Entrepreneurial Intention Measurement Model in the Context of Assessment for Learning

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Article Info	ABSTRACT
	Entrepreneurial intention is an important factor in the success of entrepreneurs as a solution to reduce unemployment. The main urgency of this research is that currently there is no measurement instrument to assess students' entrepreneurial intentions, especially during the entrepreneurship learning process. However, such an instrument is important as a simulation tool to determine learning models that can increase entrepreneurial intentions. The purpose of this study was to develop a measurement model of entrepreneurial intentions that serves both as an assessment tool and a simulation for determining the entrepreneurial learning approach aimed at increasing these intentions. This research used the Borg & Gall model, obtaining primary data by distributing questionnaires to 224 respondents using purposive sampling, which refers to the rule of thumb. The data was analyzed using face validity by expert judgment and then the items of the Pearson item-total correlation instrument were analyzed with results of a correlation coefficient of > 0.3 and a reliability value of 0.905 or > 0.80 with a high level of confidence. Construct validity analysis used Confirmatory Factor Analysis and Second Order CFA with three goodness of fit criteria, namely χ^2 (chi square) value 0.18 or < 0.05; p-value 0.67 or > 0.05; CFI (Comparative Goodness of Fit index) 1.00 or > 0.9; and RMSEA (Root Mean Square Error of Approximation) 0.000 or < 0.08. The results show that the model formed fits with acceptable criteria. Five factors were identified from the measurement model, namely entrepreneurial motivation, self-efficacy, entrepreneurial education, independence, and internal locus of control.

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1. INTRODUCTION

Entrepreneurial intention is a crucial determinant of entrepreneurial success, functioning as a primary method for assessing an individual's desire and the extent of their intention to initiate or manage a business (Martins et al., 2023; Setiawan, 2021).

Moreover, entrepreneurial intention can also be viewed as a potential solution to address the unemployment problem in Indonesia (Satriadi et al., 2022; Wibowo et al., 2020). One of the major issues currently faced by Indonesian society is the high unemployment rate (So, 2019; Triatmanto & Bawono, 2023), which has been further exacerbated by the COVID-19 pandemic (Fahri et al., 2020; Romadhona, 2022). The role of entrepreneurs as a solution to reduce unemployment, ensure social equity, and strengthen national economic independence also provides a platform for developing creativity and unique thinking skills, particularly for university students who are the primary subjects of entrepreneurship learning. This encourages development, growth, and innovation in the business sector and motivates students to become future entrepreneurs who contribute to business advancement and overall economic growth. Therefore, entrepreneurial intention can serve as an alternative approach to shifting the mindset of graduates who have traditionally oriented themselves toward becoming employees in either government or private institutions (Khalil et al., 2024; Xanthopoulou et al., 2024).

Various studies have reaffirmed the role of entrepreneurial intention as a determinant of entrepreneurial actions and national economic resilience. For example, Wardana et al. (2021) demonstrated that entrepreneurial intention among students is driven by educational experiences, personal attitudes, and perceived behavioral control. Similarly, Sutrisno et al. (2025) highlighted that entrepreneurship education, market awareness, and family business background strongly influence students' entrepreneurial intention—strengthening the argument that education is key to determining entrepreneurial aspirations.

Entrepreneurship has also been actively promoted as a medium for enhancing creativity, innovation, and problem-solving skills among university students who are central to Indonesia's future economic development. Multiple studies emphasize that entrepreneurship education fosters students' confidence and business competencies (Arief, 2023; Trista & Rakhmawati, 2023; Bahalwan et al., 2024). These studies consistently show that entrepreneurship learning significantly shapes entrepreneurial character and nurtures a productive entrepreneurial mindset (Yohanna et al., 2019). Furthermore, findings from Putri and Kurniawan (2023), as well as Nurjanah and Harsono (2023), indicate that entrepreneurial self-efficacy further enhances entrepreneurial intention when supported by quality entrepreneurship education.

