INTEGRA BUSINESS REVIEW
Volume 4, Issue 1, June 2026 | pp. 135-151
https://doi.org/10.54518/ibr.4.1.2026.1396

Resilient Organizations in Convergence: Crisis Management and Strategic Adaptation Through Digital and Sustainable Transformation

Diannisa Divanauli[1] and Muhammad Luthfi Ramadhan[2]

Universitas Negeri Yogyakarta, Yogyakarta, Indonesia[1]; PT Agrinas Palma Nusantara (Persero), Jakarta, Indonesia[2]

ABSTRACT

This study examines how a state-owned enterprise (SOE) transitioning from engineering consulting to palm oil-based energy navigates crisis management and strategic adaptation amidst the convergence of digital and sustainability. The study aims to examine how organizational resilience develops under technological disruption, regulatory uncertainty, and socio-environmental pressures. Using a qualitative approach based on literature synthesis and case-based analysis, the study integrates perspectives from dynamic capabilities, institutional theory, crisis management, and sustainability transitions. Findings indicate that resilience is shaped by the alignment of digital transformation, governance restructuring, and stakeholder engagement, while strategic outcomes are influenced by path dependency and institutional complexity. The discussion is structured through three adaptive scenarios: best-case, transition, and worst-case, to illustrate diverse organizational responses. The study highlights that stronger resilience is achieved when crisis preparedness, digital integration, and sustainability governance are implemented in a coordinated manner. This leads to the development of a layered adaptive framework applicable to organizations operating in complex, policy-driven environments.

Keywords: *Crisis Management, Digital Transformation, Organizational Resilience, Sustainability Governance.*

CORRESPONDING AUTHOR:
Diannisa Divanauli
Universitas Negeri Yogyakarta, Yogyakarta, Indonesia
contact: *diannisadivanauli.2025@student.uny.ac.id*

ARTICLE HISTORY
Received : February 18, 2026
Final Revised : May 22, 2026
Accepted : June 3, 2026
Published : June 30, 2026

1. | INTRODUCTION

The convergence of digital transformation and sustainability imperatives has fundamentally reshaped the strategic landscape of modern organizations. This transformation is particularly complex for state-owned enterprises (SOEs), which must simultaneously respond to market competition, regulatory mandates, and socio-political expectations. In this context, the transformation of an SOE from an engineering consultancy into a palm oil-based energy enterprise represents a critical case of organizational change occurring under converging institutional and technological pressures. Such transformation requires the reconfiguration of legacy capabilities to align with new operational, environmental, and governance demands.

In Indonesia, resource-based state-owned enterprises (SOEs) face multidimensional crises such as technological disruption, land governance conflicts, and demands for operational accountability. One critical issue is the discrepancy in production data between internal and external parties, leading to information inconsistencies. This discrepancy weakens organizational reliability, impairs decision-making, and increases the risk of managerial errors and potential fraud. In strategic industries such as palm oil-based energy, production data serves as a critical basis for financial reporting, sustainability evaluation, and regulatory compliance. According to Musyoki (2023), the purpose of internal control is to safeguard assets and ensure accurate record keeping. Therefore, data inconsistencies indicate weaknesses in governance and internal control that can undermine stakeholder trust.

Recent studies highlight how digital transformation and governance factors influence firm performance and strategic adaptation in Indonesian SOEs (Apriyantopo et al., 2023; Ghofar et al., 2025). At the same time, the concept of public value, as introduced by Mark H. Moore (1995), emphasizes that public organizations must not only achieve efficiency but also deliver societal value, operate under political legitimacy, and maintain accountability to stakeholders. This dual pressure, market competitiveness and public accountability, makes crisis management, data governance, and strategic adaptability critical for long-term organizational viability.

Existing literature has consistently emphasized resilience and adaptability as key organizational capabilities in navigating uncertainty and disruption (Borissov, 2024; Mhlanga & Dzingirai, 2024). Parallel research streams have examined the role of digital transformation in enabling organizational change through innovation, learning, and capability development (Senadjki et al., 2024). These studies suggest that organizations capable of integrating digital technologies with learning mechanisms, governance systems, and adaptive strategies are better positioned to respond to crises and sustain organizational performance.

However, these perspectives remain fragmented. Alkaraan et al. (2024) and Umair et al. (2025), studies treat digital transformation, sustainability transition, organizational governance, and crisis management as separate domains, with limited attention to how

these elements interact within operational crisis situations, particularly in transforming SOEs operating in resource-based industries. Moreover, only limited research discusses how discrepancies in strategic operational data such as production records can become a governance crisis that affects organizational resilience and sustainability performance. This fragmentation creates a theoretical and practical gap in understanding how organizations can simultaneously manage crisis, digital innovation, data governance, and sustainability pressures in an integrated manner.

