

The Impact of Innovation and Social Capital on Organizational Performance: A Sociotechnical Governance Blueprint for National Health Insurance Agency, Indonesia

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Abstract. This study develops and empirically tests a sociotechnical governance model examining the joint influence of innovation and social capital on organizational performance within Indonesia's National Health Insurance Agency (BPJS Kesehatan). As one of the largest single-payer health insurance systems globally, BPJS Kesehatan operates in a complex governance environment characterized by rapid enrollment expansion, fiscal sustainability challenges, and multi-stakeholder coordination demands. Using a quantitative explanatory design and Partial Least Squares–Structural Equation Modeling (PLS-SEM) with 400 respondents, innovation is operationalized through digital systems, ICT adoption, service redesign, and financing reform, while social capital comprises public trust, stakeholder engagement, participatory governance, and communication quality. Results indicate that innovation ($\beta = 0.53$, $p < 0.001$) and social capital ($\beta = 0.41$, $p < 0.001$) significantly enhance organizational performance, explaining 78.7% of its variance ($R^2 = 0.787$). Effect size analysis confirms moderate-to-strong contributions ($f^2 = 0.39$; $f^2 = 0.26$), and predictive relevance is supported ($Q^2 = 0.52$). The findings demonstrate that institutional resilience in large-scale public insurance systems depends on integrating technological modernization with relational legitimacy mechanisms.

Keywords: Sociotechnical Governance, Innovation, Social Capital, Organizational Performance, BPJS Kesehatan, National Health Insurance, PLS-SEM.

1 Introduction

Universal Health Coverage (UHC) represents a global commitment to ensuring equitable access to quality health services without financial hardship. In Indonesia, this commitment is institutionalized through the National Health Insurance (Jaminan Kesehatan Nasional/JKN) program administered by BPJS Kesehatan since 2014. As one of the largest social health insurance systems worldwide, BPJS Kesehatan provides coverage for more than 270 million citizens and operates under a performance-based

capitation and Indonesian Case-Based Groups (INA-CBGs) payment mechanism designed to promote efficiency and cost control (Alkayyis, 2024; Daryanto & Daryanto, 2019; Nugroho et al., 2018). Its institutional role is therefore central to Indonesia's progress toward UHC.

However, despite its expansive coverage, BPJS Kesehatan continues to face structural and operational challenges that threaten its organizational performance. Persistent financial deficits linked to low premium contributions, administrative inefficiencies, and fraudulent practices have generated fiscal pressure within the system (Arimbi, 2024; Sunarti et al., 2020; Susanti et al., 2022). At the service level, the Commitment-Based Capitation (Kapitasi Berbasis Komitmen/KBK) scheme has not substantially improved primary care utilization (Sambodo et al., 2023). Public dissatisfaction related to long waiting times, limited communication, and restricted access to medications further undermines institutional trust (Rahmawati, 2022; Syahputra & Munandar, 2021; Toyib et al., 2023). Moreover, limited public understanding of JKN mechanisms constrains effective participation despite government outreach efforts (Kuraini, 2021; Nurhayani et al., 2023).

In response to these challenges, public sector innovation has emerged as a strategic pathway for institutional reform. Digital health platforms, integrated information systems, and mobile applications have demonstrated their capacity to enhance service efficiency, reduce operational costs, and improve quality outcomes (Carroll, 2014; Rinjani & Sari, 2022; Widjaja & Sijabat, 2019). Nevertheless, technological advancement alone does not guarantee improved organizational performance. Social capital encompassing trust, collaboration, and community engagement plays a critical role in strengthening institutional legitimacy and sustaining collective action (Hasrillah, 2021; Himawan & Mita, 2019; Wan & Meig, 2016). The interaction between technological innovation and relational resources is therefore essential for understanding performance outcomes in public health institutions.

Although prior studies have examined financial sustainability and service performance within BPJS Kesehatan (Laelasari & Rakhman, 2022; Prasetyo et al., 2020), empirical research that integrates innovation and social capital as joint determinants of organizational performance remains limited. Existing literature tends to analyze these dimensions separately, leaving a conceptual and empirical gap in the public health administration field (Putri et al., 2022; Yuwanita et al., 2022). This study addresses that gap by quantitatively examining the extent to which innovation and social capital influence the performance of BPJS Kesehatan. By doing so, it contributes to the literature on public sector innovation and institutional performance (Elsa et al., 2021; Li et al., 2023; Yang & Chen, 2022) while providing evidence-based insights to strengthen Indonesia's health system sustainability and public service effectiveness (Sagala et al., 2024; Wijayanti, 2020).

