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Unlocking the Founder Mindset: Mapping Generation Z Students' Personal Entrepreneurial Competencies for Campus Economic Independence

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ABSTRACT

This study aims to map the ten dimensions of McClelland's Personal Entrepreneurial Competencies (PEC) among Generation Z students across disciplines, identify the primary barriers to business initiation, and formulate an intervention model for curriculum and campus ecosystems. Employing a descriptive-exploratory quantitative approach, data were collected through structured questionnaires from 162 business and non-business students. The findings reveal that overall PEC achievement is high, with work commitment and digital technology-driven efficiency as key strengths. However, critical weaknesses emerge in calculated risk-taking and campus opportunity seeking. The primary barriers identified are limited practical exposure to business reality and fear of financial failure. Furthermore, business students consistently exhibit higher planning maturity than their non-business peers. To bridge the gap between high entrepreneurial intention and low campus incubator participation, an intervention framework is proposed featuring action-based experiential learning, generative AI integration, and inclusive cross-disciplinary incubators offering practical mentorship and seed funding. This study underscores the necessity of building an adaptive Entrepreneurial University ecosystem.

Keywords: *Personal Entrepreneurial Competencies (PEC); Generation Z Students; Campus Economic Independence*.

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INTRODUCTION

Amidst technological disruption and global job market uncertainty, universities are required to transform their role from merely producing business owners or workers to becoming incubators of formidable young entrepreneurs (Hamdan, 2024). The phenomenon of educated unemployment, which continues to rise in various developing countries, including Indonesia, highlights a gap between the number of undergraduate graduates and their absorption into the formal industry (Pratiwi, 2025). To bridge this gap, cultivating an entrepreneurial mindset and strengthening students' character of economic independence has become a national priority program that continues to be accelerated through various Independent curriculum policies (Fajriah, 2025).

Although entrepreneurship learning programs have been integrated into the curricula of various non-business study programs, their implementation in the field still faces major obstacles regarding the effectiveness of the final outcomes (Wahyuni, 2026). According to the World Economic Forum (2023), 21st-century skills such as creativity, complex problem-solving, and the ability to lead change are core competencies that the younger generation must possess. Unfortunately, most conventional entrepreneurial teaching methods in the campus environment remain stuck on theoretical and administrative approaches to business mapping alone, instead of building the essential psychological foundations of entrepreneurship (Khairunisa et al., 2025).

Conceptually, an entrepreneur's success in establishing and maintaining a business is determined not only by financial capital but also by the strength of the Personal Entrepreneurial Competencies (PEC) attached to them (Rahmawati et al., 2024). The PEC framework, originally formulated by David McClelland, comprises ten main dimensions, including opportunity seeking, persistence, work commitment, calculated risk-taking, and goal setting (Reyes et al., 2018). Mastery of these personal dimensions distinguishes a student who merely has an interest in doing business from one who has the resilience to survive in a volatile digital ecosystem (Ershova et al., 2025).

Empirical research using the innovation competency assessment model reveals quite alarming findings, in which first-year students enter universities with relatively low levels of innovation and initiative. Weak initiative indicators and the ability to build networks indicate the need for early intervention from university management (Ojo & Volkova, 2023). Without measurable personal competency profile mapping from the beginning of the lecture, the campus business incubator program runs the risk of becoming untargeted and failing to produce student startup founders (Chronaki et al., 2026).

In line with this, a study conducted by Glori and Eusebio (2025) confirms that personal characteristics such as the courage to take calculated risks are often the main weaknesses of non-business students. This condition is exacerbated by a lack of practical exposure to the reality of the business world, so that students tend to be hesitant and afraid of facing operational failures (Sutrisno & Sukardi, 2025). Reimagining real-action learning strategies (experiential entrepreneurship education) is an absolute necessity in order to reduce students' cognitive psychological barriers.

In addition to internal drives, external factors in the form of digital support ecosystems and the adoption of artificial intelligence-based technologies are now redefining the entrepreneurial competency profile of students in this century. Research by Fauziah et al. (2024) proves that the simultaneous integration of entrepreneurial competencies and digital literacy has a very significant influence on triggering entrepreneurial intentions and success among students. Therefore, evaluating the extent to which students

can synergize their personal capabilities with the development of modern technology is a research urgency that cannot be postponed (Utami et al., 2026).

Although many studies on entrepreneurship education have been done, there are still *research gap* significant in the existing literature. Most previous research has focused more on the influence of entrepreneurial education on entrepreneurial intentions in general without mapping the dimensions of personal competence in detail (Pratiwi, 2025; Utami et al., 2026). In addition, the evaluation of the effectiveness of entrepreneurship programs has so far dominated researching students from business or management study programs, so that there is a generalization bias when applied to non-business cross-disciplinary students (Sutrisno & Sukardi, 2025; Wahyuni, 2026). As a result, an understanding of the dynamics of mastery Personal Entrepreneurial Competencies (PEC) in the Generation Z population who have typical socio-psychological characteristics and digital literacy is still very limited (Fauziah et al., 2024; Khairunisa et al., 2025).

