






“From readiness to excellence: The role of digital enablement and innovation in life insurance performance”

| | |
|---------------------|---|
| AUTHORS | Risye Dillianti  Harjanto Prabowo  Rano Kartono Rahim  Yohannes Kurniawan  |
| ARTICLE INFO | Risye Dillianti, Harjanto Prabowo, Rano Kartono Rahim and Yohannes Kurniawan (2024). From readiness to excellence: The role of digital enablement and innovation in life insurance performance. <i>Insurance Markets and Companies</i> , 15(2), 35-46. doi: 10.21511/ins.15(2).2024.04 |
| DOI | http://dx.doi.org/10.21511/ins.15(2).2024.04 |
| RELEASED ON | Friday, 22 November 2024 |
| RECEIVED ON | Wednesday, 02 October 2024 |
| ACCEPTED ON | Sunday, 10 November 2024 |
| LICENSE |  This work is licensed under a Creative Commons Attribution 4.0 International License |
| JOURNAL | "Insurance Markets and Companies" |
| ISSN PRINT | 2616-3551 |
| ISSN ONLINE | 2522-9591 |
| PUBLISHER | LLC “Consulting Publishing Company “Business Perspectives” |
| FOUNDER | LLC “Consulting Publishing Company “Business Perspectives” |



NUMBER OF REFERENCES

29



NUMBER OF FIGURES

2



NUMBER OF TABLES

7

© The author(s) 2024. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 2nd of October, 2024

Accepted on: 10th of November, 2024

Published on: 22nd of November, 2024

© Risye Dillianti, Harjanto Prabowo,
Rano Kartono, Yohannes Kurniawan,
2024

Risye Dillianti, Doctor of Research in
Management, BINUS Business School,
Bina Nusantara University, Indonesia.
(Corresponding author)

Harjanto Prabowo, Faculty Member
or Doctor of Research in Management
Program, BINUS Business School,
Doctor of Research in Management,
Bina University, Indonesia.

Rano Kartono Rahim, Faculty Member
or Doctor of Research in Management
Program, BINUS Business School,
Doctor of Research in Management,
Bina University, Indonesia.

Yohannes Kurniawan, Faculty Member
or Doctor of Research in Management
Program, BINUS Business School,
Doctor of Research in Management,
Bina University, Indonesia.



This is an Open Access article,
distributed under the terms of the
[Creative Commons Attribution 4.0
International license](https://creativecommons.org/licenses/by/4.0/), which permits
unrestricted re-use, distribution, and
reproduction in any medium, provided
the original work is properly cited.

Conflict of interest statement:

Author(s) reported no conflict of interest

Risye Dillianti (Indonesia), Harjanto Prabowo (Indonesia),
Rano Kartono Rahim (Indonesia), Yohannes Kurniawan (Indonesia)

FROM READINESS TO EXCELLENCE: THE ROLE OF DIGITAL ENABLEMENT AND INNOVATION IN LIFE INSURANCE PERFORMANCE

Abstract

With digital transformation becoming a key focus for businesses globally, the Indonesian life insurance industry faces increasing pressure to adopt digital strategies to remain competitive. This study examines the relationships between technology adoption readiness, digital enablement, and life insurance performance and explores the moderating effect of innovation capability. A quantitative approach was employed, gathering data through a structured questionnaire distributed to senior executives from 43 life insurance companies in Indonesia. Using Structural Equation Modeling (SEM) with SmartPLS, the analysis reveals that digital enablement significantly enhances life insurance performance, driven by the readiness of companies to adopt technology. However, the moderating role of innovation capability was found to be less impactful, suggesting that innovation contributes to performance but does not substantially influence the relationship between digital enablement and life insurance performance. These findings provide valuable insights for life insurance companies in Indonesia, highlighting the importance of investing in technology adoption and digital integration while continuing to develop innovation capabilities to stay competitive in a rapidly evolving digital landscape.

Keywords

technology adoption readiness, digital enablement,
innovation capability, life insurance performance, digital
transformation

JEL Classification

O33, G22, M15

INTRODUCTION

The life insurance industry in Indonesia stands at a pivotal moment. Despite steady growth, a staggering 70% of digital transformation initiatives globally fail to meet their objectives (Zobell, 2018), and the Indonesian market is no exception. A survey by the Indonesian Financial Services Authority (OJK, 2023) found that the utilization of digital tools among life insurance companies in Indonesia remains notably low, with many still relying on manual processes. This lack of digital adoption has left the majority of insurers trailing in the race for competitiveness and innovation, further complicating efforts to keep pace with global trends.

In addition to the challenges of digital transformation, Indonesia's life insurance sector grapples with low market penetration and limited financial literacy. Contributing less than 2% to the national GDP, the industry remains underdeveloped compared to other emerging markets (OJK, 2023). This low penetration reflects not only a limited public understanding of life insurance products but also a hesitancy to

adopt them, due to complex processes and the insufficient integration of digital technologies. The lack of digitalization, as highlighted by the OJK, further hinders efforts to reach a wider audience and improve service accessibility.

Given these challenges, digital transformation is no longer just a strategic option but a necessity for life insurers aiming to remain competitive. Addressing the interplay between Technology adoption readiness, Digital enablement, and Innovation capability is crucial for enhancing Life insurance performance.

