A Structural Equation Model of Governing Factors Influencing the Development of Sustainable Insurance Product in the Future: Evidence from Indonesian Insurance Industry

ABSTRACT

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Designing and proposing sustainable insurance programs to insurance companies that run their businesses in Indonesia have been some of the insurers' approaches to creating more stable and certain industry climate. Moreover, the Indonesia's Financial Services Authority or OJK encourages financial services sector actors in creating, developing sustainable product innovations, and supporting financing of production activities that can create economic growth, social justice and environmental quality improvement. Some survey and analysis are conducted to know whether insurance companies in Indonesia are interested in implementing sustainable finance in insurance industry and developing sustainable insurance products. Participants' responses depict insurance firms' paradigm on sustainable insurance. In this study a framework is proposed for governing factors that impact the development of sustainable insurance product in the future such as the level of knowledge, readiness, and current sustainable insurance product development. To clarify the relationships, a structural equation model is utilized to examine the framework fit with the hypothesis for the four latent variables of this study. Acceptable goodness of fit is established for validity of the measurement model. The test of validity is accepted for the structural model in this study. The SEM results conclude that an insurer's knowledge of sustainable finance principles affects the insurance firm's readiness to implement sustainable insurance. Subsequently, the insurer's readiness affects its current level of sustainable insurance product development. Eventually, the insurer's knowledge and current development in sustainable insurance products have a positive effect on the insurance firm's willingness to develop sustainable insurance products in the future. Thus, this study provides valuable information about factors affecting the development of sustainable insurance products in the future as a key for a successful implementation of sustainable finance in Indonesian insurance industry.

Keywords: ESG Profile, Firm Performance, Insurance Industry

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I.   Background

The insurance sector has a great potential to play a role in the economic realization and sustainable social growth. Product innovation is one way for an insurer to implement sustainable insurance. Sustainable products are created by integrating economic, social, and governance (ESG) factors in their product features. The more relevant the product features with ESG issues, the better the insurer implementing sustainable insurance will be. Wang and Zhi's (2016) study shows that there are six potential products that an insurer can offer to implement sustainable finance: (1) environmental fund and biodiversity fund, debt-for-environment swaps, forestry securitization, weather derivatives, nature-linked securities, and green investment fund. Slogget (2016) documents that ESG factors could affect a firm's valuation through various channels. He examined the ESG factors alongside other valuation drivers. Although the ESG factors are generally qualitative in nature, investors have increasingly quantified and integrated the ESG factors into financial forecasting and firm valuation models.

The landmark of sustainable finance era in Indonesia was established through the passage of Financial Services Authority (*Otoritas Jasa Keuangan*, OJK) Regulation concerning the Implementation of Sustainable Finance by Financial Institutions, which stipulates that financial sectors/institutions have to implement Sustainable Finance. The regulation is POJK No.51/POJK.03/2017 concerning the Application of Sustainable Finance for Financial Service Institutions, Issuers, and Public Companies. The regulation mandates that the Principles for Sustainable Finance (PSF) be the guidelines for the implementation of sustainable finance. The regulation includes the establishment of compulsory environmental and social management systems and associated reporting in the entire financial services sector including publicly listed issuers and companies with a gradual application for each financial service institution including insurance firms.

As an insurance firm's business environment becomes more demanding and complex, all intertwined financial industry stakeholders must pay more attention and be responsive to the circumstances, including the OJK. Designing and proposing sustainable insurance programs to insurance companies that run their businesses in Indonesia have been one of the insurers' approaches to creating more stable and certain industry climate since ESG issues have become prominent discussion among developed and developing countries.

Currently, Indonesian insurance firms have offered three types of sustainable insurance products: (1) agriculture, (2) micro-insurance, and (3)

weather index. Therefore, Indonesian insurers still have a big room for maneuver in product offering. Geographically, Indonesia is relatively prone to catastrophe incidents, such as earthquakes, flood, etc. Natural disaster is indeed a serious concern for economic sustainability, and it could certainly drive businesses out of operations. Hence, to implement sustainable finance we have to identify what kinds of products insurers have offered at the moment. In this study, we investigate whether Indonesian insurance firms have the capability of developing sustainable insurance products, and in what state the product development has been reached. In our study, we attempt to construct the ESG profile by integrating three components: (1) the firm's level of understanding of ESG principles, (2) the way or manner by which the firm is integrating the ESG, and (3) the firm's paradigm on ESG integration. We harness the insurer's awareness as a component for constructing the ESG profile.

Accordingly, by utilizing a structural equation model with path analysis, this study purports to examine the connection between the level of knowledge, readiness, product development and potentials of product development in the future. Before examining it, this study (1) analyzes Indonesian insurance firms' level of understanding of sustainable finance principles in insurance, (2) discusses the current circumstances of sustainable insurance implementation by Indonesian insurance companies, and (3) explores the potentials of sustainable insurance development in Indonesia. For that purpose, we conduct survey and analyze whether insurance companies in Indonesia are interested in developing sustainable insurance products.

