



Logit Model Analysis of Vocational Students' Agripreneurial Intention in Indonesia

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Abstract

Agricultural entrepreneurship is increasingly recognized as a strategic pathway for revitalizing rural economies and strengthening food security, yet youth engagement in this sector remains limited. This study investigates the determinants of vocational students' intention to engage in agripreneurship in Indonesia using the Theory of Planned Behaviour (TPB) framework. Data were collected from 370 valid respondents among 694 agricultural vocational students at the Polytechnic of Kampar, Riau Province, selected through purposive sampling. A binary logistic regression analysis revealed that students with rural backgrounds (OR = 15.793, $p = 0.005$), greater perceived ease in marketing agricultural products (OR = 4.419, $p = 0.004$), and access to capital loans (OR = 2.988, $p = 0.012$) were significantly more likely to express agripreneurial intention. In contrast, perceived affordability of agricultural inputs had a negative effect (OR = 0.342, $p = 0.025$), while gender, age, parental occupation, and price stability showed no significant influence. These findings highlight the importance of environmental exposure, market accessibility, and financial inclusion in shaping agripreneurial motivation. The study extends TPB in the context of agricultural vocational education and provides practical insights for designing policies that foster youth participation and sustain agricultural regeneration.

Keywords

Agripreneurial Intention, Youth, Entrepreneurship, Agribusiness Development

1. Introduction

Youth agripreneurship has emerged as a critical component of agricultural transformation, linking innovation, rural development, and employment creation in developing economies (Subhiksha & Vennila, 2024). However, declining youth participation in agriculture poses a significant challenge to human resource regeneration within the sector (Kote et al., 2024). In Indonesia, this issue is particularly relevant to the context of vocational education, which plays a strategic role in preparing technically skilled and entrepreneurial graduates for agribusiness development (Widodo et al., 2024). Despite ongoing policy initiatives to encourage young people's participation in agriculture, evidence shows that vocational students' interest in pursuing agripreneurship remains limited (Thephavanh et al., 2023). Therefore, understanding the determinants of their agripreneurial intention is crucial for developing educational and institutional strategies that strengthen youth engagement and ensure the sustainability of agricultural regeneration (Mohammad et al., 2023).

A major challenge facing Indonesia's agricultural development is the insufficient regeneration of human resources in the sector, primarily due to declining youth interest in agriculture (Ministry of Agriculture, 2018). This trend is evident in data from the Indonesian Central Bureau of Statistics (BPS, 2018), which shows a decrease in the agricultural workforce from 34% of the national labour force in 2014 to 32% in 2017. Additionally, between 2016 and 2018, older workers (aged 60 and above) increasingly dominated the sector, while the proportion of younger, productive-age workers (15–35 years) continued to decline (BPS, 2018). To tackle these issues, the Indonesian government, via the Ministry of Agriculture, has introduced several strategic actions, such as supporting young agricultural entrepreneurs. Two main strategies have been emphasized: (1) encouraging agricultural entrepreneurship and (2) actively involving youth in the execution process. Engaging young individuals in agricultural entrepreneurship growth is vital for ensuring a steady flow of human resources in the field. This approach aligns with Agumagu, Ifeanyi-obi, and Agu (2017), who assert that youth participation is essential for advancing agricultural regeneration and long-

term sectoral growth. Similar concerns have been raised in other countries with comparable agricultural structures, such as Bulgaria, where studies revealed that youth demonstrate moderate to low motivation towards agricultural occupations, requiring institutional support and educational reform (Koleva et al., 2023; Stoyanova and Mitev, 2020). Research in agricultural universities also highlights the necessity of enhancing entrepreneurial attitudes through curriculum and policy support (Kanchev, 2022).

Agricultural entrepreneurship presents a viable solution to address pressing global challenges of food security, unemployment, and rural development (FAO, 2022). In developing countries like Indonesia, where agriculture contributes significantly to GDP and employment (World Bank, 2023), engaging youth in agribusiness is particularly crucial. However, vocational students—who are ideally positioned to drive agricultural innovation—often show limited interest in this sector (ILO, 2021). The importance of vocational education in fostering agricultural entrepreneurship cannot be overstated. Indonesia's vocational education system, comprising over 3,800 institutions (Ministry of Education and Culture, 2023), is designed to prepare students for sector-specific careers. Yet, recent data indicates declining enrolment in agricultural programs, with only 15% of vocational graduates pursuing careers in agriculture (Directorate General of Vocational Education, 2022). This trend persists despite the sector's potential and government efforts to promote agricultural entrepreneurship. Existing research on student entrepreneurship has primarily focused on general business ventures or technological startups, with limited attention to agricultural entrepreneurship. Furthermore, while some studies have examined entrepreneurship education, few have specifically investigated vocational students' interest in agricultural ventures. Recent empirical works have emphasized the importance of institutional capacity, digital transformation, and managerial competencies in enhancing agricultural innovation and entrepreneurship systems (Sedina et al., 2025; Mamino-Bayot & Ortega-Dela Cruz, 2025). These studies reinforce the need to contextualize youth agripreneurship within broader institutional and technological frameworks, particularly in developing economies such as Indonesia.

While previous studies have examined entrepreneurial intentions among university students and general business contexts (Liñán & Chen, 2009), limited empirical attention has been paid to vocational students in agricultural programs, particularly in developing economies such as Indonesia (Oosterbeek et al., 2010). Most existing research applies the Theory of Planned Behaviour (TPB) in generic entrepreneurship education settings without considering sector-specific determinants such as market access, input affordability, and financial inclusion, which are highly relevant in agribusiness environments (Ajzen, 1991; Fitz-Koch et al., 2018). Unlike prior studies that applied TPB in general entrepreneurship contexts, this research extends the model to agricultural vocational education, a sectoral and educational context that remains empirically underexplored. Therefore, this study adds value by contextualizing the TPB framework within agricultural vocational education and by empirically identifying key socio-institutional factors influencing agripreneurial intention (Gelaidan & Abdullateef, 2017). This approach not only expands the theoretical application of TPB (Armitage & Conner, 2001) but also provides actionable insights for policymakers and educators aiming to strengthen youth engagement in agriculture (Yami et al., 2019).