1. LITERATURE REVIEW AND HYPOTHESES

Technology adoption readiness is a critical factor for advancing digital enablement in organizations. It represents an organization's preparedness to adopt and leverage new technologies, ultimately enhancing business processes, customer experiences, and overall performance. Technology adoption readiness encompasses several key elements, such as infrastructure, employee skills, leadership, and organizational culture, all of which significantly influence an organization's success in implementing new technologies. Organizational culture plays a crucial role in technology adoption readiness, as it influences how effectively an organization can implement new technologies. Resistance to change and a lack of digital skills among employees are significant barriers to successful technology adoption. Scholkmann (2020) emphasizes the importance of fostering a culture that encourages continuous learning and adaptation, which can help mitigate resistance and enhance employees' ability to embrace digital transformation.

The importance of technology adoption readiness is evident across various sectors. For example, in the finance industry, higher levels of technology readiness have been shown to correlate with better resilience during crises, resulting in fewer non-performing loans. This demonstrates that organizations with robust technology adoption readiness can better leverage technology to enhance their financial stability (Pierri & Timmer, 2022). Similarly, the use of artificial intelligence (AI) in the banking sector has had a transformative impact, enhancing both financial stability and operational efficiency (Fares et al., 2023). In the education sector, despite the inherent challenges, technology adoption readiness has been shown to foster gender-inclusive entrepreneurship and suc-

cessfully integrate digital technologies into learning environments, providing a clear indication of the broad applicability of technology adoption readiness across different industries (Orser et al., 2019; Redep, 2021).

The strategic implementation of technology adoption readiness has been shown to improve performance across a variety of sectors. Success is often facilitated by collaboration among stakeholders and strong leadership (Agbehadji et al., 2022). However, the relationship between technology adoption readiness and organizational performance is complex and depends heavily on how digital technologies are deployed. For instance, while AI skills among managers are positively correlated with organizational growth, merely adopting IT solutions does not guarantee immediate performance gains (Chen & Srinivasan, 2023). This complexity underscores the need for organizations to not only adopt new technologies but also to ensure that their digital strategies are aligned with their operational goals and supported by strong leadership.

In sectors such as healthcare, technology adoption readiness has enabled the successful adoption of telehealth technologies, which has significantly improved patient satisfaction by making healthcare services more accessible and efficient (Moussa et al., 2023). Similarly, in retail and manufacturing, technology adoption readiness has enabled companies to quickly adapt to changing consumer behaviors and successfully implement Industry 4.0 technologies, leading to enhanced operational efficiency and customer satisfaction (Zhong & Moon, 2023). Technology adoption readiness empowers employees by equipping them with the tools, technologies, and skills necessary to harness digital innovations fully, thereby fostering seamless integration of digital solutions into daily operations. Hamid (2022) highlights that employees'

technology readiness significantly influences their ability to adapt to and integrate digital tools into their work processes, enhancing both individual and organizational performance.

The life insurance industry, which has traditionally relied on face-to-face interactions and manual processes, is increasingly shifting towards digital platforms. These platforms present opportunities to improve operational efficiency, enhance customer experiences, and create new business models. As customers become more digitally engaged, life insurance firms are being compelled to innovate in areas such as product development, claims processing, and customer service (Balasubramanian et al., 2021). In this context, digital enablement is no longer optional; it is a strategic necessity and a key driver of firm performance. Digital enablement allows organizations to meet evolving customer expectations and address operational challenges, particularly in a competitive industry like life insurance.

Digital enablement involves leveraging digital technologies to enhance business processes, improve customer experiences, and achieve organizational goals. It requires a fundamental shift in organizational culture, strategy, structure, and operations, enabling employees to harness digital innovations effectively. In Indonesia's life insurance industry, digital enablement is crucial for adapting to new customer interaction models, enhancing risk management, and developing innovative products. As a result, it leads to greater market competitiveness and higher levels of customer satisfaction.

In the life insurance sector, digital enablement strategies include the implementation of self-service portals, AI-driven underwriting, and personalized customer service solutions, all of which streamline operations and improve the customer experience. However, the success of these strategies often depends on overcoming significant challenges, such as scaling digital innovations beyond pilot stages and ensuring robust data security measures, especially in a sector where trust is paramount. Schiffer et al. (2023) highlight that the scalability of digital innovations requires addressing both technical and organizational barriers, with data security being a critical component

to maintaining stakeholder trust and ensuring the long-term success of these initiatives. A holistic approach, involving collaboration between stakeholders and strong leadership, is essential to sustain the growth and success of digital enablement initiatives (Chauhan et al., 2022).

Despite the potential benefits of digital transformation, high failure rates are common due to insufficient scaling beyond initial pilot projects. This highlights the need for comprehensive academic discourse and practical strategies to guide organizations through the complexities of digital transformation (Schiffer et al., 2023). Embracing digital enablement in the life insurance sector is essential for enhancing competitiveness, operational efficiency, and customer satisfaction. Digital transformation ensures that organizations are equipped to navigate the challenges of the digital era and capitalize on new opportunities.

Recent research has emphasized the transformative impact of digital enablement on firm performance, particularly its role in driving innovation, enhancing environmental, social, and governance (ESG) outcomes, and supporting corporate sustainability (Hanelt et al., 2020; Lu et al., 2024). Digital enablement fosters innovation, improves relationship quality, and strengthens differentiation strategies, all of which are crucial for organizational success (Grandinetti et al., 2020). Furthermore, adopting digital tools in areas such as supply chain management and customer service can lead to significant improvements in financial performance and operational efficiency (Senadjki et al., 2024).

