

Well-Being after Service: The Social Insurance Experience of Military and Police

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ABSTRACT

As the number of elderly in Indonesia grows, it has become more critical to ensure their well-being in the digital age. This study examines the factors that influence the elderly's well-being by utilizing insurtech (insurance technology) applications for pension claims, among retirees from the police and military as part of Indonesia's evolving digital social insurance system. This conceptual approach study utilizes Importance-Performance Analysis (IPA) to identify indicators that were both important and well-performing from the user's perspective. The study collected data from a survey of 300 respondents who were selected using Simple Random Sampling from the population of military and police retirees throughout Indonesia (N = 476,869). Data was collected through survey distribution using a structured online questionnaire. The measurements were adopted from a previous study that covers five variables: digital literacy, insurtech adoption, insurance inclusion, societal value, and elderly well-being. The results show that the crucial indicator is the appropriateness of premiums, which is perceived by the elderly as important but not well-performed. It indicates a need for immediate adjustment as a recommendation to the government as a sponsor of social insurance. The other result shows that the majority of factors already have an effective use of elderly well-being in relation to pension claims. This finding provides recommendations for policymakers to adjust premiums and improve the well-being of the elderly.

Keywords: Elderly well-being, Importance-performance analysis, Insurance Technology, Pension, Social insurance.

JEL Classification: I31 Well-Being, J14 Pension, G22 Insurance Companies.

INTRODUCTION

Megatrend 2045 highlights that two of the ten global trends — demography and technology — require attention, particularly in Indonesia. Indonesia's projected growth in its aging population could lead to potential social challenges in the future. It is estimated that the elderly population in Indonesia will increase more than threefold, surpassing the population growth rate from 2010 to 2045 (Ministry of National Development Planning & Bappenas, 2019). Conversely, technological development will be dominated by information and communication technology. As Indonesia undergoes a demographic transition toward an aging society and experiences the

disruptive impact of digital technologies that transform social and economic interactions, it becomes urgent to ensure that the elderly are not vulnerable to digital social exclusion. The convergence of these two megatrends is an important moment to design inclusive policies and technologies for the older generation. One of the potential social challenges to realizing elderly well-being is limited access to essential services such as social security.

There is limited existing research on the well-being of the elderly in Indonesia. The elderly are often perceived as unproductive members of society and as potential burdens. Most current research on the elderly focuses on their health and emotional state. However, it is also important to help the elderly feel happy and satisfied by using technologies that improve their quality of life. Social insurance is a crucial issue for the elderly, particularly when it comes to claiming a social pension through Insurtech. Therefore, it is essential to understand the primary concerns and preferences of the elderly regarding Insurtech-driven pension services.

LITERATURE REVIEW

This research is based on the theoretical foundation of Positive Psychology, which focuses on positive aspects of human nature and promotes well-being. According to this theory, individual strengths can be developed to help individuals and ultimately bring happiness, well-being, and life satisfaction, or what is referred to in this context as well-being (Seligman & Csikszentmihalyi, 2000).

Regarding the theoretical foundation, Positive Technology for Elderly Well-Being (Grossi et al., 2020). introduces the concept of using technology specifically to improve the well-being of older adults. Grossi argues that technology serves not only as a communication or entertainment tool but also as a key driver of psychological and social well-being for older adults. The well-being of the elderly is a complex concept that includes many different factors, such as physical, psychological, social, and financial well-being (Gray Group International, 2024).

Some research found that in the case of a mobile application that is addressed to the elderly, there is an opportunity to improve social inclusion (Goumopoulos et al., 2017), but it depends on their capability, opportunity, and motivation (Kebede et al., 2022). Because the well-being of the elderly can change through new ways of life, the way they enjoy social interaction can also change. (Davis, 1980). Moreover, it can enhance personal independence, social connectedness, and introduce a new benefit in life.

On the other hand, the presence of technology can also reduce physical interaction. This situation becomes a challenge for the elderly, who naturally need support (Mellor et al., 2008). Significant risk for the elderly will also occur when they feel isolated, being less supported, which is correlated with cognitive decline and depression. It is essential to consider technology appropriately to improve the quality of life for the elderly, rather than putting their mental health at risk. They can adopt technologies that enable them to access information and communicate with others at their leisure, and to facilitate the lives of the elderly, avoiding of depression and loneliness (Grover et al., 2018).