This study employs the Theory of Planned Behaviour (TPB) proposed by Ajzen (1991) as the underlying framework for explaining vocational students' agripreneurial intention. According to TPB, behavioral intention is determined by attitude toward the behavior, subjective norms, and perceived behavioral control. In the context of agricultural vocational education, attitude reflects students' evaluation of agripreneurship as a desirable career path; subjective norms capture perceived social expectations from family, peers, and educators; and perceived behavioral control represents their confidence in managing agricultural enterprises. Recent studies confirm that TPB remains a robust model for predicting entrepreneurial and agripreneurial intentions among youth (Anwar et al., 2022; Dinc & Budic, 2016, 2023). Moreover, integrating TPB with educational contexts enables the identification of institutional and environmental factors that can strengthen or constrain students' entrepreneurial motivation, making it particularly relevant for vocational education systems in developing countries (Farrukh et al., 2017; Souitaris et al., 2007).

Based on this background, this study focuses on analyzing vocational students' agripreneurial intention—their willingness to engage in agricultural entrepreneurship—using the Theory of Planned Behaviour (Ajzen, 1991) as the theoretical framework. This approach is widely applied in agripreneurship research and has been validated through meta-analytic reviews (Anton & Mansingh, 2025). By examining the influence of personal, social, and institutional factors, this research contributes to a deeper understanding of how vocational education can shape students' entrepreneurial aspirations in the agricultural sector. The study thus positions itself within the broader discourse on youth empowerment, vocational education, and agricultural innovation, offering evidence-based insights for policymakers, educators, and industry stakeholders seeking to foster a new generation of young agripreneurs.

2. Materials and Methods

2.1 Research location

This study was conducted at the Polytechnic of Kampar, an agricultural vocational institution located in Riau Province, Indonesia (Figure 1). The institution was selected as the research site due to its prominence as the largest vocational college in Riau—a leading region for agricultural commodity palm oil production in Indonesia. Additionally, its active collaboration with the Indonesian Palm Oil Fund Management Agency (BPD PKS) in workforce development and entrepreneurship programs further validated its suitability. These initiatives are specifically designed to foster and sustain agricultural entrepreneurship, particularly within the palm oil sector.



Figure 1. Map of Riau Province in Indonesia

2.2 Population and sample

The study population consisted of all students enrolled at the institution during the period of data collection, totalling 694 individuals. From this population, 370 complete responses were obtained, resulting in a response rate of 53.3%.

2.3 Method of collecting data

Data collection was conducted utilizing a purposive sampling approach. Primary data were collected through an online survey distributed via official student group platforms to ensure full population coverage. Participation was voluntary, and responses were anonymized to maintain confidentiality.

2.4 Research variables

This study investigates nine key variables comprising one dependent variable and eight independent variables. The dependent variable captures the likelihood of a student expressing interest in pursuing agricultural entrepreneurship, coded as 1 for interested and 0 for not interested. Four questions (X1-X4) address personality traits of the students were evaluated. Four questions address the perception of the students regarding intention to agricultural entrepreneurship. The eight independent variables are hypothesized to influence students' decisions regarding engagement in agricultural entrepreneurship. These include: X1 (student's age), X2 (student's gender), X3 (residential background), X4 (parents' occupation), X5 (perceived ease of marketing agricultural products), X6 (affordability of agricultural inputs), X7 (access to capital loans), and X8 (stability of agricultural product selling prices).

2.5 Conceptual framework

This study examines the factors influencing vocational students' decisions to pursue agricultural entrepreneurship, including socio-demographic characteristics, family background, and perceptions of agricultural entrepreneurship (Figure 2). Employing binary logistic regression, we identify key determinants and assess their impact on entrepreneurial intentions. The findings offer actionable insights for policymakers and educators to enhance youth engagement in agricultural entrepreneurship, addressing Indonesia's need for skilled agricultural entrepreneurship. By bridging the gap between education and sectoral demands, this research contributes to national economic development and employment creation for future graduates.