The Merdeka Belajar Kampus Merdeka (MBKM) learning program is an initiative of the Ministry of Education and Culture designed to give students the freedom to choose the most suitable way to learn (Anggara, 2023; Supriati et al., 2022). Students generally prefer knowledge and skills that focus on real-world problems and have practical applications. The MBKM program offers students the opportunity to design their own learning paths and apply a holistic approach to developing their abilities (Rahmatiah, 2025; Rosyidi et al., 2024). The main subject in this learning process—derived from personal experiences—is the student. As stated by Arlisyah et al. (2022) and Muhid (2021), the MBKM learning program emphasizes student-centered learning through experiential learning, allowing students to independently develop, seek, and

discover knowledge through real-world experiences and field dynamics. One of the MBKM programs is the Program Kewirausahaan Mahasiswa Indonesia (PKMI) or Indonesian Student Entrepreneurship Program, which aims to develop students' entrepreneurial abilities as learners who already possess entrepreneurial intentions through appropriate learning activities (Arpizal et al., 2022). According to the PKMI Guidelines , the main goal of this program is to provide early opportunities and guidance to students interested in entrepreneurship to help them develop their businesses (Hidayat & Harsono, 2022).

Although PKMI is oriented toward the industrial business sector, students can still develop creativity and unique thinking skills through the learning process, particularly in teacher training universities. Students can enhance their entrepreneurial skills through collaboration with educators and peers, as well as through feedback-based assessment that helps them make adjustments, improvements, and changes in the construction of their acquired skills (Gardner, 2012). Yohanna et al. (2019) found that entrepreneurship learning positively affects the development of entrepreneurial character and fosters a healthy entrepreneurial mindset. Furthermore, entrepreneurship education has a significant impact on increasing entrepreneurial intention. As reported by Wahidmurni et al. (2020), entrepreneurship education is proven to be the only external variable that significantly and positively influences entrepreneurial intention. Similarly, Aisah and Kurjono (2022) suggested enhancing entrepreneurship learning resources that can foster entrepreneurial intention among students. Improving the quality of entrepreneurship learning can be achieved through enhancing both the learning process and its assessment implementation, as these two components are interrelated. Recent international evidence also reveals similar patterns. For instance, Putra and Nugroho (2023) reported that innovation capability and self-efficacy play mediating roles in strengthening entrepreneurial intention. In addition, technopreneurship learning is increasingly influential in shaping entrepreneurial intention, particularly in digital and technology-driven contexts (Nurhayati et al., 2020). Hudha and Mardapi (2018) explained that effective learning implementation leads to high-quality learning outcomes, and the quality of learning can be measured through assessment results. Ideally, the learning process should develop students' potential by determining appropriate strategies, methods, and assessment models (Black & Wiliam, 2009; Syamsuddin et al., 2023; Syamsuddin & Istiyono, 2018; Syamsuddin & Utami, 2021).

One assessment approach that aims to provide information about the extent of students' progress is Assessment for Learning (AfL). This approach, also known as formative assessment, reveals learning progress through each completed task, allowing educators to provide feedback on students' work (Syamsuddin, 2023; Tekyiwa Amua-Sekyi, 2016; Utami, 2023). Feedback plays a crucial role in improving learning resources, teaching strategies, and other aspects to enhance learning quality. As noted by Arlisyah et al. (2022), Donnellon et al. (2014), and Syamsuddin (2023), it is unfortunate that learning implementation often focuses only on summative assessments, which merely evaluate performance at the end of the learning process. Assessment for Learning can serve as an alternative assessment method to gain a comprehensive picture

of students' knowledge and skills mastery according to established standards. Teachers, students, and parents can then make informed decisions related to students' learning development based on this information (Antariksa et al., 2022; Arlisyah et al., 2022; Rasyid, 2011).

However, research indicates a persistent gap is the implementation of formative assessment in entrepreneurship learning remains limited, with a stronger emphasis on summative assessment (Syamsuddin, 2023). In addition, while various studies have explored factors affecting entrepreneurial intention—such as entrepreneurship education (Sutrisno et al., 2025; Wardana et al., 2021), self-efficacy (Arief, 2023; Putri & Kurniawan, 2023), entrepreneurial mindset (Darman et al., 2023), entrepreneurial literacy (Gani et al., 2022), and innovation capability (Putra & Nugroho, 2023)—very few studies have examined how entrepreneurial intention can be measured continuously using a formative, feedback-driven assessment framework like AfL. This represents a significant research gap in the context of entrepreneurship learning in Indonesia.

Survey results indicate that students' interest in learning entrepreneurship is relatively high. This is evidenced by survey data showing that 40% of students choose entrepreneurship-related courses or specializations, which falls into the "fairly high" category. However, field findings reveal that there is currently no measurement instrument to assess the level of students' entrepreneurial intention, particularly during the entrepreneurship learning process. Such an instrument is essential as a simulation tool to determine the most appropriate learning approach or model that can enhance entrepreneurial intention and, ultimately, entrepreneurial success. Therefore, there is a need for a measurement instrument within the Assessment for Learning framework to assess students' entrepreneurial intention throughout the entrepreneurship learning process. This effort aims to assist educators in measuring students' entrepreneurial intention, particularly in supporting the implementation of the PKMI program under the Merdeka Belajar Kampus Merdeka curriculum.

