1. Introduction

The economic and social growth of a country is supported by the important role of entrepreneurship (Koe et al., 2020). This can happen because entrepreneurs have an important role as agents of change in a country that supports economic growth, technology, and the existing business situation (Kumar et al., 2020). In addition, entrepreneurship can help create a better quality of life for individuals, communities, and countries through the process of creating innovation in business, building creativity that generates competitiveness, and developing resources to achieve competitive advantage (Akhtar et al., 2022). Every government in the world has realized the importance of entrepreneurship for the country and has developed policies that can increase the number of entrepreneurs, especially among the youth so that they become more independent in creating new job opportunities (Elshaer, 2022). In Indonesia, the government is making various efforts to form an entrepreneurial ecosystem in order to achieve the national entrepreneurship ratio target of 3.9% of the working population of Indonesia in 2024, based on government policies stipulated in Presidential Decree
No. 2 of 2022 on the Development of National Entrepreneurship in 2021–2024 (Ministry of National Development Planning, 2022). This entrepreneurship ecosystem will be used to support the growth in the number of entrepreneurs in Indonesia, which is currently about 4.1 million people out of 135.3 million working people, with a ratio of 3.04% of the working population as of August 2023 (Central Bureau of Statistics, 2022). The development of the entrepreneurship ecosystem is currently prioritized for young people to have EI through various both structural and institutional aspects, such as formal education, training programs, financial and business support, and business and financial infrastructure for regulation and law (Tamyis et al., 2021). Youth entrepreneurship has opportunities based on a large youth population and increasing public consumption, so with the increasing number of youth entrepreneurs in Indonesia, it is hoped that it can strengthen economic resilience and equitable growth and improve the quality and excellence of human resources (Ridha et al., 2017).

Various studies have examined the factors that are important for the development of EI among the youth (Sahoo, 2019). EI is generally a concept used by researchers in research related to entrepreneurship studies to look for factors that influence these individuals to behave as entrepreneurs or to build an initial business (Esfandiar et al., 2019; Anjum et al., 2020). One of the factors that are often associated with EI is IEO, which was developed by Bolton and Lane in 2012 (Twum et al., 2021). IEO is generally used as an important indicator by researchers to determine the existence of entrepreneurial potential. IEO and EI have a relationship in supporting someone, including youth, to develop entrepreneurial skills (Al-Mamary, 2022). Research on the relationship between entrepreneurial orientation (EO) and EI is mostly conducted at the organizational level, where there is a strong influence on EI (Corrêa et al., 2021). EO at the individual level has three dimensions: proactive, innovative, and risk-taking. It is a concept developed to measure the entrepreneurial potential of individuals. Individuals who show a high tendency from these three dimensions will have an impact on the individual’s behavior toward entrepreneurship (Nikitina et al., 2022). However, there has been little research on EO at the individual level on the basis of the proactive, innovative, and risk-taking dimensions of EI (Singh, 2022). In addition, the indirect impact of the dimensions of risk-taking through the mediation of the proactive and innovative dimensions on EI has not been examined in previous studies. Thus the relationship between these dimensions has not been revealed (Elshaer, 2022). Through this research, the relationship between IEO and EI for vocational students in Indonesia will be explained in detail. By understanding the relationship between IEO and EI in vocational students, the understanding of the factors that can promote EI for youth becomes deeper (Kumar et al., 2020). This research can also fill the existing research gaps in the context of vocational students in Indonesia. This research can also assist the government in developing appropriate policies to promote youth entrepreneurship. Another benefit of this research is that educational institutions can determine learning strategies to develop EI among young people in Indonesia.

2. Literature Review

Entrepreneurial intention (EI)

EI is a belief that directs individuals to choose to work independently rather than for others by creating a new business or developing an existing business, either individually or in a group (Martínez-González et al., 2019). EI is important for the development of independent entrepreneurs and can be a reliable predictor of entrepreneurship. Various studies on entrepreneurship have used EI to study the changing phenomenon of entrepreneurship, especially among young entrepreneurs (Kumar et al., 2020). Researchers have used two types of intention-based
models, which include perspectives based on theory and process orientation, to measure the factors that drive EI. One of the most reliable frameworks for predicting individual entrepreneurial behavior is the theory of planned behavior (TPB) developed by Ajzen in 1991 (Esfandiar et al., 2019).