The remainder of this paper is structured as follows. Section 2 discusses theoretical foundation of this study. Section 3 describes our research methodology. Section 4 presents our empirical findings. Eventually, Section 5 concludes the paper.

II. Theoretical Foundation: Sustainable Insurance

Insurance is playing an important role, both in its function in enabling the mutualization of risk and as an institutional investor. By reducing uncertainty and the impacts of big losses, this industry could encourage new investments and innovation, incentivize risk reduction, and enable economic recovery after a disaster. Sustainable insurance could be implemented by insurance firms by: (1) embedding the ESG principle in decision-making, (2) building a framework that enables an insurer to identify and evaluate ESG factors, and (3) implementing the framework in company operations. The UNEP FI (United Nations Finance Initiative) describes sustainable insurance as a strategic approach wherein all activities in the insurance industry chain, including

interactions with stakeholders, are conducted responsibly and is forward looking through identifying, assessing, managing, and controlling risk and opportunities associated with environmental, social, and governance issues ("ESG Issues": environmental, social and governance).[4] The aim of sustainable insurance is to minimize risk, develop innovative solutions, increasing business performance, and contributing to the longevity of the environment, society, and the economy.

What is meant by "sustainable" in sustainable insurance is that the insurance company conducts its business activities whilst considering the environmental aspects, social circumstances, and financial dimensions to ensure its longevity in the coming future. The rising concern regarding environmental, social, and governance issues pose risks as well as creating new opportunities in the insurance sector. Risk identification and measurement are salient challenges to insurance firms. Meanwhile, climate change and disasters are the major risk sources in Indonesia. According to the National Disaster Relief Agency (BNPB), Indonesia suffered 2,341 incidents of disasters during 2017 (Riswinandi, 2018). Accordingly, insurance products that insure climate change have a high demand potential in Indonesia. This implies that insurer's capacity to identify and measure climate risk may significantly lead to stronger firm performance.

The sustainable insurance concept is an amalgamation of the green insurance and the social insurance concepts. Based on POJK No. 51/POJK.03/2017 regarding the Implementation of Sustainable Financing for Financial Services Institutions, Issuers, and Public Companies, the insurance products which are included in the environmentally friendly and social welfare products include green insurance, insurance covering environmental damage, building insurance, agricultural insurance and premium discounting for green projects.

III.   Research Methods

This research employs a positivism approach as it includes the confirmatory verification of different experiences rather than an intuitive approach (Gefen et al, 2000). This research is essentially a quantitative exploratory study. Another part of this study is descriptive in nature, analyzing Indonesian insurance firms' level of understanding of ESG principles, discussing the current circumstances of ESG implementation by Indonesian insurance firms, and evaluating the potentials for sustainable insurance development in Indonesia.

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[4] Sustainable Investment Principle UNEP FI.

To observe an insurer's perception toward ESG and sustainable insurance issues, a quantitative method is utilized for measurement. Since mere quantitative statistics will not be able to address the whole issues, this research harnesses an array of approaches. Data were collected through a questionnaire distributed to top management responsible for sustainable product development and/or investment among the Indonesian insurance companies from mid-July to mid-September 2018. Sample firms in this study are all Indonesian insurance companies that sell general (property and casualty) insurance products. Our sample set consists of general insurance firms, with a total sample of 44 companies.

Indonesian insurance firms' level of understanding is measured through respondents' feedback on part one of the questionnaire. It is conjectured that insurance firms that have implemented the sustainable insurance principles are more inclined to show a greater understanding of ESG principles. The current circumstances of ESG implementation by Indonesian insurance firms are depicted by the survey participants' responses in the questionnaire. Insurance firms that have implemented sustainable principles are more likely to have a greater level of fitness.

Quantitative research method attempts to acquire a precise measurement of something, whose main purpose is to examine the causalities among the variables provided in a questionnaire (Cooper and Schindler, 2014). In our study, the questionnaire set is comprised of five different parts, with each part consists of a series of items. Questions listed in the questionnaire are both open and closed questions. Respondents in this research are all Indonesian insurance companies' representatives. After the participants have responded to our set of questionnaire, we analyze the data using econometrics and multivariate analysis techniques.

A.   Research Framework and Rationale

Ringer et al.[5] (2016) in the 49th CIRP Conference on Manufacturing Systems (CIRP-CMS, 2016) reveal that the competitive pressure among product manufacturing companies is steadily increasing. Customers continuously demand for enhanced quality and product performance, added functionality, lower prices, and a higher speed of innovation. To survive in today's rapidly changing business environment, firms must develop more desirable products ahead concerning sustainability and ESG issues. Change is a continuous process for any organization, and the environment of change acceptance is necessary for a successful implementation of total quality management (Haffar et al., 2013;

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[5] Learning and knowledge systems in product development, Procedia CIRP 57 (2016), 49-54

Weeks et al., 1995). As an insurance firm's business environment becomes more demanding and complex, all intertwined financial industry stakeholders must pay more attention and be responsive to the circumstances, including the OJK. Designing and proposing sustainable insurance programs to insurance companies that run their businesses in Indonesia have been some of the OJK's approaches to creating more stable and certain industry climate since environmental issues have become prominent discussion among developed and developing countries. In this study, we investigate whether Indonesian insurance firms have the capability of developing sustainable insurance products, and in what state the product development has been reached. Figure 1 shows the main framework of our structural equation model.

