



## INSURANCE AND ACTUARIAL OLYMPIAD TO INCREASE THE LITERACY OF SMA/SMK/MA STUDENTS IN INDONESIA

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### Abstract

Insurance and Actuarial are interrelated disciplines. However, the level of public literacy in these two fields still needs to be higher, even though both have the potential to create economic stability in Indonesia. Therefore, increasing insurance and actuarial literacy in society is critical. This service activity allows the community, especially SMA/SMK/MA students, to increase insurance literacy through participation in Olympic activities. A total of 256 participants competed in the preliminary round, of which 68 advanced to the semifinal round, and finally, only 12 in the insurance and actuarial fields advanced to the final round. The preliminary and final rounds were held offline, while the final round was held online. In the final round, the finalists answered questions from judges who were experts in the insurance and actuarial fields and provided explanations of their answers to the public via the YouTube channel. This Olympic activity received a good response from practitioners in the insurance sector, who were impressed by the finalists' ability to provide excellent answers.

**Keywords:** Literasi Asuransi, Literasi Aktuaria, Olimpiade Asuransi dan Aktuaria

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### INTRODUCTION

Actuarial science is a field that uses mathematics and statistics to estimate and evaluate risk, both qualitatively and quantitatively, in the insurance and financial industries. Although the demand for actuaries and the rewards offered are high, the number of actuaries available needs to be improved due to the need for more understanding of the actuarial profession and the Actuarial study program, especially among high school students or equivalent who plan to continue their higher education. The Actuarial study program is an academic program that focuses on learning about actuarial science and preparation for entering the actuarial profession (Addini & Novika, 2023).

Insurance is a risk transfer process in which the insurer offers protection to the insured by accepting a premium and compensating the insured for losses incurred. The insurance business is an essential contributor to the stability and growth of global wealth (Anguiano & Parte, 2023). Studies mention that there is a positive impact of insurance market development on economic growth both in the short and long term (Tran & Huynh, 2023) (Sare et al., 2023) (Saleh et al., 2023). In addition, the development of the insurance industry will increase the financial security of a country (Onyshchenko et al., 2023). It shows that the insurance industry is a field that needs attention. However, people need more literacy in insurance than in banking or investment.

The insurance industry presents several opportunities and challenges that must be addressed. Rapid technological growth is one of the main factors that can be used as an opportunity and a

challenge, similar to what has been applied to the MSME sector (Nurhaida et al., 2023), which can also be adapted for the interests of the insurance business. Technology development in the current digital era brings various attractive conveniences related to the insurance industry (Azamat et al., 2023). Especially in Indonesia, implementing the ASEAN Economic Community is believed to impact the insurance industry directly. With the largest population in ASEAN, Indonesia has great potential in this industry. Insurance companies from other ASEAN countries will enter the Indonesian market. If not anticipated quickly, market competition can increase, threatening the position of local insurance companies (Lestari, 2016). In Indonesia, interest in life risk protection using insurance services is still low (Pratama et al., 2023). One of the factors that causes the lack of public interest is the need for more understanding of the benefits and process of buying insurance protection to protect themselves from risk (Yudhanegara & Villanueva, 2021). Insurance literacy in Indonesia still needs to be improved. According to data from the National Survey of Financial Literacy and Inclusion (SNLIK) conducted by the Financial Services Authority (OJK) in 2022, the literacy level in the insurance sector is still lower than that in the banking sector. Literacy in the insurance sector is at 31.72 percent, while literacy in the banking sector reaches 49.93 percent.

People need to understand more about the importance of financial security through insurance. In line with the data, only 15% of households have health, retirement, or life insurance (Fakhrudin et al., 2023). Trisakti School of Insurance (STMA Trisakti) is a specific college. It has specialties in Insurance and Actuarial, so it is the main focus of developing the Tridharma of Education, Research, and Community Service (PkM) in this field. The implementation of the Insurance and Actuarial Olympiad is one of the Community Services that STMA Trisakti routinely carries out. This PkM activity also collaborates with the Ministry of Education, Culture, Research and Technology in this case, LLDIKTI Region III, the Financial Services Authority (OJK), the Insurance Association in Indonesia, the Insurance Industry and SMA/SMK/MA Schools throughout Indonesia.

The Insurance and Actuarial Olympiad aims to help SMA/SMK/MA students throughout Indonesia learn and understand the insurance and actuarial fields and compete in answering questions from the jury related to the field. This question-and-answer activity will be broadcast live via YouTube, which is expected to increase literacy in the insurance sector.