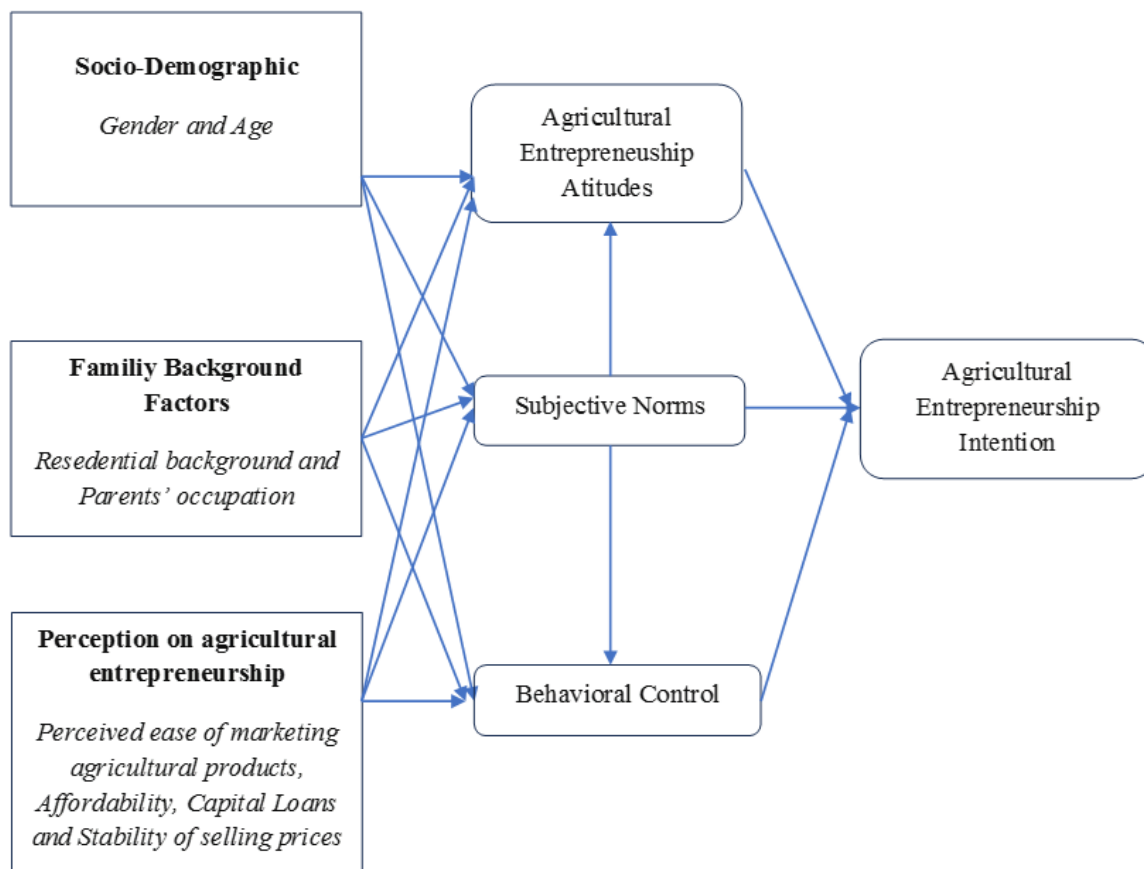


Figure 2. Conceptual Framework for Agricultural Entrepreneurship Intentions and the Influencing Factors.

2.6 Data analysis

The socio-demographic characteristics of the respondent students—including age, gender, residential background, and parental occupation—were analyzed using descriptive statistics, such as means and percentages. Students' perceptions were assessed through a 5-point likert scale, where 1 indicated strong disagreement and 5 indicated strong agreement. To evaluate the internal consistency of the survey instrument, Cronbach's alpha was calculated, yielding a value of 0.74. According to Nunnally (1978), a reliability coefficient above 0.60 is acceptable at the early stages of research, indicating satisfactory consistency of the measurement items.

Furthermore, a binary logistic regression model (Gujarati, 1999) was employed to examine the factors influencing students' interest in pursuing agricultural entrepreneurship. The explanatory variables included student age, gender, parental occupation, perceived ease of marketing agricultural products, affordability of agricultural inputs, access to credit, and stability of agricultural product prices. The analysis was conducted using JASP version 0.19.3, allowing for the identification of statistically significant predictors and estimation of the probability of students' engagement in agricultural entrepreneurship (Greene, 2000).

The general form of the logit model is as follows:

$$P_i/(1-P_i) = (1 + e^{(-\alpha - \beta x)}) / (1 + e^{(\alpha + \beta x)}) \quad (1)$$

The natural logarithm of the model can be expressed as follows:

$$\ln [P_i/(1-P_i)] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e_i \quad (2)$$

Where:

Y1 = Students expressing interest in agricultural entrepreneurship

Y0 = Students not expressing interest in agricultural entrepreneurship

α = Model intercept (constant term)

X1 = Age

X2 = Gender

X3 = Residential background

X4 = Parents' occupation

X5 = Perceived ease of marketing agricultural products

X6 = Affordability of agricultural inputs

X7 = Access to capital loans

X8 = Stability of agricultural product selling prices

ei = Error term

3. Results and Discussion

3.1 Socio-demographic characteristic

Of the 694 individuals invited to participate in the survey, 370 respondents completed it. The study examined various factors, including students' socio-demographic characteristics—such as age, gender, region of origin, and parents' occupation—as well as their perceptions regarding the ease of marketing agricultural products, affordability of agricultural inputs, accessibility of capital loans, and stability of agricultural product prices. Detailed socio-demographic data of the respondents are presented in Table 1.

As presented in Table 1, the majority of respondents (64.60%) were aged between 17–20 years, followed by 35.40% in the 21–25 age group. In terms of gender distribution, male students constituted 55.40% of the sample, while female students accounted for 44.60%. Geographically, most participants (85.7%) originated from rural areas, compared to only 14.3% from urban settings. Additionally, a significant proportion of the students' parents (77.8%) were engaged in agriculture-related occupations.

This demographic composition suggests that close familial ties and a rural upbringing with exposure to agriculture may facilitate easier access to agricultural knowledge and entrepreneurial opportunities (Mathew, 2015). Prior research indicates that family background and residential environment significantly shape youth perceptions and attitudes toward agricultural entrepreneurship (Doss, 2006; White, 2012).

3.2 Students' attitude towards agricultural entrepreneurship

Table 2 summarizes students' perceptions of various factors influencing agricultural entrepreneurship. The highest mean score ($M = 3.85$, $SD = 0.91$) was recorded for perceived ease of marketing agricultural products, indicating that students generally view the marketing process as accessible and manageable. This suggests a favorable market orientation, which is often a key driver of youth participation in agricultural ventures (Ajzen, 1991; Chiswell, 2014). The stability of agricultural product selling prices followed with a relatively high mean score of 3.64 ($SD = 1.02$), reflecting a moderately positive perception of price reliability in the agricultural sector. Price stability is known to reduce uncertainty and perceived risk, which are critical considerations for young entrepreneurs when engaging in agricultural activities (Glover and Kusterer, 2016).