Haffar et al.'s (2013) findings indicate that organizations should be focused on individual change readiness (ICR) to adopt changes in already developed processes/products. For this study, insurance firms in Indonesia differ one from another where they have a unique ICR nature that becomes a mediating variable between the Level of Insurer's Understanding of ESG Issues and the Level of Sustainable Insurance Product Development.

FIGURE 1 depicts the research framework of this study. The survey instrument is designed to achieve the research objectives established previously.
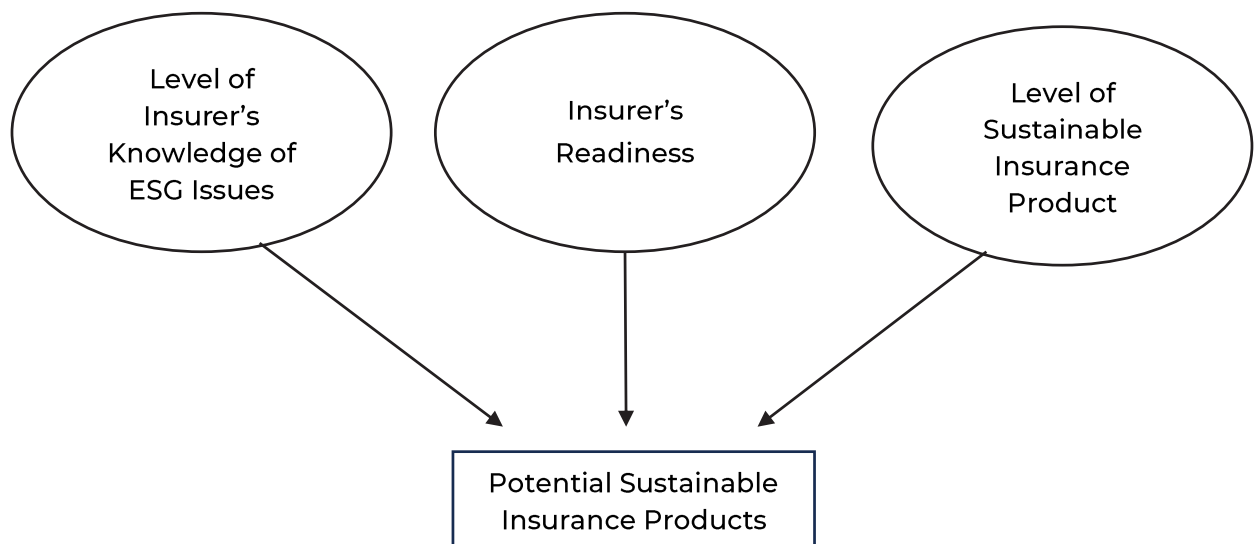
FIGURE 1
Research Framework for the Study's Structural Equation Model