A previous study identified that the behavior of elderly consumers toward the internet shows a positive need for assistance with technology from younger family members (Bianchi, 2021) In this case, the role of family members is significant in improving the well-being of the elderly through these behaviors. Some studies have revealed that Internet services can improve well-being through access via cell phones, tablets, and computers (Cotten et al., 2014; Kavetsos & Koutroumpis, 2012).

Insurtech is an efficient technological breakthrough in the insurance world that brings benefits and social challenges due to fewer customer touchpoints and increased expectations of societal value (Ostertag et al., 2022). Social insurance, established by the government to protect and provide for its people, is expected to operate efficiently and be easily accessible without the need for innovation or market expansion (Gurumurthy & Schatsky, 2019). In short, social insurance aims to provide social security to improve people's welfare, supported by the government budget (Government of the Republic of Indonesia & 2015 concerning Social Insurance for Soldiers of the Indonesian National Armed Forces, 2020; OJK, 2023) and the market is provided without the need for sales efforts (Cheston et al., 2018)), so inclusiveness is essential.

This study builds upon the previous research, which indicated that insurance inclusion comprises two dimensions: access and usage. That research also incorporates the variables of digital literacy and Insurtech adoption. This expands on research conducted by (Kiwanuka & Sibindi, 2024) by further exploring the impact of Societal Value (SV) and Elderly Well-Being (EWB). The study comprises five variables: Digital Literacy (DL), Insurtech Adoption (IA), Insurance Inclusion (INL), Societal Value (SV), and Elderly Well-being. (EWB).

This study utilizes the concept to understand how people develop confidence in the technology offered, which impacts user acceptance. The theory is called the Technology Acceptance Model (TAM), introduced by (F. Davis, 1980). It is an advantage for people, called Perceived Ease of Use, and it is also supported, which pertains to the degree of experience in utilizing technology (Venkatesh & Davis, 2000). The greater the ease of use, the higher the

probability of their acceptance. To assess the adoption, by identifying the required level of acceptance, both in the process and design implementation (Ogrezeanu, 2015), including depends on users' motivation.

Another novel approach used in this study, known as Positive Technology (Riva et al., 2012). This approach is characterized by a scientific and applied methodology, focusing on the utilization of technology to enhance the quality of an individual's experience. This study employs this concept to understand the perceived interaction between humans and technology, emphasizing the positive aspects of human behavior to foster the development of a more fulfilling life, including enhanced well-being. The implementation of Positive Technology for Elderly Well-being can further evolve within the realm of Information and Communication Technology (ICT) to enhance activities, social connections, and autonomy. This research references pertinent literature that identifies three elements shaping human experiences that can affect well-being. Specifically, engagement/cognitive reasoning, (ii) emotional/affective quality, and (iii) social/connectedness (Grossi et al., 2020). These literatures are used as a reference to determine the indicators in this study.

Summarizing the literature, five interrelated constructs relevant to well-being in digital pension claims are as follows: Digital Literacy is the capability to access, understand, and interact with digital tools. Insurtech Adoption is a decision and action derived from perceptions of usefulness and ease of use of Insurtech. Insurance Inclusion refers to the application's ability to benefit all, ensuring accessibility and satisfaction with insurance services. Societal Value is a beneficial value derived from emotional and social recognition within social systems. Elderly well-being refers to the state of the elderly as a result of their experience with technological development and empowerment, ultimately enhancing their quality of life. This study addresses the gap of importance and performance by applying an Importance-Performance Analysis (IPA) approach to assess how these factors are perceived by the elderly. In addition to the comprehensive descriptive analysis of the existing literature, it is important to consider the user perspective. In this case, the focus is on the elderly because Insurtech is being implemented in the retired population. This has the potential to impact their well-being, as outlined in the references.

AIM

This study aims to investigate the key indicators that can enhance elderly well-being from the user's perspective, following the implementation of an Insurtech application for pension claims.

