# **Entrepreneurship Education Needs of Agricultural Students**

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### **Abstract**

In preparing sustainable business and entrepreneurship education in agriculture, it is important to have an initial approach to students to determine what learning needs are needed. The purpose of this study was to obtain the needs of agricultural students for the entrepreneurship education they need in order to become entrepreneurs in agriculture after graduating from college. This research is qualitative in nature using an online survey of 44 agricultural students at a university, in the city of Bandung, Indonesia. Data analysis carried out was coding, data validation, and crosscase analysis. The results of the study indicate that entrepreneurial skills and the use of technology are the main concerns of agricultural students, as well as several other factors needed to support entrepreneurship education activities for agricultural students. The benefit of this research is that it helps universities to map out needs and also prepares curricula and experts that support these needs. Scientifically, this research develops knowledge in the field of entrepreneurship education in agriculture.

## **Keywords**

Entrepreneurship education, agricultural, entrepreneurial skill, students, entrepreneur

## 1. Introduction

The existence of the COVID-19 pandemic requires a movement to improve the economy (Popov et al. 2021). Nowadays distribution has changed, consumers are choosing products online and there is a demand for home distribution. This happened due to the COVID-19 pandemic, resulting in a change in the business landscape (Hobbs, 2020). One of the economic driving factors is the existence of entrepreneurship in the fields of agri-food, processing, trade, and others (Giourka, 2021). Much of the growth of agripreneurs is related to technology in various countries (Graff et al. 2019). The use of information technology in industry 4.0 can help increase the profits of agriculture companies, as well as increase sustainability (Ozdogan et al. 2017). Sustainable entrepreneurship is related to the commitment that the company will carry out well for future generations. These aspects include people, profit and planet (Crals and Vereeck, 2004).

Agropreneurship education can strengthen students' desire to become entrepreneurs. Efforts that need to be made are how to balance entrepreneurship education with skills in agriculture. Learning is also expected to provide a multidisciplinary experience, starting from the basic concepts of agriculture, management, to digital tools (Pehin Dato Musa et al. 2021). Entrepreneurship education plays a role in the development of entrepreneurial skills (Fayolle and Klandt, 2006). Entrepreneurship education is part of the entrepreneurial ecosystem that provides education and training (Regele and Neck, 2012). Universities can help stimulate innovation and open up new business opportunities (Kirby, 2002). The important thing to note is to measure the performance and activities of the programs carried out so that they have an impact and become room for further improvement (Gabriela et al. 2021).

The purpose of this study was to obtain the needs of agricultural students for the entrepreneurship education they need in order to become entrepreneurs in agriculture after graduating from college. It is hoped that the topics that are needed

by students can provide an overview for the university to provide supporting facilities. From previous research, it is seen the importance of entrepreneurship education in agriculture in order to give birth to new innovations.

### 2. Literature Review

Entrepreneurship at universities has a focus on community needs, not just research (Clark, 2004). Students can develop their business ideas from the resources provided to build and develop a business (Souitaris et al. 2007). The university has a positive influence on the success of the entrepreneurial ecosystem (Sambo, 2018). In making entrepreneurs active, it is necessary to increase activities in value creation to solve problems (St. Pierre and Foleu, 2015). Educational institutions are one of the most important things in the business development process from start to finish (Haines, 2016). The available business stages range from nascent entrepreneur to self-sustainability (Cukier et al. 2016). In developing a business and running business opportunities, it is necessary to develop more than internal competencies (D'Aveni et al. 2010).

Agripreneurs are entrepreneurs engaged in agriculture and similar sectors (Yoganandan et al. 2022). To increase the desire of young people to become agripreneurs, it is necessary to socialize about work processes and interesting things in the world of agriculture (Mkong et al, 2021). Some of the most important things in helping small-scale businesses are financial assistance, networking, management, and also helping them to understand the international market to open up opportunities. The exchange of information and knowledge will help those who work in the agribusiness sector (Magni et al. 2021). By providing access to entrepreneurial knowledge, training to improve skills, understanding management and access to various supporting resources can have an influence on entrepreneurial intention in agripreneurs (Bouichou et al 2021).

From the research conducted, good agripreneurs can see their potential to foreign markets, they see the potential for their products, learning about new technologies, to renewable innovations (Bairwa, 2014). There is a need to know the situation and risk conditions in agriculture (Pindado and Sanchez, 2017). Some things that need to be considered by the government in supporting agricultural entrepreneurship in rural areas are the assistance in terms of living costs and operational costs, because this affects the motivation of agripreneurs (Huang et al. 2022).

There is a need for technology that helps agri start-ups to develop the value chain that is currently being undertaken by farmers, starting from the purchase of materials to the selling process. This needs to be assisted by academics and public and private incubators (Srishailam, 2022). Digitalization can help the agricultural sector to develop, through collaboration and knowledge transfer (Mushtaq et al 2017). The influence of digitalization can be distributed to all aspects, from suppliers to final consumers (Quayson, 2020). The research shows the influence of those who study entrepreneurial technology on the business skills of students (Thursby et al. 2009).