2. METHOD

This research is an instrument development study using the model developed by Istiyono (2020). The development process consists of three stages: (1) the design stage, (2) the trial stage, and (3) the measurement implementation stage. The development model can be seen in Figure 1 below.
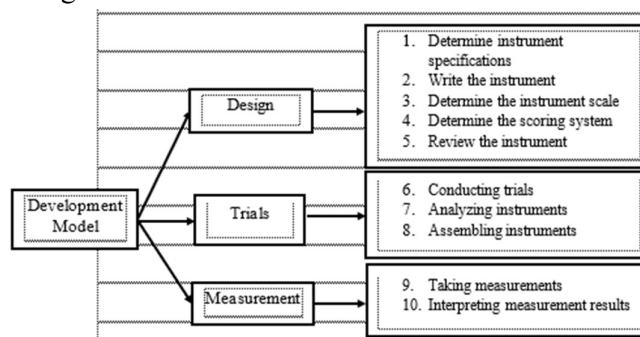
Figure 1. Development Model

Primary data were collected through questionnaires distributed to 224 respondents. The respondents or sample were determined using purposive sampling, with the sample size guided by the "Rule of Thumb" popularized by Van Voorhins & Morgan. This approach was adopted due to limitations in identifying the exact population size in this study. The sample characteristics included students enrolled in entrepreneurship courses at universities implementing the Merdeka Belajar Kampus Merdeka (MBKM) curriculum.

The collected data were analyzed through three stages. The first step was to look at the results of the preliminary trial. This involved content analysis to see how good and useful the measurement model was based on expert opinion, with a focus on how clear the language was and how appropriate the indicator items were. The second stage was the field trial analysis, which used the item-total Pearson correlation to look at each item. Items with a discrimination index (correlation coefficient) greater than 0.3 were retained. Reliability was then analyzed using the criteria: values above 0.80 indicate high reliability, 0.6–0.79 moderate, and below 0.6 low (Mardapi, 2012).

The third stage was the analysis of the expanded trial results, which aimed to examine the developed model using Confirmatory Factor Analysis (CFA) and Second-Order CFA. The criteria included a correlation matrix between > 0.05 and < 0.9, Bartlett's Test of Sphericity with significance < 0.05, and KMO MSA values > 0.5 and < 1. Additionally, three out of nine goodness-of-fit indices were used: χ^2 (chi-square) with p-value > 0.05, CFI (Comparative Goodness of Fit Index) > 0.9, and RMSEA (Root Mean Square Error of Approximation) < 0.08 (Ghozali & Fuad, 2008). Tables and figures are presented in the center, as shown below, and they are cited in the manuscript.

3. RESULTS AND DISCUSSION

Results

To explain the concept and identify appropriate indicators of entrepreneurial intention, a literature review was conducted to establish a conceptual definition based on previous studies and theories. The outcome of this process was the development of an initial product in the form of a blueprint for an entrepreneurial intention measurement instrument. The constructed instrument blueprint is presented as follows in Table 1.

Table 1. Blueprint of the Entrepreneurial Intention Measurement Instrument

| No	Aspect	Indikator	Reference
1	Entrepreneurial Motivation	1) Need for entrepreneurship 2) Need for power	(Armitage & Conner, 2001); (Fayolle & Gailly, 2004); (Kolvereid, 1996); (Setiawan, 2021); (Vemmy, 2013); (Chatterjee & Das, 2015); (Çolakoğlu & Gözükara, 2016)
2	Self-Efficacy	1) Confidence in all situations 2) Belief in overcoming problems or challenges	
3	Entrepreneurship Education	1) Gaining additional knowledge and skills in entrepreneurship 2) Awareness of existing business opportunities	
4	Independence	1) Self-confidence 2) Non-dependence on others	

No	Aspect	Indikator	Reference
5	Internal Locus of Control	3) Sense of responsibility 1) Belief that success and failure depend on oneself 2) Belief that others' actions depend on one's own attitude	
6	Pure Intention	1) Acting based on personal initiative 2) Belief in one's ability and experience	
7	Personal Attraction	1) Desire to succeed 2) Tendency to become an entrepreneur	

The Delphi technique was used to get feedback and suggestions from a group of experts about the feasibility of the drafted entrepreneurial intention measurement instrument. This was done as a face validity test of the instrument. Based on the analysis results, two items were eliminated, while the remaining 30 items were deemed suitable for testing.