Within the framework of the theory of planned behavior, an individual’s intention to exhibit conscious entrepreneurial behavior can be influenced by subjective attitudes and norms that tend toward this behavior, in addition to the individual’s behavioral control (Al-Mamary, 2022). Behavioral control comes from the perception of a person to carry out the intention of doing entrepreneurship, whether it is an easy thing to do or a difficult thing to do. Attitudes that indicate one’s behavior are assumed to have positive or negative values for becoming an entrepreneur (Anjum et al., 2019). Subjective norms are in the form of pressure from the social environment, whether family, friends, or other people, that encourage someone to behave as an entrepreneur (Liao et al., 2022). Thus, the study of youth entrepreneurship can be understood through EI as a key factor in understanding how to promote entrepreneurship.

**Individual entrepreneurial orientation (IEO)**

The concept of EO was originally aimed at companies with entrepreneurial characteristics, i.e., companies that want to innovate, take risks, and proactively seek new business opportunities. Based on this, it can be seen that there are three dimensions in EO for companies: the tendency to innovate, to be proactive, and to accept risks (Felgueira, 2020). EO can be seen as a unitary or multidimensional construct, the latter describing it as the organizational processes and decision-making activities that lead to new opportunities. EO has also been conceptualized at the individual level, using personality traits and attitudes such as risk-taking, innovativeness, and proactiveness (Twum et al., 2021). Thus, it can be seen that IEO is a psychological construct that explains individual involvement in entrepreneurial activities, with three determinants of proactiveness, innovativeness, and risk-taking, which was developed by Bolton and Lane in 2012 (Kumar et al., 2020).

The conceptualization of the IEO in the workplace also considers the inclination of individuals to be innovative, proactive, and risk-taking in order to attain triumph (Covin et al., 2020). IEO can be used as a strong developmental base for youth to create innovation in the business world, be easily accepted in the job market, or build a better personal career (Sahoo, 2019). IEO has a statistically significant role in influencing the EI of youth, which means that youth with a higher orientation toward entrepreneurship is more likely to have the intention to start their own businesses (Aggarwal, 2022; Koe et al., 2020).

**Proactiveness**

Proactiveness (PRO) is the ability to identify and act on opportunities, take the initiative, and persevere in the face of obstacles. This attitude is key to the success of businesses because it allows them to identify and take advantage of opportunities in the market (Elshaer, 2022). Proactiveness is important in entrepreneurship because it involves anticipating and pursuing new opportunities and can differentiate individuals who are likely to become entrepreneurs (Twum et al., 2021).

The results of previous research indicate that a proactive personality has a significant and positive impact on EI (Luo et al., 2022). This means that individuals with proactive personalities are more likely to have EI. Other research also shows a significant relationship between proactive attitudes and EI (Tu et al., 2021). Thus, someone with a proactive attitude will be more supportive of building a business than someone who is less proactive.

**H1 = There is a significant positive relationship between proactiveness and EI.**
Innovativeness

The dimension of innovativeness in the corporate context refers to the ability of a company to engage in fresh concepts, innovative thinking, research, and experimentation, emphasizing the importance of technology, research and development, and scientific progress across the company’s product and service lines (Al-Mamary, 2022). In an individual context, innovativeness refers to the ability to generate new and useful ideas, products, and services. A successful entrepreneur requires an innovative attitude in order to create value in the market and differentiate himself or herself from competitors (Elshaer, 2022). Innovativeness is an important trait required for entrepreneurship, which is related to the desire to produce a new product and look for a new product or technology to be introduced to the market (Twum et al., 2021).

Based on the results of previous research, innovative relationships have a significant impact on EI because individuals who have innovative attitudes will lead to entrepreneurial behavior and tend to have stronger EI (Abu-Rumman et al., 2022). These findings are also supported by other studies that show that innovative attitudes have a positive relationship with EI. For example, youth who tend to think innovatively are increasingly supportive of the intention to start a business (Tu et al., 2021).

H2= There is a significant positive relationship between innovativeness and EI.

Risk-taking

Risk-taking is the ability to take calculated but courageous action, associated with a trade-off between risk and return and influenced by a tolerance for uncertainty. This attitude can encourage individual entrepreneurs to enter businesses that many would avoid (Elshaer, 2022). Entrepreneurship is generally known to be closely related to risk-taking, which involves using resources to take advantage of opportunities in the market, even if there is no guarantee of success. The tendency to take risks is influenced by the individual’s need to achieve certain benefits from a business activity between low and high risk (Twum et al., 2021).