## 3. Methodology

The research method used in this study uses a qualitative approach. The data is processed using qualitative data analysis. The coding process goes through two stages in order to get the themes. After that, the coding data is validated in order to obtain data in the form of numbers. After that, the process of cross-case analysis is carried out in order to provide an overview of the variables and themes.

## 4. Data Collection

This research is qualitative in nature using an online survey of 44 agricultural students at a university, in the city of Bandung, Indonesia. Data collection uses open-ended questions to get responses from students. Students who take part in this study have an age range of 18-43 years, with a variety of professions currently being undertaken.

## 5. Results and Discussion

Based on the data obtained, it can be clearly seen that there are several topics needed in entrepreneurship education for agripreneurs. From the Table 1 above, the topic that is most needed is an understanding of technology related to agriculture and increasing entrepreneurial skills. There are 6 categories of work currently undertaken by the study participants, namely, employee, entrepreneur, farmer, landscape architect, student and teacher. In addition, we can see that out of 44 participants, 41 people who want to continue to be entrepreneurs after graduating from college. In addition to the need for the latest technology in the world of agriculture, there is assistance to increase entrepreneurial intention. In the category of employee and entrepreneur, the need for entrepreneurship topics is more than other categories.

Table.1 Topics and Current Profession

Topics	Current Pro	fession	Being Entrepre Graduation	Total					
	Employee	Entrepreneur	Farmer	Landscape Architect	Student	Teacher	No	Yes	
Business Strategy	0	6,5%	20,0%	0	0	0	0	4,8%	4,5%
Management	0	6,5%	0	0	0	0	0	3,2%	3,0%
Human Resources	5,3%	3,2%	0	0	0	0	0	3,2%	3,0%
Network	5,3%	3,2%	0	0	0	50,0%	25,0%	3,2%	4,5%
Legal	5,3%	0	0	0	0	0	0	1,6%	1,5%
Entrepreneurial Intention	10,5%	6,5%	20,0%	0	0	0	0	7,9%	7,5%
Marketing	5,3%	6,5%	0	14,3%	0	0	25,0%	4,8%	6,0%
Product Quality	5,3%	6,5%	0	28,6%	0	0	25,0%	6,3%	7,5%
Entrepreneurial Skill	15,8%	16,1%	0	14,3%	25%	50,0%	25,0%	15,9%	16,4%
Data	0	3,2%	0	0	0	0	0	1,6%	1,5%
Innovative Supply Chain	0	6,5%	20,0%	0	0	0	0	4,8%	4,5%
Capital	5,3%	12,9%	0	0	0	0	0	7,9%	7,5%
Basic Knowledge	5,3%	9,7%	0	0	0	0	0	6,3%	6,0%
Technology	36,8%	12,9%	40,0%	42,9%	75,0%	0	0	28,6%	26,9%
SUM	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
N = Documents	16	17	3	4	1	1	3	41	176

Category topics are the most chosen by respondents from various professions. The following are some of the needs for technology from respondents, "Technology is increasingly advanced and provides new innovations, new developments and advancements in the industrial era 4.0. In addition, there are respondents who think about the need to keep abreast of developments in entrepreneurship education, "An important factor to become an agricultural entrepreneur using technology is that we must master the basic theory of agricultural technology, be diligent and disciplined." On the topic of entrepreneurial skills, one respondent said, "relationships, sensitivity to circumstances, knowledge of environmental advancements, knowledge in agriculture, and community needs."

Table.2 Topics and Age

Topics	Age												
	18	19	20	21	22	23	24	25	26	27	28	41	43
Business Strategy	0	0	14,3%	6,3%	0	0	0	0	0	0	0	0	0
Management	0	0	7,1%	0	0	0	0	0	0	0	50,0%	0	0
Human Resources	0	0	7,1%	6,3%	0	0	0	0	0	0	0	0	0
Network	0	0	7,1%	6,3%	0	0	14,3%	0	0	0	0	0	0
Legal	0	0	0	0	0	25,0%	0	0	0	0	0	0	0
Entrepreneuri al Intention	0	0	21,4%	6,3%	0	25,0%	0	0	0	0	0	0	0
Marketing	0	0	0	6,3%	22,2%	0	0	0	0	0	0	0	50,0%
Product Quality	0	0	0	0	22,2%	0	0	0	0	20,0%	0	100,0 %	50,0%
Entrepreneuri al Skill	100,0 %	33,3%	14,3%	18,8%	11,1%	0	14,3%	0	0	40,0%	0	0	0
Data	0	0	0	0	0	0	14,3%	0	0	0	0	0	0
Innovative Supply Chain	0	0	14,3%	0	0	0	14,3%	0	0	0	0	0	0
Capital	0	0	0	12,5%	0	25,0%	28,6%	0	0	0	0	0	0
Basic Knowledge	0	33,3%	0	6,3%	0	0	0	50,0%	0	20,0%	0	0	0
Technology	0	33,3%	14,3%	31,3%	44,4%	25,0%	14,3%	50,0%	100,0 %	20,0%	50,0%	0	0
SUM	100,0 0												