In emerging markets, digital enablement has been shown to drive productivity, market expansion, and economic growth, particularly in IT-driven sectors (Mubarra et al., 2023). In the life insurance industry, leveraging digital technologies through digital enablement is essential for boosting strategic initiatives, fostering innovation, and improving operational capabilities. These advancements ultimately lead to sustained growth and competitiveness. As Liepert (2024) noted, digital enablement is critical to improving EBITDA, customer engagement, and market opportunities, making it a vital component of any modern business strategy.

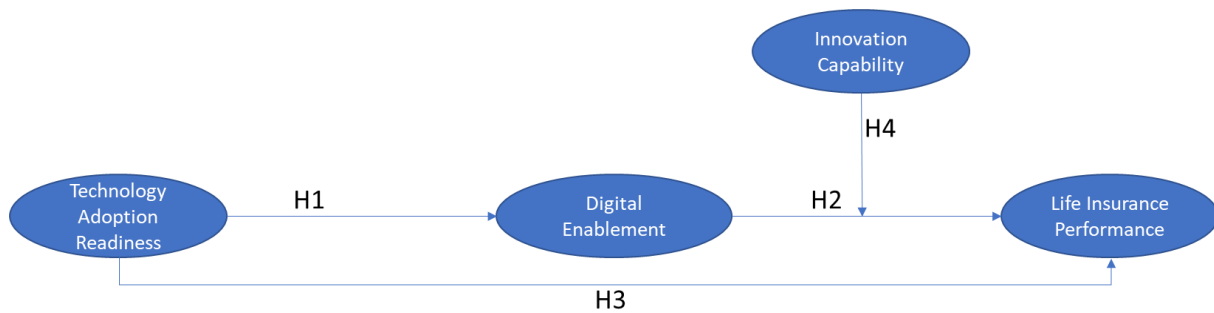


Figure 1. Research model

Innovation capability is another key factor that significantly influences the success of digital transformation. Innovation capability refers to an organization's ability to foster creativity, agility, and continuous innovation. Companies with robust innovation capability are better positioned to leverage new technologies and stay competitive. Innovation has long been recognized as a critical driver of organizational success, helping companies distinguish themselves from competitors by fostering growth, addressing societal challenges, and creating new market opportunities (Fagerberg & Hutschenreiter, 2020). Continuous innovation involves a culture of discovery, risk-taking, and learning from failures, all of which are essential for sustained innovation (Caro-Gonzalez, 2024).

Innovation capability also depends on transformational leadership, which plays a crucial role in fostering innovative work behavior. By enhancing employees' readiness for innovation, transformational leaders promote a culture of creativity and experimentation within their organizations (Tan et al., 2021). The relationship between digital enablement and firm performance is significantly influenced by factors such as Innovation Capability, which can moderate this relationship. Research has shown that firms with advanced technological capabilities are better positioned to leverage digital tools for innovation, thereby enhancing their overall performance (Agustia et al., 2022; Khin & Ho, 2020).

The existing literature extensively covers the individual impacts of technology adoption readiness, digital enablement, and innovation capability on organizational performance. However, there is a critical gap in understanding how these factors interact specifically within the life insurance industry, particularly in emerging markets like Indonesia. Most studies have focused on broader financial services or manufacturing sectors, leaving a gap in sector-specific in-

sights for life insurance. This gap is particularly evident in emerging markets, where unique challenges such as low insurance penetration rates and limited financial literacy complicate the adoption of digital strategies (OJK, 2023).

Furthermore, while the mediating role of digital enablement and the moderating effect of innovation capability on the relationship between technology adoption readiness and Life insurance performance have been explored in other industries, these relationships have yet to be thoroughly examined in the life insurance sector.

This study aims to fill that gap by investigating how technology adoption readiness influences digital enablement and, subsequently, life insurance performance, with innovation capability acting as a moderating factor.

The hypotheses for this study are as follows:

- H1: Technology adoption readiness positively affects digital enablement.*
- H2: Digital enablement positively affects life insurance performance.*
- H3: Technology adoption readiness positively affects life insurance performance.*
- H4: Innovation capability moderates the relationship between digital enablement and life insurance performance.*

2. METHODOLOGY

This study employed a quantitative research methodology using a cross-sectional survey approach. Data were collected through structured question-

naires in 43 out of 55 active life insurance companies identified by the Indonesian Financial Services Authority (OJK), with a leader in a managerial position representing each company. These 43 companies were selected based on their size, operational scale, and progress in digital transformation, ensuring that the sample included firms with sufficient experience in areas of technology adoption readiness, digital enablement, and innovation capability. The purposive sampling method was used to focus on organizations where digital transformation is a strategic priority, making them suitable for generating insightful data.

The remaining 12 companies were excluded due to their smaller scale, newer presence in the market, or because they are in the early stages of digital transformation. This exclusion ensured the study concentrated on firms that are actively engaged in or advancing their digital initiatives, thereby allowing for the collection of richer and more relevant data.

Respondents were leaders at the division head level from various departments involved in digital processes. These individuals were selected because they hold strategic decision-making roles and are responsible for overseeing and implementing technology adoption readiness, digital enablement, and innovation capability initiatives within their organizations. Their input is critical in understanding the challenges and priorities related to digital transformation in the Indonesian life insurance sector.