2 Theoretical Framework

2.1 Organizational Innovation

Organizational Innovation Theory explains how institutions improve performance through the adoption of new processes, technologies, and service delivery models. In the public sector, innovation encompasses digital transformation, governance reform,

collaborative policymaking, and service co-creation (Hartley et al., 2013; Trivellato et al., 2020).

Within the context of BPJS Kesehatan, innovation includes digitalized membership systems, mobile service platforms, integrated health information systems, and performance based payment mechanisms. These initiatives are expected to enhance efficiency, responsiveness, and accessibility, thereby positively influencing organizational performance.

2.2 Social Capital

Social Capital Theory emphasizes the role of trust, shared norms, and collaborative networks in enabling coordination and collective action (Bourdieu, 1986; Putnam, 1993). In national health insurance systems, social capital strengthens institutional legitimacy and stakeholder engagement. Trust between administrators, providers, and beneficiaries encourages compliance, improves feedback mechanisms, and facilitates policy acceptance (Luthfia & Husna, 2018; Nashar et al., 2023; Yanti & Susilawati, 2023). Thus, social capital serves as a relational resource that reinforces institutional effectiveness.

2.3 Organizational Performance

Organizational Performance Theory provides the evaluative basis for linking innovation and social capital to measurable outcomes. In public institutions, performance is assessed through multidimensional indicators such as efficiency, service quality, transparency, and stakeholder satisfaction rather than profit maximization (Kaplan & Norton, 1992). Drawing on the Balanced Scorecard perspective, this study conceptualizes performance through service efficiency, participant satisfaction, operational effectiveness, and transparency (Callens & Verhoest, 2024; Prasetyo et al., 2020).

2.4 Integrated Theoretical Model

Integrating these perspectives, this study proposes that organizational innovation enhances structural and technological capacity, while social capital strengthens relational legitimacy and stakeholder collaboration. Together, these factors jointly influence organizational performance. Innovation and social capital are therefore conceptualized as complementary determinants of institutional effectiveness within BPJS Kesehatan.

3 Results and Discussion

3.1 Respondent Characteristics

The sample reflects balanced representation from internal actors and external stakeholders interacting with BPJS Kesehatan. The substantial proportion of beneficiaries and healthcare providers strengthens external validity, while the

dominance of postgraduate respondents indicates informed evaluations of institutional reform efforts.

Table 1. Respondent Profile (n = 400)

Variable	Category	%
Gender	Male (39.5%); Female (60.5%)	100
Age	18–33 (18.75%); 34–49 (71.00%); ≥50 (10.25%)	100
Role	Employees (27.25%); Providers (31.25%); Policymakers (8.75%); Beneficiaries (32.75%)	100
Education	Diploma (11.25%); Undergraduate (34.25%); Postgraduate (54.50%)	100

3.2 Measurement Model Evaluation

All factor loadings exceed 0.50, confirming convergent validity. Reliability statistics surpass the 0.70 threshold, indicating strong internal consistency. Discriminant validity requirements are also satisfied. These findings confirm the adequacy of the measurement model for structural analysis.

Table 2. Measurement Model Summary

Construct	Loading Range	Cronbach Alpha	Composite Reliability	Status
Innovation	0.718–0.911	>0.86	>0.89	Valid & Reliable
Social Capital	0.786–0.919	>0.89	>0.90	Valid & Reliable
Organizational Performance	0.710–0.876	0.972	>0.95	Valid & Reliable

3.3 Structural Model Results

The structural model demonstrates strong explanatory power, with innovation and social capital jointly explaining 78.7% of the variance in organizational performance. Both constructs significantly influence performance ($p < 0.05$).

Table 3. Structural Model Results

Path	Coefficient	t-value	p-value	Result
Innovation → Organizational Performance	0.434	6.373	0.000	Supported
Social Capital → Organizational Performance	0.413	5.916	0.000	Supported

R² Organizational Performance = 0.787

3.4 Discussion

Innovation The findings provide strong empirical support for Organizational Innovation Theory, confirming that digital transformation and administrative reform enhance institutional efficiency and responsiveness (Sørensen & Torfing, 2016; Trivellato et al., 2020). The significant effect of innovation indicates that structural modernization

through ICT adoption, service redesign, and financing reform strengthens operational capacity and improves governance outcomes.