## **METHOD**

This activity is carried out by holding Olympics for high school / vocational / MA students in Indonesia in grades 10, 11, or 12. Two fields are contested, namely Insurance and Actuarial. Insurance is an area of study that focuses on agreements between two parties. One party (the insured/customer) must pay a premium in the agreement. In contrast, the other party (the insurer) is responsible for providing complete protection to the premium payer in the event of a loss to the first party or its assets by the terms agreed in the agreement.

Meanwhile, Actuarial is a science that studies the management of financial risks in the future; where to assess these risks, the theories of mathematics, probability, statistics, economics, and finance are used. From these two fields, 6 themes were contested, namely in the insurance field consisting of an introduction to insurance, risk management, insurance products, insurance claims, reinsurance, and professions in insurance. The actuarial field consists of linear algebra, combinatorics, probability and statistics, financial mathematics, actuarial mathematics, and calculus.

The Insurance and Actuarial Olympiad consists of 3 (three) rounds: the Preliminary Round, the Semifinal Round, and the Final Round. The preliminary round will be held on Saturday, December 16, 2023, from 09.00-12.00 WIB, which will be conducted online. The initial round of questions is in the form of multiple choice consisting of insurance olympiad questions consisting of 50 multiple-choice choices and actuarial olympiad questions consisting of 40 multiple-choice choices. The semifinal round will be held on Saturday, February 03, 2024, from 09.00-12.00 WIB, which will be conducted online. The semifinal round questions are in the form of multiple choice and essay. The insurance olympiad questions consist of 30 multiple-choice and 10 essays, while the actuarial olympiad questions consist of 30 multiple-choice and 5 essays. The Final Round will be held offline at Campus C Trisakti on Monday, March 4, 2024. In the final round, participants will work on short answer and essay questions and will be assessed by experienced insurance and actuarial science judges. The winner, based on the highest score, consists of the total assessment of the Olympiad judges, which are divided into Champion I, who will win a prize of IDR 5,000,000; Champion II, who will win a prize of IDR 3,500,000; Champion III; who will win a prize of IDR 2,500,000, Champion I Hope who will win a prize of IDR 1,500,000, Champion II Hope who will win a prize of IDR 1,000,000, and Champion III Hope who will win a prize of IDR 500,000.



Figure 1. Socialization by LLDIKTI Region III on the Web Page

## RESULT AND DISCUSSION

Olympiad participants from over Indonesia participated in the insurance and actuarial olympiad competition activities from 15 provinces, 64 schools, and 276 participants. The most participants came from West Kalimantan with 82 participants, South Sumatra with 45 participants, and the furthest from East Nusa Tenggara with 8 participants and West Nusa Tenggara with 1 participant. In addition, there were also participants from West Java with 10 participants, Central Java with 10 participants, East Java with 40 participants, Banten with 15 participants, DI Yogyakarta with 10 participants, Jambi with 4 participants, DKI Jakarta with 28 participants, Lampung with 18 participants, Riau with 1 participant, North Kalimantan with 1 participant, and Bali with 3 participants. The Olympiad was very tight, so 37 participants from the insurance field and 31 participants from the actuarial field were filtered to enter the semifinals. In the final round, the best students were selected, namely 6 participants from the insurance field and 6 participants from the actuarial field spread across 15 provinces.

Participants in the final round are assessed by competent judges in their fields. The judges in the insurance field are 1) Bambang S. Antariksawan as a senior analyst of the development planning of financial literacy and education evaluation of the Central OJK, 2) Budi Herawan, Chairman of the Indonesian General Insurance Association, 3) Kapler Marpaung as the Honorary Council of the Indonesian Insurance and Reinsurance Broker Expert Association, 4) Dikarioso Sabirin as Chairman of the Indonesian Insurance Loss Appraisers Association, 5) Firdaus Djaelani as President Commissioner of PT. Indoperkasa Suksesjaya Reasuransi (INARE) and 6) Erizal as a lecturer at STMA Trisakti. The insurance Olympiad judges can be seen in Figure 2.



Figure 2: Insurance Olympics Judges

The intense competition consisted of a lottery round and a short question round. The draw round consisted of six questions, while the short round consisted of fifteen. Participants will draw an Olympic theme and must answer according to the chosen theme in the draw round. The judges will announce the questions after being permitted by the MC, and participants have two minutes to consider their answers. After the time is up, participants are allowed to present their answers within

two minutes. In the short question round, the judges will announce the question, and participants have a maximum of two minutes to think about their answer before giving it in a scramble. Participants will answer after receiving permission from the MC and have two minutes to explain their answers. Insurance Olympiad participants are shown in Figure 3.



