

Investigating the Relationship Between Knowledge Management Trait and Firm Performance: The Mediating Effect of Innovation

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Abstract

This research delves into the intricate connection among individual ambidexterity, innovation, and company performance in Indonesia's life insurance sector. Ambidexterity refers to an individual's skill in effectively balancing exploratory and exploitative knowledge processes. This study seeks to clarify the importance of achieving this balance at the individual level and its impact on innovation and overall company performance. Employing a quantitative research approach, data were gathered from 48 participants occupying managerial to board director roles in the Indonesian life insurance industry. Structural equation modelling (SEM) was utilized for data analysis to uncover the interplay between individual ambidexterity, innovation, and company performance. The findings underscore that individual ambidexterity significantly affects company performance within the life insurance sector. Individuals capable of concurrently pursuing exploratory and exploitative activities foster an innovative culture within the organization. This culture, in turn, encourages openness to change and active engagement in seeking innovative solutions, ultimately enhancing company performance in terms of revenue growth and competitive advantage. This study makes a substantial contribution to the academic field by introducing and empirically validating the key concepts of individual ambidexterity, knowledge-seeking, and knowledge-sharing processes. It also highlights the crucial role of innovation in the relationship between ambidexterity and company performance, offering practical insights for management in the life insurance industry.

Keywords: *Individual ambidexterity, knowledge management, innovation, firm performance, life insurance.*

INTRODUCTION

Insurance companies face the ongoing challenge of meeting customer preferences, requiring continuous innovation (Khan et al., 2020). Innovation, introducing new ideas and products, is especially critical in insurance product development. Technological advances transform customer interaction, data management, and services (Zhang et al., 2022). Cutting-edge tech enhances efficiency, data-driven decisions, and customer experiences. Analytics reveal patterns and future needs, while digital platforms improve interactions and loyalty (Huang et al., 2019). Innovation adapts to changes, driving performance and profitability (Lin et al., 2013).

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Individuals play a vital role in achieving company goals. Ambidextrous employees who balance innovation improve performance (Ouerdian et al., 2019). Exploring generates ideas, while exploiting refines and manages risk (Alghamdi, 2018). Ambidextrous individuals enhance company performance (Pertusa-Ortega et al., 2020). This study focuses on individual exploration and exploitation in Indonesia's life insurance sector, investigating their influence on innovation and performance.

This paper embarks on a pioneering journey to shed light on a hitherto unexplored intersection of knowledge management, firm performance, and innovation. While knowledge management's significance in enhancing organizational capabilities is well-established, the mediating role of innovation in this relationship is an intriguing yet understudied facet. By delving into this uncharted territory, this research contributes to the scholarly discourse by not only offering a comprehensive examination of knowledge management's influence on firm performance but also by unveiling the transformative power of innovation as a mediating force.

LITERATURE REVIEW

Ambidexterity

The term "ambidexterity" has its roots in Sir Thomas Browne's writings in 1646, combining "ambi" (both sides) and "dexterity" (right) (Maier, 2015). In management, Robert B. Duncan introduced "ambidexterity" in 1976, later expanded upon by (O'Reilly & Tushman, 2018) as a means of competitive advantage through simultaneous exploration and exploitation, adapting to evolutionary and revolutionary changes (Kuwashima et al., 2020). Organizational ambidexterity harmonizes significant changes and innovations while maintaining diverse structures and processes (Birkinshaw & Gupta, 2013). Learning organizations cultivate this equilibrium (Saadat & Saadat, 2016), nurturing exploitative and explorative capabilities (Duan et al., 2022). Researchers converge around the ambidexterity framework (Hiebl & Pielsticker, 2023; Kafetzopoulos, 2020; Reischl et al., 2022; Singh & Sinha, 2023), extending to individuals' roles within organizations (Kobarg et al., 2017; Pertusa-Ortega et al., 2020; Yeganegi et al., 2019; Zhang et al., 2019), with (Schnellbacher et al., 2019) emphasizing individual-level triggers for organizational ambidexterity.

