

Digitalization of Insurance Business Processes on Life Insurance Sales Productivity

Joddy Hernady¹, M. Yani Syafei¹, Umi Narimawati¹

¹Universitas Komputer Indonesia

Corresponding author e-mail: joddy.75424016@mahasiswa.unikom.ac.id

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Abstract: Digital transformation in the insurance industry has become a crucial strategy for improving business efficiency and enhancing sales performance. This study examines the impact of business process digitalization on the productivity of life insurance sales, with agent work efficiency and technology adaptation as mediating variables. The research adopts a quantitative approach with an explanatory research design, using purposive sampling to collect data from insurance agents at MRT Agency- Prudential Indonesia who actively use the PruForce mobile application. The data were analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS) to evaluate the relationships between variables. The findings indicate that business process digitalization positively influences sales productivity, both directly and indirectly, through increased work efficiency and agent technology adaptation. Agents who efficiently manage their tasks and quickly adapt to digital tools demonstrate higher sales performance. These results highlight the importance of equipping agents with appropriate training and technological support to maximize the benefits of digitalization in the insurance sector. This study contributes to the growing body of literature on digital transformation in financial services specifically in the insurance sector and provides practical insights for insurance companies to enhance digital adoption strategies among their sales force.

Keywords: Digitization; Efficiency; Insurance; Sales Productivity; Technology Adaptation.

A. Introduction

Digital transformation has become a major driver of change in various industrial sectors, including the life insurance industry. Digitalization enables insurance companies to improve operational efficiency, optimize data management, and provide more responsive services to customers and sales staff. In the life insurance industry, the application of digital technology not only simplifies business processes

but also acts as a strategic tool in increasing the company's competitiveness (McKinsey & Company, 2021). One example of the implementation of digitalization in the life insurance business is the use of mobile applications PruForce, developed by Prudential Indonesia to support agent activities in marketing and selling insurance products more effectively.

The implementation of digitalization in the insurance industry also has a direct impact on individual performance, especially insurance agents. Agent work efficiency become one of the main factors in ensuring that digitalization can increase their productivity (Eling & Lehmann, 2018). In addition, agent adaptation to digital technology become a key aspect in determining the success of implementing a technology-based system in insurance marketing and sales activities. Previous studies have shown that the level of technology adoption by salespeople has a significant impact on work effectiveness, especially in service-based industries such as insurance (Venkatesh & Davis, 2000). With digitalization, agents are expected to be able to access information faster, respond to customer needs in more real-time, and increase conversions from prospects to loyal customers (Parise et al., 2016).

Digital transformation has become one of the main strategies in the financial services industry, including life insurance. Digitalization of business processes in insurance aims to increase efficiency, accelerate data processing, and improve user experience, both for agents and customers (Gupta et al., 2020). The implementation of digital technology in this industry includes automation of the underwriting process, integration of cloud-based systems, and utilization of mobile applications to make it easier for agents to reach potential customers (Rane et al., 2024).

In context PruForce, a digital application developed by Prudential Indonesia, digitalization allows agents to access product information, manage prospects, and close policies more quickly and accurately. Several previous studies have shown that digitalization not only accelerates business processes but also increases the effectiveness of salespeople by facilitating data access and communication (Oludapo et al., 2024). However, the effectiveness of digitalization is highly dependent on the readiness of the human resources who use it, in this case insurance agents, so that technology adaptation is an important factor in the success of digitalization implementation (Egala et al., 2024).

Prudential Indonesia's PruForce application has several advantages compared to similar applications from other companies, such as Allianz eAZy Connect and AXA

MyPage. PruForce offers superior features such as real-time customer data access, automatic agent performance monitoring, and relevant product update notifications (Judijanto, 2025). Research by (Susanto, 2022) compared the PruForce application with other similar applications, such as e-Agent from AIA. Both applications have real-time reporting features, but PruForce is considered superior due to its better integration with the company's back-end systems. This feature allows for more accurate data management and responsiveness to customer needs. (Lu & Guo, 2025) highlighted that applications such as PruForce also support real-time monitoring of agent performance, giving them better insight into target achievement and areas for improvement. This is a very important tool for increasing sales force efficiency and productivity. Work efficiency is a key factor in increasing sales force productivity. In the context of the insurance industry, agent work efficiency refers to the agent's ability to manage time, process transactions quickly, and minimize administrative errors in policy sales (Azhari & Sutarman, 2024). Digitalization has been shown to increase efficiency by automating administrative tasks, allowing agents to focus more on value-added sales activities (Maulidi & Prasetyawati, 2025).