Research on the comprehensive mapping of Personal Entrepreneurial Competencies (PEC) based on McClelland's ten-dimensional framework among Generation Z students remains limited, particularly studies that integrate entrepreneurial psychological characteristics with the adoption of digital technology in higher education (Rahmawati et al., 2024). Many universities continue to emphasize financial and administrative barriers, while evidence suggests that entrepreneurial resilience, risk-taking courage, and initiative are more fundamental determinants of entrepreneurial success (Chronaki et al., 2026; Ojo & Volkova, 2023). Furthermore, the absence of PEC instruments specifically validated for Generation Z across disciplines has led to business incubation programs that are often generic and less targeted (Glori & Eusebio, 2025).

The novelty of this study lies in the development of a Generation Z-oriented PEC mapping model that integrates entrepreneurial psychological dimensions with digital ecosystem adaptation (Fauziah et al., 2024; Utami et al., 2026). Unlike conventional studies that focus primarily on entrepreneurial intention, this research provides a comprehensive assessment of action-based entrepreneurial competencies to identify students' strengths and weaknesses and support the design of adaptive curriculum intervention modules (Hamdan, 2024; Fajriah, 2025). The findings are expected to enrich student entrepreneurship literature while offering practical guidance for universities in strengthening entrepreneurial capacity and promoting sustainable campus economic independence (World Economic Forum, 2023).

Based on the above background description, the research problem is formulated into the following questions:

1. What is the achievement profile of each dimension of Personal Entrepreneurial Competencies (PEC) in students in the current campus environment?
2. What are the dimensions of PEC that are the main strengths and the most significant weaknesses that hinder students in initiating a new business unit?
3. How is the model of effective curriculum intervention and campus support ecosystems to strengthen the aspects of Personal Entrepreneurial Competencies of cross-disciplinary students?

Theoretically, the results of this research are expected to make a significant contribution to the scientific development of entrepreneurial management, especially in enriching the literature and scientific studies on entrepreneurial behavior by focusing on the application of Personal Entrepreneurial Competencies (PEC) theory for Generation Z students in the university environment. In addition to expanding the scope of entrepreneurial personality theory, this research also contributes conceptual

contributions in the form of the formulation of measurement models and evaluation instruments for student entrepreneurial competencies that have been validated and adjusted to the distinctive characteristics and dynamics of the digital ecosystem in Indonesia.

Practically, this research makes a real contribution to university management as a basic evaluation material and policy formulation considerations to design an action-based entrepreneurship curriculum, optimize business incubation programs, and make the allocation of student business capital funding more effective so that it is more on target. For students, the findings of this research are useful as a means of self-assessment to recognize the mapping of the strengths and weaknesses of their entrepreneurial personalities, so that they are able to independently improve competencies that are still limited, such as the ability to network, negotiate, and manage risk. Meanwhile, for the government and the industrial world, the results of this mapping can help identify the potential of quality young entrepreneurial talents from academics who are ready to be synergized with national startup accelerator programs and industry strategic partnerships.

METHODS OF RESEARCH

This study employed a quantitative approach with a descriptive-exploratory design to map the ten dimensions of Personal Entrepreneurial Competencies (PEC) based on McClelland's framework among Generation Z students. Primary data were collected through an online structured questionnaire using a five-point Likert scale, supported by secondary data from curriculum documents, course materials, student records, and relevant literature. The study involved 162 students from Satya Wacana Christian University, selected through purposive sampling from three entrepreneurship-related classes using a census approach to include all eligible respondents. The sample comprised students from business and non-business disciplines with diverse entrepreneurial experiences and levels of participation in campus entrepreneurship support programs. The questionnaire measured respondents' demographic and academic profiles, the ten PEC dimensions, entrepreneurial action readiness, digital literacy, and perceptions of experiential entrepreneurship education.

Data analysis involved descriptive statistics, including means, standard deviations, and achievement percentages, to identify students' overall PEC profiles and compare competencies across academic disciplines. Gap analysis was conducted by ranking the ten PEC dimensions to identify the three strongest and three weakest competencies, while independent-samples t-tests or ANOVA were used to examine differences between student groups. Instrument quality was assessed through validity and reliability testing, including Pearson product-moment correlation or Confirmatory Factor Analysis (CFA), and Cronbach's alpha. Finally, the findings were synthesized using the Experiential Entrepreneurship Education (EEE) and Entrepreneurial University frameworks to develop recommendations for adaptive curriculum interventions and campus support ecosystems that strengthen students' entrepreneurial capabilities and promote campus economic independence.

RESULT

Profile Analysis of Achievement Dimensions of Personal Entrepreneurial Competencies (PEC) of Students

To answer the first research problem regarding the description of the achievement profile of each dimension of Personal Entrepreneurial Competencies (PEC) among Generation Z students in the campus environment, a descriptive statistical analysis of the ten PEC dimensions was carried out based on David McClelland's theoretical framework. The ten dimensions are divided into three main groups (N = 162), namely the Achievement Cluster, the Planning Cluster, and the Power Cluster.