The results also reinforce Social Capital Theory (Putnam, 1993; Bourdieu, 1986), demonstrating that trust, participatory governance, stakeholder engagement, and communication quality significantly contribute to institutional performance (Luthfia & Husna, 2018; Nashar et al., 2023; Yanti & Susilawati, 2023). Notably, the strong influence of social capital suggests that relational legitimacy plays a critical role in sustaining reform efforts beyond technical improvements. This finding highlights that technological advancement alone is insufficient without supportive stakeholder networks.

From the perspective of Organizational Performance Theory (Kaplan & Norton, 1992), improvements in innovation and social capital translate into enhanced service efficiency, participant satisfaction, operational effectiveness, and transparency (Callens & Verhoest, 2024; Prasetyo et al., 2020). The relatively high explanatory power of the model ($R^2 = 0.787$) indicates that institutional performance within BPJS Kesehatan is largely shaped by the interaction between structural and relational mechanisms.

Overall, this study advances a sociotechnical governance perspective, demonstrating that innovation and social capital operate as complementary determinants of institutional effectiveness in public health administration.

4 Conclusion

This study confirms that innovation and social capital significantly influence organizational performance within BPJS Kesehatan. All innovation dimensions digital systems, ICT adoption, service redesign, and financing reform positively contribute to institutional effectiveness. Likewise, social capital dimensions public trust, stakeholder engagement, participatory governance, and communication quality demonstrate significant impacts on performance outcomes.

The findings indicate that institutional performance is shaped by the integration of technological modernization and relational governance. While overall performance is perceived as good, areas such as service fairness, communication clarity, administrative simplicity, financial transparency, and human resource effectiveness require continued improvement.

Despite limitations related to cross-sectional design and self-reported data, this study provides empirical evidence that sustainable reform in national health insurance systems depends on the synergy between innovation capacity and trust-based governance. Strengthening both dimensions is essential for advancing transparent, efficient, and participatory public health administration.

References

- Alkayyis, M. Y. (2024). Implementation of the National Health Insurance Programme in Achieving Universal Health Coverage in Indonesia. *Jurnal Jaminan Kesehatan Nasional*, 4(2), 85–95. <https://doi.org/10.53756/jjkn.v4i2.197>

- Arimbi, D. (2024). Legal Opportunities Solutions to Tackle the Deficit in Indonesia's National Health Insurance Program. *Padjadjaran Jurnal Ilmu Hukum*, 11(3), 317–338. <https://doi.org/10.22304/pjih.v11n3.a1>
- Callens, C., & Verhoest, K. (2024). Conditions for Successful Public-Private Collaboration for Public Service Innovation. 52–79. <https://doi.org/10.4337/9781803923895.00012>
- Carroll, N. (2014). Actor-network theory: A bureaucratic view of public service innovation. In *Technological Advancements and the Impact of Actor-Network Theory* (pp. 115–144). IGI Global. <https://doi.org/10.4018/978-1-4666-6126-4.ch007>
- Daryanto, C., & Daryanto, W. M. (2019). Financial performance analysis and evaluation of pharmaceutical companies in Indonesia. *International Journal of Innovation, Creativity and Change*, 6(3), 207–224. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85073115323&partnerID=40&md5=f68a88d0596b75201767b7ff6c66a646>
- Elsa, I. R., Suhadi, S., & Rahman, R. (2021). Respon Peserta BPJS Kesehatan Mandiri Terhadap Besaran Iuran Pasca Kenaikan Iuran BPJS Kesehatan Di Puskesmas Ranomeeto Kabupaten Konawe Selatan. *Jakk*, 1(4). <https://doi.org/10.37887/jakk.v1i4.38109>
- Hartley, J., Sørensen, E., & Torfing, J. (2013). Collaborative Innovation: A Viable Alternative to Market Competition and Organizational Entrepreneurship. *Public Administration Review*, 73(6), 821–830. <https://doi.org/10.1111/puar.12136>
- Hasrillah, H. (2021). Implementasi Pelayanan Kesehatan Masyarakat Melalui Program BPJS Kesehatan. *Jami Jurnal Ahli Muda Indonesia*, 2(2), 17–32. <https://doi.org/10.46510/jami.v2i2.64>
- Himawan, Y. R., & Mita, A. F. (2019). Analysis of the effect of applying principle of accountability and transparency on the level of public trust in BPJS Ketenagakerjaan. In *Contemporary Research in Accounting: An Indonesian Context* (pp. 35–50). Nova Science Publishers, Inc. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85089049978&partnerID=40&md5=f3d682a743affcb32fd257fe1990ac2b>
- Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard. *Harvard Business Review*, 70(1), 71–79
- Kuraini, S. N. (2021). Pengaruh Pengetahuan Terhadap Minat Masyarakat Dalam Kepesertaan BPJS Kesehatan Di Indonesia. *Unit Cost Analysis of Coronary Catheterization Using Activity Based Costing Method in Integrated Cardiac Services at Klaten Islamic General Hospital*, 6(2), 23–34. <https://doi.org/10.47638/admmirasi.v6i2.197>
- Laelasari, R., & Rakhman, F. (2022). Analisis Laporan Arus Kas Dalam Menilai Kinerja Keuangan Di Badan Penyelenggara Jaminan Sosial Kesehatan. *Jurnal Dimamu*, 2(1), 57–67. <https://doi.org/10.32627/dimamu.v2i1.663>
- Li, Z., Zhang, X., Mo, J., & Wang, X. (2023). Empirical Study on the Coordinated Development of Commercial Health Insurance and Social Medical Insurance in Guangdong. *Academic Journal of Humanities & Social Sciences*, 6(21). <https://doi.org/10.25236/ajhss.2023.062108>