The subsequent phase was the development stage, which included a preliminary field trial conducted with selected students as research subjects. The analysis of the instrument items using the item-total Pearson correlation indicated that all 30 tested items were valid, with discrimination indices (correlation coefficients) greater than 0.3. The reliability analysis using Cronbach's alpha resulted in a coefficient of 0.905, which falls into the category of high reliability ($\alpha > 0.7$).

The next step was the expanded field trial, which also included testing the measurement model's feasibility by using Confirmatory Factor Analysis (CFA) and Second-Order CFA to see how well it fit. The results of the inter-item correlation analysis showed correlations between > 0.05 and < 0.9, indicating that while each item was related, it still measured a distinct dimension—meaning no item overlapped or duplicated another.

Meanwhile, the results of the KMO and Bartlett's Test showed a value of 3645.097 with a significant level of 0.000, indicating a highly significant correlation among indicators. The KMO value of 0.916 suggests that the sample adequacy was within a satisfactory category. A significant value of 0.000 (< 0.05) indicates that the indicators developed in this study are predictable and can be further analyzed. Furthermore, the MSA (Measure of Sampling Adequacy) results indicated that all 30 analyzed items had MSA values > 0.5 and < 1.0, meaning that each item contained a degree of error independent from others, which is a desirable characteristic for a valid measurement model.
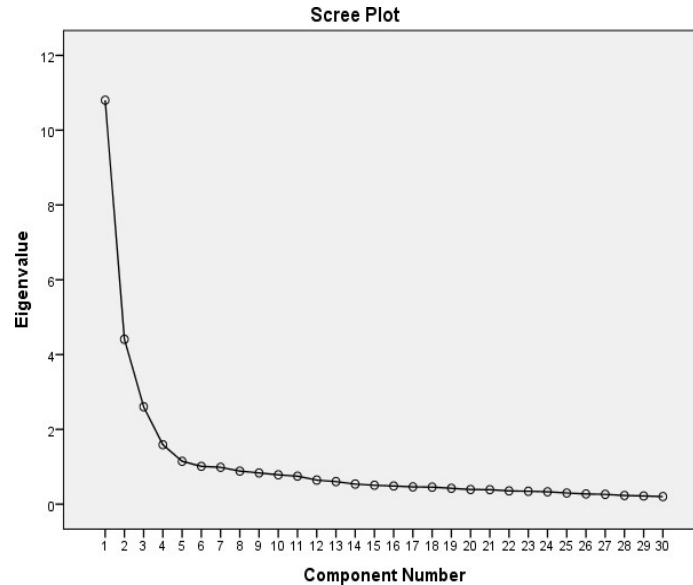
Figure 2. Scree Plot Eigenvalue

Figure 2 presents the results of the scree plot eigenvalue analysis, which shows that, based on the 30 analyzed items, only five factors were formed. In addition, the results of the Total Variance Explained in the Initial Eigenvalues column and its Cumulative sub-column also indicate that the reduction of the 30 analyzed items resulted in the formation of five factors, which together explain 32.525% of the variance.

The eigenvalues represent the relative importance of each factor in accounting for the variance among the 30 initial items analyzed. The total initial eigenvalue score for the 30 items corresponds to the total variance of the five extracted factors, amounting to 32.525%.

Table 2. Component Transformation Matrix

Component	1	2	3	4	5
1	.638	.633	.407	.159	.035
2	-.684	.687	-.082	.189	.129
3	-.344	-.250	.892	.117	-.100
4	.071	-.210	-.159	.962	-.013
5	.033	-.141	.084	-.006	.986