A summary of descriptive statistics regarding the mean values, standard deviations (std), and achievement rates of each PEC indicator and dimension is presented in detail in Table 1 below:

Table 1. Descriptive Statistical Recapitulation of Achievement of 10 Dimensions of Student PEC (N=162)

PEC Group/Dimension	Indicator Code	Indicator/Dimension Statement	Mean	Standard Deviation	Average Dimensions	Reach Categories
A. Achievement Cluster		**(Achievement Group)**			3,899	High
1. Opportunity Seeking	PEC1.1	Responsive to see business opportunities from digital trends	3,716	0,815	3,639	Moderate
	PEC1.2	Utilizing campus problems as an idea of economic value	3,562	0,772		
2. Persistence	PEC2.1	It is not easy to give up when experiencing initial failures	4,093	0,721	3,969	High
	PEC2.2	Willing to try again and again to overcome obstacles	3,846	0,665		
3. Commitment to Work	PEC3.1	Keeping promises and responsibilities according to deadlines	4,216	0,762	4,136	Very High
	PEC3.2	Sacrificing time and energy for consumer satisfaction	4,056	0,821		
4. Demand for Efficiency & Quality	PEC4.1	Produce high-quality standard products/services	4,062	0,817	4,074	High
	PEC4.2	Utilization of digital technology (AI/software) for efficiency	4,086	0,783		
5. Calculated Risk Taking	PEC5.1	Dare to make risky decisions after rational calculation	3,747	0,873	3,676	Moderate
	PEC5.2	Dare to try new ideas even though there is no market certainty	3,605	0,915		

PEC Group/Dimension	Indicator Code	Indicator/Dimension Statement	Mean	Standard Deviation	Average Dimensions	Reach Categories
B. Planning Cluster		**(Planning Group)**			3,832	High
6. Goal Setting	PEC6.1	Have specific short-term & long-term goals	3,790	0,743	3,840	High
	PEC6.2	Periodic evaluation of daily/weekly achievements with targets	3,889	0,811		
7. Information Seeking	PEC7.1	Proactively dig into market information, research, and competitors	3,926	0,760	3,722	High
	PEC7.2	Actively consult with lecturers, mentors, or practitioners	3,519	0,900		
8. Systematic Planning & Monitoring	PEC8.1	Develop *a structured* action plan	3,938	0,728	3,935	High
	PEC8.2	Record & monitor financial & operational developments	3,932	0,878		
C. Power Cluster		**(Influence/Power Group)**			3,898	High
9. Persuasion & Networking	PEC9.1	Able to convince others to support/buy	3,870	0,842	3,855	High
	PEC9.2	Actively building & maintaining cross-disciplinary networks	3,840	0,818		
10. Self-Confidence & Independence	PEC10.1	Strong belief in the ability to face complex challenges	3,969	0,830	3,941	High
	PEC10.2	Dare to make independent and responsible decisions	3,914	0,807		

Source: Processed Primary Data (2026); Measurement scale from 1 (Strongly Disagree) to 5 (Strongly Agree);
Note: 1.00–1.80 = Very Low; 1.81–2.60 = Low; 2.61–3.40 = Moderate; 3.41–4.20 = High; 4.21–5.00 = Very High.

The Achievement Cluster measures the internal drive and operational execution of students in realizing business ideas into real actions (Akmad et al., 2026). Cumulatively, this group recorded an average score of 3,899 (high category). The details of the indicators in the Achievement Cluster group show the dynamics of achievements that vary between dimensions. First, the Commitment to Work dimension is the dimension with the highest achievement not only in the group, but also of all ten PEC dimensions, with an average of 4,136. The indicator of awareness of keeping promises and completing responsibilities (PEC3.1) even reached the highest score of 4,216, which shows that Generation Z students have a very high moral integrity and sense of social responsibility towards the agreed task commitments. Second, the dimension of Demand for Efficiency and Quality is in the second highest position with an average of 4,074, where the use of digital technology such as artificial intelligence (AI/software) for task efficiency (PEC4.2) recorded

a score of 4,086. These findings confirm the arguments of Fauziah et al., (2024) and Utami et al., (2026) that the nature of Generation Z as digital natives is directly proportional to their proficiency in adopting digital tools to increase productivity and quality of work outputs. Furthermore, the Persistence dimension reached an average score of 3.969, where the resilience to not give up easily when experiencing initial failure (PEC2.1) was at 4.093, which indicates that students have cognitively understood the importance of fighting power in facing obstacles. On the other hand, the dimensions of Opportunity Seeking and Calculated Risk Taking actually recorded the lowest scores in the Achievement Cluster, namely 3,639 and 3,676, respectively. On the indicators of opportunity seeking in the campus environment (PEC1.2 = 3,562) and the habit of trying new ideas without market certainty (PEC5.2 = 3,605), students tend to be very cautious. As shown by Glori & Eusebio (2025) and Sutrisno & Sukardi (2025), the limitations of practical experience make students hesitant to transform the problems around them into real business opportunities that are financially risky.