METHODOLOGY

This study employed a conceptual approach, commencing with a descriptive analysis to investigate the crucial indicators based on the gap of importance and performance (Martilla & James, 1977). It was analyzed using Importance-Performance Analysis (IPA). The respondent data is determined by a simple random sampling method. The purpose of the simple random sampling method is to ensure that each individual has an equal chance of being selected as a sample. The respondents are military and police retirees who are in the process of transitioning from a manual claim process to utilizing an Insurtech application for making pension claims. The total respondents is 300 retirees who were selected using Simple Random Sampling (Scheaffer et al., 2012) from the population of military and police retirees throughout Indonesia ($N = 476,869$), was obtained using a significant alpha level of 5%. Prior to conducting the primary survey, a sample of 50 respondents was obtained, with $P=73.4\%$ and $Z=1.96$; the sample size was obtained as 300 samples.

The data was collected through an online questionnaire distributed to units across Indonesia in 2024. Prior to conducting the primary survey, a validity and reliability test was also conducted using a sample of 50 respondents. If the indicators were validated and the variables were reliable, the data collection phase would proceed with the participation of 300 respondents.

The questionnaire contained 46 indicators divided into five variables. Each variable with an indicator is derived from several previous studies. The five variables are: Digital Literacy with nine indicators from the study of (Kiwanuka & Sibindi, 2024) and (Kass-Hana et al., 2021). Insurtech Adoption and Insurance Inclusion each respectively consist of nine indicators set from the study of (Kiwanuka & Sibindi, 2023). Societal Value consists of ten indicators that were explored from the study by (J. A. Davis, 2022) and (Singh, 2017). Elderly Well-being, with nine indicators, is based on the study of (Grossi et al., 2020; Longo et al., 2017). Each indicator was rated on a 5-point Likert scale, respectively for: Importance (1 = not at all important, 5 = very important) and for performance (1 = very poor, 5 = excellent).

The use of IPA as a tool offers several advantages, including the ability to gain confidence in indicators as evaluated factors and to gain acceptance from the customer's (respondents') perspective. It is a cost-effective and straightforward technique that can provide valuable insights into areas requiring greater attention and identify areas

where resources may be in excess. Furthermore, customers' judgment on the importance-performance dimension can assist management in interpreting the data and enhance its utility in strategic decision-making (Sabri et al., 2014).

The separation of importance and performance measures serves to minimize the effects of bias. If respondents are asked in one question about the importance of an indicator and then asked in the following question about the reality of the indicator's performance, they will be influenced by the previous answer. Consequently, IPA is capable of prompting respondents to provide more detailed responses on each indicator, with a distinct delineation between importance and performance (Martilla & James, 1977).

When applying Importance-Performance Analysis (IPA) to assess elderly well-being indicators, the results are visualized in four-quadrant diagrams: high importance/high performance, high importance/low performance, low importance/high performance, and low importance/low performance, as shown in Figure 1.

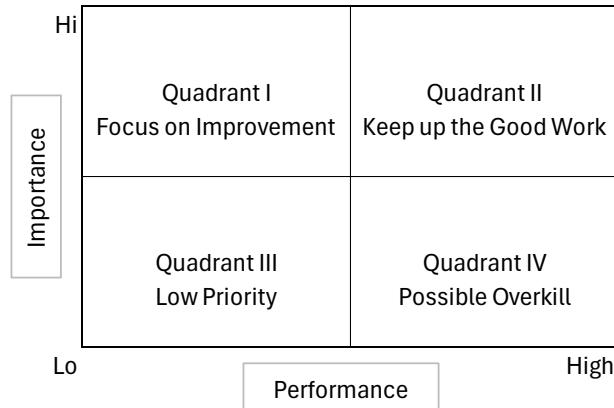


Figure 1. Importance-Performance Analysis Matrix (Martilla & James, 1977)

The processing of respondent data in IPA entailed calculating the mean of each indicator across both the Importance and Performance dimensions. Subsequently, each indicator was plotted on the IPA quadrant, with the horizontal axis representing the Performance dimension and the vertical axis representing the Importance dimension. In this quadrant, the midpoint between the lowest and highest values on each Importance and Performance axis was identified. The results of the IPA calculation are illustrated in the IPA quadrant, as shown in Figure 1. Importance-Performance Analysis Matrix.