A rationale of our research framework is the association between knowledge and organizational learning in Nonaka's[6] (1994) discussion on the interaction between tacit and explicit knowledge and its subsequent spiraling through different organizational levels. Knowledge creation is focused on the building of both tacit and explicit knowledge and, more importantly, on the interconnectedness between these two aspects of knowledge through internalization and externalization (see Figure 2).
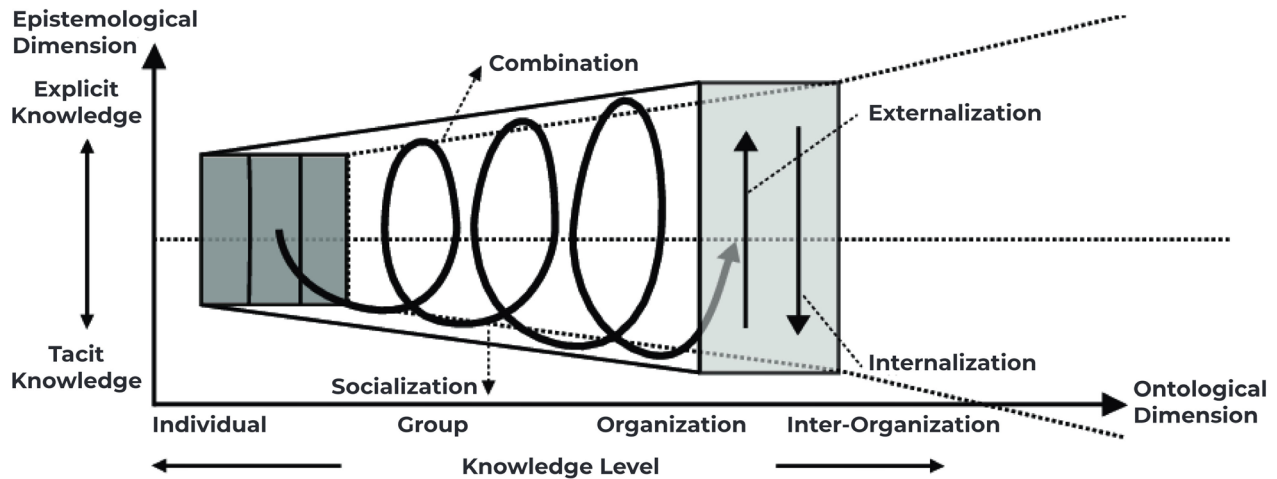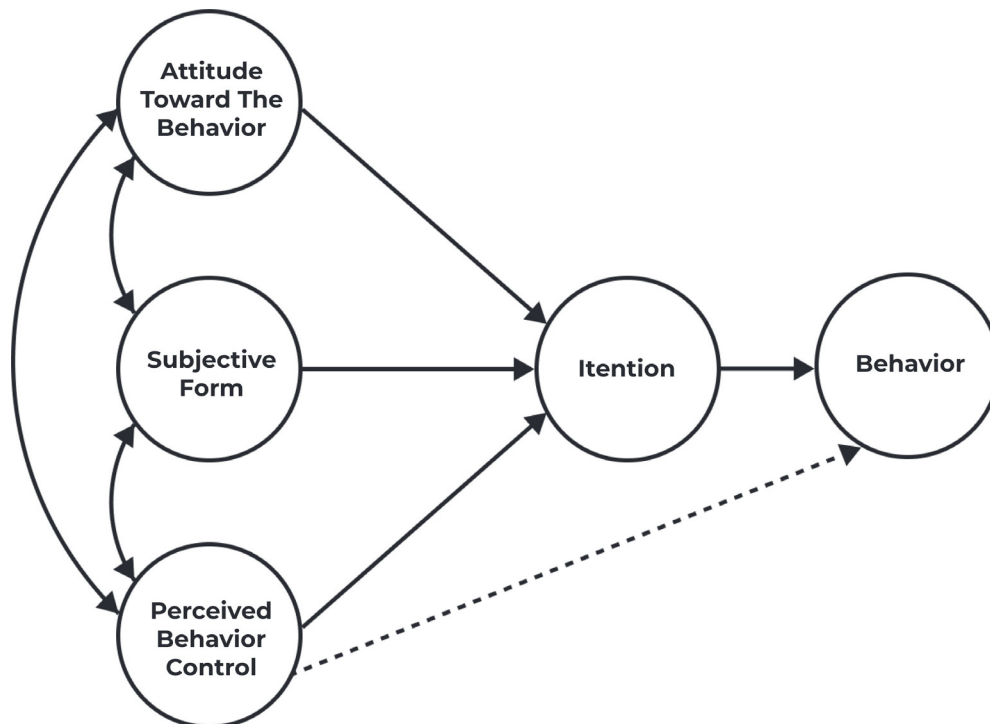

FIGURE 2
Nonaka's (1994) Spiral of Organizational Knowledge Creation

Another rationale of our research framework is derived from the Theory of Planned Behavior (TPB). As in the original theory of reasoned action, a central factor in the TPB is an individual's intention to perform given behavior[7] (Ajzen, 1991). Intention is assumed to capture motivational factors that affect behavior. It is an indication of how hard people are willing to strive and how much effort they are planning to exert in order to perform the behavior (see Figure 3). As a general rule, the stronger the intention to engage in behavior, the more likely the higher performance would be. It should be clear, however, that a behavioral intention can find expression in behavior only if the behavior in question is under a volitional control, i.e., if the person could decide at will to perform or not perform the behavior. Although some behavior might in fact meet this requirement, the performance is dependent upon non-motivational factors, such as the availability of requisite opportunities and resources (e.g., time, money, skills, cooperations; see Ajzen, 1985 for discussion). Overall, these factors represent people's actual control over the behavior. To the level that a person

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[6] A Dynamic Theory of Organizational Knowledge Creation, Nonaka, Ikujuro (1994), Organization Science, Vol. 5, No. 1 (Feb., 1994), pp. 14-37
[7] The Theory of Planned Behavior, Ajzen, Icek (1991), Organizational Behavior and Human Decision Processes 50, 179-211

intends to perform the behavior and has the required opportunities and resources, he or she would succeed in doing so.