In contrast, affordability of agricultural inputs received the lowest mean score ($M = 3.30$, $SD = 1.25$), suggesting concerns among students about the cost of essential inputs such as seeds, fertilizers, and tools. The relatively high standard deviation indicates greater variability in individual experiences or disparities in access to subsidies and support systems. Similarly, access to capital loans recorded a moderate mean score ($M = 3.42$, $SD = 1.08$), implying that financing continues to pose a challenge for some aspiring agricultural entrepreneurs—an issue frequently cited in studies on barriers to youth entrepreneurship in rural areas (FAO, 2019).

Table 1. Socio-demographic characteristics of the participants

No	Characteristic	Frequency	Percentage (%)
1	Age, years		
	17-20	239	64.60
	21-25	131	35.40
2	Gender		
	Male	205	55.40
	Female	165	44.60
3	Residential background		
	Rural area	317	85.7
	Urban area	53	14.3
4	Parents' occupation		
	Agriculture	288	77.8
	Non-agriculture	82	22.2

(Source: Authors' Survey, 2024)

Table 2. Students' attitude towards agricultural entrepreneurship

Statements	Mean	SD
Perceived ease of marketing agricultural products	3.85	0.91
Affordability of agricultural inputs	3.3	1.25
Access to capital loans	3.42	1.08
Stability of agricultural product selling prices	3.64	1.02

(Source: Data Processed, 2025)

Tabel 3. Estimating the factors influencing the students' interest decision in choosing agricultural entrepreneurship

Variable	Estimate	Odds ratio (OR)	p-value
Student age	1.052	2.863	0.288
Gender	-0.104	0.902	0.903
Residential background	2.760	15.793	0.005*
Parents' occupation	1.159	3.188	0.173
Perceived ease of marketing agricultural products	1.486	4.419	0.004*
Affordability of agricultural inputs	-1.072	0.342	0.025*
Access to capital loans	1.095	2.988	0.012*
Stability of agricultural product selling prices	0.853	2.348	0.126
AUC value	0.947		
Nagelkerke R^2	0.424		

*Statistically significant, $p < 0.05$.

Overall, these findings emphasize the significance of enabling infrastructure, stable market conditions, and accessible financial services in promoting youth engagement in agricultural entrepreneurship. The relatively positive perception of market accessibility may serve as a strategic entry point for policy interventions aimed at enhancing youth participation in the agricultural sector.

3.3 Factors Influencing Students' Interest Decision in Choosing Agricultural Entrepreneurship

The results of the logit regression estimation of factors that influence students' interest decision in agricultural entrepreneurship can be seen in Table 3. This study employed logistic regression analysis to examine the factors influencing vocational students' interest in agricultural entrepreneurship in Indonesia, where agriculture plays a vital role in economic growth but faces challenges in attracting younger generations (World Bank, 2021). The model demonstrated moderate explanatory power, as indicated by a Nagelkerke R^2 value of 0.424.

While statistically significant, this suggests that additional unexamined factors may influence students' entrepreneurial intentions, consistent with prior educational research emphasizing the complex interplay of personal, environmental, and institutional factors in career decision-making (Lent *et al.*, 1994; Souitaris *et al.*, 2007). The logistic regression model's feasibility was further supported by an AUC test value of 0.947, indicating strong predictive accuracy with no significant discrepancy between predicted and actual classifications. Thus, the model is suitable for further analysis.

4. Discussion

4.1 Key Determinants of Agricultural Entrepreneurial Interest

Significant Factors:

Residential Background (X_3 , $OR = 15.793$, $p = 0.005$)

The strong link between growing up in rural areas and interest in farming careers, with rural students being almost sixteen times more likely to express such interest than urban students, shows how early surroundings shape career goals, a trend noted in career development studies (Bandura, 1977; Kautz *et al.*, 2014). This result matches findings from studies in both rich and poor countries that have consistently indicated how lasting exposure to farming environments in childhood builds not just practical skills but also emotional ties to agriculture as a career (Barham *et al.*, 2018; Yami *et al.*, 2019), while also emphasizing the widening gap in farming participation between urban and rural areas that is becoming more evident across Southeast Asia (Rigg *et al.*, 2020).

Perceived Ease of Marketing Agricultural Products (X_5 , $OR = 4.419$, $p = 0.004$)

The strong positive link between students' views on market accessibility and their entrepreneurial goals highlights the important influence of perceived behavioral control on career decisions, which is a key aspect of Ajzen's (1991)

Theory of Planned Behavior that has been widely supported in entrepreneurial research across various cultural settings (Krueger *et al.*, 2000; Liñán and Chen, 2009). This insight becomes especially important when looking at Indonesia's changing agricultural value chains, where recent advancements in digital market platforms and transport infrastructure are starting to break down traditional market entry barriers (Nugroho *et al.*, 2022), possibly opening up new chances that aware students see and include in their career planning, even though significant regional differences in market access remain that may need specific policy responses (Octaviani *et al.*, 2021).

Access to Capital Loans (X7, OR = 2.988, p = 0.012)

The almost threefold rise in the chances of starting a business linked to the perception of having access to money backs up years of entrepreneurship studies that point out money issues as the biggest obstacle to launching a venture, especially in developing countries where banks usually don't cater well to young people (Beck and Demirgüç-Kunt, 2006; Karlan *et al.*, 2014). This insight becomes even more important when we look at Indonesia's growing agricultural finance scene, where fintech innovations and government-supported loan programs are proving to be effective in filling the gaps left by traditional financing (Arifin *et al.*, 2021), hinting that combining financial education with easier access to startup funds in vocational training could really help boost agricultural entrepreneurship among graduates (Barsoum *et al.*, 2021). These findings are consistent with studies in other contexts, including Bulgaria, where youth attitudes towards agricultural entrepreneurship were found to be influenced by similar factors—market access, financial support, and early exposure to rural life (Kanchev, 2022; Koleva *et al.*, 2023). Such comparative insights reinforce the universality of these determinants and support the cross-national relevance of intervention strategies to boost youth engagement in agriculture.