The findings by IPA will reveal which indicators are the most crucial, important, and perform well from the perspective of respondents. Further, this will give a better understanding of evaluating customer acceptance. With a simple, low-cost, easy technique, we can identify which indicator, or factor, may be consuming many resources and may require special attention for usefulness in strategic decisions.

RESULT AND DISCUSSION

From a sample of 300 respondents of Police and Military Pension in Indonesia, an overview of the characteristics of respondents is obtained as follows:

Table 1. Characteristics of Respondents

Age (Year)	<=60 (70%)	>60 (30%)				
Gender	Male (82%)	Female (18%)				
Marital status	Single (2%)	Married (79%)	Divorce (19%)			
Location and surrounding island (s.i)	Java and s.i (65%)	Sumatera and s.i (25%)	Kalimantan and s.i (27%)	Sulawesi and s.i (22%)	Bali, Nusa, and s.i (1%)	Maluku Papua s.i (3%)
Residential Status	Official, communal (8%)	Private (84%)	Family Owned (5%)	Rental (1%)	Others (15)	
Grade	Enlisted (1%)	Non-commissioned officer (50%)	Junior Officer (26%)	Mid-Level Officer (21%)	Senior Officer (1%)	
Education	High School (73%)	Diploma (4%)	Bachelor (20%)	Master, Doctoral (35%)		

Dependant (person)	0-3 (83%)	4-6 (15%)	>6 (25%)			
Other Income	Do not have (54%)	Have (46%)				
Other Insurance	Do not have (81%)	Have (19%)				

The data from 300 respondents shows that the majority (81%) rely solely on social insurance for their old age, with more than half of them reporting that they have no other income. A descriptive analysis of the distribution of retired soldiers and police officers reveals a geographical pattern. The majority are concentrated on the island of Java (65%), while the smallest number is found in Bali, the Southeast, the Maluku Islands, and Papua (4%). The remaining (22% to 27%) are distributed almost evenly between those domiciled on Java, Sumatra, Kalimantan, and their surroundings.

The evaluation of the 46 indicators from five variables was rated on a 5-point Likert scale, based on respondents' perceived Importance and also actual Performance. The list of indicators is shown in Table 2.

Table 2. The List of Indicators

Code	Indicator	Code	Indicator	Code	Indicator
DL1	Understanding	IA1	Easy to user	SV1	Support
DL2	Risk Awareness	IA2	Easy to learn	SV2	Experience
DL3	Digital Security	IA3	Confidence to use	SV3	Appreciation
DL4	Ease of Information	IA4	User Friendly	SV4	Acceptance
DL5	Information Credibility	IA5	Easily monitored	SV5	Involvement
DL6	Voice and Text	IA6	Easy transaction	SV6	Joyfull
DL7	Photo and Video	IA7	Efficiency	SV7	Contribution
DL8	Transaction	IA8	Transparency	SV8	Reliance on Family, Friends
DL9	Access Social Media	IA9	User Experienve	SV9	Community
Code	Indicator	Code	Indicator	Code	Indicator
INL1	Appropriateness of Premium	EWB1	Empowering		
INL2	Ease of Access	EWB2	Emotion State Detection		
INL3	Needs	EWB3	Happiness		
INL4	Responsivess	EWB4	Social Connectedness		
INL5	Requirements	EWB5	Social Communication		
INL6	Intention	EWB6	Actualization		
INL7	Recommendation	EWB7	Health Monitoring		
INL8	Variety	EWB8	Satisfying Activities		
INL9	Satisfaction	EWB9	Prompt Assistant		

The results of the mean score of importance and performance score for each indicator are presented in Table 3.

Table 3. Mean Scores of Indicators in Importance and Performance.