FIGURE 3
Theory of Planned Behavior

The first objective of our research is to analyze Indonesian insurance firms' level of understanding of ESG principles from the perspectives of top executives of insurance firms or institutions in Indonesia. Corresponding with the purposes of each part of the questionnaire and the target respondents, we attempt to capture the motivational factors that influence behavior and the willingness of respondents to comply with sustainable insurance and ESG issues. We utilize TPB as the main theoretical standpoint since it is an appropriate concept to capture the intention of respondents.
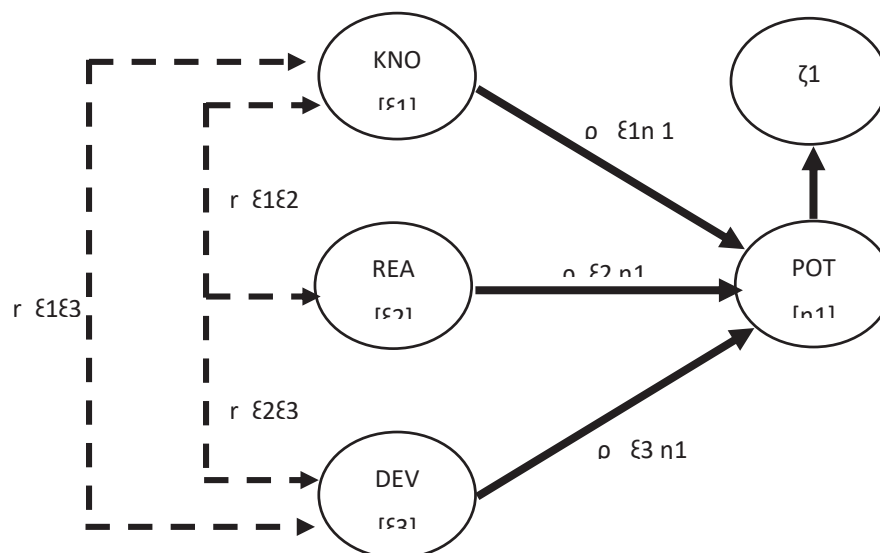
B. Research Model: SEM Path Analysis

Structural equation modeling (SEM) is an advanced multivariate statistical process with which a researcher can estimate simultaneously a system of hypothesized relationships among latent variables whether these associations are consistent with an obtained sample of data (Bollen, 1989). This method is preferred by the researcher because it estimates the multiple and interrelated dependence in a single analysis.

Latent variables serve as conceptual constructs that encompass various phenomena within a unified term, such as ESG knowledge, preparedness for

ESG implementation, product development, and potential product expansion. Latent variables are not directly measured; instead, they are conveyed through one or more directly measurable variables referred to as indicators. Numerous structural equation models are depicted through path diagrams, enabling researchers to articulate their theoretical understandings regarding the interconnections among variables.

This study analyses the correlation matrix of four variables from 44 Indonesia's insurance companies using methods of structural equation modelling. The SEM path model could visually display the hypotheses and the relationships among latent variables. Figure 4 shows a simple path model intertwined with this research. We formulate a hypothesis and validate a conceptual framework aimed at elucidating the interconnectedness among four latent variables. Our focus lies in evaluating the direct, indirect, and cumulative impacts of these four latent variables.

FIGURE 4
SEM Path Analysis Related to this Research

where:
KNO = the first exogenous variable that represents the level of insurer's knowledge of ESG issues.
REA = the second exogenous latent variable that represents insurer's readiness.
DEV = the third exogenous latent variable that is a proxy for the level of sustainable insurance product development.

| POT | = the endogenous latent variable that represents potential sustainable insurance products. |

POT   = the endogenous latent variable that represents potential sustainable insurance products.

$r\_\xi 1\xi 2$ = coefficient of correlation between [KNO] and [REA].

$r\_\xi 1\xi 3$ = coefficient of correlation between [KNO] and [DEV].

$r\_\xi 2\xi 3$ = coefficient correlation between [REA] and [DEV].

$\rho\_\xi 1\eta 1$ = path coefficient of [KNO] and [POT].

$\rho\_\xi 2\eta 1$ = path coefficient of [REA] and [POT].

$\rho\_\xi 3\eta 1$ = path coefficient of [DEV] and [POT].

$\zeta 1$ = error term of path model.

The relationships discussed above can be formally stated as follows:

$$\eta_i = \gamma_1 \xi_{1i} + \gamma_2 \xi_{2i} + \gamma_3 \xi_{3i} + \varepsilon_i \tag{1}$$

where:

ηi = the endogenous latent variable that represents potential sustainable insurance products.

$\xi_1 i$ = the first exogenous variable that represents the level of insurer's knowledge of ESG issues.

$\xi_2 i$ = the second exogenous latent variable that represents insurer's readiness.

$\xi_3 i$ = the third exogenous latent variable that represents the level of sustainable insurance product development.

$\gamma_1, \gamma_2, \gamma_3$ = regression coefficients on exogenous latent variables.

ε_i = error term.