The questionnaire was designed based on validated scales from previous studies, ensuring the reliability and validity of the measurement instruments. It covered four key areas, using a 4-point Likert scale ranging from “strongly disagree” to “strongly agree” (Wolf et al., 2019):

- **Technology adoption readiness:** Assessed the company’s preparedness in terms of technological infrastructure, employee readiness, and organizational culture for adopting new technologies.
- **Digital enablement:** Evaluated the integration of digital technologies into business operations, customer engagement, and process optimization.

- **Innovation capability:** Measured the company’s ability to generate, adopt, and implement new ideas and technologies.
- **Life insurance performance:** Focused on key performance indicators relevant to the life insurance industry.

The collected data were analyzed using Structural Equation Modeling (SEM) through SmartPLS 4.0. SEM was chosen due to its ability to assess both the structural relationships between variables and the overall measurement model in a comprehensive and efficient manner. SEM’s versatility provided a robust framework for analyzing the interrelationships between these key variables, offering valuable insights into their influence on performance within the life insurance sector.

The analysis begins by examining the demographic characteristics of the respondents, including gender, education level, years of experience in the life insurance industry, and their tenure in current roles. The majority of respondents (77%) were male, reflecting a leadership structure that may influence the decision-making processes around technology adoption. In terms of education, 65% of respondents held a bachelor’s degree, while 35% possessed a master’s degree, indicating a highly educated group likely familiar with advanced technological concepts.

Nearly half of the respondents (47%) had over 20 years of experience in the industry, with the remaining respondents having between 10-20 years (28%) or less than 10 years (26%) of experience. This range of industry experience is essential in understanding the respondents’ readiness to adopt new technologies and engage with digital transformation efforts. Additionally, 58% of respondents had been in their current roles for less than five years, pointing to potential recent leadership changes that could affect strategic priorities, particularly those related to digital enablement and innovation capability.

These demographic factors are directly relevant to the study’s focus, as the educational background and extensive industry experience of the respondents provide crucial context for understanding their capacity to lead digital transformation initiatives within the Indonesian life insurance sector.

Table 1. Respondent's demography

| Categories | Attributes | N | % |
|--|-----------------|----|-----|
| Gender | Female | 10 | 23% |
| | Male | 33 | 77% |
| Education | Bachelor Degree | 28 | 65% |
| | Master Degree | 15 | 35% |
| Operating Tenure | < 10 years | 11 | 26% |
| | 10 – 20 years | 12 | 28% |
| | > 20 years | 20 | 47% |
| Asset Class | < 1 Tn | 15 | 35% |
| | 1 Tn – 5 Tn | 7 | 16% |
| | > 5 Tn | 21 | 49% |
| Years in Current Position | < 5 years | 25 | 58% |
| | 5 – 10 years | 16 | 37% |
| | > 10 years | 2 | 5% |
| Years of experience in life insurance industry | < 5 years | 5 | 12% |
| | 5 – 10 years | 4 | 9% |
| | > 10 years | 34 | 79% |
| Age | < 30 | 1 | 2% |
| | > 30 – 40 | 6 | 14% |
| | > 40 – 50 | 32 | 74% |
| | > 50 | 4 | 9% |

3. RESULTS

The first step of the research framework analysis focused on the validity and reliability of the constructs, using Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) to assess each variable in the context of the

Indonesian life insurance industry. This analysis provides insight into the current condition of each construct, including technology adoption readiness, digital enablement, innovation capability, and life insurance performance. These measures are crucial for ensuring that the variables are accurately captured and their relationships validly assessed.

The reliability and validity tests categorize several indicators for each variable. As shown in Table 2, all constructs demonstrated strong internal consistency, with Cronbach's Alpha values exceeding 0.8, ensuring the reliability of the data. Similarly, the AVE values were all above 0.50, confirming adequate convergent validity, and the CR values above 0.70 ensured the scales' reliability.

Discriminant validity was assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. Table 3 shows that each construct's AVE square root was higher than its correlations with other constructs, confirming discriminant validity. Additionally, Table 4 presents the HTMT ratios, all of which were below the 0.85 threshold, further supporting that the constructs are distinct from one another.

Table 2. Convergent validity and reliability

| Construct | Average Variance Extracted (AVE) | Composite Reliability | Cronbach's Alpha |
|-------------------------------------|----------------------------------|-----------------------|------------------|
| Technology Adoption Readiness (TAR) | 0.712 | 0.91 | 0.88 |
| Digital Enablement (DE) | 0.689 | 0.89 | 0.85 |
| Innovation Capability (IC) | 0.723 | 0.92 | 0.89 |
| Life Insurance Performance (LIP) | 0.675 | 0.87 | 0.83 |

Table 3. Fornell-Larcker criterion

| Construct | TAR | DE | IC | LIP |
|-------------------------------------|-------|-------|-------|-------|
| Technology Adoption Readiness (TAR) | 0.845 | 0.680 | 0.615 | 0.590 |
| Digital Enablement (DE) | – | 0.830 | 0.720 | 0.675 |
| Innovation Capability (IC) | – | – | 0.851 | 0.698 |
| Life Insurance Performance (LIP) | – | – | – | 0.812 |

Table 4. Heterotrait-Monotrait (HTMT) ratio

| Construct | TAR | DE | IC | LIP |
|-------------------------------------|------|------|------|------|
| Technology Adoption Readiness (TAR) | – | 0.75 | 0.70 | 0.65 |
| Digital Enablement (DE) | 0.75 | – | 0.78 | 0.71 |
| Innovation Capability (IC) | 0.70 | 0.78 | – | 0.74 |
| Life Insurance Performance (LIP) | 0.65 | 0.71 | 0.74 | – |