No	Indicator	Importance	Performance	Quadrant	Gap (P-I)	No	Indicator	Importance	Performance	Quadrant	Gap (P-I)
1	DL1	4.180	4.113	II	-0.067	24	Inl6	3.947	3.943	II	-0.004
2	DL2	3.880	3.917	II	0.037	25	Inl7	3.813	3.810	III	-0.003
3	DL3	4.323	4.323	II	0.000	26	Inl8	3.953	3.933	II	-0.020
4	DL4	4.243	4.230	II	-0.013	27	Inl9	3.987	3.987	II	0.000
5	DL5	4.227	4.237	II	0.010	28	SV1	4.027	4.083	II	0.056
6	DL6	4.140	4.147	II	0.007	29	SV2	3.940	3.973	II	0.033
7	DL7	4.033	4.043	II	0.010	30	SV3	4.000	4.050	II	0.050
8	DL8	3.970	3.990	II	0.020	31	SV4	4.007	4.073	II	0.066
9	DL9	3.917	3.927	II	0.010	32	SV5	4.100	4.130	II	0.030
10	IA1	3.990	3.983	II	-0.007	33	SV6	4.187	4.160	II	-0.027
11	IA2	3.903	3.940	II	0.037	34	SV7	4.187	4.200	II	0.013
12	IA3	3.973	3.993	II	0.020	35	SV8	3.470	3.503	III	0.033
13	IA4	4.057	4.033	II	-0.024	36	SV9	4.023	4.027	II	0.004
14	IA5	4.043	4.007	II	-0.036	37	SV10	3.947	3.987	II	0.040
15	IA6	4.037	4.057	II	0.020	38	EWB1	4.157	4.117	II	-0.040
16	IA7	4.127	4.100	II	-0.027	39	EWB2	3.407	3.513	III	0.106
17	IA8	4.077	4.090	II	0.013	40	EWB3	4.090	4.043	II	-0.047
18	IA9	3.833	3.873	III	0.040	41	EWB4	4.203	4.177	II	-0.026
19	Inl1	3.893	3.860	I	-0.033	42	EWB5	4.180	4.157	II	-0.023
20	Inl2	4.180	4.133	II	-0.047	43	EWB6	4.140	4.140	II	0.000
21	Inl3	4.117	4.070	II	-0.047	44	EWB7	4.157	4.127	II	-0.030
22	Inl4	4.200	4.160	II	-0.040	45	EWB8	4.107	4.093	II	-0.014
23	Inl5	4.180	4.127	II	-0.053	46	EWB9	3.583	3.650	III	0.067

First, to draw all indicators in the IPA Diagram, define the median values for the importance of the Y-axis and the X-axis in terms of performance. Performance dimension is determined to be between the minimum score = 3,503 and the maximum score = 4,323. The median is 3.913. So do the Importance dimension, the median is determined between the minimum score = 3,407 and maximum score = 4,323, then the median is 3,865, resulting in the formation of a matrix with four quadrants, as illustrated in Figure 2.