In response to this gap, this study adopts a qualitative and conceptual approach to examine how an SOE undergoing sectoral transformation manages crisis and strategic adaptation within the convergence of digital and sustainable transformation. Particular attention is given to the issue of production data discrepancies as an indicator of governance vulnerability and organizational control challenges. This research contributes by developing an integrated and multi-layered framework that bridges previously disconnected perspectives on crisis management, digital innovation, organizational resilience, internal control, and sustainability transition. The proposed framework offers a structured basis for understanding organizational resilience in complex, policy-driven, and resource-based sectors, while also providing practical insights for strategic decision-making, governance strengthening, and crisis mitigation in similar institutional environments. The study aims to examine how organizational resilience develops under technological disruption, regulatory uncertainty, and socio-environmental pressures.

2. | LITERATURE REVIEW

Crisis Management and Organizational Resilience

Crisis management refers to a structured organizational process encompassing preparedness, response, and recovery in the face of disruptive events. The Situational Crisis Communication Theory (SCCT), developed by Coombs (2007), provides a systematic framework for selecting appropriate communication strategies based on crisis typology and stakeholder attribution. The theory emphasizes that effective communication plays a critical role in mitigating reputational damage and restoring organizational legitimacy. In parallel, Business Continuity Planning (BCP) frameworks highlight the importance of maintaining operational stability during periods of disruption. These frameworks emphasize proactive risk identification, redundancy systems, and recovery mechanisms as essential components of organizational resilience. Such approaches underscore the need for organizations to develop structured and anticipatory response mechanisms.

The concept of organizational resilience extends beyond mere recovery, encompassing the capacity for anticipation, adaptation, and transformation under conditions of uncertainty. In this regard, the dynamic capabilities framework proposed by Teece (2014) and Jaafar et al. (2026) provides a useful lens for understanding

organizational adaptability through three core processes: sensing environmental changes, seizing emerging opportunities, and transforming organizational resources to align with shifting conditions. This framework is particularly relevant in turbulent environments characterized by rapid technological and institutional change, where organizations must continuously reconfigure their capabilities to remain competitive.

Complementing this view, resilience has been conceptualized as a multidimensional capability involving anticipation, coping, and adaptation processes (Duchek, 2020 & Raetze et al., 2022). This perspective emphasizes that resilience is not a one-time response to crises, but an ongoing organizational capability that evolves over time. In practice, resilient organizations develop both preventive mechanisms, such as environmental scanning and flexible resource allocation, and adaptive responses, including the creation of new competencies following disruptions. Consequently, crisis management should be understood not as an isolated function, but as an integral component of long-term capability development.

However, the development and deployment of such adaptive capabilities present unique challenges within state-owned enterprises (SOEs). Institutional rigidity, bureaucratic procedures, and political influences often constrain organizational agility and limit strategic responsiveness. As noted by Ali and Kamraju (2025), and Pudjono (2026) , public sector organizations operate within governance structures that emphasize accountability and compliance, which can restrict their flexibility in responding to dynamic environmental changes. This creates a tension between the need for control and the need for adaptability.

In this context, fostering organizational resilience requires a strategic shift from reactive crisis management toward a more anticipatory and integrated approach. SOEs must embed resilience into their long-term strategies by aligning risk management, innovation, and capability development. Thus, organizational resilience should be viewed as a dynamic and continuous process, where crisis management, adaptive capabilities, and governance considerations are interconnected elements in navigating uncertainty.

Digital Transformation and Sustainability Transition

Digital transformation refers to the integration of emerging technologies, such as AI, IoT, big data, and blockchain, into organizational processes, business models, and strategic decision-making, fundamentally reshaping how value is created and delivered (Vial, 2019). In resource-based industries like plantations and energy, this transformation must be understood through a socio-technical systems perspective, where technological adoption is closely intertwined with human capabilities, organizational structures, and environmental conditions (Bostrom & Heinen, 1977). Thus, digital transformation is not merely IT adoption but requires alignment between tools, skills, and culture. In practice, the palm oil sector has begun implementing “Palm Oil 4.0” initiatives, including AI-driven yield optimization, blockchain-based supply

chain traceability, and satellite monitoring for deforestation, reflecting how digitalization is redefining competitiveness in a growing global market. Empirical evidence suggests that digital transformation enhances efficiency, innovation, and organizational resilience, as digitally mature firms tend to demonstrate higher adaptability during disruptions; however, its success is strongly mediated by human factors such as digital literacy and workforce readiness.