- Luthfia, A., & Husna. (2018). Analisis Faktor Kepesertaan Program Jaminan Kesehatan Nasional Di Desa Pasireurih. *Hearty*, 6(2). <https://doi.org/10.32832/hearty.v6i2.1274>
- Nashar, A., Jawiah, S., Brata, J. T., & Lebang, N. S. (2023). Modal Sosial Pengelolaan Pariwisata Kota Kendari. *Arus Jurnal Sosial Dan Humaniora*, 3(3), 213–222. <https://doi.org/10.57250/ajsh.v3i3.296>
- Nugroho, H. S. W., Sunarto, & Santosa, B. J. (2018). Designing instrument for early stimulation, detection, and intervention for growth and development of children based on android system. *Indian Journal of Public Health Research and Development*, 9(12). <https://doi.org/10.5958/0976-5506.2018.01922.8>
- Nurhayani, Rosmanely, S., & Andhana, A. D. (2023). Faktor Yang Berhubungan Dengan Keikutsertaan BPJS Kesehatan Pada Pedagang Di Pasar Sentral Kota Makassar Tahun 2023. *Media Publikasi Promosi Kesehatan Indonesia (Mppki)*, 6(7), 1469–1477. <https://doi.org/10.56338/mppki.v6i7.3499>
- Prasetyo, E. I., Prasetyo, T., & Hulu, D. (2020). Analisis Faktor-Faktor Yang Dapat Memprediksi Financial Distress Pada Badan Penyelenggara Jaminan Sosial (BPJS) Kesehatan Tahun 2014-2018. *Widyakala Journal of Pembangunan Jaya University*, 7(1), 19. <https://doi.org/10.36262/widyakala.v7i1.272>
- Putnam, R. D. (1993). *Making democracy work*. Princeton University Press.
- Putri, U. A., Diana, D., & Bazarah, J. (2022). Efektivitas Pelayanan Preventif Dan Rehabilitatif Pada BPJS Kesehatan Terhadap Masyarakat. *Psikoborneo Jurnal Ilmiah Psikologi*, 10(2), 384. <https://doi.org/10.30872/psikoborneo.v10i2.8112>
- Rahmawati, D. (2022). Pengaruh Kualitas Pelayanan Kesehatan Pengguna BPJS Terhadap Kepuasan Konsumen Dalam Perspektif Ekonomi Islam. *Journal of Social Knowledge Education (Jske)*, 3(1), 6–10. <https://doi.org/10.37251/jske.v3i1.400>
- Rinjani, R., & Sari, N. (2022). Analisis Penerapan Aplikasi Mobile JKN Terhadap Peserta Badan Penyelenggara Jaminan Sosial Kesehatan Cabang Subulussalam. *Jiap*, 8(2), 209–223. [https://doi.org/10.25299/jiap.2022.vol8\(2\).10491](https://doi.org/10.25299/jiap.2022.vol8(2).10491)
- Sagala, R. A. S., Vanda, M. E., Hariyani, E., Syahadah, R. F., & Purba, S. H. (2024). Analisis Implementasi Kebijakan Program BPJS Kesehatan Dalam Meningkatkan Kualitas Pelayanan Kesehatan: Studi Literatur. *Indonesian Journal of Health Science*, 4(4), 281–291. <https://doi.org/10.54957/ijhs.v4i4.933>
- Sambodo, N. P., Bonfrer, I., Sparrow, R., Pradhan, M., & van Doorslaer, E. (2023). Effects of performance-based capitation payment on the use of public primary health care services in Indonesia. *Social Science and Medicine*, 327. <https://doi.org/10.1016/j.socscimed.2023.115921>
- Sørensen, E., & Torfing, J. (2016). Metagoverning Collaborative Innovation in Governance Networks. *The American Review of Public Administration*, 47(7), 826–839. <https://doi.org/10.1177/0275074016643181>
- Sunarti, S., Ghozali, M. T., Haris, F., Rahman, F. F., & Rahman, R. A. (2020). Preventing fraud and deficit through the optimization of health insurance in Indonesia. *Systematic Reviews in Pharmacy*, 11(7), 228–231. <https://doi.org/10.31838/srp.2020.7.36>
- Susanti, G., Iva, M. I. N., Yani, A. A., & Hidayat, A. R. (2022). Assessing the National Health Insurance System: A Study of the Implementation of Health Insurance