Individual Ambidexterity

Balancing exploration and strengths is key for competitiveness, even with limited resources. Employee ambidexterity, through seeking knowledge and sharing insights, enhances adaptability (Kraft, 2021; Schulze & Pinkow, 2020). This involves two mechanisms: knowledge-seeking and knowledge-sharing (Im & Rai, 2008). Knowledge-seeking improves processes and fuels innovation (Dedering & Pietsch, 2023), while knowledge-sharing drives employee ambidexterity and company performance (Aamir et al., 2021). This study introduces a framework exploring knowledge-seeking and knowledge-sharing ambidexterity effects on individual performance in Indonesian life insurance companies.

Knowledge-seeking and Knowledge-sharing to Innovation

Innovation thrives on knowledge for spotting opportunities and generating solutions (Rutten et al., 2014). Effective integration of knowledge and innovation is vital for competitive advantage (Peris-Ortiz et al., 2018). Exploratory knowledge-seeking drives adaptation (Philipson, 2020), while seeking new knowledge fuels innovation (Blichfeldt & Faullant, 2021). Domain expertise enhances progress (Pérez-Luño et al., 2019), and effective innovators balance exploration and exploitation (Rosing & Zacher, 2017). Hypothesis 1 predicts a positive link between knowledge-seeking and innovation, and Hypothesis 2 posits a positive correlation between knowledge-sharing and innovation.

Knowledge-seeking and Knowledge-sharing to Performance

Organizations tap into diverse expertise to drive innovative solutions (Abdollahbeigi & Salehi, 2018). Individual ambidexterity, blending exploration and exploitation, boosts performance (Kobarg et al., 2017). Diverse teams intertwine knowledge streams, fostering complex innovation (Z. Zhang & Luo, 2020), enhancing competitiveness. While organizational ambidexterity usually elevates performance, (Suzuki, 2019) notes its impact during learning obstacles. Still, individual-level explorative and exploitative knowledge enhances performance (Ali et al., 2022).

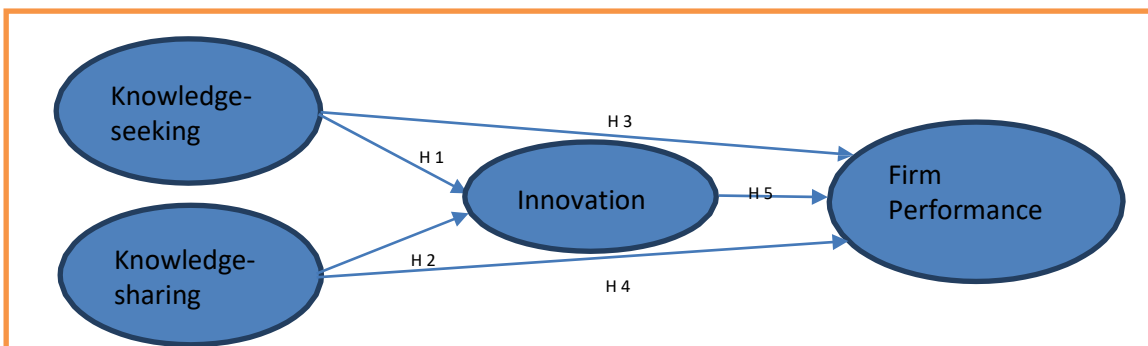
Sharing information improves efficiency, spurs innovation (Hájek & Stejskal, 2018), and boosts outcomes (Mirzaee & Ghaffari, 2018). Access to external knowledge sparks radical innovation. Overall, exploration and exploitation foster new knowledge, innovation, and performance enhancement, supported by theory and evidence. Hypothesis 3: Knowledge-seeking positively impacts performance. Hypothesis 4: Knowledge-sharing positively impacts performance.

Innovation and Firm Performance

Innovation, the engine of valuable ideas, empowers companies across domains (Chebbi et al., 2013). It includes new products, services, and strategies, driving competitiveness. Technological strides, like cloud systems and analytics, bolster insurance services and efficiency (Amponsah et al., 2022; Gupta et al., 2022). Artificial intelligence streamlines risk assessment, claims, and marketing (Dwivedi et al., 2021). Mobile apps leverage smartphones for enriched customer experience (Zheng & Guo, 2020). Data security remains paramount (Tyagi et al., 2021). Challenges like integration costs and regulations persist. Yet, innovation is essential for prosperity, yielding superior products, efficiency, and market dominance (O'Connor & Rice, 2013). Intellectual assets and legal protection spur growth (Patmawati et al., 2023). Individual ambidexterity, blending creativity and execution, fuels innovation (Probst et al., 2011). It's key for spotting opportunities, creating, and strategizing (Cantarello et al., 2012). Individual ambidexterity also elevates efficiency and processes (Dezi et al., 2018). Ultimately, innovation and individual ambidexterity propel insurance companies forward. This leads the researcher to assume Hypothesis 5: Innovation enhances company performance.