Table 5. Path coefficients and hypothesis testing

| Relationship | Path Coefficient | T-Statistic | P-Value | Explanation |
|---------------|------------------|-------------|---------|--|
| DE → LIP | 0.5657 | 8.67 | 0.000 | Accepted |
| IC → LIP | 0.1549 | 2.45 | 0.015 | Accepted |
| TAR → DE | 0.8521 | 12.31 | 0.000 | Indirectly Accepted (through digital enablement) |
| IC x DE → LIP | 0.0345 | 0.92 | 0.361 | Rejected |

The path coefficient analysis provided valuable insights into the relationships between the key variables in this study. First, the results in Table 5 confirm that technology adoption readiness significantly influences digital enablement (p-value = 0.000), supporting Hypothesis 1 (H1). This indicates that companies that are better prepared to adopt new technologies are more likely to successfully implement digital solutions into their operations.

Next, the analysis reveals that digital enablement has a strong positive impact on life insurance performance (p-value = 0.000), supporting Hypothesis 2 (H2). This demonstrates that adopting digital tools directly improves operational efficiency and enhances overall company performance in the life insurance sector.

For Hypothesis 3 (H3), which proposes that technology adoption readiness positively affects life insurance performance, the relationship is primarily indirect. While there is no direct path between technology adoption readiness and life insurance performance in the model, the strong link between technology adoption readiness and digital enablement (p-value = 0.000) and the significant

impact of digital enablement on life insurance performance suggest an indirect effect. Therefore, H3 is indirectly supported, as companies that are well-prepared for adopting new technologies tend to improve performance through successful digital integration.

Finally, while innovation capability positively influences life insurance performance (p-value = 0.015), its moderating role on the relationship between digital enablement and life insurance performance was not statistically significant (p-value = 0.361), meaning that innovation capability does not significantly enhance the effect of digital enablement on performance. This suggests that although innovation contributes to performance, its interaction with digital enablement may not yet be fully optimized in this sector.

Figure 2 visually represents the measurement model results, highlighting the relationships between technology adoption readiness, digital enablement, innovation capability, and life insurance performance. The figure illustrates the strength of the connections between these variables, with the path coefficients clearly showing the significance of the tested hypotheses.

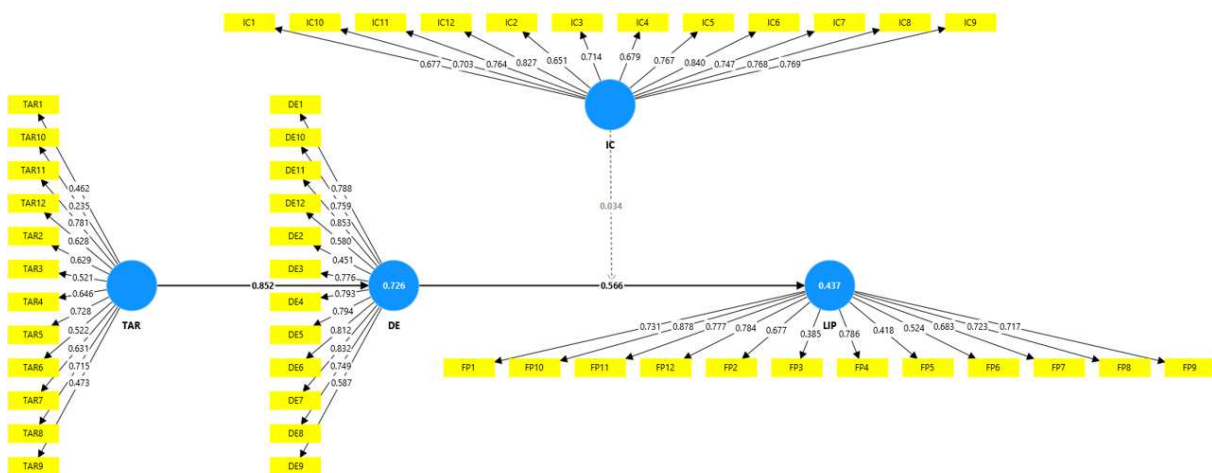


Figure 2. Measurement model result

The model confirms that technology adoption readiness significantly impacts digital enablement, emphasizing the importance of readiness in driving the successful implementation of digital strategies. Similarly, digital enablement is shown to have a strong positive effect on life insurance performance, reinforcing its critical role in improving operational efficiency and customer service.

Although innovation capability was expected to moderate the relationship between digital enablement and life insurance performance, Figure 2 indicates that this moderating effect was not statistically significant. This suggests that innovation, while important, does not significantly enhance the impact of digital enablement on performance in the current model.

The coefficient of determination (R^2) values presented in Table 6 demonstrate the model's strong explanatory power. Digital enablement accounted for 72.6% of the variance in life insurance performance, while technology adoption readiness explained 61.2% of the variance in digital enablement, highlighting the crucial role of technological readiness in driving performance improvements in the Indonesian life insurance sector.