Parallel to this, sustainability transitions involve a shift toward environmentally and socially responsible practices, often guided by Environmental, Social, and Governance (ESG) principles that have become key indicators of organizational legitimacy and long-term performance. In Indonesia's palm oil sector, sustainability is driven by regulatory frameworks such as ISPO standards and global pressures like deforestation regulations. The multi-level perspective (MLP) (Geels, 2011) explains this transition as the interaction between niche innovations (e.g., sustainable plantations, renewable energy), established regimes (traditional cultivation systems), and broader institutional pressures (climate change and policy demands). Within this context, state-owned enterprises (SOEs) operate at the regime level, balancing public accountability with market dynamics. Sustainability initiatives, such as integrating conservation areas and improving smallholder inclusion, demonstrate how ESG practices can generate both environmental and economic value, including access to premium markets and carbon-related incentives. Furthermore, recent studies indicate that digital transformation can support sustainability outcomes by enhancing transparency, resource efficiency, and data-driven decision-making (George et al., 2021), although aligning digitalization with sustainability objectives remains a complex strategic challenge requiring integrated organizational capabilities.

Despite the extensive body of literature on crisis management, organizational resilience, and digital transformation, critical gaps remain, particularly in the context of state-owned enterprises (SOEs) undergoing sectoral transformation. First, there is limited empirical and conceptual understanding of crisis dynamics in SOEs transitioning across sectors, such as from engineering to energy, where technological, environmental, and governance risks converge simultaneously. Second, existing research tends to treat digital transformation and sustainability transition as separate domains, with insufficient attention to how organizations integrate both within complex institutional and regulatory environments. Third, while resilience frameworks are well established, few adopt a multi-layered or scenario-based approach capable of addressing concurrent shocks, including technological disruption, ecological pressures, and socio-political constraints, especially in policy-driven contexts characterized by state ownership and heightened accountability. These limitations highlight the need for a more integrative perspective that captures the institutional complexity and adaptive challenges unique to SOEs.

Despite the extensive body of literature on crisis management, organizational resilience, and digital transformation, critical gaps remain, particularly in the context of state-owned enterprises (SOEs) undergoing sectoral transformation. First, there is limited empirical and conceptual understanding of crisis dynamics in SOEs transitioning across sectors, such as from engineering to energy, where technological, environmental, and governance risks converge simultaneously. Second, existing research tends to treat digital transformation and sustainability transition as separate domains, with insufficient attention to how organizations integrate both within complex institutional and regulatory environments. Third, while resilience frameworks are well established, few adopt a multi-layered or scenario-based approach capable of addressing concurrent shocks, including technological disruption, ecological pressures, and socio-political constraints, especially in policy-driven contexts characterized by state ownership and heightened accountability. These limitations highlight the need for a more integrative perspective that captures the institutional complexity and adaptive challenges unique to SOEs.

3. | RESEARCH METHOD

This study adopts a qualitative and conceptual research design aimed at developing a theoretically grounded framework for understanding organizational transformation in complex environments. Qualitative research is defined as an approach that seeks to explore and understand social or organizational phenomena through the interpretation of non-numerical data, emphasizing meaning, context, and processes (Oranga & Matere, 2023). Meanwhile, a conceptual research design focuses on the development of theoretical frameworks through the synthesis and integration of existing literature, rather than empirical data collection, enabling the formulation of new insights and models (Schreiber & Cramer, 2024).

This study applies purposive sampling by selecting literature and organizational cases that are directly relevant to crisis management, digital transformation, organizational resilience, and sustainability governance. The selected references emphasize organizations experiencing operational disruption, governance transition, or digital adaptation processes. Purposive selection is considered appropriate because the study aims to obtain in-depth theoretical and contextual understanding rather than statistical generalization. Data collection was conducted through systematic literature review and document analysis. The procedure began by identifying relevant academic articles, governance reports, and organizational studies related to digital transformation and resilience. The collected literature was then classified based on major themes such as crisis management, governance quality, organizational adaptability, digital maturity, and sustainability integration.

To strengthen validity, the study applied comparative analysis across multiple literature sources and organizational contexts. Findings from different studies were cross-checked to identify similarities, contradictions, and recurring patterns regarding

resilience and governance effectiveness. The scenario analysis was subsequently developed by comparing organizational characteristics and strategic responses identified within the reviewed literature. To maintain data validity, the study applies source to compare findings from multiple academic studies, organizational reports, and governance literature. The analysis process also incorporates audit trails and systematic documentation to ensure consistency and transparency throughout the interpretation process. Cross-comparison among references is conducted to strengthen conceptual reliability and reduce interpretive bias.