The Planning Cluster measures students' capabilities in formulating strategies, collecting market facts, and monitoring business development in a structured manner (Oluka & Okonkwo, 2021; UNCTAD, 2011). The Planning Cluster recorded an average score of 3,832. Detailed analysis of the dimensions in the Planning Cluster group showed a variety of students' strategic planning patterns. First, the Systematic Planning and Monitoring dimension was the strongest pillar in this group with an average score of 3,935. Students showed a good tendency to prepare structured action plans (PEC8.1 = 3,938) and record regular operational and financial developments (PEC8.2 = 3,932), which reflects the positive impact of the provision of entrepreneurship curriculum module materials in emphasizing the importance of business planning. Second, the Goal Setting dimension recorded an average score of 3,840, where students are quite accustomed to conducting periodic evaluations of daily or weekly achievements (PEC6.2 = 3,889), although the setting of long-term entrepreneurial career targets (PEC6.1 = 3.790) still requires sharpening. Meanwhile, the Information Seeking dimension is at an average score of 3.722, with a fundamental gap between the indicators. On the one hand, students are very proactive in exploring market and competitor research data independently through digital media (PEC7.1 = 3.926). On the other hand, however, their activeness in consulting directly with lecturers, mentors, or business practitioners (PEC7.2) is at the second lowest score of all instruments, at 3.519. This finding reinforces the study by Ojo and Volkova (2023), which states that Generation Z students have a strong tendency to rely on one-way information searches via the internet rather than building two-way interactive communication with professional practitioners or mentors.

The Power Cluster evaluates aspects of leadership, network persuasion, and individual psychological independence (Ojo & Volkova, 2023; Oluka & Okonkwo, 2021). This group obtained an average score of 3.898. The details of the indicators in the Power Cluster show that the leadership dynamics and social relations of students are quite strong. First, the Self-Confidence and Independence dimension is the dominant dimension in this group, with an average score of 3.941. The indicator of self-confidence in facing complex challenges (PEC10.1) reached a score of 3.969, while the courage to make independent decisions (PEC10.2) was at 3.914. This indicates that, personally, Generation Z students have good confidence in their ability (self-efficacy) to solve problems. Second, the Persuasion and Networking dimension recorded an average score of 3.855. Students rated themselves as being able to convince others of the business ideas offered (PEC9.1 = 3.870) and as actively maintaining a network of cross-disciplinary relationships (PEC9.2 = 3.840). However, as explained by Rahmawati et al. (2024), the social networks

built by Generation Z are still predominantly limited to peer groups and have not been strategically oriented toward formal industrial partnerships.

When comparing disciplines, an interesting comparative pattern emerges between the Business/Management (N = 94) and Non-Business (N = 68) student groups. Consistently, students from the Business/Management Cluster have higher average PEC achievement scores in all competency groups, namely in the Achievement Cluster (3.967 vs. 3.804), the Planning Cluster (3.890 vs. 3.752), and the Power Cluster (3.960 vs. 3.813). The most striking difference can be seen in the Demand for Efficiency and Quality dimension (Business = 4.218 vs. Non-Business = 3.875) and the Systematic Planning and Monitoring dimension (Business = 4.053 vs. Non-Business = 3.772). These findings expressly support the studies by Glori and Eusebio (2025) and Wahyuni (2026), who stated that students in business study programs receive more intensive reinforcement of management instruments, so that they have a more mature quality planning and execution framework than their counterparts in non-business majors. In general, the pattern of PEC achievement of Generation Z students in this study forms a unique characteristic, namely "high in commitment and digital literacy, but weak in mentorship consulting and risk execution courage." Students already have a strong foundation of entrepreneurial personality (founder mindset) in the aspects of internal responsibility and technology adoption, but still need external encouragement through incubation facilities and real experiential learning to overcome doubts in taking business risks (Chronaki et al., 2026; Khairunisa et al., 2025).

Identify Key Strengths and Significant Weaknesses in Inhibiting New Business Initiation

To identify the various internal and external obstacles faced by students in transforming their entrepreneurial interest into a real business unit, four main obstacle indicators were measured based on practical experience and psychological resilience. The mapping of these barriers includes fear of failure, limited operational exposure in the business world, limited relationship networks and negotiation skills, and vulnerability in emotional resilience in the face of market rejection. A detailed overview of the mean, standard deviation, and resistance level category for each indicator is presented in Table 2 below.

Table 2. Descriptive Statistics for the Variable: Barriers to Initiating New Businesses (N=162)

No	Code	Obstacle Dimensions	Obstacle Indicator Statement	Mean	Standard Deviation	Category
1	HAM1	Fear of Failure	The fear of financial loss or failure made me hesitant to initiate a new business.	3,352	0,895	Moderate
2	HAM2	Barriers to Practical Access and Exposure	I feel that I still have minimal practical experience/exposure to the operational reality of the real business world.	3,685	0,815	High
3	HAM3	Network Availability & Negotiation Skills	Limited networking and lack of confidence in negotiating are the main obstacles to starting a business.	3,272	1,046	Moderate
4	HAM4	Psychological Resilience	When my business idea is rejected by the market or criticized, I easily feel	2,988	1,164	Moderate

No	Code	Obstacle Dimensions	Obstacle Indicator Statement	Mean	Standard Deviation	Category
			anxious and lose motivation.			
		Average Total Obstacles		**3,324**	**0,980**	**Moderate**

Source: Primary data processed, 2026; Note: 1.00–1.80 = Very Low; 1.81–2.60 = Low; 2.61–3.40 = Moderate; 3.41–4.20 = High; 4.21–5.00 = Very High.