Table 6. Coefficient of determination (R^2)

| Construct | R^2 Value |
|----------------------------------|-------------|
| Digital Enablement (DE) | 0.726 |
| Life Insurance Performance (LIP) | 0.612 |

4. DISCUSSION

The findings of this study confirm the critical role of digital enablement in enhancing life insurance performance in Indonesia. The significant path coefficient of 0.5657 from digital enablement (DE) to life insurance performance (LIP) highlights that digital transformation is a key driver of operational efficiency and customer satisfaction. These results align with prior studies, such as Hanelt et al. (2020), which emphasized digital enablement as a critical factor in improving firm performance through operational improvements and innovation. Similarly, Chen and Srinivasan (2023) demonstrated that digital tools significantly boost value and performance in financial services, further validating this study's outcomes.

The strongest relationship identified in this study – between technology adoption readiness (TAR) and digital enablement, with a path coefficient of 0.8521 – emphasizes the importance of organizational preparedness in facilitating successful digital transformation. This finding corroborates the Resource-Based View (Barney, 1991), which argues that technological readiness and capabilities serve as valuable resources for competitive advantage. Comparable results have been observed in the healthcare sector, where technology readiness directly correlates with the success of digital initiatives (Moussa et al., 2023). In Indonesia, where the life insurance sector continues to grapple with low market penetration and limited financial literacy (OJK, 2023), the readiness to adopt scalable IT infrastructure and integrate digital tools becomes a cornerstone for improving performance and sustaining competitiveness.

Interestingly, the study finds that innovation capability (IC), while positively influencing life insurance performance with a path coefficient of 0.1549, has a relatively minor impact compared to digital enablement. Moreover, its moderating role on the relationship between digital enablement and performance is not statistically significant. This finding contrasts with studies like Khin and Ho (2020), who suggest that combining digital technology adoption with strong innovation capabilities leads to higher performance. One plausible explanation for this divergence is the maturity level of digital transformation in Indonesia's life insurance sector. Many firms may be focusing on foundational efficiency improvements rather than cultivating a culture of radical innovation, as highlighted by Schiffer et al. (2023). This observation underscores the need for life insurers to move beyond adopting digital tools and actively embed innovation into their strategies.

Additionally, the demographic profile of the respondents provides further context. The majority, being senior-level executives with significant industry experience, are well-versed in both traditional and digital business models. However, the relatively lower influence of innovation capability suggests a lag in fostering innovation across the sector. This finding echoes Caro-Gonzalez (2024), who emphasized the im-

portance of nurturing a risk-taking and creative organizational culture to maximize the benefits of digital transformation. Factors such as regulatory constraints or entrenched traditional practices may also limit the full realization of innovation's potential in this sector.

Compared to other emerging markets, the challenges specific to Indonesia – such as low insurance penetration and limited digital literacy—may explain why digital enablement has a more immediate and substantial impact on performance than innovation capability. This is consistent with findings from Mubarra et al. (2023), who observed that in IT-driven sectors within emerging economies, firms often prioritize

foundational digital strategies over advanced innovation initiatives.

This study corroborates the significant role of digital enablement in driving life insurance performance while highlighting a gap in the strategic use of innovation capability. Addressing this gap requires a dual focus: continued investment in digital technologies and scalable IT infrastructure, alongside leadership efforts to foster a robust innovation culture. Future research should explore how specific innovation strategies, such as process and business model innovation, can enhance the relationship between digital enablement and firm performance in emerging markets like Indonesia.

CONCLUSION

This study set out to explore how technology adoption readiness, digital enablement, and innovation capability impact the performance of life insurance companies in Indonesia. The results highlight the pivotal role of digital enablement in driving operational efficiency, customer satisfaction, and overall competitiveness. Companies that exhibit strong technology adoption readiness are better positioned to integrate digital tools, which indirectly enhances their performance through improved digital capabilities.

While innovation capability contributes positively to performance, its role as a moderator between digital enablement and performance is limited. This suggests that innovation has yet to be fully integrated into the strategic frameworks of many Indonesian life insurers. The findings underline the importance of prioritizing organizational readiness for technology adoption and ensuring the seamless integration of digital tools to remain competitive in a rapidly evolving market.

To sustain long-term growth, life insurance firms should invest in strengthening their technological foundations while simultaneously fostering a culture that supports innovation. By addressing these areas, firms can better navigate the complexities of digital transformation and respond more effectively to market demands.

Future studies could examine the longitudinal effects of digital transformation initiatives, as well as the interplay between innovation strategies and digital enablement in emerging markets. Additionally, further exploration of external factors, such as regulatory shifts and market competition, would provide a more comprehensive understanding of the factors influencing digital transformation in the life insurance sector.

AUTHOR CONTRIBUTIONS

Conceptualization: Risye Dillianti, Harjanto Prabowo, Rano Kartono Rahim, Johannes Kurniawan.

Data curation: Risye Dillianti.

Formal analysis: Risye Dillianti.

Funding acquisition: Risye Dillianti.

Investigation: Risye Dillianti.

Methodology: Risye Dillianti.

Project administration: Risye Dillianti.

Resources: Risye Dillianti.

Software: Risye Dillianti.

Supervision: Harjanto Prabowo, Rano Kartono Rahim, Yohannes Kurniawan.

Validation: Risye Dillianti, Harjanto Prabowo, Rano Kartono Rahim, Yohannes Kurniawan.

Visualization: Risye Dillianti.

Writing – original draft: Risye Dillianti.

Writing – review & editing: Harjanto Prabowo, Rano Kartono Rahim, Yohannes Kurniawan.