4. | RESULTS

The findings are divided into two major components which were adapted: theoretical synthesis and scenario-based analysis. The theoretical synthesis was developed by integrating previous studies on crisis management, digital transformation, organizational resilience, sustainability governance, strategic leadership, and organizational adaptation. The reviewed literature demonstrates a consistent pattern showing that digital transformation, adaptive leadership, and governance quality significantly influence organizational resilience and sustainability performance during uncertain and disruptive conditions. Based on the theoretical synthesis, the scenario-based analysis categorizes organizational conditions into three strategic scenarios according to the level of digital integration, governance quality, leadership capability, and adaptive capacity.

Table 1. Strategic Scenario Framework

Scenario	Key Driver	Risks	Strategic Responses
Best Case	Digital Integration	Low	Innovation and Scaling
Transitional	Partial Adaptation	Moderate	Incremental Improvement
Worst Case	Governance Failure	High Crisis	Response and Recovery

Table 1 shows the study identifies a multi-layered framework that integrates crisis communication through Situational Crisis Communication Theory (SCCT), operational resilience based on Business Continuity Planning (BCP) and ISO approaches, dynamic capabilities emphasizing adaptive resource reconfiguration, socio-technical systems integration, and stakeholder engagement models. This integrated framework underscores the importance of aligning technological, organizational, and institutional dimensions to enhance organizational resilience, support strategic adaptation, and ensure sustainable performance in the face of complex and evolving challenges.

There are 3 Scenario Analysis, including Best-Case Scenario, Transitional Scenario, and Worst-Case Scenario. The best-case scenario is successful digital integration, regulatory compliance, and strong stakeholder relationships resulting in

high productivity and strong ESG performance. The organization achieves full operational synergy between legacy and new business models.

Table 2. Best Scenario-Based Classification of Research Findings

No.	Author (s)	Main Focus	Key Findings	Justification
1.	Kwiotkowska (2024)	Digital maturity and dynamic capability	Digital maturity significantly strengthens resilience capability	High digital maturity reflects strong organizational adaptability and resilience
2.	Hoque et al. (2025)	Digital transformation and adaptability	Digital maturity improves adaptability during crises	Advanced digital capability reduces operational risk and strengthens performance
3.	Farih & Benazzi (2025)	Digital transformation and resilience	Digital transformation strengthens resilience to disruptions	Integrated digital systems improve responsiveness and organizational continuity
4.	Nasrun et al. (2025)	Digital leadership and innovation	Digital leadership supports resilience and sustainable innovation	Strong leadership capability accelerates transformation and governance effectiveness
5.	Díaz-Calderón et al. (2025)	Crisis leadership and sustainability	Integrated crisis leadership strengthens resilience	Effective crisis governance and innovation organizational vulnerability

Table 2 shows T=the Best-Case Scenario represents organizations with strong digital integration, adaptive leadership, and effective governance systems that enable them to maintain resilience during crises and uncertainty. Hoque et al. (2025) found that digital maturity improves organizational adaptability and operational performance, while Farih and Benazzi (2025) explain that digital transformation strengthens responsiveness and continuity during disruptions. Similarly, Kwiotkowska (2024) highlights that digital maturity and dynamic capabilities are critical factors supporting organizational resilience. This scenario is categorized as the best case because organizations with advanced digital systems, strategic leadership, and adaptive governance tend to experience lower operational risks, faster decision making, and stronger innovation capability (Li et al, 2025). Nasrun et al. (2025) and Díaz-Calderón et al. (2025) emphasize that digital leadership and integrated crisis governance strengthen sustainability and resilience. From a theoretical perspective, Good Corporate Governance (GCG) and Agency Theory (Jensen & Meckeling, 1976) support this

condition because transparent monitoring systems and effective accountability mechanisms reduce information asymmetry, improve operational control, and strengthen stakeholder trust.

The transitional scenario is moderate progress in digitalization and sustainability initiatives. Organizational inertia and institutional constraints slow down transformation, but core operations remain stable, as shown in Table 3.