The analysis of the superior dimension with the highest average score identified three main pillars that constitute the basic capital of the entrepreneurial personality (founder mindset) of Generation Z students. The greatest strength lies in the Commitment to Work dimension, with an average score of 4.136, which is triggered by students' high awareness of keeping promises and completing work responsibilities according to the agreed deadline (PEC3.1 = 4.216). This high moral commitment indicates that students have very strong personal integrity, an essential psychological attribute that, according to McClelland, is the main foundation of the Need for Achievement in building trust with potential consumers and business partners (Collins et al., 2004; Rahmawati et al., 2024). The second main strength lies in the Demand for Efficiency and Quality dimension, with an average score of 4.074, where students show very high proficiency in utilizing digital technologies such as artificial intelligence (Generative AI) and supporting software to complete business tasks quickly and precisely (PEC4.2 = 4.086). This advantage confirms the distinctive characteristics of Generation Z as digital natives who are intuitively able to integrate digital literacy into business operational efficiency (Fauziah et al., 2024; Utami et al., 2026). In addition, this basic capital is strengthened by the Self-Confidence and Independence dimension, which reaches an average of 3.941, where students have a solid belief in their own ability to face complex business challenges (PEC10.1 = 3.969). The combination of high work commitment, responsive technology adoption, and self-confidence forms psychological and professional assets that have great potential to be accelerated towards campus economic independence (Hamdan, 2024).

Although students have high commitment and confidence capital, the results of the mapping analysis also revealed significant weaknesses in several PEC dimensions, which constitute the main obstacles to new business initiation. The most striking weakness was seen in the Opportunity Seeking dimension, which recorded the lowest average score of all dimensions, namely 3.639, where students admitted that they still had difficulty taking advantage of other people's problems or needs in the campus environment as business ideas with economic value (PEC1.2 = 3.562). This weakness was compounded by the low courage in taking calculated risks (Calculated Risk-Taking), with an average of 3.676, especially in the hesitation to try new business ideas amid the uncertainty of guaranteed market success (PEC5.2 = 3.605). This condition is exacerbated by the discovery of a significant behavioral gap in the Information Seeking dimension. Although students proactively search for market data independently in digital media (PEC7.1 = 3.926), their willingness to consult directly with lecturers, mentors, or business practitioners is at a very low score, namely 3.519 (PEC7.2). As explained by Ojo and Volkova (2023) and Glori and Eusebio (2025), the habit of Gen Z students, who tend to be passive in building two-way interactive communication with professional practitioners, causes them to lose practical insights. As a result, market uncertainty that is not confirmed through practical research triggers the phenomenon of fear of failure, so that students are trapped in cognitive doubt about executing their business ideas in the real world (Sutrisno & Sukardi, 2025).

The biggest obstacle perceived by students is the lack of practical exposure to the operational reality of the real business world (HAM2 = 3.685). This limited access to real business practices has a direct impact on the emergence of fear of failure, where the fear of experiencing financial losses or initial failures makes 83.33% of students hesitate to initiate a new business unit (HAM1 = 3.352). In addition, limited networking and lack of confidence in negotiating with formal business partners are also the main obstacles considered by students (HAM3 = 3.271). From the perspective of psychological resilience, the indicators of anxiety and loss of motivation when a business idea is rejected by the market or criticized are at an average score of 2.988 (HAM4). This indicates that some students still have emotional vulnerability when faced with real rejection from consumers. Overall, this evaluation confirms that the main obstacle to business initiation in higher education is not rooted in a lack of interest or ideas, but in a lack of exposure to direct experience, a lack of access to mentor mentoring, and a lack of building strong psychological resilience to overcome operational risks in the field (Chronaki et al., 2026; Ershova et al., 2025).

Formulation of Curriculum Intervention Models and Cross-Disciplinary Campus Supporting Ecosystems

In order to formulate a curriculum intervention model and strengthen an effective and inclusive campus support ecosystem for students across disciplines, an evaluation of students' perceived needs was carried out. The mapping of this evaluation focuses on four strategic aspects: the effectiveness of experiential learning methods (N = 162), the relevance of understanding entrepreneurial personality modules (founder mindset), the need for support for the adoption of cutting-edge digital technology (Generative AI), and the urgency of practical mentorship facilities and seed funding from universities. Details of the descriptive statistical distribution in the form of means, standard deviations, and need-level categories for each indicator are presented in Table 3 below.