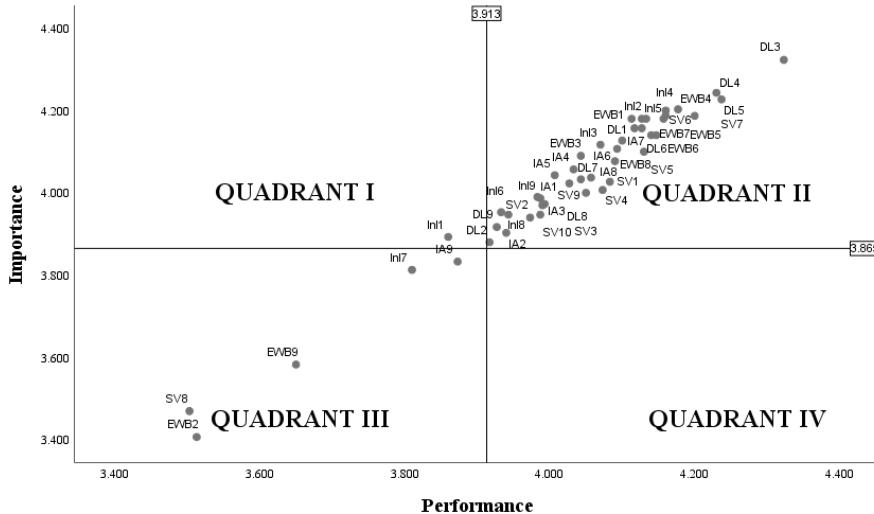


Figure 2. The Result of the Author's Importance-Performance Analysis Matrix

A summary of the findings in the quadrant is as follows: Quadrant I (High Importance, Low Performance – Focus on Improvement) has one indicator. Quadrant II (High Importance, High Performance – Maintain) has found 40 indicators. Quadrant III (Low Importance, Low Performance – Low Priority) has five indicators. None of the indicators is located in Quadrant IV (Low Importance, High Performance – Overkill)

The primary indicators requiring attention are located in Quadrant 1, characterized by perceived high importance and low performance. The table indicates that INL1 (Appropriateness of premium) falls into Quadrant 1, which is one of the indicators of the Insurance Inclusion variable. This indicator pertains to the equity of premium pricing; thus, the presence of INL1 in Quadrant 1 signifies that the elderly regard the actual premium prices as failing to align with their expectations. As explained in the Literature Review, social insurance aims to offer social security to societal members and therefore uses the government's budget (Government of the Republic of Indonesia & 2015 concerning Social Insurance for Soldiers of the Indonesian National Armed Forces, 2020; OJK, 2023). This finding will be a good insight for the government as a policymaker. This finding could also serve as managerial input, prompting a review of the premium for active police and military personnel to enhance their well-being.

The majority of indicators, specifically 40, are positioned in Quadrant II, which signifies that they are performing adequately and should be maintained. This indicates that the level of satisfaction among military/police retirees is satisfactory. Some of the indicators that merit particular attention in Quadrant II are the top three, which have zero gaps between importance and performance. The satisfaction gap, defined as the difference between the performance score and the importance score, was nonexistent for DL3 (Digital Security), INL9 (Usage Satisfaction), and EWB6 (Actualization), meaning that those three indicators are reaching satisfactory levels, and the performance meets the expectation.

For DL3, it means that the elderly have confidence in DL3's ability to maintain data security. Furthermore, the elderly are cognizant of the significance of digital security and that the Insurtech application performs as expected, for instance, in terms of protecting passwords. This enhanced level of security fosters a sense of security among the elderly, which is a state of well-being that can be measured and analyzed.

The INL9 (Usage Satisfaction) has a zero gap between importance and performance. This can be interpreted to mean that service features in Insurtech have already been satisfactorily used. Consequently, it is recommended that these features be maintained effectively, as all factors or indicators in Quadrant II demonstrate consistent performance. The EWB6 (Actualization) is an indicator of the happiness of gaining experience and is an expression of elderly well-being by successfully utilizing Insurtech for pension claim processing. The 37 indicators comprising Quadrant II are also recommended for maintenance, regarding those factors that are performing well according to respondents' assessments of their importance. The list of indicators are seen in Table 2 .

The Quadrant III area, functioning as a reminder to manage the resource priorities, has been superseded. It provides guidance on how to enhance efficiency. In this Quadrant III, indicators are perceived as less important and less performance, and as such, are considered low priority in decision-making. Quadrant III consists of five

indicators: IA9 (user experience), INL7 (likelihood to recommend), EWB9 (prompt assistant), SV8 (rely on family and friends for help), and EWB2 (emotional state detection). Those indicators in Quadrant III are of little consequence to those with experience in the Military/ Police and, therefore, receive minimal attention. This signals an effort to improve these indicators, conveying efficient and well-targeted initiatives that are limited to the potential for complaints. Any initiative investment in those indicators may be assigned a lower priority.

All indicators of the Digital Literacy (DL) variable fall in Quadrant II. The analysis indicates that the elderly respondents are at ease with insurtech and demonstrate sufficient digital literacy. As elucidated in the Literature section above, individuals possessing digital abilities can proficiently participate in the digital economy, as they possess the requisite information and competencies to execute digital financial transactions, particularly those pertaining to insurance (Kass-Hanna et al., 2022). Consequently, Indonesian military and police retirees have contributed to the convenience of insurtech utilization and the enhancement of Indonesia's digital economy by executing transactions (pension claims) digitally.