Table 3. Transitional Scenario-Based Classification of Research Findings

No.	Author (s)	Main Focus	Key Findings	Justification
1.	Gong & Ribiere (2025)	Agility and digitalization	Digitalization and agility help organizations survive disruptions	Organizations are adapting progressively, but still have agility improvements
2.	Mehta et al. (2024)	Sustainability and resilience	Sustainability and resilience are interconnected strategic capabilities	Emphasizes long-term adaptation and governance improvement processes
3.	Juniansyah et al. (2025)	Digitalization and business resilience	Innovation and digitalization improve resilience during uncertainty	Organizations are in adaptation stages toward stronger digital resilience
4.	Judijanto et al. (2025)	Strategic management culture	Organizational culture and leadership improve resilience	Cultural adaptation and leadership development is a gradual transformation
5.	González-Varona et al. (2024)	Organizational learning competence	Learning capability supports digital transformation success	Focuses on capability development and incremental organizational adaptation

The Transitional Scenario represents organizations that have begun implementing digital transformation and adaptive governance practices but still face moderate operational and organizational challenges. Gong and Ribiere (2025) explain that organizational agility and digitalization help organizations gradually adapt to disruptive environments, while Juniansyah et al. (2025) found that innovation and digitalization improve resilience during uncertainty. In addition, González-Varona et al. (2024) emphasize that organizational learning and digital competence are essential for supporting successful transformation processes. This scenario is categorized as transitional because organizations are in the process of adaptation rather than fully

achieving resilience and operational stability. Although digital initiatives and governance improvements have been introduced, organizations still experience moderate risks due to limited digital maturity, incomplete integration, and ongoing capability development. From the perspective of organizational change theory, this condition reflects incremental improvement, where organizations progressively strengthen resilience, governance quality, and operational effectiveness through continuous learning and adaptation.

Worst-Case Scenario is failure to manage land conflicts, technological disruption, and governance issues results in reputational damage, operational decline, and regulatory penalties.

Table 4. Worst Scenario-Based Classification of Research Findings

No.	Author (s)	Main Focus	Key Findings	Justification
1.	Koczerga (2024)	Digital Transformation failures and organizational readiness	Many digital transformation initiatives fail due to to weak leadership support, cultural barriers, unclear goals, and insufficient readiness	Weak digital readiness and governance failure Increase operational instability and transformation failure
2.	Paruchuri et al. (2024)	Governance failure and organizational misconduct	Weak corporate governance and ineffective board oversight contribute to organizational misconduct and governance crises	Governance failure high, organizational accountability problems, and vulnerability
3.	Faozanudin et al. (2025)	Governance failure Kominfo 4G corruption case	Weak monitoring systems, poor governance, and corruption caused financial loss and failure in infrastructure implementation	Demonstrates that ineffective governance and weak internal control can organizational reputational damage, and operational failure
4.	Pratama & Nugroho (2023)	Failure of the Online Submission (OSS) integration in Indonesia	Fragmented digital systems, poor coordination, and low digital readiness reduced the effectiveness of transformation initiatives	Shows that limited integration and institutional resistance increase operational inefficiency transformation failure

Table 4 shows the inclusion of Koczerga (2024) and Paruchuri et al. (2024) strengthens the worst-case scenario analysis by demonstrating that organizational crises are often caused not only by external disruptions but also by internal governance weaknesses, low digital readiness, poor leadership alignment, and ineffective monitoring systems. These studies support Agency Theory, which argues that weak monitoring mechanisms increase opportunistic behavior and reduce accountability. They also reinforce Good Corporate Governance (GCG) principles, showing that poor governance structures and limited transparency increase the likelihood of organizational failure, misconduct, and unsuccessful digital transformation initiatives. Figure 1 illustrates the interaction between crisis management, digital transformation, and sustainability governance as interconnected drivers of organizational resilience.