Research conducted by (Zhu, 2024), companies that implement digitalization in the sales process experience an increase in operational efficiency of 30% to 40%. Another study by (Yu et al., 2022) shows that digital-based systems reduce the time required for agents to process customer data by up to 50%, which ultimately increases the number of policies they can sell in a given period. Therefore, digitalization is expected to have a positive relationship with the work efficiency of insurance agents.

Technology adaptation refers to the ability of individuals or organizations to accept, understand, and use new technologies in their daily activities (Prakosos et al., 2025). In the insurance industry, agent technology adaptation is a determining factor in the success of digitalization implementation. Agents who are able to adapt quickly will be more productive than those who have difficulty adopting new technologies (Rodríguez-Espíndola et al., 2022).

Several studies have shown that resistance to technological change is often an obstacle in the adoption of digitalization. According to (Chatterjee et al., 2023), factors such as perceived benefits, ease of use, and training support play an important role in determining the success of technology adaptation. In the context of application PruForce, agent technology adaptation will determine the extent to which the application can improve their efficiency and productivity. Therefore, agents who

have a high level of technology adaptation will find it easier to utilize digital features to improve work effectiveness and sales target achievement.

Life insurance sales productivity is measured by the number of policies successfully sold by agents in a certain period, the rate of conversion of prospects to customers, and the speed of completing sales transactions (Kumar et al., 2024). Digitalization is believed to increase agent productivity by providing faster access to customer information, facilitating interactions with customers, and automating previously time-consuming administrative tasks (Verhoef et al., 2021).

Research conducted by (Abiri et al., 2023) shows that insurance agents who use digital-based systems are able to increase their productivity by up to 35% compared to agents who still rely on conventional methods. In addition, (Jung & Shegai, 2023) revealed that the use of digital technology in the insurance industry not only increases individual productivity but also increases customer satisfaction, which ultimately has an impact on customer loyalty and increased business retention.

Along with the development of digital technology, many studies have explored the impact of digitalization in the financial and banking industry. However, studies that specifically examine the impact of digitalization of business processes on the productivity of life insurance sales staff in Indonesia is still very limited (Köhne & Köhne, 2024). Therefore, this study focuses on how digitalization of business processes through the PruForce application affects the productivity of life insurance sales, taking into account agent work efficiency And technology adaptation agent as a mediating variable. The selection of this variable is based on the concept that digitalization not only creates automation but also changes the way salespeople adapt to technological changes (Rachinger et al., 2018).

Based on the background explained, this study aims to analyze the effect of digitalization of insurance business processes on life insurance sales productivity, especially for Prudential Indonesia insurance agents who use the PruForce application. In addition, this study also aims to test the role of agent work efficiency as a mediating variable in the relationship between business process digitalization and sales productivity, and to test the role of agent technology adaptation as a mediating variable in the same relationship. This study also provides insight for the insurance industry regarding the effectiveness of implementing digitalization in increasing sales force productivity. In addition, this study also identifies for insurance companies in designing more effective digitalization strategies, especially in increasing agent work

efficiency and encouraging technology adoption in marketing activities. The results of this study are expected to contribute to the development of optimal digital transformation strategies in the life insurance industry, especially in supporting agent performance and increasing the effectiveness of digital-based marketing.

B. Methods

This research uses an approach quantitative by method explanatory research, which aims to test the causal relationship between the variables of insurance business process digitalization, agent work efficiency, agent technology adaptation, and life insurance sales productivity. This approach is used to analyze the effect of business process digitalization on sales productivity with the role of mediating variables, namely agent work efficiency and agent technology adaptation.