Conceptual Framework

This research analyzes the impact of individual ambidexterity on performance in Indonesian life insurance firms, incorporating control variables like education and job tenure. It seeks to uncover how individual ambidexterity drives innovation and company performance, providing valuable insights for the industry. The diagram in Picture 1 illustrates the research hypotheses.



Picture 1. Research Hypotheses

RESEARCH METHOD

Research Design

This study utilizes a descriptive approach and quantitative research model, aligned with the principles of Cooper and Schindler (2014), to measure theories accurately. Employing numerical data and statistics, the research employs standardized instruments to collect and analyze quantitative data. Objectively measured and subjected to statistical analysis, the observed variables serve the study's primary goal of obtaining widely applicable empirical evidence, enhancing the reliability of drawn conclusions.

Variable Measurement

This study operationalizes ambidexterity in the dimension of knowledge exploration (knowledge-seeking) and knowledge exploitation (knowledge-sharing) using a reflective-formative approach (Mom et al., 2015). The reflective approach gauges traits like curiosity and flexibility, while the formative approach identifies indicators such as knowledge sharing and IT use. A 7-point Likert scale rates responses. Sections include questions for "Exploratory" and "Exploitative Knowledge Seeking" within and outside the organization (Schnellbacher & Heidenreich, 2020), "Exploratory" and "Exploitative Knowledge Offering," "Innovation Development," and "Company Performance". In this context, "knowledge-sharing" and "knowledge-seeking" act as dependent variables, while "firm performance" triggered by "innovation" serves as an independent variable. Control variables encompassed company size and age, industry, human resources, geographical location, external factors, technological factors, leadership and organizational culture.

Data Source and Sampling Techniques

The study sampled 48 individuals using purposive sampling within the life insurance sector, ranging from managers to board directors, leveraging the researcher's industry expertise. Online questionnaires collected primary data, reflecting 68% with a Bachelor's degree (S1) and 32% with a Master's degree (S2). Job roles encompassed 55% in management, 7% at Assistant VP to Division Head levels, and 19% each at General Manager and Board of Directors levels.

RESEARCH FINDINGS, DISCUSSION, AND RESEARCH IMPLICATIONS

The research began by clarifying the questionnaire and assessing its validity. Convergent validity was established with factor loading values ≥ 0.7 and AVE values ≥ 0.5 . Discriminant validity used the Fornell-Larcker criteria. Reliability was measured using Cronbach's Alpha and CR. Statistical analysis used Partial Least Squares Structural Equation Modeling (PLS-SEM) (Hair et al., 2019).

Research Findings

Table 1 demonstrates standardized factor loading estimates meeting the ideal threshold of 0.7, effectively representing latent variables by study indicators.

Table 1. Validity Convergent Analysis

Variable	Indicator	Loading Factor	Average Variance Extracted
Knowledge-sharing	Exploitative Knowledge-sharing		0,881
	ExploiKO1	0,967	
	ExploiKO2	0,911	
	ExploiKO3	0,937	
	Explorative Knowledge-sharing		0,781
	ExplorKO1	0,947	
	ExplorKO2	0,872	

	ExplorKO3	0,827	
Knowledge-seeking	Exploitative Knowledge-seeking		
	ExploiKS5	0,921	0,818
	ExploiKS6	0,971	
	ExploiKS7	0,953	
	ExploiKS8	0,758	
	Explorative Knowledge-seeking		
	ExplorKS2	0,854	0,703
	ExplorKS3	0,857	
	ExplorKS8	0,804	
Innovation	Ino1	0,892	0,719
	Ino2	0,857	
	Ino3	0,836	
	Ino4	0,701	
	Ino5	0,874	
	Ino6	0,909	
	Ino7	0,895	
	Ino8	0,800	
Firm Performance	FP1	0,959	0,853
	FP2	0,947	
	FP3	0,858	
	FP4	0,927	

Discriminant validity was ensured through the Fornell-Larcker criteria, where the square root of Average Variance Extracted (AVE) for each construct surpassed others, as seen in Table 2.