REFERENCES

- Agbehadji, I. E., Millham, R. C., Awuzie, B. O., & Ngowi, A. B. (2022). Stakeholder's Perspective of Digital Technologies and Platforms Towards Smart Campus Transition: Challenges and Prospects. *Communications in Computer and Information Science*, vol. 1547. Cham: Springer. https://doi.org/10.1007/978-3-030-95630-1_14
- Agustia, D., Haryanto, S. D., Permatasari, Y., & Midiantari, P. N. (2022). Product innovation, firm performance and moderating role of technology capabilities. *Asian Journal of Accounting Research*, 7(3), 252-265. <https://doi.org/10.1108/AJAR-12-2021-0266>
- Balasubramanian, R., Libarikian, A., & McElhaney, D. (2021). *Insurance 2030 – The impact of AI on the future of insurance*. McKinsey & Company. Retrieved from <https://www.mckinsey.com/industries/financial-services/our-insights/insurance-2030-the-impact-of-ai-on-the-future-of-insurance>.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. <https://doi.org/10.1177/014920639101700108>
- Caro-Gonzalez, A. (2024). Establishing a Culture of Innovation and Risk-Taking. In *Transformative Governance for the Future*. SpringerBriefs in Business. Cham: Springer. https://doi.org/10.1007/978-3-031-43132-6_4
- Chauhan, C., Parida, V., & Dhir, A. (2022). Linking circular economy and digitalisation technologies: A systematic literature review of past achievements and future promises. *Technological Forecasting and Social Change*, 177, 121508. <https://doi.org/10.1016/j.techfore.2022.121508>
- Chen, W., & Srinivasan, S. (2023). Going digital: Implications for firm value and performance. *Social Science Research Network*. <https://doi.org/10.2139/ssrn.4177947>
- Fagerberg, J., & Hutschenreiter, G. (2020). Coping with societal challenges: Lessons for innovation policy governance. *Journal of Industry, Competition and Trade*, 20(2), 279-305. <https://doi.org/10.1007/s10842-019-00332-1>
- Fares, O. H., Butt, I., & Lee, S. H. M. (2023). Utilization of artificial intelligence in the banking sector: A systematic literature review. *Journal of Financial Services Marketing*, 28(4), 835-852. <https://doi.org/10.1057/s41264-022-00176-7>
- Grandinetti, R., Ciasullo, M., Paiola, M., & Schiavone, F. (2020). Fourth industrial revolution, digital servitization and relationship quality in Italian B2B manufacturing firms: An exploratory study. *The TQM Journal*, 32(4), 647-671. <https://doi.org/10.1108/TQM-01-2020-0006>
- Hamid, R. A. (2022). The role of employees' technology readiness, job meaningfulness and proactive personality in adaptive performance. *Sustainability*, 14(23), 15696. <https://doi.org/10.3390/su142315696>
- Hanelt, A., Firk, S., Hildebrandt, B., & Kolbe, L. (2020). Digital M&A, digital innovation, and firm performance: An empirical investigation. *European Journal of Information Systems*, 30(1), 3-26. <https://doi.org/10.1080/0960085X.2020.1747365>
- Khin, S., & Ho, T. C. (2020). Digital technology, digital capability and organizational performance: A mediating role of digital innovation. *International Journal of Innovation Science*, 11(2), 177-195. <https://doi.org/10.1108/IJIS-08-2018-0083>
- Liepert, M. (2024). Increasing the EBITDA of private equity portfolio company through digital enablement. *Economics of Development*, 23(1), 70-77. <https://doi.org/10.57111/econ/1.2024.70>
- Moussa, F. L., Moussa, M. L., Alharbi, H. A., Omer, T., Sofiany, H. A., Oqdi, Y. A., Alblowi, B. H., & Alblowi, S. H. (2023). Telehealth readiness of healthcare providers during COVID-19 pandemic in Saudi Arabia. *Healthcare*, 11(6), 842. <https://doi.org/10.3390/healthcare11060842>
- Mubarra, S., Mubarak, S. & Qasim, J. (2023). Interplay of intellectual capital and digital transformation to enhance innovation performance. *British Journal of Management and Marketing Studies*, 6(1), 113-126. <https://doi.org/10.52589/bjmms-dgmilr50>
- Noël, F., Alpan, G., & Mangione, F. (2020). A complete digital chain to enable the digital twin of a shop floor. In F. Ameri, K. E. Stecke, G. von Cieminski, & D. Kiritsis (Eds.), *Advances in production management systems. The path to intelligent, collabora-*