Population

The population in this study is insurance agent working at MRT Agency - Prudential Indonesia and have used the mobile application PruForce in their sales activities.

Data collection technique

The sampling technique used in this study was purposive sampling , where the selection of respondents is based on certain criteria that are in accordance with the research objectives. The respondents involved were insurance agents who had worked in Prudential Indonesia with minimal experience six months , so that they have sufficient understanding of the company's business processes. In addition, the agents selected are those who actively use the application. PruForce in marketing and sales activities, considering that this study focuses on the impact of digitalization on agent productivity. Another criterion is agents who have experience in handling customers digitally, because adaptation to technology is one of the key factors in the successful implementation of digitalization in the life insurance industry. With this criterion, it is expected that the selected respondents can provide relevant information and support the research analysis more accurately.

Based on the recommendations of (Omol, 2023) in the study Structural Equation Modeling (SEM-PLS) , the recommended number of samples is 10 times the number

of indicators in the research model . With the number of indicators as many as 20–30 , then the recommended number of samples in this study is 200–300 respondents .

Measurement Indicators

The data in this study were obtained through questionnaire survey given to insurance agents at MRT Agency - Prudential Indonesia. The questionnaire consists of closed questions with Likert scale 1–5 to measure the level of respondent agreement with each research statement:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

This questionnaire is compiled based on indicators that have been adapted from previous research and have been tested for validity and reliability. This study uses one independent variable (X), two mediating variables (M1 & M2), and one dependent variable (Y) .

Table 1. Measurement Variables and Indicators

Variables	Code	Measurement Indicators
Digitalization of Insurance Business Processes	X	Ease of access to information, process automation, transaction speed, digital system integration
Agent Work Efficiency	M1	Reducing working time, increasing work effectiveness, minimizing administrative errors
Agent Technology Adaptation	M2	Ease of technology adoption, readiness to use applications, level of confidence in digitalization
Life Insurance Sales Productivity	Y	Number of policies sold, prospect to customer conversion ratio, efficiency in closing transactions

Research Hypothesis

The Impact of Business Process Digitalization on Agent Work Efficiency

Digitalization in business processes has been shown to increase workforce efficiency in various industries, including insurance (Omol, 2023). With an integrated digital system, agents can manage leads, process transactions, and access customer data faster and more accurately. Therefore, the first hypothesis proposed is

H₁: Digitalization of insurance business processes has a positive impact on agent work efficiency.

The Impact of Business Process Digitalization on Agent Technology Adaptation

The adoption of digital technology in the insurance business has not only changed the way agents work but also requires them to adapt to new technologies (Pascucci et al., 2023). A study by (Imran et al., 2021) showed that workers who adapt faster to technology have higher performance. Thus, the second hypothesis proposed is **H₂**: Digitalization of insurance business processes has a positive impact on agent technology adaptation.

The Influence of Work Efficiency on Sales Productivity

Efficiency in working allows agents to handle more prospects and close deals faster, which ultimately increases their sales productivity (Pascucci et al., 2023). Therefore, the third hypothesis in this study is **H₃**: Agent work efficiency has a positive effect on life insurance sales productivity.

The Impact of Technology Adaptation on Sales Productivity

Agents who have a high level of technological adaptation are better able to utilize digital features to increase work effectiveness and sales target achievement (Kallmuenzer et al., 2024). Thus, the fourth hypothesis proposed is **H₄**: Agent technology adaptation has a positive impact on life insurance sales productivity.

The Mediating Role of Work Efficiency and Technology Adaptation

In addition to the direct relationship, this study also examines the role of work efficiency and technology adaptation as mediators in the relationship between business process digitalization and sales productivity. Therefore, the additional hypothesis is **H₅**: Agent work efficiency mediates the relationship between business process digitalization and sales productivity and **H₆**: Agent technology adaptation mediates the relationship between business process digitalization and productivity.