Tabel 2. Validity Test with Fornell-Larcker Criterion

	Exploitative Knowledge-sharing	Exploitative Knowledge-seeking	Explorative Knowledge-sharing	Explorative Knowledge-seeking	Innovation	Firm Performance
Exploitative Knowledge-sharing	0,939					
Exploitative Knowledge-seeking	0,464	0,905				
Explorative Knowledge-sharing	0,432	0,326	0,884			
Explorative Knowledge-seeking	0,570	0,548	0,044	0,839		
Innovation	0,419	0,320	0,702	0,174	0,848	
Firm Performance	0,396	0,296	0,576	0,328	0,872	0,924

Heterotrait-Monotrait correlation ratio (HTMT) analysis for discriminant validity displayed in Table 3 is in accordance with the Fornell-Larcker criteria, indicating some construct invalidity.

Table 3. Discriminant Validity Test with Hetero Trait Mono Trait

	Exploitative Knowledge-sharing	Exploitative Knowledge-seeking	Explorative Knowledge-sharing	Explorative Knowledge-seeking	Innovation	Firm Performance
Exploitative Knowledge-sharing						
Exploitative	0,495					

Knowledge-seeking						
Explorative Knowledge-sharing	0,478	0,385				
Explorative Knowledge-seeking	0,653	0,606	0,112			
Innovation	0,447	0,348	0,782	0,242		
Firm Performance	0,427	0,323	0,647	0,395	0,921	

Construct reliability assessed through Cronbach's alpha and Composite reliability in Table 4 is above 0.7, affirming strong measurement accuracy.

Table 4. Reliability Test

	Cronbach's Alpha	Composite Reliability
Exploitative Knowledge-sharing	0,933	0,957
Exploitative Knowledge-seeking	0,924	0,947
Explorative Knowledge-sharing	0,858	0,914
Explorative Knowledge-seeking	0,800	0,877
Innovation	0,943	0,953
Firm Performance	0,942	0,959

Inner structural model results

This study employs Structural Equation Modeling (SEM) for its analysis. SEM integrates factor analysis and regression analysis to assess relationships between variables in a model, encompassing both indicator-construct and construct-construct relationships. Within SEM, PLS (Partial Least Squares) is utilized as a component-based or variance-based model. Table 5 presents outcomes of coefficient of determination tests, conducted using Smart PLS 3.2 software.

Table 5. Coefficient of Determinant

	R Square	R Square Adjusted
Knowledge-seeking	0,977	0,976
Knowledge-sharing	1,000	1,000
Innovation	0,453	0,425
Firm Performance	0,760	0,742

Table 6 presents the findings: the path coefficient (γ_1) is -0.001, with a p-value of 0.996 (>0.05), indicating no significant impact of knowledge search ambidexterity on innovation at a 95% confidence level. Similarly, for knowledge search ambidexterity and company performance, the path coefficient (γ_1) is 0.021, and the p-value is 0.772 (>0.05), signifying no significant effect. In contrast, knowledge offering ambidexterity positively influences innovation, with a path coefficient (γ_1) of 0.673 and a p-value of 0.000 (<0.05), strongly rejecting H0. This underscores the role of managing explorative and exploitative knowledge for driving innovation. However, regarding knowledge offering ambidexterity and company performance, the path coefficient (γ_1) is -0.019, and the p-value is 0.866 (>0.05), suggesting no significant negative impact. Finally, the relationship between innovation and company performance is positively validated by a path coefficient (γ_1) of 0.878 and a p-value of 0.000 (<0.05), strongly rejecting H0.