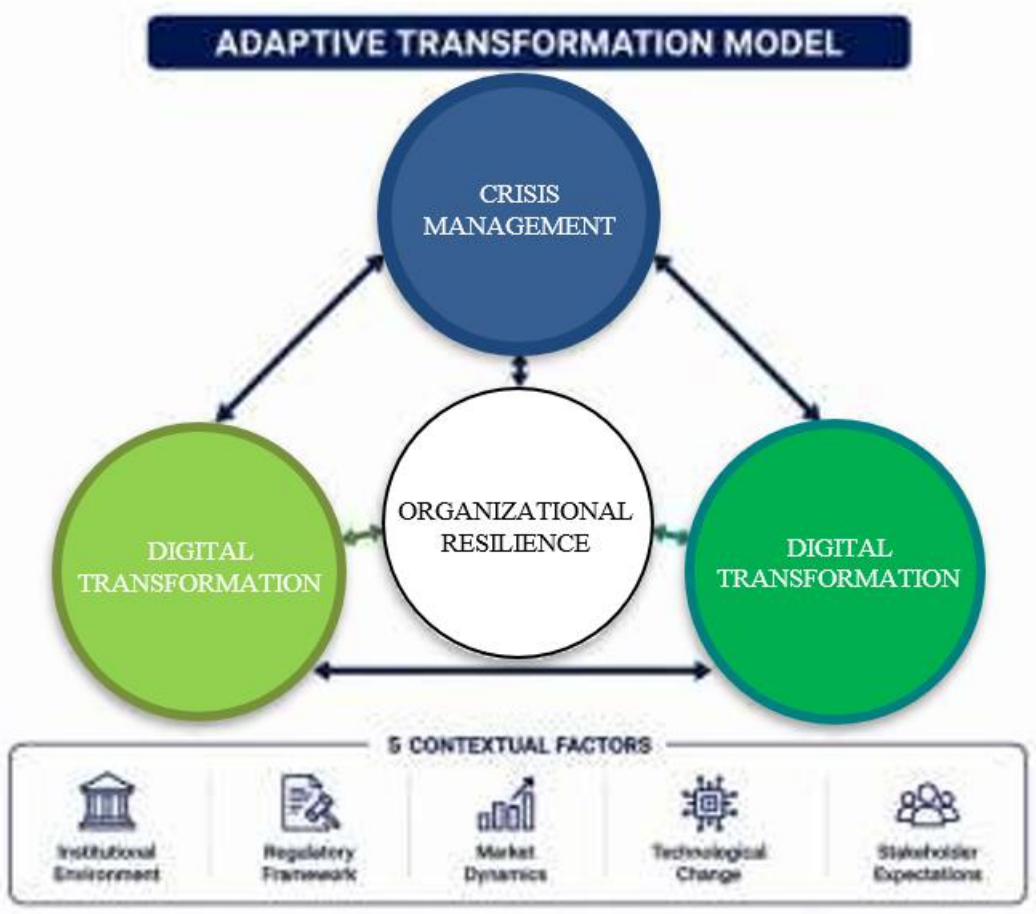

Figure 1. Adaptive Transformation Model

5. | DISCUSSION

These findings are consistent with previous studies emphasizing the importance of digital capability and governance quality in strengthening organizational resilience. Hoque et al. (2025) and Farih & Benazzi (2025) found that organizations with

integrated digital systems demonstrate stronger adaptability and operational continuity during disruptions. Similarly, Kwiotkowska (2024) highlights that digital maturity and dynamic capabilities significantly improve resilience capability. In contrast, Koczerga (2024) explains that weak organizational readiness, poor leadership support, and unclear transformation strategies often result in digital transformation failure and operational instability. Therefore, the findings suggest that organizational resilience depends not only on technological adoption but also on governance effectiveness, leadership commitment, and organizational learning.

From a managerial perspective, weak digital integration and governance failure may create operational inefficiencies, slower decision-making processes, and increased organizational risk. These conditions can negatively affect organizational planning, resource allocation, operational coordination, and stakeholder trust. In the context of Good Corporate Governance (GCG), inaccurate and poorly integrated organizational information reduces transparency, accountability, and the credibility of organizational reporting systems. Consequently, organizations become more vulnerable to governance problems, operational disruption, and reduced strategic effectiveness.

One relevant example supporting the findings of this study is the digital transformation initiative conducted by Indonesian SOE through the implementation of an integrated e-Procurement system. This case can be categorized as a transitional-case scenario because the organization is still undergoing a major business transformation from a construction consulting company into a palm oil and energy-based SOE. This transition created organizational challenges such as operational complexity, weak system integration, data discrepancies, governance adjustment, and the need for stronger coordination and transparency. These conditions reflect a form of organizational "crisis" caused by the transformation process itself.

To manage these challenges, the company implemented strategic adaptation through digital transformation and sustainability governance improvement. The e-Procurement system was introduced to improve transparency, data integration, monitoring effectiveness, and procurement efficiency. From the perspective of Dynamic Capabilities Theory, this initiative demonstrates how digital transformation can strengthen organizational resilience and crisis management capability by improving accountability, reducing operational risk, accelerating decision-making, and supporting adaptive governance during periods of organizational change and uncertainty.

To address these challenges, organizations should strengthen integrated digital systems, improve governance quality, and implement periodic monitoring and evaluation mechanisms. The adoption of integrated Enterprise Resource Planning (ERP) systems and digital monitoring platforms can improve information accuracy, reduce manual processes, and strengthen organizational coordination. In addition, continuous leadership development, organizational learning, and digital competency enhancement are essential to support long-term transformation and resilience. These strategic recommendations align with COSO principles regarding effective information

systems, monitoring activities, and internal control integration to improve organizational sustainability and crisis preparedness.