The results of previous studies showed a significant positive relationship between risk-taking and EI. This means that youth with a higher risk-taking attitude will support the perception of starting a business in the future (Tu et al., 2021). These results are also supported by other research that shows a positive relationship between risk-taking and EI because a successful entrepreneur needs to have the mentality to deal with uncertainty and obtain the best results (Al-Mamary, 2022).

H3 = There is a significant positive relationship between risk-taking and EI.

Entrepreneurship necessitates individuals to actively discover opportunities and adopt a proactive approach to capturing these business prospects. The proactive personality trait plays a definitive role in determining EI in the face of the risks and challenges inherent in business development (Kumar, 2023). From the results of previous research, there is a mediating effect of being proactive and innovative on the relationship between risk-taking and EI (Elshaer, 2022). Researchers have previously examined the three dimensions of IEO, namely innovativeness, risk-taking, and proactiveness, and concluded that these dimensions are indivisible and cannot be overlooked (Kurniawan et al., 2019). In this particular scenario, the dimensions of risk-taking and proactiveness display a strong correlation, as an individual may encounter risks due to the rejection of their ideas for change by others. A significant positive relationship between risk-taking and EI through the influence of proactive and innovative mediation has also been confirmed by similar studies (Sobaih, 2022). The proactive and innovative attitudes of an individual may have a positive effect on EI, consistent with the relationship between risk-taking and EI. This study was conducted to clarify the mediating effect of being
proactive and innovative on the relationship between risk-taking and EI.

H3a = There is a significant positive relationship between risk-taking and EI mediated by proactiveness.

H3b = There is a significant positive relationship between risk-taking and EI mediated by innovativeness.

The IEO dimension, which consists of proactiveness, innovativeness, and risk-taking, can be used as a unique construct and is considered to have interrelationships that influence these dimensions of EI (Langkamp, 2012). According to previous research, risk-taking has a significant positive relationship with innovativeness (Elshaer, 2022). An individual is encouraged to be innovative by the tendency to take risks, despite the possibility of experiencing failure in the implementation of new ideas and the impact on losses. Other studies also support the notion that risk-taking has a positive and significant impact on innovativeness (Elshaer, 2022). An entrepreneur with a risk-taking attitude will show creativity and courage to do things that have never been done before in order to achieve success in business. Creativity is considered to be a crucial attribute of entrepreneurship, as it enables individuals to introduce innovative concepts stemming from situations that occur in the dynamic realm of business (Awwad, 2021).

H4 = There is a significant positive relationship between risk-taking and innovativeness.

Based on the results of similar studies, there is a significant positive relationship between risk-taking and proactive behavior (Elshaer, 2022). The proactive attitude of an entrepreneur is greatly influenced by their risk-taking attitude because an entrepreneur must be prepared to face the risks that exist in the market when trying to seize opportunities in the future. Other studies also show that risk-taking has a positive effect on proactiveness (Elshaer, 2022). Proactive roles and risk-taking have a positive correlation together with being innovative based on the dimension of entrepreneurial orientation, where higher risk-taking will lead to higher levels of proactiveness and innovativeness in the individual. However, in line with other research, it was found that risk-taking exhibits an adverse correlation with proactive conduct from the perspective of students (Gorostiaga et al., 2019). This is due to the fact that the risk-taking dimension differs from other dimensions that are associated with broader and more diverse aspects of life, as opposed to educational settings.

H5 = There is a significant positive relationship between risk-taking and proactiveness.

3. Methods

This study was conducted using a questionnaire that contained questions collected from similar studies. The questionnaire used in this study refers to EI and IEO question items, which consist of innovative, proactive, and risk-taking dimensions that have been used previously (Elshaer, 2022). The questionnaire used a Likert scale ranging from 1 to 5 (1 = strongly disagree, 2 = disagree, 3 = somewhat agree, 4 = agree, and 5 = strongly agree).