- and sustainable manufacturing (pp. 88-95). Springer. https://doi.org/10.1007/978-3-030-62807-9_11
18. Orser, B., Riding, A., & Li, Y. (2019). Technology adoption and gender-inclusive entrepreneurship education and training. *International Journal of Gender and Entrepreneurship*, 11(3), 273-298. <https://doi.org/10.1108/IJGE-02-2019-0026>
 19. Otoritas Jasa Keuangan (OJK). (2023). *Indonesian insurance statistics*. Financial Services Authority. Retrieved from <https://ojk.go.id/id/kanal/iknb/data-dan-statistik/asuransi/Pages/Statistik-Asuransi-Juni-2023.aspx>
 20. Pierri, N., & Timmer, Y. (2022). *The importance of technology in banking during a crisis* (FEDS Working Paper No. 2022-20). <https://doi.org/10.17016/FEDS.2022.020>
 21. Redep, N. B. (2021). *Comparative overview of the digital preparedness of education systems in selected CEE countries*. Center for Policy Studies, CEU Democracy Institute. Retrieved from <https://cps.ceu.edu/publications/working-paper/comparative-overview-digital-preparedness-education-systems-selected-cee>
 22. Schiffer, S., Mocker, M., & Teubner, A. (2023). Managing IT challenges when scaling digital innovations. *MIS Quarterly Executive*, 22(3), Article 5. Retrieved from <https://aisel.aisnet.org/misqe/vol22/iss3/5>
 23. Scholkmann, A. B. (2020). Resistance to (Digital) Change: Individual, Systemic, and Learning-Related Perspectives. In Ifenthaler, D., Hofhues, S., Egloffstein, M., and Helbig, C. (Eds.), *Digital Transformation of Learning Organizations* (pp. 219-236). Cham: Springer. https://doi.org/10.1007/978-3-030-55878-9_13
 24. 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. <https://doi.org/10.1108/jbsed-06-2023-0050>
 25. Tan, A. B. C., Van Dun, D. H., & Wilderom, C. P. M. (2021). Innovative work behavior in Singapore evoked by transformational leaders through innovation support and readiness. *Creativity and Innovation Management*, 30(4), 697-712. <https://doi.org/10.1111/caim.12462>
 26. Teece, J. D. (2020). Hand in glove: Open innovation and the dynamic capabilities framework. *Strategic Management Review*, 1(2), 233-253. <https://doi.org/10.1561/111.00000010>
 27. Wolf, M. G., Nylund-Gibson, K., Dowdy, E., & Furlong, M. (2019). *An analytic approach for deciding between 4- and 6-point Likert-type response options*. UC Santa Barbara Project Covitality. Retrieved from <https://eric.ed.gov/?id=ED591440>
 28. Zhong, Y., & Moon, H. C. (2023). Investigating the impact of Industry 4.0 technology through a TOE-based innovation model. *Systems*, 11(6), 277. <https://doi.org/10.3390/systems11060277>
 29. Zobell, S. (2018). Why digital transformations fail: Closing the \$900 billion hole in enterprise strategy. *Forbes*. Retrieved from <https://www.forbes.com/sites/forbestechcouncil/2018/03/13/why-digital-transformations-fail-closing-the-900-billion-hole-in-enterprise-strategy/>

APPENDIX A

Table A1. Questionnaire

| Dimensions | Indicators | Code |
|--------------------------------------|--|-------|
| Technology Context | 1. Effort required to implement new technology | TAR1 |
| | 2. Fit with current company systems | TAR2 |
| | 3. Integration with existing processes | TAR3 |
| | 4. Scalability of IT infrastructure. | TAR4 |
| Organizational Context | 1. Involvement of top management in technology initiatives | TAR5 |
| | 2. Availability of budget for new technology | TAR6 |
| | 3. Financial planning for investments | TAR7 |
| | 4. Access to training. | TAR8 |
| Environmental Context | 1. Competitors' technology adoption | TAR9 |
| | 2. Industry standards for technology use | TAR10 |
| | 3. Anticipation of increased competitiveness | TAR11 |
| | 4. Expected ROI for technology adoption driven by external market and industry pressures | TAR12 |
| Digital Transformation | 1. Adoption of digital technologies | DE1 |
| | 2. Impact on customer experience | DE2 |
| | 3. Organizational changes driven by digitalization. | DE3 |
| | 4. Cybersecurity measures | DE4 |
| Systems and Technologies | 1. Efficiency in streamlining operations | DE5 |
| | 2. Increasing operational efficiency | DE6 |
| | 3. Security considerations in the use of digital technologies. | DE7 |
| | 4. Adoption of cloud solutions and technologies. | DE8 |
| Change Management | 1. Change Readiness Assessment | DE9 |
| | 2. Communication of Digital Vision | DE10 |
| | 3. Stakeholder Engagement | DE11 |
| | 4. Change Management Training | DE12 |
| Innovation Culture | 1. Openness to change | IC1 |
| | 2. Reward and recognition systems for innovation | IC2 |
| | 3. Leadership support for innovative efforts | IC3 |
| | 4. Support for risk-taking and experimentation. | IC4 |
| Technological Capability | 1. Use of advanced technologies | IC5 |
| | 2. Availability of technical infrastructure and resources | IC6 |
| | 3. Investment in R&D for innovation | IC7 |
| | 4. Collaboration with external technology partners. | IC8 |
| Organizational Innovation Capability | 1. Implementation of innovative work designs | IC9 |
| | 2. Commercialization of new products or services | IC10 |
| | 3. Development of managerial work processes | IC11 |
| | 4. Transition from research to product development. | IC12 |
| Financial Performance | 1. Profit margin | LIP1 |
| | 2. Return on Equity | LIP2 |
| | 3. Solvency Position | LIP3 |
| | 4. Sales Growth | LIP4 |
| Market Share | 1. Market share percentage | LIP5 |
| | 2. Market growth relative to competitors | LIP6 |
| | 3. Brand loyalty | LIP7 |
| | 4. Brand equity | LIP8 |
| Strategic Effectiveness | 1. Organizational Structure | LIP9 |
| | 2. Pricing Strategy | LIP10 |
| | 3. Products Diversification | LIP11 |
| | 4. Customer Relationship Management | LIP12 |