Table 6. T-Statistics Test

	Original Sample (O)	Sample Mean (M)	Std Deviation (STDEV)	T Statistics ((O/STDEV)	P Values
H1; Knowledge-seeking ➤ Innovation	-0,001	-0,001	0,209	0,004	0,996
H2; Knowledge-seeking	0,021	0,024	0,072	0,291	0,772

☞ Firm Performance					
H3; Knowledge-sharing ☞ Innovation	0,673	0,684	0,136	4,955	0,000
H4; Knowledge-sharing ☞ Firm Performance	-0,019	-0,011	0,111	0,169	0,866
H5; Innovation ☞ Firm Performance	0,878	0,875	0,094	9,296	0,000

Discussion

The study investigated the relationship between knowledge management traits and firm performance, specifically focusing on the mediating effect of innovation. The research findings are presented in Table 1 to 6, which provide valuable insights into the relationships between these key constructs.

Table 1 presents the results of the validity convergent analysis. The standardized factor loading estimates for the study indicators meet the ideal threshold of 0.7, indicating that the latent variables, including knowledge-sharing, knowledge-seeking, innovation, and firm performance, are effectively represented by the study indicators. This demonstrates the robustness of the measurement model used in the study.

Table 2 displays the validity test results using the Fornell-Larcker criterion, which assesses discriminant validity. Discriminant validity is achieved when the square root of the Average Variance Extracted (AVE) for each construct is higher than the correlations between that construct and other constructs. The results indicate that discriminant validity is ensured, as the diagonal values (square roots of AVE) are higher than the off-diagonal values, confirming that each construct is distinct from the others.

Table 3 presents the results of the Heterotrait-Monotrait correlation ratio (HTMT) analysis, further confirming the discriminant validity of the constructs. The values in the table are consistent with the Fornell-Larcker criterion, suggesting that there is no significant cross-construct correlation that would indicate construct invalidity.

Table 4 assesses construct reliability using Cronbach's alpha and Composite reliability. The results show that all constructs have high Cronbach's alpha and Composite reliability values, well above the recommended threshold of 0.7. This indicates strong measurement accuracy and internal consistency among the indicators for each construct.

The study employs Structural Equation Modeling (SEM) to analyze relationships between variables. Table 5 presents the outcomes of coefficient of determination tests, showing the R-squared values for each construct. The high R-squared values for knowledge-seeking and knowledge-sharing (close to 1) indicate that these constructs are well-explained by the model. The R-squared values for innovation and firm performance also show a substantial portion of variance explained by the model.

Table 6 presents the results of the T-Statistics test, which assesses the significance of the relationships between the constructs. For the relationship between knowledge-seeking and innovation (H1), the path coefficient (γ_1) is -0.001, and the p-value is 0.996 (>0.05), indicating no significant impact of knowledge search ambidexterity on innovation at a 95% confidence level.

Similarly, for knowledge-seeking and firm performance (H2), the path coefficient (γ_1) is 0.021, and the p-value is 0.772 (>0.05), suggesting no significant effect. In contrast, knowledge offering ambidexterity positively influences innovation (H3), with a path coefficient (γ_1) of 0.673 and a p-value of 0.000 (<0.05), strongly rejecting H0. This highlights the crucial role of managing both explorative and exploitative knowledge for driving innovation.

However, regarding knowledge offering ambidexterity and firm performance (H4), the path coefficient (γ_1) is -0.019, and the p-value is 0.866 (>0.05), indicating no significant

negative impact. Finally, the relationship between innovation and firm performance (H5) is positively validated by a path coefficient (γ_1) of 0.878 and a p-value of 0.000 (<0.05), strongly rejecting H0. This emphasizes the positive impact of innovation on firm performance.

This study examines how individual ambidexterity impacts performance in the life insurance sector. Individual ambidexterity, encompassing exploration and exploitation, drives innovation and efficiency (Rajapathirana & Hui, 2018). Ambidextrous individuals foster an innovative culture (Wang & Rafiq, 2014), boosting growth and competitive edge (Farida & Setiawan, 2022). Balancing exploration and exploitation extend to individuals (Gurtner & Reinhardt, 2016), impacting knowledge accumulation and performance (Schultz, 2013). Introducing knowledge-seeking and knowledge-sharing constructs clarifies individual ambidexterity (Rajapathirana & Hui, 2018). Rigorous methodology confirms measurement accuracy (AVE) and identifies ambidexterity effects (Hardcopf et al., 2021). Findings highlight dual roles in knowledge and performance (Schultz, 2013), offering insights into ambidexterity's factors and mechanisms (O'Reilly & Tushman, 2018). This research guides companies seeking lasting success through ambidexterity integration.