Affordability of Agricultural Inputs (X6, OR = 0.342, p = 0.025)

Our findings confirm that rising input costs discourage agricultural entrepreneurship, supporting concerns about farming sustainability (Fuglie and Toole, 2014). This presents a policy challenge: while input subsidies may boost participation, they risk market distortions (Jayne and Rashid, 2013). A balanced solution would combine targeted support with training in low-cost sustainable techniques to maintain yields (Pretty *et al.*, 2018) - an ideal role for vocational training programs (Norton *et al.*, 2021).

Non-Significant Factors:

While some variables were statistically significant, several others showed no meaningful relationship with interest in agricultural entrepreneurship—each offering valuable theoretical and practical insights worth further exploration.

Student age (X1, p = 0.288)

The lack of importance of age among vocational students (usually aged 17-21) indicates that differences in development might be less significant than the influence of institutional and environmental factors during this vital time for career choices (Mortimer *et al.*, 2002). This supports new life-course theories that stress "turning points" instead of gradual growth in career development (Shanahan, 2000), where specific learning experiences or mentorship could be more crucial than age itself (Yamakawa *et al.*, 2021). The result also suggests that focused interventions could effectively boost agricultural interest across all vocational school levels, leading to more adaptable program designs (Valerio *et al.*, 2014).

Gender (X2, p = 0.903)

The lack of significant gender differences ($p = 0.903$) contrasts with much of the agricultural entrepreneurship literature, which often highlights disparities in participation and perceived barriers (Peterman and Kennedy, 2003; Doss *et al.*, 2018). This finding may reflect unique aspects of Indonesia's vocational education system, such as gender-neutral agricultural training, progressive equity policies (Ragandhi *et al.*, 2021), and shifting generational attitudes (Octaviani *et al.*, 2021). However, caution is warranted, as structural barriers—such as unequal access to land and credit (Rahmawati *et al.*, 2022)—may still hinder women's entrepreneurial success beyond the educational setting.

Parents' Occupation (X4, p = 0.173)

Contrary to social reproduction theory (Bourdieu, 1986) and evidence of intergenerational transmission in agriculture (Damhofer *et al.*, 2016), parental occupation did not significantly predict student interest. This may reflect the vocational education context: (1) self-selection into agricultural programs may prioritize intrinsic motivation over family background (Ryan and Deci, 2000), (2) the residential school environment could temporarily diminish parental influence (Arnett, 2000), and (3) Indonesia's agricultural modernization may be weakening traditional knowledge inheritance (Nugroho *et al.*, 2022). Further qualitative research is needed to explore this unexpected finding.

Stability of Agricultural Product Selling Prices (X8, p = 0.126)

The slight non-significance of how price stability is perceived ($p = 0.126$) creates an intriguing contradiction to typical economic beliefs about risk aversion (Just and Pope, 2003). This might indicate three generational traits: (1) limited firsthand experience with agricultural market ups and downs among vocational students (Falk *et al.*, 2018), (2) young people's focus on immediate job opportunities rather than long-term security (Filmer and Fox, 2014), and (3) confidence gained through technology in handling market fluctuations (Aker, 2011). This finding implies that

agricultural entrepreneurship programs might need to adjust their risk management teaching to better connect with the experiences and views of young people.

This research highlights important factors that affect vocational students' interest in agricultural entrepreneurship in Indonesia. Rural residential background, perceived ease of marketing agricultural products, access to capital loans, and affordable inputs greatly influence entrepreneurial motivation, while gender, age, parental occupation, and price stability perceptions have less impact. These results emphasize the significance of rural experience, market access, and financial aid in encouraging youth participation. Policymakers and educators need to create specific programs that tackle financial challenges and encourage practical market-focused skills to nurture a new generation of agricultural entrepreneurs.

The present findings align with recent evidence highlighting the critical role of institutional and technological enablers in agricultural entrepreneurship. Studies have shown that the sustainability of agricultural cooperatives depends significantly on financial literacy and adoption of digital tools (Erwin Kurniawan et al., 2024), while the development of entrepreneurial universities in agriculture requires strengthening organizational culture and innovation capacity (Abedi et al., 2023). Similarly, empirical works emphasize that digital transformation and managerial competencies are essential for enhancing agribusiness performance and extension services (Sedina et al., 2025; Mamino-Bayot & Ortega-Dela Cruz, 2025). Collectively, these insights reinforce the relevance of institutional support, education-driven innovation, and digital readiness—factors that also underpin vocational students' agripreneurial intentions in Indonesia.

5. Conclusion and Recommendations

This study investigated the determinants of vocational students' agripreneurial intention in Indonesia using a binary logistic regression model grounded in the Theory of Planned Behaviour (TPB). The results demonstrate that rural residential background, perceived ease of marketing agricultural products, and access to capital loans significantly increase the likelihood of agripreneurial intention. Conversely, the affordability of agricultural inputs negatively affects students' entrepreneurial aspirations. Gender, age, parental occupation, and price stability were found to have no significant influence on intention formation. These findings underscore the importance of environmental exposure, market accessibility, and financial inclusion in shaping young people's motivation to pursue agribusiness careers.

From a theoretical perspective, this study extends the TPB framework by incorporating sector-specific and institutional variables relevant to agricultural entrepreneurship. The results confirm that perceived behavioral control—particularly through access to markets and financial resources—plays a decisive role in transforming intention into entrepreneurial readiness. This empirical evidence contributes to the growing body of literature linking vocational education and youth agripreneurship in developing economies.

From a practical standpoint, several recommendations emerge. First, vocational institutions should integrate entrepreneurship education with real agribusiness exposure, linking students to markets, cooperatives, and digital agricultural platforms. Second, policy makers should design financial schemes targeted at young agripreneurs, including microcredit programs, seed funding, and fintech-based loan mechanisms. Third, improving access to affordable agricultural inputs through cooperatives or local supplier partnerships could alleviate financial barriers that discourage youth participation. Finally, gender-sensitive support and mentorship programs should be maintained to ensure equitable participation across student demographics.

