean. Prod., vol. 65, pp. 42–56, 2014.
16. M. Geissdoerfer, D. Vladimirova, and S. Evans, “Sustainable business model innovation: A review,” J. Clean. Prod., vol. 198, pp. 401–416, 2018.
17. Y.-S. Chen, S.-B. Lai, and C.-T. Wen, “The influence of green innovation performance on corporate advantage in Taiwan,” J. Bus. Ethics, vol. 67, no. 4, pp. 331–339, 2006.
18. T. Schiederig, F. Tietze, and C. Herstatt, “Green innovation in technology and innovation management — an exploratory literature review,” R&D Manag., vol. 42, no. 2, pp. 180–192, 2012.
19. A.-N. El-Kassar and S. K. Singh, “Green innovation and organizational performance: The influence of big data and the moderating role of management commitment and HR practices,” Technol. Forecast. Soc. Change, vol. 144, pp. 483–498, 2019.
20. S. Nambisan, M. Wright, and M. Feldman, “The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes,” Res. Policy, vol. 48, no. 8, art. 103773, 2019.
21. R. M. Entman, “Framing: Toward clarification of a fractured paradigm,” J. Commun., vol. 43, no. 4, pp. 51–58, 1993.
22. H.-F. Hsieh and S. E. Shannon, “Three approaches to qualitative content analysis,” Qual. Health Res., vol. 15, no. 9, pp. 1277–1288, 2005.
23. S. Elo and H. Kyngäs, “The qualitative content analysis process,” J. Adv. Nurs., vol. 62, no. 1, pp. 107–115, 2008.
24. P. Mayring, Qualitative Content Analysis: Theoretical Foundation, Basic Procedures and Software Solution. Klagenfurt, Austria, 2014.
25. K. Krippendorff, Content Analysis: An Introduction to Its Methodology, 4th ed. Thousand Oaks, CA, USA: Sage, 2018.
26. V. Braun and V. Clarke, “Using thematic analysis in psychology,” Qual. Res. Psychol., vol. 3, no. 2, pp. 77–101, 2006.
27. Y. S. Lincoln and E. G. Guba, Naturalistic Inquiry. Beverly Hills, CA, USA: Sage, 1985.
28. D. Gefen, E. Karahanna, and D. W. Straub, “Trust and TAM in online shopping: An integrated model,” MIS Q., vol. 27, no. 1, pp. 51–90, 2003.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