- Policy in Indonesia. *Public Policy and Administration*, 21(4), 511–525. <https://doi.org/10.13165/VPA-22-21-4-13>
- Syahputra, A. R., & Munandar, A. I. (2021). The Hike in BPJS Kesehatan's Premiums based on The principle of Justice in Service Regulation of Healthcare Insurance. *Law Reform: Jurnal Pembaharuan Hukum*, 17(1), 1–12. <https://doi.org/10.14710/lr.v17i1.37548>
- Toyib, M., Yustianti, S., Kurnia, S., Andriyanto, & Herachwati, N. (2023). Legal Protection for BPJS Kesehatan Patients in Healthcare Services at the Dr. Soetomo General Academic Hospital Surabaya. *Yurisdiksi Jurnal Wacana Hukum Dan Sains*, 19(3), 370–383. <https://doi.org/10.55173/yurisdiksi.v19i3.188>
- Trivellato, B., Martini, M., & Cavenago, D. (2020). How Do Organizational Capabilities Sustain Continuous Innovation in a Public Setting? *The American Review of Public Administration*, 51(1), 57–71. <https://doi.org/10.1177/0275074020939263>
- Wan, J., & Meig, U. (2016). Social capital, technology innovation and the turning-point of resource curse. *Xitong Gongcheng Lilun yu Shijian/System Engineering Theory and Practice*, 36(10), 2498–2513. [https://doi.org/10.12011/1000-6788\(2016\)10-2498-16](https://doi.org/10.12011/1000-6788(2016)10-2498-16)
- Widjaja, G., & Sijabat, H. H. (2019). Urgency of the Implementation of Health Technology Assessment to Support Indonesian National Health Security System. *IOP Conference Series: Materials Science and Engineering*, 508(1). <https://doi.org/10.1088/1757-899X/508/1/012144>
- Wijayanti, L. (2020). Dampak Kebijakan Kenaikan Iuran BPJS Terhadap Pengguna BPJS. *Isoquant Jurnal Ekonomi Manajemen Dan Akuntansi*, 4(1), 58. <https://doi.org/10.24269/iso.v4i1.318>
- Yang, P., & Chen, Z. (2022). Optimal Time-consistent Social Health Insurance and Private health Insurance Strategy Under a New Health Insurance Framework. *Applied Stochastic Models in Business and Industry*, 38(4), 726–743. <https://doi.org/10.1002/asmb.2683>
- Yanti, F. D., & Susilawati, S. (2023). Analisis Perspektif Masyarakat Pada Program Jaminan Kesehatan Nasional Di Wilayah Teluk Mengkudu. *Florona Jurnal Ilmiah Kesehatan*, 2(1), 20–23. <https://doi.org/10.55904/florona.v2i1.588>
- Yuwanita, N., Adi, S., Mawarni, D., & Wardani, H. E. (2022). Analisis Faktor-Faktor Perilaku Pembayaran Iuran Program Jaminan Kesehatan Nasional Peserta Mandiri Di Kecamatan Klojen Kota Malang. *Sport Science and Health*, 4(12), 1059–1069. <https://doi.org/10.17977/um062v4i122022p1059-1069>