While this study offers significant insights, future research should adopt longitudinal and comparative approaches to explore how agripreneurial intentions evolve over time and across regions. Qualitative studies could complement quantitative findings by uncovering psychological and cultural factors influencing agripreneurial motivation. Moreover, cross-country analyses within Southeast Asia could reveal contextual variations and policy lessons for enhancing youth participation in agricultural entrepreneurship.

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References:

1. Abedi, B., Baradaran, M., Khosropour, B., Yazdanpanah, M., & Yaghobi, J. (2023). Understanding the entailment to establish the entrepreneurial university of agriculture and natural resources (Iranian higher education universities). *International Journal of Agricultural Science, Research and Technology in Extension and Education Systems*, 14(3), 131–143.
2. Agumagu, A. C., Ifeanyi-Obi, C. C., & Agu, C. (2017). Perception of agriculture students towards farming as a means of sustainable livelihood in Rivers State, Nigeria. In *Proceedings of the 22nd Annual Conference of the*

Agricultural Extension Society of Nigeria (pp. 108–116). University of Port Harcourt, Rivers State, Nigeria: Agricultural Extension Society of Nigeria. <https://doi.org/10.4314/jae.v22i1.12S>

3. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)

4. Aker, J. C. (2011). Dial “A” for agriculture: A review of information and communication technologies for agricultural extension in developing countries. *Agricultural Economics*, 42(6), 631–647. <https://doi.org/10.1111/j.1574-0862.2011.00545.x>

5. Anton, A. S., & Mansingh, J. P. (2025). Understanding agripreneurial intention and behaviour using the theory of planned behaviour: A meta-analytic review. *International Journal of Entrepreneurial Venturing*, 17(1), 1–26. <https://doi.org/10.1504/IJEV.2025.146884>

6. Anwar, I., Saleem, I., Islam, K. B., Thoudam, P., & Khan, R. (2020). Entrepreneurial intention among female university students: Examining the moderating role of entrepreneurial education. *Journal for International Business and Entrepreneurship Development*, 12(4), 217–234. <https://doi.org/10.1504/JIBED.2020.110254>

7. Arifin, B., Wicaksono, E., & Tenrini, R. H. (2021). Agricultural fintech and credit access in Indonesia. *Agricultural Finance Review*, 81(3), 345–362. <https://doi.org/10.1108/AFR-08-2020-0123>

8. Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40(4), 471–499. <https://doi.org/10.1348/014466601164939>

9. Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469–480. <https://doi.org/10.1037/0003-066X.55.5.469>

10. Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>

11. Barham, B. L., Chavas, J.-P., Fitz, D., & Schechter, L. (2018). The roles of risk and ambiguity in the persistence of family farms. *American Journal of Agricultural Economics*, 100(5), 1407–1429. <https://doi.org/10.1093/ajae/aay035>

12. Barsoum, G., Creane, S., & Goyal, R. (2021). Financial literacy and youth entrepreneurship in developing countries. *World Development*, 137, 105196. <https://doi.org/10.1016/j.worlddev.2020.105196>

13. Beck, T., & Demirgüç-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking and Finance*, 30(11), 2931–2943. <https://doi.org/10.1016/j.jbankfin.2006.05.009>

14. Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Greenwood Press.

15. BPS (Statistics Indonesia). (2018). Labor force situation in Indonesia, August 2018. Jakarta, Indonesia: BPS – Statistics Indonesia. Retrieved from <https://www.bps.go.id/publication/2018/11/07/99b5d7a9f3f93e0570d4972f/keadaan-angakatan-kerja-indonesia-agustus-2018.html>

16. Chiswell, H. (2014). Exploring the role of family farming legacies and rural upbringing in young people's engagement with agriculture. *Rural Sociology*, 79(2), 177–199. <https://doi.org/10.1111/ruso.12029>

17. Darnhofer, I., Lamine, C., Strauss, A., & Navarrete, M. (2016). The resilience of family farms: Towards a relational approach. *Journal of Rural Studies*, 44, 111–122. <https://doi.org/10.1016/j.jrurstud.2016.01.013>

18. Dinc, M. S., & Budic, S. (2016). The impact of personal attitude, subjective norm, and perceived behavioral control on entrepreneurial intentions of women. *Eurasian Journal of Business and Economics*, 9(17), 23–35. <https://doi.org/10.17015/ejbe.2016.017.02>

19. Directorate General of Vocational Education. (2022). Annual report on vocational education 2021. Jakarta: Ministry of Education and Culture. Retrieved from <https://psmk.kemdikbud.go.id>

20. Doss, C. R. (2006). Analyzing technology adoption using microstudies: Limitations, challenges, and opportunities for improvement. *Agricultural Economics*, 34(3), 207–219. <https://doi.org/10.1111/j.1574-0862.2006.00119.x>

21. Doss, C., Meinzen-Dick, R., Quisumbing, A., & Theis, S. (2018). Women in agriculture: Four myths. *Global Food Security*, 16, 69–74. <https://doi.org/10.1016/j.gfs.2017.10.001>

22. Erwin Kurniawan, A., Nurjanana, N., Imang, N., Busari, A., Purwanti, P., & Dharma, D. C. (2024). Uncovering the sustainability of agricultural cooperatives in East Kutai, Indonesia. *International Journal of Agricultural Science, Research and Technology in Extension and Education Systems*, 15(1), 57–74. Retrieved from <https://sanad.iau.ir/Journal/ijasrt/Article/1033805>

23. Falk, A., Becker, A., Dohmen, T., Huffman, D., & Sunde, U. (2018). Global evidence on economic preferences. *Quarterly Journal of Economics*, 133(4), 1645–1692. <https://doi.org/10.1093/qje/qjy013>