6. | CONCLUSSION

This study finds that organizational resilience in state-owned enterprises (SOEs) is primarily influenced by digital transformation, governance quality, and organizational adaptability. Organizations with strong digital integration, effective monitoring systems, and adaptive leadership tend to demonstrate faster crisis response, stronger operational stability, and better long-term sustainability. In contrast, weak digital readiness, poor coordination, and ineffective data control increase operational disruption, governance risk, and organizational vulnerability.

One important finding is the existence of data discrepancies between internal production records, operational reporting systems, and external partners. These inconsistencies indicate weaknesses in internal control systems and information integration, which may lead to inaccurate planning, managerial errors, financial reporting problems, and potential fraud risks. The study also reveals that digital transformation is not only related to technology adoption, but also depends on organizational readiness, including leadership capability, governance effectiveness, human resources, and organizational culture.

Based on the theoretical synthesis and scenario analysis, organizational conditions are classified into best-case, transitional, and worst-case scenarios depending on the level of digital maturity and governance quality. The findings support Dynamic Capabilities Theory, Agency Theory, and Good Corporate Governance (GCG), emphasizing that adaptability, accountability, effective monitoring, and continuous organizational learning are essential for achieving sustainable organizational resilience. Therefore, organizations are encouraged to strengthen integrated digital systems, improve governance quality, and enhance monitoring and organizational learning processes.

Acknowledgement

The authors acknowledge the support of institutions and individuals who contributed to the development of this study.

Funding Information

This research did not receive any funding

Declaration of Conflicting Interests

The authors declare that there is no conflict of interest.

Ethical Approval and Originality Statement

Ethical approval was obtained for this study. The manuscript represents original work and has not been previously published, nor is it under consideration by another journal.

Data Disclosure Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

Ali, M. A., & Kamraju, M. (2025). Accountability, transparency, and adaptation strategies. In *Global Climate Governance: Strategies for Effective Management* (pp. 135-154). Singapore: Springer Nature Singapore.

Alkaraan, F., Elmarzouky, M., Hussainey, K., Venkatesh, V. G., Shi, Y., & Gulko, N. (2024). Reinforcing green business strategies with Industry 4.0 and governance towards sustainability: Natural-resource-based view and dynamic capability. *Business Strategy and the Environment*, *33*(4), 3588-3606.

Apriyantopo, W., Aprianingsih, A., & Kitri, M. L. (2023). State-owned enterprises' performance in Indonesia: a strategic typology perspective. *Competitiveness Review: An International Business Journal*, *33*(4), 759-786.

Borissov, D. (2024). Enterprises as complex systems: Navigating challenges and embracing resilience. *Business Ethics and Leadership*, *8*(4), 95-122.

Bostrom, R. P., & Heinen, J. S. (1977). MIS problems and failures: A socio- technical perspective. *MIS Quarterly*, *1*(3), 17-32. https://doi.org/10.2307/248710

Coombs, W. T. (2007). Protecting organization reputations during a crisis: The development and application of situational crisis communication theory. *Corporate Reputation Review*, *10*(3), 163-176. https://doi.org/10.1057/palgrave.crr.1550049

Díaz-Calderón, R. R., Torres-Serna, H. A., Cieza-León, D. H., Yalta-Vallejos, J. F., & Heredia-Pérez, G. (2025). Innovation, sustainability and leadership in crisis: integrated strategies for organisational resilience. *Entramado*, *21*(2).

Duchek, S. (2019). Organizational resilience: A capability-based conceptualization. *Business Research*, *13*(1), 215-246. https://doi.org/10.1007/s40685-019-0085-7

Faozanudin, M., Rokhman, A., Sulistiani, L. S., & Yamin, M. (2025). Investigating Key Factors Affecting the Slow Digital Transformation in Village Government Public Service Improvement in Indonesia. *International Research Journal of Multidisciplinary Scope*, *6*(4), 654-667.

Farih, F. Z., & Benazzi, K. (2025, October). Digital Transformation and Supply Chain Resilience: A Systematic Review of Enabling Technologies. In *International Conference on Industrial and Logistics Systems* (pp. 72-83). Cham: Springer Nature Switzerland.

Geels, F. W. (2011). The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental Innovation and Societal Transitions*, *1*(1), 24-40. https://doi.org/10.1016/j.eist.2011.02.002

Ghofar, A., Kusumadewi, A. W., & Widiastutik, R. N. (2025). Does firm size strengthen the relationship between digital transformation and capital structure? A case in ASEAN nations. *Cogent Business & Management*, *12*(1), 2570503.

Gong, C., & Ribiere, V. (2025). Understanding the role of organizational agility in the

context of digital transformation: an integrative literature review. *VINE Journal of Information and Knowledge Management Systems*, *55*(2), 351-378.