The subsequent analysis presented in Table 2 provides information regarding the indicator components formed from the 30 analyzed items. The results show a strong correlation between the factors and their corresponding indicators, as each of the five identified factors demonstrated correlation values greater than 0.5. Therefore, it can be concluded that, based on the analysis of the 30 items, only five main indicators were formed.
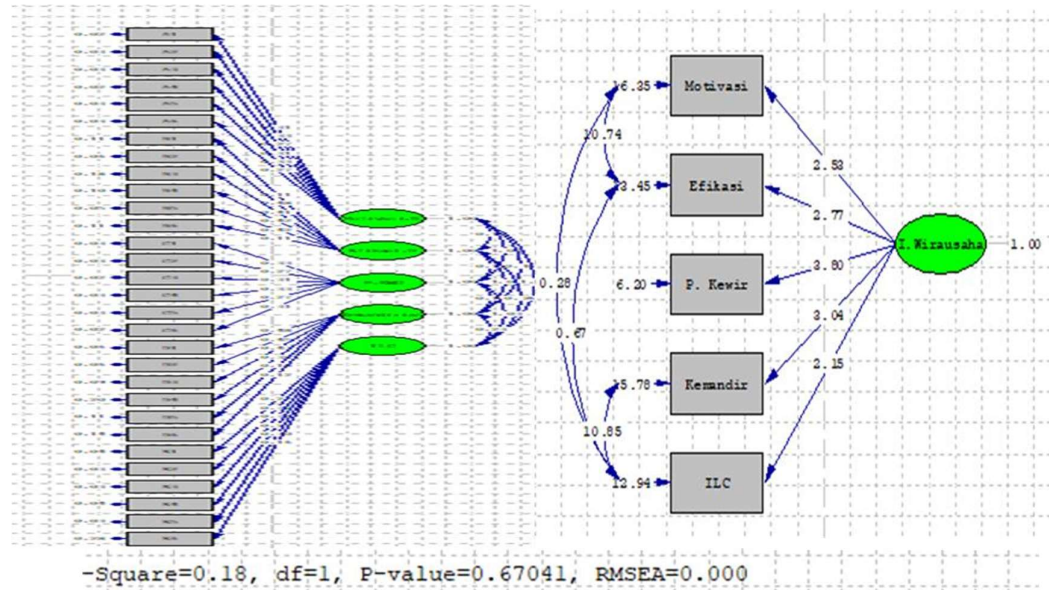
Figure 3. Entrepreneurial Intention Model

The results of the Second-Order CFA analysis using LISREL show an R² value (correlation) among the five factors of 1.0, indicating that the five developed factors are valid and effectively represent the latent variable, namely entrepreneurial intention.

Furthermore, the analysis of the entrepreneurial intention model construct demonstrates that all 30 analyzed items have an average factor loading greater than 0.5. This means that the standardized factor loadings of each dimension exceed 0.5, confirming good validity. According to Igbaria et al., a variable is considered to have good validity toward its construct when the standardized factor loading value is greater than 0.5 (Wang & Chuang, 2024).

Therefore, it can be concluded that the analysis results indicate that the correlation coefficients among the five developed factors fall within the good category, confirming that the model is statistically sound and valid in measuring entrepreneurial intention.

Table 3. Goodness of Fit

Indeks	Goodness of Fit	Result	Level of Fit
X^2 dan p	Small and $p \geq 0.05$	$X^2 = 0.18$ and $p = 0.670$	Good
RMSEA	≤ 0.08	0.000	Good
NFI	≥ 0.90	1.00	Good
NNFI	≥ 0.90	1.01	Good
CFI	≥ 0.90	1.00	Good
IFI	≥ 0.90	1.00	Good
RFI	≥ 0.90	1.00	Good
GFI	≥ 0.90	1.00	Good
AGFI	≥ 0.90	1.00	Good

The results of the goodness-of-fit index analysis presented in Table 3 also confirm that all parameters meet the criteria for a good model fit, with values of χ^2 (chi-square),

p-value > 0.05, CFI (Comparative Goodness of Fit Index) > 0.9, and RMSEA (Root Mean Square Error of Approximation) < 0.08.

Therefore, it can be concluded that the constructed aspects align well with the measured factors—in other words, the developed measurement model can be declared fit and appropriate for measuring entrepreneurial intention.

Discussion

Examine The goodness-of-fit index criteria in this analysis indicate that all parameters meet the acceptable standards, meaning that the constructed indicators form five factors: entrepreneurial motivation, self-efficacy, entrepreneurship education, independence, and internal locus of control.

Entrepreneurial motivation is one of the key factors in determining a person's entrepreneurial intention (Hassan et al., 2021). A strong desire to achieve personal goals or visions often becomes the main foundation for entrepreneurship. This motivation may stem from the desire for independence, financial freedom, or the urge to implement innovative, out-of-the-box ideas (Irawati, 2018). Moreover, entrepreneurial motivation is often linked to the drive to solve problems or create positive changes in society (Purnomo, 2017). Individuals driven by a desire to address social issues tend to have higher entrepreneurial intentions (Afriza & Srigustini, 2022; Peng et al., 2021). This shows that business opportunities can serve as means to solve problems, thus generating strong motivation to realize them through entrepreneurial ventures. Motivation also plays a role in balancing risk—those who are highly motivated to take risks tend to have stronger entrepreneurial intentions (Inggarwati & Kaudi, 2010). Challenges and risks are viewed as integral parts of the journey toward success. The willingness to face risks and uncertainties often strengthens one's determination to pursue entrepreneurship (N.P, 2012).