Four latent variables are employed in this research. The complete list and descriptions of the latent variables are presented in Table 1. All latent variables in this study are: (1) Level of Insurer's Knowledge of ESG Issues [KNO], (2) Insurer's Readiness [REA], (3) Level of Sustainable insurance Product Development [DEV], and (4) Potential Sustainable insurance Products [POT]. The independent latent variables in this study are [KNO], [REA], and [DEV]. [KNO] variable is the first latent independent variable that represents the insurer's understanding of the adoption level of Eight Principles of Sustainable Finance in the insurer's business practice. This variable is created to explore an insurance firm's perspective on the importance of complying with eight sustainable finance principles written in Chapter 2 Verse 2 of OJK Regulation No. 51/POJK.03/2017. The process of finding relationships among variables within the framework of this study follows the order of the parts of questions listed in the questionnaire. Brief descriptions of all the variables are provided in Table 1.

TABLE 1
Latent Variable Definitions

No.	Variable	Description	Definition
1.	KNO	First exogenous variable that represents the level of insurer's knowledge of ESG issues	Insurer's understanding of the adoption level of Eight Principles of Sustainable Finance in the insurer's business practice
2.	REA	Second exogenous variable that represents insurer's readiness	Insurer's level of readiness for Sustainable Finance implementation in its firm
3.	DEV	Third exogenous variable that represents the level of sustainable insurance product development	Development of insurance products based on the Categories of Environmental-Based Business Activities (KUBL) and the integration of Environmental, Social, and Governance (ESG) components in the company's business practice
4.	POT	The endogenous variable that represents potential sustainable insurance products	Some potential Sustainable Insurance Products that could be developed by Indonesian insurance firms

To measure the latent variables, this research uses a five-point Likert scale, with "1" being strongly disagree and "5" being strongly agree. There are 56 indicators utilized in a single survey questionnaire. Table 2 shows a detailed quantity breakdown for each latent variable.

TABLE 2
Detailed Indicators Quantity

Indicator	Description	Quantity
kno_x	Reflective indicator for KNO variable	11
rea_x	Reflective indicator for REA variable	15
dev_x	Reflective indicator for DEV variable	19
pot_y	Reflective indicator for POT variable	11
Total		56

There is no exact rule as to how many indicators are required for each latent variable. The general rule is the more the better, and avoid a single indicator. However, we must take into account possible human errors and disengagement on account of too many questions presented in a single survey session. Therefore, we reckon that 56 survey questions are considered a robust number from both the researchers' and the respondents' perspectives.

Data are derived from the questionnaire set distributed to all directors of insurance companies in Indonesia. For the SEM test purposes, there is a minimum required sample size to detect minimum R^2 values of 0.10, 0.25, 0.50, and 0.75 for significance levels of 1%, 5%, and 10%, respectively. In social sciences, a 5% significance level is considered common, therefore this research uses a 5% confidence level. Table 3 shows the minimum sample size requirement necessary to detect minimum R^2 values of 0.10, 0.25, 0.50, and 0.75 for significance levels of 1%, 5%, and 10%, respectively.

TABLE 3

Sample Size Recommendation in PLS-SEM for a Statistical Power of 80%

Maximum Number of Arrows Pointing at a Construct	Significance Level											
	1%				5%				10%			
	Minimum R^2				Minimum R^2				Minimum R^2			
	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75
2	158	75	47	38	110	52	33	26	88	41	26	21
3	176	84	53	42	124	59	38	30	100	48	30	25
4	191	91	58	46	137	65	42	33	111	53	34	27
5	205	98	62	50	147	70	45	36	120	58	37	30
6	217	103	66	53	157	75	48	39	128	62	40	32
7	228	109	69	56	166	80	51	41	136	66	42	35
8	238	114	73	59	174	84	54	44	143	69	45	37
9	247	119	76	62	181	88	57	46	150	73	47	39
10	256	123	79	64	189	91	59	48	156	76	49	41

Source: Cohen (1992)

Estimation of a model can be performed with various PLS software packages. Many researchers use SmartPLS since it is well known and considered effective. There are three key results provided upon computation: (1) the outer loadings for reflective measurement (or weights for formative measurement) for the measurement model, (2) the path coefficients for the structural model relationships, and (3) R^2 values of the latent endogenous variables. Nevertheless, the three key findings need to be checked by this study for reliability and validity.

To assess the compatibility between the theory and the data, this research employs multiple evaluations due to the absence of a singular goodness-of-fit criterion in the context of PLS-SEM. To evaluate the measurement model, this study conducts the following tests (Hair et al., 2013, pp. 97) as shown in table 4 below.