Data analysis

The data analysis technique in this study was carried out through several stages starting with descriptive statistical analysis, which was used to describe the characteristics of respondents based on demographic data and the distribution of questionnaire answers. This analysis aims to provide an overview of the respondent profile and the distribution pattern of answers they gave to the research instrument. The study can test the conceptual model that has been developed and understand the extent to which digitalization of business processes can contribute to increasing the productivity of insurance agents through work efficiency mechanisms and technology adaptation. The steps taken are as follows :

Validity and Reliability Test

Validity and reliability tests to ensure that the research instrument has met good measurement standards. Convergent validity tests are carried out using Average Variance Extracted (AVE) to ensure that the indicators used actually measure the intended variables. In addition, discriminant validity tests use the Fornell-Larcker Criterion to check whether the variables in the study have clear differences from each other. Reliability tests are carried out by looking at the Cronbach's Alpha and Composite Reliability (CR) values to ensure that the questionnaire used has good internal consistency and is reliable.

Measurement (Outer Model) in SEM-PLS

The analysis of the measurement model (outer model) in SEM-PLS aims to measure the validity and reliability of research indicators. This analysis is done by looking at the loading factor on each variable indicator, where a higher value indicates that the indicator has a significant contribution in measuring the variable it represents.

Structural Model Analysis

Structural model analysis (inner model) in SEM-PLS to test the relationship between research variables. This relationship is analyzed by looking at the path coefficient (β) which shows the strength of the relationship between variables and the R-Square value (R^2) which describes the extent to which the independent variables are able to explain the dependent variables in the research model.

Hypothesis Testing

To test the significance of the relationship between variables, this study uses hypothesis testing with the bootstrapping method in SEM-PLS. If the analysis results show a p -value < 0.05 , then the research hypothesis is declared significant and accepted.

Mediation Test

Mediation test to test whether agent work efficiency (M1) and agent technology adaptation (M2) actually mediate the relationship between business process digitalization (X) and productivity. life insurance sales (Y). This test uses bootstrapping on the indirect effect in SEM-PLS to see whether the indirect relationship through the mediating variable has a significant impact on the main relationship studied.

C. Results and Discussion

Descriptive Statistics

This study involved 203 respondents, who were Prudential Indonesia insurance agents who actively used the PruForce application in marketing and sales activities. Of the total respondents, 115 people (56.65%) were male, while 88 people (43.35%) were female. The age distribution showed that most respondents were in the 35-45 years age range (73.89%), followed by the 25-35 years age group (20.20%), the > 46 years age group (5.91%) and only 2.46% were under 25 years old.

Based on work experience, the majority of respondents have more than five years of experience (72.41%), while 14.29% have 3-5 years of work experience, 11.82% have 1-3 years of work experience, and only 1.48% have worked for less than one year. This shows that most of the agents who participated in this study have had quite a long experience in the insurance industry, so digitalization is likely to have a greater impact on their work efficiency and productivity.

In terms of PruForce application usage, 48.3% of respondents use this application every day (always category), 39.4% use it routinely (often), and 12.3% use it only occasionally (rarely). This distribution shows that the majority of agents have adapted to digital technology in their marketing and sales activities.

Table 2. Respondent Characteristics

Respondent Characteristics	Category	Frequency	Percentage (%)
Gender	Man	115	56.65%
	Woman	88	43.35%
Age	< 25 years	2	0.99%
	25-35 years	24	20.20%
	36-45 years	150	73.89%
	> 46 years	12	5.91%
Length of work	6 months - 1 year	3	72.41%
	1-3 years	24	14.29%
	3-5 years	29	11.82%
	> 5 years	147	1.48%
PruForce Usage	Seldom	25	12.3%
	Often	80	39.4%
	Always	98	48.3%

Convergent Validity Test

As shown in Table 3. Results of the Convergent Validity Test (AVE), Loading Factor for all indicators ≥ 0.70 , indicating that all indicators have a strong relationship with the variables they measure. The Average Variance Extracted (AVE) value ≥ 0.50 for all variables, means that the indicators in each variable are able to explain the intended construct. Thus, convergent validity has been met.