Figure 3. Insurance Olympiad Participants

The judges scored the participants' answers on the scoring form. Points are divided into 2 parts: for the raffle round, the judges will assess 0 - 100 points, while for the scramble round, the judges will assess 0 - 25 points. The order of winners is seen from the accumulation of total points from all judges. The total value of the finalists' insurance olympiad and the results of the winner's decision are in Table 1.

Tabel 1 Insurance Olympiad Winners Data and Total Scores

Ranking	Name	School	Score
<b>1<sup>ST</sup> WINNER</b>	Erin Virginia	SMAS Katolik Santu Petrus Pontianak	<b>1177</b>
<b>2<sup>ND</sup> WINNER</b>	Davin Leslie Yanwirya	SMAS Katolik Santu Petrus Pontianak	<b>1133</b>
<b>3<sup>RD</sup> WINNER</b>	Vincent Farrelius	SMAS Katolik Santu Petrus Pontianak	<b>983</b>
<b>1<sup>ST</sup> PRIZE</b>	Nadhif Aristo	SMAN 14 Jakarta	<b>632</b>
<b>2<sup>ND</sup> PRIZE</b>	Dewi Larashati Nabila	SMAN 2 Bekasi	<b>618</b>
<b>3<sup>RD</sup> PRIZE</b>	Cintia Ceren	SMAS Santo Paulus Pontianak	<b>485</b>

Furthermore, judges in the actuarial field are competent in their fields. The judges are 1) Benny Hadiwibowo as the Exam Committee of the Indonesian Actuarial Society, 2) Handayani Utomo as Consulting Actuary KKA Nurichwan and Chair of the Curriculum of the Indonesian Actuarial Society for the 2021-2023 Period, 3) Budi Marsanto as Deputy Director of the Directorate of Quality Control of Insurance Companies, Pension Funds and Guarantees of OJK and 4) Sri Rahayu as the Best Graduate of the Actuarial Study Program, STMA Trisakti.



Figure 4. Judges Olympiad with Participants

Like the insurance Olympiad, the actuarial Olympiad also consists of 2 draw and scramble rounds. The technicalities in answering the questions are the same; you only have a longer time to find answers to the questions that have been submitted, which is 6 minutes. The number of questions is also different, namely 6 essay questions and 8 scramble questions. The actuarial Olympiad participants are shown in Figure 5.



Figure 5 Actuarial Olympiad Participants

Points in the actuarial Olympiad draw round range from 0 to 100, while in the scramble round, they range from 0 to 50. The jury will immediately give an assessment. Table 2 shows the total value of the finalists' actuarial Olympiad and the winners' decision results.

Tabel 2 Data Pemenang Olimpiade Aktuaria dan Total Skor

Ranking	Name	School	Score
<b>1<sup>ST</sup> WINNER</b>	Stephanie Jesslyn	SMAS Katolik Santu Petrus Pontianak	<b>888</b>
<b>2<sup>ND</sup> WINNER</b>	Christiano Aric Hananto	SMAS Katolik St. Albertus Malang	<b>830</b>
<b>3<sup>RD</sup> WINNER</b>	Nathanael Levi Gunawan	SMAS Kristen 5 BPK Penabur Jakarta	<b>465</b>

Ranking	Name	School	Score
1 <sup>ST</sup> PRIZE	Felix Jhonson	SMA Kusuma Bangsa Palembang	225
2 <sup>ND</sup> PRIZE	Faiq Nailur Ridha	SMAN 1 Pontianak	145
3 <sup>RD</sup> PRIZE	Christian Alexander	SMAS Katolik Santu Petrus Pontianak	125

All final activities at the insurance and actuarial Olympiad are recorded on the STMA Trisakti YouTube channel at the link: <https://youtube.com/live/Shc6twkgs98?feature=shared>.

## CONCLUSION

The conclusion of this journal is:

1. Both insurance practitioners and schools
2. welcome this Olympiad activity.
3. This activity can create a society that is literate in insurance and more aware of the importance of advancing the insurance industry.
4. This Olympiad activity has involved various stakeholders, including the government through LLDIKTI Region III, the insurance industry, and the high school and university education sector.

This activity has been registered for Intellectual Property Rights by the Ministry of Law and Human Rights. It will become a routine annual activity, hoping to cover a broader scope yearly.

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