TABLE 4

Evaluation on the Measurement and Structural Models

Criterion	Rule of Thumb
Evaluation on the Measurement Model	
Internal consistency reliability	0.70 - 0.90
Indicator reliability	≥ 0.708
Convergent validity	AVE ≥ 0.50
Discriminant validity	√AVE > highest correlation
Collinearity among indicators	VIF < 5.0
Significance and relevance of outer weights	≥ 1.96 (α= 0.05)
Evaluation on the Structural Model	
Coefficient of determination (R^2)	0.10 (very weak), 0.25 (weak), 0.50 (medium), and 0.75 (substantial)
Predictive relevance (Q^2)	> 0
Size and significance of path coefficients	≥ 1.96 (α=0.05)
f^2 effect size	0.02 (small), 0.15 (medium), and 0.35 (large)

Within this model, t-values are computed to evaluate the significance of each estimate. If the calculated t-value exceeds the designated critical or threshold t-value, the null hypothesis of no effect is rejected. Common critical t-values include 2.57, 1.96, and 1.65 for significance levels (α) of 1%, 5%, and 10%, respectively, in the context of a two-tailed test. The significance level (α) represents the likelihood of rejecting the null hypothesis when it is indeed true. For example, a significance level of 1% implies a 1% chance of erroneously concluding a difference exists in cases where no actual difference is present.

IV. Results and Discussion

A. Respondent Information

This section elaborates on general information about respondents classified by respondent position and scale category. Total respondents in this research are 44 people, comprised of 15 persons as directors (34 percent) and 29 persons as others (66 percent). Predicated on the company scale classification, i.e., based on total assets owned, the majority of companies are small-scale insurance companies with total assets of less than Rp2 trillion (29 respondents

or 66 percent). In the second place, there are 69 small medium-sized companies (20 percent). Subsequently, there are four respondents (11 percent) classified as big firms, and one respondent (2 percent) as medium-sized companies.

B. Multivariate Analysis

1. Model Evaluation

This section purports to explain whether the model is appropriate for analysis. There are two basic assumptions that should be met by the model: (1) construct validity and (2) reliability tests. In the construct validity tests, there are two major techniques that we employ to validate the questionnaire construct: (1) convergent validity and (2) discriminant validity.

a. Convergent Validity

Convergent validity is a method to examine the construct validity. The word *construct* describes a theoretical viewpoint to explain some phenomena (Wiersma, 2000). According to Van Dalen (1973), construct usually refers to a complex concept that includes a number of interrelated factors. In this study, the convergent validity is assessed using the Communality and Average Variance Extracted (AVE). The results of these tests are depicted in Table 5 below.

TABLE 5
Average Variance Extracted (AVE) and Communality

Parameter	Variable	Coefficient	Rule of Thumb	Conclusion
Average Variance Extracted (AVE)	KNO	0.617	More than 0.5	Acceptable
	REA	0.595	More than 0.5	Acceptable
	DEV	0.491	More than 0.5	Not Acceptable
	POT	0.746	More than 0.5	Very Acceptable
Communality	KNO	0.780	More than 0.5	Very Acceptable
	REA	0.766	More than 0.5	Very Acceptable
	DEV	0.689	More than 0.5	Acceptable
	POT	0.862	More than 0.5	Very Acceptable

From TABLE 5 above, it could be observed that the questionnaire construct is mostly convergent, with the exception of [DEV] variable as it has an

AVE coefficient below 0.5. However, even if the Average Variance Extracted (AVE) falls below 0.5, but the Composite Reliability surpasses 0.6, the convergent validity of a construct remains satisfactory, as outlined by Fornell and Larcker (1981).

b.   Discriminant Validity

Discriminant validity is a test to ensure that there is no significant variance among different variables that could have the same reason. The discriminant validity aims to differentiate between one construct and another in the same model. To assess the discriminant validity, two common techniques are utilized. First, according to Hair et al. (2010), if the correlations of two latent variables exceed 0.9, then they have significantly overlapping constructs. In other words, multicollinearity exists between them. Second, to assess the discriminant validity, we compare the AVE and the squared correlation between two constructs. Fomell and Larcker (1981) reveal that to check the discriminant validity, the square root of AVE is compared with the correlations involving the constructs, where the former is expected to be greater than the latter. In this study, we apply the second approach as the tool to analyze the discriminant validity. The results of the test are presented in Table 5 below.

TABLE 6
Correlations among Latent Variables with Square Roots of AVEs

	KNO	REA	DEV	POT
KNO	(0.786)	0.736	0.631	0.595
REA	0.736	(0.771)	0.558	0.409
DEV	0.631	0.558	(0.701)	0.649
POT	0.595	0.409	0.649	(0.864)

Note: Square roots of average variances extracted (AVEs) are shown in diagonal

From TABLE 6, it can be concluded that the overall construct of questionnaire is valid since the correlations among latent variables are below the square roots of AVE coefficients for all variables. Hence, the questionnaire has met the necessary conditions for further analysis.

c.   Reliability Test

To gauge the reliability of the questionnaire, the Cronbach's alpha and composite reliability methods are used as indicators to suggest as to whether the questionnaire's constructs are reliable to measure the connections among variables. The results of the tests are reported in TABLES 6 and 7 below.