24. FAO. (2022). The state of food and agriculture 2022. Rome: Food and Agriculture Organization. <https://doi.org/10.4060/cb9479en>

25. Farrukh, M., Lee, J. W. C., Sajid, M., & Waheed, A. (2017). Entrepreneurial intentions: The role of personality traits in perspective of theory of planned behaviour. *Asia Pacific Journal of Innovation and Entrepreneurship*, 11(3), 308–317. <https://doi.org/10.1108/APJIE-01-2018-0004>
26. Filmer, D., & Fox, L. (2014). Youth employment in Sub-Saharan Africa. Washington, DC: World Bank. Retrieved from <https://doi.org/10.1596/978-1-4648-0107-5>
27. Fitz-Koch, S., Nordqvist, M., Carter, S., & Hunter, E. (2018). Entrepreneurship in the agricultural sector: A literature review and future research opportunities. *Entrepreneurship Theory and Practice*, 42(1), 129–166. <https://doi.org/10.1177/1042258717732958>
28. Food and Agriculture Organization of the United Nations (FAO). (2019). Youth and agriculture: Key challenges and concrete solutions. Rome: FAO. Retrieved from <https://www.fao.org/3/i5716e/i5716e.pdf>
29. Fuglie, K. O., & Toole, A. A. (2014). The evolving institutional structure of public and private agricultural research. *American Journal of Agricultural Economics*, 96(3), 862–883. <https://doi.org/10.1093/ajae/aau019>
30. Gelaidan, H. M., & Abdullateef, A. O. (2017). Entrepreneurial intentions of business students in Malaysia: The role of self-confidence, educational and relational support. *Journal of International Entrepreneurship*, 15(3), 258–279. <https://doi.org/10.1108/JSBED-06-2016-0078>
31. Glover, D., & Kusterer, K. (2016). Small farmers, big business: Contract farming and rural development. Palgrave Macmillan. <https://doi.org/10.1007/978-1-137-56182-2>
32. Greene, W. H. (2000). *Econometric analysis* (4th ed., pp. 811–856). New Jersey: Prentice Hall International, Inc.
33. Gujarati, D. (1999). *Essentials of econometrics* (2nd ed., pp. 449–451). Singapore: McGraw-Hill Book Co.
34. International Labour Organization (ILO). (2021). Global employment trends for youth 2020. Geneva: International Labour Organization. https://www.ilo.org/global/publications/books/WCMS_737648/lang--en/index.htm
35. Jayne, T. S., & Rashid, S. (2013). Input subsidy programs in sub-Saharan Africa: A synthesis of recent evidence. *Agricultural Economics*, 44(6), 547–562. <https://doi.org/10.1111/agec.12073>
36. Just, R. E., & Pope, R. D. (2003). Agricultural risk analysis: Adequacy of models, data, and issues. *American Journal of Agricultural Economics*, 85(5), 1249–1256. <https://doi.org/10.1111/j.0092-5853.2003.00534.x>
37. Kanchev, H. (2022). Entrepreneurial attitudes of students in agricultural universities in Bulgaria. *Bulgarian Journal of Agricultural Science*, 28(6), 1073–1077. <https://www.agrojournal.org/28/06-19.pdf>
38. Karlan, D., Ratan, A. L., & Zinman, J. (2014). Savings by and for the poor: A research review and agenda. *Review of Income and Wealth*, 60(1), 36–78. <https://doi.org/10.1111/roiw.12101>
39. Koleva, N., Georgiev, Y., & Teneva, D. (2023). Attitudes and motivation of young people towards agricultural occupations in Bulgaria. *Bulgarian Journal of Agricultural Science*, 29(1), 71–76. <https://www.agrojournal.org/29/01-08.pdf>
40. Kote, P., M, Y., Jabeen, A., Prabhavathi, S. J., Ramasamy, M., Dhanalakshmi, K., Chitra, K., & Malathi, G. (2024). A scoping review on youth participation in agriculture: Sustainable development, food security, and economic growth. *Journal of Scientific Research and Reports*. <https://doi.org/10.9734/jsrr/2024/v30i52012>
41. Krueger, N. F., Jr., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5–6), 411–432. [https://doi.org/10.1016/S0883-9026\(98\)00033-0](https://doi.org/10.1016/S0883-9026(98)00033-0)
42. Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79–122. <https://doi.org/10.1006/jvbe.1994.1027>
43. Liñán, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593–617. <https://doi.org/10.1111/j.1540-6520.2009.00318.x>
44. Mamino-Bayot, C. S., & Ortega-Dela Cruz, R. A. (2025). Functional competency of agriculture extension workers in the Philippines. *International Journal of Agricultural Science, Research and Technology in Extension and Education Systems*, 15(1), 11–20. <https://doi.org/10.71505/ijasrt.2025.1192667>
45. Mathew, S. K. (2015). A study on the attitude of youth towards entrepreneurs and entrepreneurship in Kerala (Doctoral dissertation, Mahatma Gandhi University, Kerala, India).
46. Ministry of Agriculture. (2018). Strategic plan 2015–2019 of the Agency for Agricultural Extension and Human Resources Development (3rd rev. ed.). Jakarta, Indonesia: Ministry of Agriculture of the Republic of Indonesia. http://perpustakaan.bappenas.go.id/lontar/file?file=digital/176705-%5B_Konten_%5D-Konten%20D511.pdf
47. Ministry of Education and Culture, Indonesia. (2023). Education statistics 2022/2023. Jakarta, Indonesia: MoEC. <https://pusdatin.kemdikbud.go.id/>