Gonzalez-Varona, J. M., López-Paredes, A., Poza, D., & Acebes, F. (2024). Building and development of an organizational competence for digital transformation in SMEs. *arXiv preprint arXiv:2406.01615*.

Hoque, M. T., Arsalan, A., Tzokas, N., Ahammad, M. F., & Gupta, D. (2025). Operational Resilience and Knowledge Management as Drivers of Export Performance: The Moderating Roles of Strategic Flexibility and Maturity of Digital Transformation in Emerging Market Firms. *International Marketing Review*.

Jaafar, M., Khan, K. N., & Salman, A. (2026). A systematic review and framework for organizational agility antecedents towards industry 4.0. *Management Review Quarterly*, *76*(1), 487-512.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Judijanto, L., Liestyowati, L., Kamaroellah, A., Tawil, M. R., Kamar, K., & Ridwan, M. (2025). Strategic Investment Resilience: Navigating Economic Recession Risks through Diversification and Innovation. *Journal of Ecohumanism*, *4*(2), 459-471.

Juniansyah, M. A., Rosyidah, D. M., Pahrijal, R., & Ardhiyansyah, A. (2025). Does Digital Transformation Improve Business Resilience? The Role of Organizational Adaptation with Innovation, Digitalization, and Marketing Strategies. *Jurnal Maksipreneur: Manajemen, Koperasi, dan Entrepreneurship*, *15*(1), 283-298

Koczerga, M. (2024). Navigating the digital chasm: An analysis of digital transformation failures, organizational readiness assessment methods, and their limitations. *Scientific Journal of Bielsko-Biala School of Finance and Law*, *28*(3).

Kwiotkowska, A. (2024). Creating organizational resilience through digital transformation and dynamic capabilities: findings from fs/QCA analysis on the example of Polish CHP plants. *Sustainability*, *16*(14), 6266.

Li, L., Zhang, Y., Sun, J., & Yang, Z. (2025). Strategic flexibility in dynamic environments: the game-changer in digital transformation and organizational resilience. *Total Quality Management & Business Excellence*, *36*(11-12), 1281-1300.

Mehta, M., Pancholi, G., & Saxena, A. (2024). Organizational resilience and sustainability: a bibliometric analysis. *Cogent Business & Management*, *11*(1), 2294513.

Mhlanga, D., & Dzingirai, M. (2024). Bibliometric study on organizational resilience: Trends and future research agenda. *International Journal of Corporate Social Responsibility*, *9*(1). https://doi.org/10.1186/s40991-024-00098-8

Musyoki, K. M. (2023). Internal control systems and their role in financial fraud

prevention in Kenya. *African Journal of Commercial Studies*, *3*(3), 173-180.

Nasrun, M. K., Susilo, H., & Afrianty, T. W. (2025). Accelerating digital transformation through digital leadership: strategies for innovation, sustainability, and organisational performance enhancement. *BISMA (Bisnis dan Manajemen)*, 264-291.

Oranga, J., & Matere, A. (2023). Qualitative research: Essence, types and advantages. *Open Access Library Journal*, *10*(12), 1-9.

Paruchuri, S., Hoempler, E. A., Cowen, A. P., Cannella Jr, A. A., & Nahm, P. I. (2024). Governance failure and governance under failure: Reviewing the role of directors in organizational misconduct. *Journal of Management*, *50*(6), 2237-2265.

Pudjono, A. N. S., Wibisono, D., & Fatima, I. (2026). Enhancing public sector performance management in Indonesia: the role of soft systems methodology in addressing local government challenges. *Systems Research and Behavioral Science*, *43*(1), 281-305.

Raetze, S., Duchek, S., Maynard, M. T., & Wohlgemuth, M. (2022). Resilience in organization-related research: An integrative conceptual review across disciplines and levels of analysis. *Journal of Applied Psychology*, *107*(6), 867.

Schreiber, F., & Cramer, C. (2024). Towards a conceptual systematic review: proposing a methodological framework. *Educational Review*, *76*(6), 1458-1479.

Senadjki, A., Au Yong, H. N., Ganapathy, T., & Ogbeibu, S. (2024). Unlocking the potential: the impact of digital leadership on firms' performance through digital transformation. *Journal of Business and Socio-Economic Development*, *4*(2), 161-177.

Teece, D. J. (2025). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.5065346

Umair, M., Gulzar, F., & Ur Rahman, S. (2025). Digital green governance and ESG outcomes: how executive digital orientation drives sustainable transformation in China’s mining enterprises. *Mineral Economics*, 1-15.

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, *28*(2), 118-144. https://doi.org/10.1016/j.jsis.2019.01.003