Similarly to the Insurtech Adoption (IA) variable, which in this study comprises nine indicators, eight of which reside in Quadrant II, indicating alignment between expectations and reality. This research corroborates the existing literature on the Technology Acceptance Model (TAM), which asserts that Perceived Usefulness and Perceived Ease of Use influence User Acceptance of Information Technology. The eight IA indicators pertain to the Perceived Ease of Use dimension comprising four indicators: ease of use (IA1), learning (IA2), confidence (IA3), and ease of understanding (IA4). The remaining indicators pertain to Perceived Usefulness, which includes metrics of monitoring ease (IA5), insurance transactions (IA6), process efficiency (IA7), and user transparency (IA8). The respondents' satisfaction with these indicators, derived from this scientific investigation, aligns with the concepts outlined in the Technology Acceptance Model (TAM).

The well-being indicators themselves, as stated in the previous research (Bianchi, 2021), are also proven by knowing that most of the indicators of well-being are perceived as high importance, and their experience is also the same, as expected (mostly in Quadrant II which means to keep up the good work). These include the enjoyment of experiences, happiness, autonomy, empowerment, and social connectedness within the community, as well as involvement, as observed in the indicators of Societal Value and Elderly Well-being. These satisfactions of indicators are validated by some literature created previously by (Bianchi, 2021; J. A. Davis, 2022; Grossi et al., 2020)

In general, the results of this study, which employed the IPA method, can reflect the expectations and realities of insurtech users, including retirees from the police and military, who are predominantly non-commissioned officers, specifically in the Indonesian context. As is known, most indicators of insurtech application are primarily situated in Quadrant II, indicating that overall, insurtech is satisfactory in addressing elderly well-being and facilitating the processing of pension claims. One thing is that the appropriateness of the premiums, which is related to the monthly pension received, is suitable for recommendations to policymakers; it is hoped that a pension calculation formula will be developed that can directly improve their well-being, and this might also reflecting other case in other side of the world which might have similar issues.

CONCLUSION

This study examines key indicators that influence the well-being after service of Military and Police retirees, and the well-being of police and military elders when using insurance technology-based retirement services. Using the Importance-Performance Analysis (IPA) method, the study assessed 46 indicators across five areas: digital literacy, insurtech adoption, insurance inclusion, social value, and elderly well-being. The results showed that most indicators (87%) fell into the "Maintain Performance" quadrant, indicating they are performing adequately and should be maintained. This suggests that the level of satisfaction among military and police retirees is generally satisfactory. Overall, the results of this study indicate that the well-being of police and military elders has been satisfied with the application of social insurance insurtech in processing their pension claims.

The present study posits that the Positive Technology for Elderly Well-Being theory should be regarded as the foundational theory. This theory posits that technology serves not only as a means of communication and entertainment but also as a pivotal catalyst in enhancing the psychological and social well-being of the elderly. Indeed, the implementation of insurtech has the potential to enhance the well-being of elderly individuals across various domains, including social, psychological, and emotional aspects.

However, its impact on the financial well-being aspect appears to be limited, as it is the only indicator that emerges for improvement (in Quadrant 1), specifically regarding the appropriateness of premiums for achieving financial well-being. This indicator highlights the importance of the appropriateness of pension contributions with perceived welfare benefits. Given that indicator, which is considered essential but still not in line with expectations, is crucial for the well-being of Military and Police Retirees, it needs to be improved immediately. This indicator is

a crucial recommendation for policymakers in striking a balance between affordability, the sustainability of the social security pension program, and societal values regarding the welfare of retirees.

In addition to providing recommendations for policymakers on premium adjustments, the results of this study also contribute to the literature on the application of IPA, particularly in the adoption of insurtech in social insurance, which is gaining acceptance due to several variables that can impact the well-being of the elderly.

For future research, the research object can be expanded to the retirement segment in the general public in different countries that implement social insurance programs.

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