TABLE 7
Cronbach's Alpha

Indicator	Cronbach's Alpha	Rule of Thumb	Conclusion
KNO	0.936	More than 0.6	Acceptable
REA	0.950	More than 0.6	Acceptable
DEV	0.940	More than 0.6	Acceptable
POT	0.965	More than 0.6	Acceptable

TABLE 8
Composite Reliability

Indicator	Composite Reliability	Rule of Thumb	Conclusion
KNO	0.946	More than 0.7	Acceptable
REA	0.956	More than 0.7	Acceptable
DEV	0.947	More than 0.7	Acceptable
POT	0.970	More than 0.7	Acceptable

The findings shown in TABLES 12 and 13 suggest that the questionnaire's constructs are reliable to be used to measure the relationships among variables.

2.   Main Analysis

Upon conducting a series of prerequisite examinations above, we perform the PLS-SEM analysis on our model. The results of the test are depicted in the following Figure 5. Figure 5 below shows evidence of the connections among latent variables conjectured in our model. The first finding is, there is a positive effect of [KNO] on [POT], with a coefficient of 0.40 significant at 1% level. This means [POT] will improve by 0.40 points when [KNO] increases by one point. Accordingly, when an insurance firm has knowledge toward sustainable insurance products, it shows a higher potential to develop sustainable insurance products in the future.

The second result is, there is a significantly positive influence (at 1% level) of [KNO] on [REA], with a coefficient of 0.74. This indicates that [REA] will increase by 0.74 points when [KNO] increases by one point, thus explaining the fact that if an insurance company has knowledge of sustainable insurance products, it will be more ready to implement sustainable finance in its business activities.

Subsequently, the coefficient on the relationship between [REA] and [POT] is positive (0.13), but it is not significant. Hence, [REA] does not affect [POT] directly. If an insurance firm is ready to implement sustainable finance in its

business activities, it does not necessarily mean that the insurance company shows a potential to develop sustainable insurance products in the future.

The fourth finding is, [REA] affects [DEV] positively, with a coefficient of 0.61 significant at 1% level. This finding suggests that [DEV] will increase by 0.61 points if [DEV] increases by one point. Therefore, when an insurance company is ready to implement sustainable finance in its business activities, it will be more likely to develop sustainable insurance products that correspond with the environmental-based activities and ESG issues in its business practice.
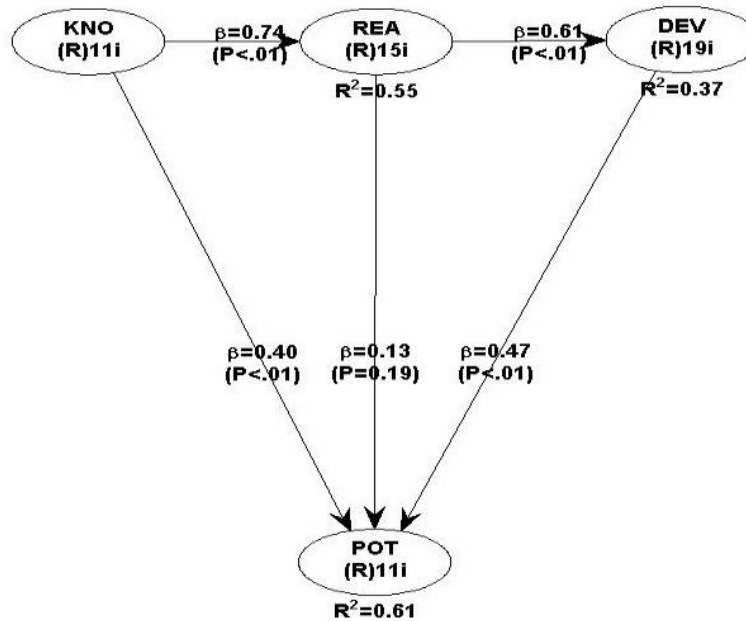
FIGURE 5
PLS-Structural Equation Model Results

Eventually, the fifth result documents that there is a positive and significant effect (at 1% level) of [DEV] on [POT], with a coefficient of 0.47. This means that [POT] will be higher by 0.47 points when [DEV] increases by one point, substantiating the conjecture that if an insurance firm has developed insurance products that are aware of the environmental-based activities and ESG issues in its business practice, the insurance company will show a higher potential to develop sustainable insurance products in the future.

V.   Conclusion

Partial least squares (PLS) path SEM modeling has become a pivotal empirical research method in behavioral analysis in Finance research. This method is preferred by the researcher because it estimates the multiple and interrelated dependence in a single analysis. Using this method, this study

establishes that potentials of product development in the future is dependent upon knowledge level and product development level of the insurers. Readiness level of the insurers is indirectly related to potentials of product development through product development level of the insurers. Knowledge level is predictive of readiness of level, while readiness level is related directly to product development level of the insurers. Measurement and structural models for predicting the connection of the four latent variables provide a good fit of data to the conceptual model. This study provides valuable information about factors affecting the development of sustainable insurance products in the future.

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