The data collection method used in this study was an online survey. An online survey was conducted via Google Forms, which was shared via WhatsApp social media. The sampling method used in this study was non-probability convenience sampling. The respondents in this study were vocational students in West Kalimantan. The survey was distributed to 500 respondents via Google Forms, and 388 of them returned the completed survey. Thus, it can be seen that the successfully achieved response rate reached 76.2%. To calculate the minimum sample size with a significance level of 0.05 and a power level of 0.8 using the inverse square root method, 160 respondents were used. The inverse square root method was chosen because the method of determining the minimum sample size is more suitable for the use of testing tools in this study, namely, Structural Equation Modeling.
(SEM) with the partial least squares (PLS) approach (Memon et al., 2020).

4. Result and Discussion

Descriptive statistics

The description of the respondents based on gender in this study included 187 men (31.8%) and 201 women (68.2%). The age of respondents was between 16 and 18 years, and they had the same educational background, namely private vocational high school from West Kalimantan. Based on Table 1, the average for each indicator is between 3.291 and 4.152, with a standard deviation (SD) of 0.767 to 1.047. This shows the tendency of the respondents to answer with a relatively low deviation. The mode of each indicator varied from three to five: proactive, innovative, risk-taking, and EI. Most of the responses given by the respondents tended to be "somewhat agree" to "strongly agree" with each indicator.

<table>
<thead>
<tr>
<th></th>
<th>(Mean)</th>
<th>(SD)</th>
<th>(Min)</th>
<th>(Max)</th>
<th>(Median)</th>
<th>(Mode)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRO_1</td>
<td>3.82</td>
<td>.767</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>PRO_2</td>
<td>3.515</td>
<td>.885</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>3</td>
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<tr>
<td>PRO_3</td>
<td>3.637</td>
<td>.972</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>INNO_1</td>
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<td>.861</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>INNO_2</td>
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<td>.932</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>INNO_3</td>
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<td>.896</td>
<td>1</td>
<td>5</td>
<td>4</td>
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<tr>
<td>INNO_4</td>
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<td>.935</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>RISK.T_1</td>
<td>3.399</td>
<td>.979</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>3</td>
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<tr>
<td>RISK.T_2</td>
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<td>5</td>
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<td>RISK.T_3</td>
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<td>1</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
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<td>4</td>
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<td>3</td>
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<td>EI_3</td>
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<td>EI_5</td>
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<td>5</td>
</tr>
<tr>
<td>EI_6</td>
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<td>.987</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Hypothesis testing

Hypothesis testing was conducted using SEM-PLS through the research model shown in Figure 1, which shows that the R-squared and the Adj. R-squared of the relationship of proactive, innovative, and risk-taking directly or indirectly to EI were 0.282 and 0.272, respectively. This shows that this research model can explain approximately 28.2% of the variance. The R-squared values of the relationship between risk-taking and innovativeness were 0.287 and 0.286, respectively. The R-squared values of the relationship between risk-taking and being proactive are 0.262 and 0.26, respectively. Thus, it can be seen that the ability to explain the variance was about 28.7% and 26.2%.
Table 2. Path coefficient, P-value, R-squared, and Adj. R-squared.

<table>
<thead>
<tr>
<th>Path</th>
<th>Path coefficient</th>
<th>P-value</th>
<th>R-squared</th>
<th>Adj. R-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRO → EI</td>
<td>.233</td>
<td>&lt;0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INNO → EI</td>
<td>.119</td>
<td>.009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RISK.T → EI</td>
<td>.283</td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RISK.T → PRO → EI</td>
<td>.183</td>
<td>&lt;.001</td>
<td>0.282</td>
<td>0.277</td>
</tr>
<tr>
<td>RISK.T → INNO → EI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RISK.T → INNO</td>
<td>.536</td>
<td>&lt;.001</td>
<td>.287</td>
<td>.286</td>
</tr>
<tr>
<td>RISK.T → PRO</td>
<td>.511</td>
<td>&lt;.001</td>
<td>.262</td>
<td>.26</td>
</tr>
</tbody>
</table>

From the results obtained, H1, which states that being proactive has a significant positive relationship with EI, is accepted with a path coefficient of 0.233 (p-value <0.001). These results are similar to previous research showing that individuals who are proactive have higher EI compared to individuals who are less proactive (Elshaer, 2022). This hypothesis also supports the findings of previous research that proactiveness greatly impacts an individual’s EI. A proactive attitude is closely related to one’s ability to take advantage of economic opportunities and to predict and meet market needs before competitors can do so by finding opportunities and preventing potential waste (Al-Mamary, 2022). A successful entrepreneur can gain a competitive advantage by being proactive and taking the lead in their industry rather than just following others. They can identify new business opportunities, anticipate obstacles, and develop effective strategies to overcome them (Awwad, 2021).