48. Mohammad, N., Shafie, N. I., Shafie, I. S. M., & Mohammad, M. (2023). Agripreneurial intention among young business graduates. *Information Management and Business Review*, 15(2), 35–43. [https://doi.org/10.22610/imbr.v15i2\(i\)si.3416](https://doi.org/10.22610/imbr.v15i2(i)si.3416)
49. Mortimer, J. T., Zimmer-Gembeck, M. J., Holmes, M., & Shanahan, M. J. (2002). The process of occupational decision making. *Journal of Vocational Behavior*, 61(3), 439–465. <https://doi.org/10.1006/jvbe.2002.1885>
50. Norton, G. W., Alwang, J., & Masters, W. A. (2021). *Economics of agricultural development: World food systems and resource use* (4th ed.). Routledge. <https://doi.org/10.4324/9781003174965>
51. Nugroho, A. D., Pravitasari, A. E., Rustiadi, E., Mulya, S. P., & Setiawan, Y. (2022). The impact of digital agriculture platform on Indonesian farmers' market access: A case study of eFishery. *Agricultural Systems*, 196, 103347. <https://doi.org/10.1016/j.agry.2021.103347>
52. Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.
53. Octaviani, R., Suryanto, S., & Kurniawan, R. (2021). Spatial inequality of agricultural market access in Indonesia: Implications for rural development policy. *Journal of Rural Studies*, 88, 446–455. <https://doi.org/10.1016/j.jrurstud.2021.07.020>
54. Oosterbeek, H., van Praag, M., & Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review*, 54(3), 442–454. <https://doi.org/10.1016/j.euroecorev.2009.08.002>
55. Peterman, N. E., & Kennedy, J. (2003). Enterprise education: Influencing students' perceptions of entrepreneurship. *Entrepreneurship Theory and Practice*, 28(2), 129–144. <https://doi.org/10.1046/j.1540-6520.2003.00035.x>
56. Pretty, J., Benton, T. G., Bharucha, Z. P., Dicks, L. V., Flora, C. B., Godfray, H. C. J., & Wratten, S. (2018). Global assessment of agricultural system redesign for sustainable intensification. *Nature Sustainability*, 1(8), 441–446. <https://doi.org/10.1038/s41893-018-0114-0>
57. Ragandhi, A., Hasnu, S., & Maryudi, A. (2021). Why do young women not enter agriculture? A qualitative examination from Indonesia. *Journal of Rural Studies*, 86, 246–253. <https://doi.org/10.1016/j.jrurstud.2021.05.023>
58. Rahmawati, R., Ashari, A., & Suryantini, A. (2022). Gender gaps in land ownership and agricultural credit access in Indonesia. *Agriculture and Human Values*, 39(1), 343–356. <https://doi.org/10.1007/s10460-021-10254-6>
59. Rigg, J., Phongsi, M., Promphakping, B., Salamanca, A., & Sripun, M. (2020). Who will tend the farm? Interrogating the ageing Asian farmer. *The Journal of Peasant Studies*, 47(2), 306–325. <https://doi.org/10.1080/03066150.2018.1534831>
60. Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
61. Sedina, A., Ihou, A. F. Y., Korem, A., & Mansingh, P. J. (2025). Digital transformation in the poultry industry: Assessing adoption through the UTAUT model and managerial profiles. *International Journal of Agricultural Science, Research and Technology in Extension and Education Systems*, 15(1), 1–10. <https://doi.org/10.71505/ijasrt.2025.1202476>
62. Shanahan, M. J. (2000). Pathways to adulthood in changing societies: Variability and mechanisms in life course perspective. *Annual Review of Sociology*, 26(1), 667–692. <https://doi.org/10.1146/annurev.soc.26.1.667>
63. Souitaris, V., Zerbini, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22(4), 566–591. <https://doi.org/10.1016/j.jbusvent.2006.05.002>
64. Stoyanova, Z., & Mitev, D. (2020). Possibilities for employment of young people in agriculture. *Bulgarian Journal of Agricultural Science*, 26(1), 200–205. <https://www.agrojournal.org/26/01-26.pdf>
65. Subhiksha, K., & Vennila, M. A. (2024). Empowering rural youth through entrepreneurship development: Tackling unemployment, migration, and catalyzing innovation. *International Journal of Agricultural Extension and Social Development*, 7(8), 103–110. <https://doi.org/10.33545/26180723.2024.v7.i8b.880>
66. Thephavanh, M., Philp, J., Nuberg, I., & Denton, M. (2023). Exploring demographic influences on perceptions of agricultural entrepreneurship as a career choice among Lao youth. *Development in Practice*, 1–14. <https://doi.org/10.1080/09614524.2023.2183831>
67. Valerio, A., Parton, B., & Robb, A. (2014). Entrepreneurship education and training programs around the world: Dimensions for success. World Bank. <https://doi.org/10.1596/978-1-4648-0202-7>
68. White, B. (2012). Agriculture and the generation problem: Rural youth, employment and the future of farming. *IDS Bulletin*, 43(6), 9–19. <https://doi.org/10.1111/j.1759-5436.2012.00358.x>
69. Widodo, W., Baswedan, A. R., Suyata, P., & Saputra, W. N. E. (2024). Entrepreneurship education in vocational schools: An Indonesian model. *International Journal of Evaluation and Research in Education*, 14(1), 373. <https://doi.org/10.11591/ijere.v14i1.32317>

70. World Bank. (2021). Indonesia economic prospects: Investing in human capital. World Bank Group. <https://doi.org/10.1596/978-1-4648-1729-5>
71. World Bank. (2023). Indonesia economic prospects, June 2023. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/39859>
72. Yamakawa, Y., Lynch, J., & Pan, R. (2021). Turning points in entrepreneurial persistence: The role of mentorship during career transitions. *Journal of Business Venturing*, 36(4), 106–127. <https://doi.org/10.1016/j.jbusvent.2021.106127>
73. Yami, M., Feleke, S., Abdoulaye, T., Alene, A. D., Bamba, Z., & Manyong, V. (2019). African rural youth engagement in agribusiness: Achievements, limitations, and lessons. *Sustainability*, 11(1), 185. <https://doi.org/10.3390/su11010185>