Table 3. Convergent Validity Test Results (AVE)

Variables	Indicator	Loading Factor	AVE
Digitalization of Insurance Business Processes (X)	The PruForce application helps me to access insurance product information quickly.	0.72	0.67
	The digital system in the application makes it easier for me to record prospects and customers.	0.82	
	The automation features in the app help me manage customer follow-ups more efficiently.	0.80	

	The application allows me to carry out insurance transactions faster than manual methods.	0.81	
	I feel comfortable using the digital features in the app for presentations to potential customers.	0.79	
Agent Work Efficiency (Mediating Variable 1 - M1)	Digitization helps me save time in the policy sales process	0.79	0.70
	I can handle more prospects in a day with the PruForce app	0.84	
	The application helps me reduce administrative errors in the sales process.	0.81	
	With digital features, it is easier for me to manage communication with customers in a more structured way.	0.83	
	The application helps me to increase work effectiveness without having to meet potential customers directly.	0.80	
Agent Technology Adaptation (Mediating Variable 4 - M4)	I feel confident using digital technology in the sales process.	0.77	0.72
	I always try to learn new features in the PruForce application.	0.85	
	I had no difficulty adapting to the digital system in this application.	0.83	
	I prefer using digital tools over manual methods in my sales activities.	0.79	
	I feel that this application improves my ability to execute digital-based marketing strategies.	0.82	
Life Insurance Sales Productivity (Y)	The number of policies I sold increased after I used the PruForce application	0.80	0.69
	I can complete more transactions in less time than before using this app.	0.82	
	The application helps me in increasing the conversion rate from prospects to customers.	0.81	
	With digitalization, I can achieve sales targets more consistently.	0.79	

I feel that the digital technology in the PruForce application has contributed directly to increasing my income.	0.83
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Reliability Test

Cronbach's Alpha values ≥ 0.70 and CR ≥ 0.70 indicate that the research instrument has a good level of reliability and can be trusted to measure the variables in this study.

Table 4. Reliability Test Results (Cronbach's Alpha & CR)

Variables	Cronbach's Alpha	Composite Reliability (CR)	Criteria
Digitalization of Business Processes	0.85	0.88	Passed
Work Efficiency	0.87	0.90	Passed
Technology Adaptation	0.89	0.92	Passed
Sales Productivity	0.86	0.89	Passed

Discriminant Validity Test

The results show that the diagonal value (square root of AVE) is greater than the correlation between other variables, which means that each variable has a clear difference and does not overlap with other variables in this study. Thus, discriminant validity is met.

Table 5. Results of the Discrimination Validity Test (Fornell-Larcker Criterion)

Variables	Digitalization of Business Processes	Work Efficiency	Technology Adaptation	Sales Productivity
Digitalization of Business Processes	0.81	0.55	0.52	0.50
Work Efficiency	0.55	0.83	0.57	0.53
Technology Adaptation	0.52	0.57	0.84	0.56
Sales Productivity	0.50	0.53	0.56	0.83

Based on the test results conducted, all variables in this study have met the validity and reliability criteria, which means that the research instrument is suitable for use to measure the relationship between variables, including (1) Convergent Validity (AVE ≥ 0.50) \rightarrow Pass. (2) Reliability (Cronbach's Alpha & CR ≥ 0.70) \rightarrow Pass. (3) Discriminant Validity (Fornell-Larcker Criterion) \rightarrow Pass.

Hypothesis

This study examines the relationship between business process digitalization and sales productivity, with agent work efficiency and technology adaptation as mediating variables. Table 6 presents the results of the path coefficients (β) and p-value analysis that measure the relationship between research variables.

Table 6. SEM-PLS Path Coefficients Results

Relationship Between Variables	Path Coefficient (β)	P-Value	Conclusion
Digitalization → Work Efficiency	0.66	0.001	Accepted
Digitalization → Technology Adaptation	0.61	0.002	Accepted
Work Efficiency → Sales Productivity	0.56	0.003	Accepted
Technology Adaptation → Sales Productivity	0.52	0.004	Accepted
Digitalization → Sales Productivity (direct)	0.46	0.005	Accepted

Table 7 below presents R-Square, which shows the extent to which the independent variables can explain the dependent variable.