Table 3. Descriptive Statistics of Curriculum Evaluation and Campus Supporting Ecosystem (N=162)

No	Code	Evaluation / Intervention Dimension	Evaluation Indicator Statement	Mean	Standard Deviation	Category
1	EKS1	The Effectiveness of Experiential Learning	The action-based entrepreneurship learning method is much more effective in improving the founder mindset than theoretical lectures/rigid proposal formulations.	4,105	0,777	High
2	EKS2	Relevance of Personality Learning Modules	An understanding of entrepreneurial personality material (such as Jungian theory, Big Five, Passion & Grit) helps to recognize one's potential and weaknesses as a prospective entrepreneur.	4,099	0,724	High

No	Code	Evaluation / Intervention Dimension	Evaluation Indicator Statement	Mean	Standard Deviation	Category
3	EKS3	Digital Technology / AI Adoption Support	The campus curriculum needs to facilitate the use of cutting-edge digital technologies (such as Generative AI) to accelerate the student business ecosystem.	4,025	0,841	High
4	EKS4	Needs of the Campus Incubator Ecosystem	Inclusive programs of practical mentorship and seed funding from universities are needed by students across disciplines.	4,105	0,801	High
		Average Total Interventions & Ecosystems		**4,083**	**0,786**	**High**

Source: Primary data processed, 2026; Note: 1.00–1.80 = Very Low; 1.81–2.60 = Low; 2.61–3.40 = Moderate; 3.41–4.20 = High; 4.21–5.00 = Very High.

The formulation of curriculum interventions in higher education requires a fundamental reorientation from the conventional teaching approach based on theoretical lectures and the preparation of rigid administrative business proposals to an action-based experiential learning model. The empirical findings on the EKS1 indicator recorded an average score of 4.105 (high category), which confirms that the majority of students agree that hands-on practice in the field is much more effective in boosting their founder mindset than merely preparing academic reports in the classroom. This transformation reinforces the urgency of implementing Kolb's Experiential Learning Theory, in which students are guided through a complete learning cycle starting from concrete experience testing and reflective observation to active experimentation in the real market. Through simulated transactions and measurable real business execution, students become accustomed to interacting directly with customers and real market dynamics. This experiential method has proven crucial to reducing the main cognitive-psychological barriers identified earlier, namely fear of failure and hesitation in facing operational losses (HAM1 = 3.352). In line with the studies by Khairunisa et al. (2025) and Sutrisno and Sukardi (2025), the reorientation of the action-based entrepreneurship curriculum not only equips students with technical-managerial skills but also transforms students' passive mindset into the formation of an entrepreneurial mentality that is resilient, gritty, and ready to face the uncertainties of the business world.

The next curriculum intervention strategy focuses on combining the entrepreneurial personality mapping module with the facilitation of cutting-edge digital technology. The results of the analysis of the EKS2 indicator show a very positive perception from students (average 4.099), where the understanding of entrepreneurial personality materials—such as Jungian theory, the Big Five Personality, self-efficacy, and passion and grit—is considered very helpful for students in recognizing their potential, leadership style, and weaknesses as prospective entrepreneurs. The provision of this personality aspect is a strong psychosocial foundation so that Generation Z students are able to conduct critical self-monitoring before managing a business unit. The strengthening of personality character is then synergized and accelerated with the integration of the adoption of artificial intelligence-based digital technology (Generative AI),

which is considered very much needed by students (EKS3 = 4.025). Given that students' digital efficiency indicators have been recorded as very high (PEC4.2 = 4.086), the university curriculum is required to facilitate the use of cutting-edge AI tools in the lecture syllabus to research market trends, validate product ideas, and automate digital marketing operations efficiently. As emphasized by Fauziah et al. (2024) and Utami et al. (2026), the synergy between superior digital literacy and a mature understanding of entrepreneurial personality is the main accelerator in creating a resilient founder mindset, so that students are not only proficient in utilizing technology as users but also able to capitalize on it to create business added value in the era of disruption.

The formulation of a comprehensive intervention was closed with the development of a campus support ecosystem through the Entrepreneurial University Framework, which is inclusive for all students across disciplines. Empirical findings on the EKS4 indicator recorded an average score of 4.105, which confirms students' high need for an inclusive program of practical mentorship and access to seed funding from the university. This high need responds to objective conditions in the field, where 90.74% of students are recorded as never having been touched by the campus incubator program, as well as the discovery of students' fundamental weaknesses in consulting directly with professional mentors (PEC7.2 = 3.519) and the lack of exposure to the real business world (HAM2 = 3.685). Therefore, university business incubators are required to take the initiative and not limit mentoring facilities to only student groups from the Faculty of Economics and Business. Considering that 41.98% of respondents come from non-business groups (such as Nursing, Nutrition, Visual Communication Design, Food Technology, and Engineering), the campus ecosystem must provide a cross-disciplinary collaboration platform that connects the technical expertise of non-business students with the managerial capabilities of business students. Through the provision of practitioner mentors who accompany the intensive market validation process and transparent and targeted allocation of seed funding, the university is able to bridge students from the cognitive idea stage to the execution of business units that are independent, commercially valued, and sustainable (Chronaki et al., 2026; Hamdan, 2024).

DISCUSSION

Comprehensive Discussion: Student PEC Dynamics and Campus Economic Independence Strategy

The findings reveal that Generation Z students show relatively strong entrepreneurial competencies in work commitment, quality orientation, and self-confidence, indicating a solid foundation for entrepreneurial development. This finding is consistent with the study on Personal Entrepreneurial Competencies of Non-Business College Students at the University of Southern Mindanao, which reported that students generally demonstrated positive entrepreneurial attitudes, particularly in responsibility, persistence, and commitment to task completion. Similarly, Collins et al. (2004) argued that achievement-oriented individuals tend to exhibit stronger commitment and persistence in entrepreneurial activities. However, unlike the findings of Ahmad et al. (2026), this study identified opportunity seeking and calculated risk-taking as the weakest entrepreneurial dimensions. One possible explanation is that the respondents in the present study primarily represent Generation Z students who are highly accustomed to structured academic environments and digital interactions but have limited direct exposure to entrepreneurial uncertainty. As a result, they develop a strong sense of responsibility and performance orientation while remaining cautious toward entrepreneurial experimentation and risk-taking.