Our study offers empirical evidence of the intricate interplay between knowledge management traits, innovation, and firm performance. While knowledge-seeking ambidexterity did not significantly influence either innovation or firm performance, it is noteworthy that knowledge-sharing ambidexterity demonstrated a positive impact on innovation.

Importantly, our findings underscore the pivotal role of innovation in elevating firm performance, a finding with far-reaching implications for organizations seeking to enhance their competitive advantage through effective knowledge management and innovation strategies. This significance is particularly pronounced within life insurance industries, where the capacity to adapt to evolving customer needs and offer innovative products is a defining factor. As market dynamics continually evolve, those companies unable to keep pace will invariably lag in this fiercely competitive landscape. Thus, cultivating ongoing innovation becomes imperative for life insurance companies, ensuring their continued relevance and ability to deliver substantial value to their diverse customer base.

Research Implications

The standardized factor loading estimates in this research meet the ideal threshold of 0.7, indicating that the latent variables are effectively represented by the study indicators. This reaffirms the construct validity of the measurement model. Cronbach's alpha and Composite reliability in this research, with values above 0.7, confirm strong measurement accuracy and the reliability of the constructs used in the study.

The Fornell-Larcker criterion and Heterotrait-Monotrait correlation ratio (HTMT) analysis both support the discriminant validity of the constructs. This implies that the constructs in the study are distinct from each other, ensuring that they measure unique aspects of the research.

The path coefficients and p-values in this research reveal important insights about the relationship between knowledge management traits and innovation. Knowledge-seeking does not significantly impact innovation or firm performance. This suggests that knowledge search ambidexterity doesn't influence innovation or company performance. Knowledge-sharing, on the other hand, significantly positively influences innovation, indicating that managing both explorative and exploitative knowledge is crucial for driving innovation. There is no significant negative impact of knowledge-sharing on company performance, implying that organizations can encourage knowledge-sharing without detrimental effects on their overall performance. The relationship between

innovation and company performance is positively validated, emphasizing the importance of innovation as a driver of firm performance.

Organizations should focus on fostering knowledge-sharing among employees, as it positively influences innovation. This could involve creating a culture that encourages sharing both exploratory and exploitative knowledge. While knowledge-seeking may not directly impact innovation or firm performance in this study, it is essential to further explore the contextual factors that might influence this relationship. The positive relationship between innovation and firm performance underscores the significance of innovation as a strategic goal for organizations aiming to enhance their overall performance.

This research findings provide valuable insights into the relationship between knowledge management traits, innovation, and firm performance. These implications can guide organizations in their efforts to manage knowledge effectively and leverage it for innovation and improved performance. Additionally, they offer directions for future research in this area.

CONCLUSION AND FUTURE RECOMMENDATIONS

Conclusions

This study provided adequate explanations of latent constructs or variables using other indicators. The results of the discriminant validity test showed that all root AVE values of the constructs were more significant compared to others, indicating that discriminant validity has been achieved. However, it should be noted that the HTMT test results showed that not all constructs in this study have adequate validity. The test results also indicated that the measurement instruments used have good accuracy.

The research findings demonstrate that individual ambidexterity significantly influences firm performance in the context of life insurance companies. However, it was found that some measurement variables were not valid, signalling the need for caution when using these constructs. It is essential to ensure that the measurement instruments used have good accuracy to ensure the reliability of the research results.

This study provides a better understanding of the validity and accuracy of measurement instruments regarding individual ambidexterity and firm performance. The practical recommendation is to pay attention to the validity and accuracy of the measurement instruments used in the research to ensure reliable and sustainable results.

Future Recommendations

While this study provides valuable insights, it has some limitations that we should keep in mind. First, we collected data at one point in time, which might not show the full picture. Future research could use data from different times to better understand how things change over time. Second, even though we tried to make sure our questions were fair, there could still be some issues because we only used one way to ask. In the future, we could do pre-survey and ask more people to get a better picture of the questions. Also, this study gives us ideas for more research. We could look deeper into how people learn different things and how they use this knowledge. By working on these limitations, future research can help us understand more about how companies can be good at doing different things at the same time.

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