Table 7. R-Square Results

Dependent Variable	R-Square
Work Efficiency	0.63
Technology Adaptation	0.60
Sales Productivity	0.69

In addition, a mediation test analysis was conducted to test whether Work efficiency and technology adaptation mediate the relationship between business process digitalization and sales productivity.

Table 8. SEM-PLS Mediation Test Results

Mediation	Indirect Effect (β)	P-Value
Digitalization → Efficiency → Produ	0.37	0.006
Digitalization → Adaptation → Productivity	0.31	0.007

Digitalization of Business Processes and Sales Productivity

The results of the study showed that Digitalization of business processes has a positive impact on the productivity of insurance agents . Agents who use digital features more often in their marketing and sales activities are able to achieve better results compared to those who still rely on traditional methods. Applications PruForce makes it easier for agents to manage customer data, follow up on prospects, and complete transactions more efficiently.

The Role of Work Efficiency in Increasing Productivity

Work efficiency has proven to be a critical factor in increasing sales productivity. Agents who are able to manage their time well and reduce administrative burdens have more opportunities to interact with customers. Digital systems allow them to automate routine tasks, so they can focus more on developing more effective marketing strategies.

Technology Adaptation as a Determining Factor for Digitalization Success

In addition to work efficiency, The agent's ability to adapt to technology also plays a major role in the success of digitalization. Agents who adapt more quickly to digital features are more effective in leveraging technology to increase their productivity. The success of digitalization in the insurance industry is determined not only by the available technological infrastructure, but also by the readiness of the sales force to adopt the technology.

Theoretical and Practical Implications

The results of this study strengthen the theory that digital transformation contributes to improving the performance of sales force in the financial services sector . In practice, insurance companies need to develop more effective technology training strategies so that agents can make the most of digital features. In addition, the development of applications such as PruForce need to be adjusted to the needs of the sales force to make it easier to use and provide optimal benefits. This study found that Digitalization of business processes contributes positively to the productivity of insurance agents , both directly and through increased work efficiency and technology adaptation. Agents who are more efficient in managing administrative tasks and adapting to technology more quickly show higher levels of productivity compared to

those who have difficulty in adopting digital systems. The success of digital transformation in the insurance industry is not only determined by the technology implemented, but also by the readiness of the sales force to use it effectively. Therefore, the digitalization strategy in this industry must include comprehensive technology training program, as well as the provision of digital infrastructure that supports agent work efficiency.

D. Conclusion

This study concludes that business process digitalization plays an important role in increasing life insurance sales productivity. The implementation of digital applications, such as PruForce, has been proven to provide real benefits for agents and helps agents access product information, manage prospects, and complete transactions more efficiently. Agent work efficiency and adaptation to technology play a key role in strengthening the impact of digitalization on sales force productivity. The results of the study show that agents with more than five years of work experience have a better level of technology adaptation, so they are quicker to utilize digital features to increase their productivity. In addition, work efficiency is proven to be the main factor that strengthens the positive impact of digitalization on sales force productivity. Although this study provides significant insights into the role of digitalization in the insurance industry, there are several limitations that need to be considered. The research sample only includes agents at MRT Agency - Prudential Indonesia, so the results obtained do not necessarily reflect the conditions of sales forces in other insurance companies. In addition, this study only uses a quantitative approach with data obtained through questionnaires, without further exploration through qualitative methods, such as in-depth interviews, which can provide a more comprehensive understanding of the challenges and opportunities in implementing digitalization in the insurance sector and agents' experiences in adopting digital technology. For further research, it is recommended that the research model be expanded by considering other variables that can moderate the relationship between digitalization and sales force productivity, such as agent experience or insurance product complexity. In addition, a longitudinal approach can be applied to analyze the impact of digitalization in the long term and see how the level of technology adaptation develops over time. With further research development, it is hoped that deeper insights can be obtained in optimizing digitalization strategies in the life insurance industry to support the growth of the life insurance industry.

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