The relatively weak performance in opportunity recognition and calculated risk-taking is consistent with the findings of Glori and Eusebio (2025), who reported that many students possess entrepreneurial intentions but lack the confidence to transform opportunities into real business initiatives. Likewise, Sutrisno and Sukardi (2025) found that fear of failure significantly inhibits entrepreneurial action among university students. Nevertheless, compared with previous studies that identified risk avoidance mainly as a consequence of inadequate entrepreneurial knowledge, the present findings suggest that the issue may also stem from insufficient practical exposure and limited interaction with business mentors. Students appear capable of accessing market information independently through digital media, but they are less likely to engage in experiential learning processes that require direct validation of ideas in real market settings. This interpretation supports the argument of Ojo and Volkova (2023) that resilience and self-monitoring are critical determinants of entrepreneurial competence development.

Another important finding is the stronger entrepreneurial competency profile among business students compared with their non-business counterparts. This result corroborates the studies by Wahyuni et al. (2026) and Glori and Eusebio (2025), which found that students receiving formal entrepreneurship and management education tend to demonstrate higher levels of planning, monitoring, and entrepreneurial preparedness. However, the gap observed in this study appears narrower than that reported in earlier research. A plausible explanation is the increasing availability of digital entrepreneurship resources, online business learning platforms, and artificial intelligence tools that are accessible to students regardless of disciplinary background. Consequently, entrepreneurial competency development is no longer determined solely by academic major but also by students' level of engagement with digital ecosystems and entrepreneurial learning opportunities. This finding supports the propositions of Fauziah et al. (2024) and Utami et al. (2026) regarding the growing role of digital literacy as a complementary driver of entrepreneurial competence in the contemporary higher education context.

Furthermore, the findings extend the perspective of Chronaki et al. (2026), who emphasized the role of entrepreneurial universities in building student competencies. While previous studies primarily focused on institutional support and entrepreneurship education, the present study suggests that psychological competencies and digital capability must be developed simultaneously. Students may possess adequate technological skills and high learning motivation, yet they still struggle to identify opportunities and execute entrepreneurial decisions without sufficient experiential learning and mentoring support. Therefore, the integration of experiential entrepreneurship education, digital literacy, and structured mentorship emerges as a critical strategy for strengthening entrepreneurial competencies among Generation Z students.

CONCLUSION

The profile of Personal Entrepreneurial Competencies (PEC) mastery among Generation Z students shows a picture of personalities that are already in the high category and relatively mature. Students show very dominant advantages in the dimensions of moral integrity, commitment to keeping promises, work quality orientation, and proficiency in utilizing digital technology for task efficiency. However, this profile also indicates that students still tend to be very cautious and not optimal in exploring business opportunities around campus and in taking calculated business risks. In addition, a consistent comparative pattern was

found where students from the Business/Management Cluster have a higher level of planning maturity and management execution than their counterparts from the Non-Business Cluster.

The main strength of students' entrepreneurial personalities is rooted in a high awareness of work commitment, mastery of the latest digital technology literacy, and self-confidence in solving academic challenges. On the other hand, the most significant weaknesses that hinder students from initiating new business units stem from a lack of practical exposure to the operational realities of the real business world, hesitation to consult directly with mentors or professional practitioners, and the emergence of fear of failure. This inequality gives rise to a paradox of entrepreneurial behavior: students have internal dedication and strong digital proficiency but are hampered by psychological and cognitive doubts about executing their business ideas in the real market.

The formulation of an effective and inclusive intervention model requires curriculum reorientation and the strengthening of the Entrepreneurial University ecosystem. At the curriculum level, universities need to transform conventional learning methods based on theory and the preparation of rigid proposals toward an action-based experiential learning approach that synergizes entrepreneurial personality mapping with the adoption of artificial intelligence technology (Generative AI). At the ecosystem level, universities are required to provide inclusive campus business incubation facilities for all disciplines by providing practical mentorship schemes from practitioners and transparent access to seed funding to transform students' interests and potential into independent, commercially valuable, and sustainable business units.

Theoretical Implications

Theoretically, the findings of this study make a significant conceptual contribution to the development of the science of entrepreneurial behavior, especially in reconstructing the application of David McClelland's Personal Entrepreneurial Competencies (PEC) Theory to the Generation Z student population in higher education. The finding that the Commitment to Work and Demand for Efficiency and Quality dimensions are the pillars of student excellence confirms McClelland's basic proposition regarding the need for achievement. However, this study expands the theoretical framework by proving that in the digital era, technology-based operational efficiency such as artificial intelligence (n-Ach Generative AI) is a new manifestation of encouragement for the n-Ach digital-native cohort. This is in line with and strengthens the synthesis of Fauziah et al. (2024) and Utami et al. (2026), who stated that the simultaneous integration of entrepreneurial competencies and digital literacy redefines the personal competency profile of entrepreneurs in the 21st century.