The results of the study also concluded that H2, that is, innovativeness has a significant positive relationship with EI and is acceptable with a path coefficient of 0.119 (p-value <0.009). These results are also supported by previous research, which found that innovative individuals have a positive relationship with EI (Elshaer, 2022). This is also in line with the results
of previous research regarding the significant influence of innovativeness on EI, as innovativeness is an important aspect of entrepreneurship because it allows entrepreneurs to identify new opportunities and create value in the market (Al-Mamary, 2022). By developing more efficient processes, goods, and ideas, entrepreneurs can differentiate themselves from their competitors and meet changing customer needs. However, innovativeness requires a willingness to take risks, experiment with new ideas, and challenge conventional thinking.

The results of this study also support H3, which states that risk-taking has a significant positive relationship with EI, with a path coefficient of 0.283 (p-value <0.001). These results are consistent with similar research, which states that the relationship between risk-taking and EI is very strong because an entrepreneur has the readiness to accept risks in an uncertain situation (Elshaer, 2022). Other research also concludes that risk-taking has a positive effect on EI because risk-taking is an important aspect of entrepreneurship, where an entrepreneur will consider the risks that will be accepted in order to achieve success (Al-Mamary, 2022). The next results also support hypothesis H3a, that there is a significant positive relationship between risk-taking and EI mediated by proactiveness, and hypothesis H3b, that there is a significant positive relationship between risk-taking and EI mediated by innovativeness, with a path coefficient of 0.183 (p-value <0.001). These results are supported by other studies that have found that proactiveness and innovativeness-mediated risk-taking have an indirect effect on EI. This shows that the effect of risk-taking increases EI with the proactive and innovative attitude of the individual (Elshaer, 2022).

The results of the study also support hypotheses H4 and H5 that there is a significant positive relationship between innovative risk-taking and proactive risk-taking. These results are consistent with previous research, which shows that risk-taking has a significant effect on innovativeness and proactiveness (Elshaer, 2022). This shows that an entrepreneur experiences satisfaction when they succeed in creating a business using their creative power and ability to handle risk as a form of need for achievement in an individual (Martínez-González et al., 2019).

5. Conclusion

This study was conducted to examine the factors that influence individual EI among youth in Indonesia. The factors that are generally associated with EI are IEO with proactive, innovative, and risk-taking dimensions. The relationship between the dimensions of IEO was studied in detail with EI, using vocational students as respondents. Data were collected using a survey that was distributed online and completed by a total of 388 respondents. The survey results met the validity and reliability requirements of the existing measurements. The data were then processed using SEM-PLS to test the hypotheses of the study. The results of the study show that there is a significant positive relationship between each dimension of IEO, namely risk-taking, proactiveness, innovativeness, and EI. Based on the results of the study, it was concluded that there is a significant positive relationship between risk-taking and EI, mediated by proactive and innovative attitudes. In addition, the research results show that risk-taking has a significant positive relationship with proactive and innovative attitudes.

This research found that IEO is needed by young people to increase entrepreneurial opportunities in the face of challenges in entrepreneurship (Naveed et al., 2021). An entrepreneur who wants to succeed must be willing to take risks despite operating in an uncertain venture environment. This behavior is often motivated by high potential returns and a desire to succeed. In addition, the Indonesian government can develop policies that encourage young people to have EI based on the development of an EO in each individual to
encourage these individuals to develop the necessary entrepreneurial skills (Twum et al., 2021).

This research has some limitations in the fact that only students from one vocational school in the area of West Kalimantan were involved. Therefore, the research results may not necessarily be applicable to large populations. The results of this research cannot be applied to different geographical contexts. This research used quantitative methods, so it did not explain in depth the individual experiences in forming EI. This research also needs to be developed using other factors, both internal and external to individuals, to determine their relationship to EI.

6. References
Elshaer IA, Sobaaih AEE. 2022. I think I can, I think I can: Effects of entrepreneurship orientation on entrepreneurship intention of Saudi agriculture and food sciences graduates. Agriculture. 12(9): 1454.