The next factor is self-efficacy. Self-efficacy, or the belief in one's ability to handle certain conditions or situations, plays an important role in increasing entrepreneurial intention. High levels of self-efficacy are closely related to the motivation to take risks (Xu et al., 2022). Individuals who believe in their capacity to face and manage challenges tend to be more courageous in dealing with risks encountered in entrepreneurship. This belief allows them to view failure as part of the learning process rather than an insurmountable obstacle (Sugiono & Zakhra, 2021). High self-efficacy also influences one's ability to seek and exploit opportunities. Those with strong self-efficacy are more proactive in recognizing potential opportunities and confident in taking the necessary steps to capitalize on them (Schunk & DiBenedetto, 2021). Thus, self-efficacy fosters a stronger desire to engage in entrepreneurship and equips individuals to navigate challenging circumstances.

Furthermore, entrepreneurship education also plays a role in shaping entrepreneurial intention. Entrepreneurship education programs provide individuals with the opportunity to understand key aspects of running a business (Muthumeena & Yogeswaran, 2022), including financial planning (Ahmed et al., 2017), management, marketing (Vodă & Florea, 2019), and knowledge about potential risks (Nabi et al.,

2018). These experiences help learners understand challenges, business prospects, and build confidence in starting and managing their own ventures. In addition, entrepreneurship education enhances essential skills such as creativity, innovation, problem-solving, adaptability, and the attitudes required to become a successful entrepreneur (Daniel et al., 2017). These learning experiences raise awareness of opportunities and strengthen students' ability to understand innovation processes. Entrepreneurship education introduces these concepts early on, helping learners build a mental foundation that supports creative and strategic thinking in developing business ideas (Garbuio et al., 2015).

Independence is another factor influencing entrepreneurial intention, encompassing a sense of autonomy and the ability to act on one's own initiative. Individuals who desire independence tend to have stronger intentions to run their own businesses and greater confidence in building their enterprises (Esfandiar et al., 2019). The desire to control their business direction and goals fuels their intention to become entrepreneurs. Moreover, independence is linked to the courage to face risks (Anggadwita et al., 2017). Individuals with a strong sense of independence are more resilient when facing uncertainty and are less likely to rely on others when managing risks associated with entrepreneurship. Thus, independence contributes to one's entrepreneurial intention and fosters a sense of responsibility for their own success or failure.

The final factor influencing entrepreneurial intention is internal locus of control. This factor refers to the belief that success and failure depend on oneself and reflects a tendency to trust one's personal skills and abilities (Yanti, 2019). Entrepreneurial challenges are perceived as opportunities to enhance one's entrepreneurial capabilities rather than as barriers (Townsend et al., 2018). This belief in personal ability plays a crucial role in shaping entrepreneurial intention. Individuals with a strong internal locus of control tend to perceive themselves as having the power to influence the outcomes of their actions and decisions (Muliawaty, 2021). Additionally, internal locus of control affects how individuals respond to failure (Heywood et al., 2017). Failure is seen as an opportunity to learn and grow, encouraging responsibility and initiative in managing one's ventures. This mindset directly supports entrepreneurial intention, as failure is viewed as an inseparable part of the journey toward entrepreneurial success.

4. CONCLUSION

The measurement model of entrepreneurial intention in the context of assessment of learning consists of five factors: entrepreneurial motivation, self-efficacy, entrepreneurship education, independence, and internal locus of control. The analysis of 30 items, which form five factors with 15 indicators, shows that the developed model meets the goodness-of-fit index criteria, indicating a good model fit. Therefore, it can be concluded that the measurement model is proven to be feasible and suitable for measuring entrepreneurial intention within the Assessment of Learning context. In other words, this measurement model can be practically applied during the entrepreneurship learning process.

The findings of this study provide a theoretical contribution in the form of a measurement model for entrepreneurial intention within the Assessment of Learning framework. However, due to certain limitations—specifically, that the research has not yet reached the implementation and dissemination stages—it is recommended that future studies examine the effectiveness of this measurement model to validate and strengthen its practical application.

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