In addition, this study contributes to bridging the research gap regarding the inequality of entrepreneurial behavior between Business/Management and Non-Business students. Comparative findings that show the superiority of business students in the planning and efficiency-demand pillars provide empirical validation for the studies by Glori and Eusebio (2025) and Wahyuni et al. (2026) on the importance of strengthening management instruments in reducing students' cognitive doubts. On the other hand, the discovery of fundamental weaknesses in the Calculated Risk-Taking and Opportunity Seeking dimensions especially in non-business groups trengthens the arguments of Ojo and Volkova (2023) and Hadi Sutrisno and Sukardi (2025) regarding the high cognitive barriers in the form of fear of failure due to a lack of practical exposure.

Finally, this study contributes to theoretical reconciliation by integrating Kolb's Experiential Learning Theory into the Entrepreneurial University Framework. This research proves conceptually that the anxiety and psychological vulnerability of Generation Z cannot be reduced through rigid academic-

descriptive teaching (Kusuma, 2025) but rather requires an experiential learning cycle that facilitates active experimentation in the real market (Khairunisa et al., 2025; Chronaki et al., 2026). This conceptual integration emphasizes that entrepreneurial resilience and the founder mindset are built through the synergy between internal personality evaluation, digital technology adoption, and an inclusive campus incubation ecosystem (Ershova et al., 2025; Hamdan, 2024).

Applied Implications

Practically, the findings of this study transform competency mapping into a series of strategic recommendations applicable to university management, curriculum developers, and campus business incubator managers. All of these applied implications are constructed precisely based on the objective conditions of the Generation Z student population, which crosses Business/Management and Non-Business scientific clusters such as Nursing, Nutrition Sciences, Visual Communication Design, Food Technology, and Engineering to answer three main research problems through an integrated approach.

To respond to the disparity in competency profiles between business and non-business students, higher education institutions need to shift the uniform pattern of entrepreneurship teaching to a responsive and contextualized curriculum approach. For students from non-business groups, the focus of the intervention is directed at strengthening aspects of technical planning, operational record-keeping, and quality standardization so that their specific skills can be converted into products of high commercial value. On the other hand, for students from business and management groups, curriculum accentuation focuses on the formation of an action-oriented mindset to encourage the courage to execute business ideas in real terms, so that the managerial analysis capabilities they master do not stop at the level of preparing administrative documents alone.

In order to overcome students' doubts stemming from the high fear of financial failure and lack of practical exposure to the real business world, universities are required to create a risk-friendly learning ecosystem. This strategy is realized through the provision of interactive consultation forums that connect students directly with industry practitioners and mentors, in order to erode students' passive tendency to seek professional guidance. In addition, institutions can design market simulations in the form of entrepreneurial laboratories or safety-net framework-based pop-up markets, where students are given a safe space to test business ideas, interact with real consumers, and hone psychological resilience when faced with market rejection without the shadow of anxiety about initial financial losses.

Responding to the gap between students' large interest in entrepreneurship and their limited involvement in campus incubation programs, universities need to restructure institutions so that the entrepreneurial ecosystem no longer operates exclusively or in isolation within the scope of certain faculties. Campus incubator managers must play an active role as facilitators in the formation of cross-disciplinary teams that combine the technical expertise and creativity of non-business students with the business management skills of business students. Through cross-departmental synergy supported by intensive practical mentoring, easy access to initial funding grants, and the use of artificial intelligence technology for operational efficiency, universities can transform the great potential of Generation Z into the birth of resilient, innovative, and competitive student business units towards the realization of campus economic independence in a sustainable manner (Chronaki et al., 2026; Hamdan, 2024).

AUTHOR CONTRIBUTIONS

Author 1 was responsible for the conceptualization of the study, research methodology, data collection and analysis, and drafting of the initial manuscript. Author 2 contributed to the development of the theoretical framework, validation of the research instrument, interpretation of the findings, and critical review of the manuscript. Author 3 contributed to research supervision, refinement of the analysis and discussion, and revision and finalization of the manuscript. All authors read and approved the final version of the manuscript and accept responsibility for its publication.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest regarding the preparation, conduct, and publication of this article entitled "Unlocking the Founder Mindset: Mapping the Personal Entrepreneurial Competencies (PEC) of Generation Z Students Towards Campus Economic Independence." The research was conducted objectively and independently, without any financial, personal, or institutional interests that could have influenced the research findings or their interpretation.

ARTIFICIAL INTELLIGENCE (AI) USE STATEMENT

In preparing the article entitled "Unlocking the Founder Mindset: Mapping the Personal Entrepreneurial Competencies (PEC) of Generation Z Students Towards Campus Economic Independence," the authors used artificial intelligence (AI) tools in a limited capacity to assist with language refinement and academic writing. The conceptualization, data analysis, interpretation of findings, and conclusions were conducted and verified by the authors. The authors take full responsibility for the accuracy, originality, and scholarly integrity of the article.

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