From Table 2, the distribution of age data ranges from 18-43 years. The analysis was conducted in order to understand the pattern of the influence of age on the topics needed in entrepreneurship education for agripreneurs. Just like the professional categories in the previous table, the main needs are technology and entrepreneurial skills. This distribution is spread over various age ranges. Interesting data is that from the age of respondents 41 and 43, there is a need for marketing and learning about product quality, which is contrary to the needs of respondents who are younger than them. This study supports the research of Pehin Dato Musa et al. (2021) regarding agropreneurism education can increase the intention of students to become entrepreneurs. Needs can be recorded and developed.

## 6. Conclusion

The conclusion of this study is that there is a diverse need for topics needed in entrepreneurship education for agripreneurs. The point of view of those who work in agriculture and are students in college campuses that focus on agriculture is very important. This research is useful for universities to make programs and curricula that can be adapted to the needs of prospective agripreneurs. This research also provides a new perspective on entrepreneurship education in the field of agripreneur. The limitation of this research is the deepening of research from other necessary supporting facilities. Further research is to prepare a curriculum based on the needs and availability of resources from the university.

#### References

Bairwa, S. L., Lakra, K., Kushwaha, S., Meena, L. K., & Kumar, P. Agripreneurship development as a tool to upliftment of agriculture. *International Journal of Scientific and Research Publications*, 4(3), 1–4. (2014).

Bouichou, E.H.; Abdoulaye, T.; Allali, K.; Bouayad, A.; Fadlaoui, A. Entrepreneurial Intention among Rural Youth in Moroccan Agricultural Cooperatives: The Future of Rural Entrepreneurship. Sustainability **2021**, 13, 9247. https://doi.org/10.3390/su13169247

Clark, R.B. "Delineating the character of the entrepreneurial university", Higher Education Policy, Vol. 17, pp. 355-370. (2004),

- Crals, E. & Vereeck, L. Sustainable entrepreneurship in SMEs. Theory and practice. Paper presented at 3rd Global Conference in Environmental Justice and Global Citizenship, Copenhagen, Denmark. February. (2004).
- Cukier, D., Kon, F. and Lyons, T.S. "Software start-up ecosystems evolution: the New York city case study", Proceedings of 2nd International Workshop on Software Start-ups, Trondheim, 2016, IEEE International Technology Management Conference. (2016),
- D'Aveni, R. A.; Dagnino, G. B.; Smith, K. G. The age of temporary advantage, *Strategic Management Journal* 31: 1371–1385. 2010. http://dx.doi.org/10.1002/smj.897
- Es, H. M., Woodard, J. D., Glos, M., Chiu, L. V., Dutta, T., & Ristow, A. Digital agriculture in New York, NY state: Report and recommendations, New York, NY: Cornell University. (2016).
- Fayolle, A. and Klandt, H. International Entrepreneurship Education: Issues and Newness, Edward Elgar Publishing, Cheltenham. (2006),
- Gabriela, G., Cerasela, S., Octavian, S., Marcela, S., Bunghez, C. Creating A Sustainable Entrepreneurial Ecosystem At Higher Education Institution Level. Economic Computation and Economic Cybernetics Studies and Research. 55. 265-280. 10.24818/18423264/55.2.21.16. (2021).
- Giourka, P.; Kilintzis, P.; Samara, E.; Avlogiaris, G.; Farmaki, P.; Bakouros, Y. A Business Acceleration Program Supporting Cross-Border Enterprises: A Comparative Study. J. Open Innov. Technol. Mark. Complex. 2021, 7, 152. https://doi.org/10.3390/joitmc7020152
- Graff, G. D., Silva, F. F., & Zilberman, D. Venture capital and the transformation of private R&D for agriculture and food. Economics of research and innovation in agriculture, Annual Meeting, July 21-23, Atlanta, Georgia 291190, Agricultural and Applied Economics Association. (2019).
- Haines, T.("Developing a start-up and innovation ecosystem in regional Australia", Technology Management Innovation Review, Vol. 6 No. 6, pp. 24-32. (2016),
- Hobbs, J. E. Food supply chains during the COVID-19 pandemic. *Canadian Journal of Agricultural Economics*, 68, 171–176. (2020). <a href="https://doi.org/10.1111/cjag.12237">https://doi.org/10.1111/cjag.12237</a>
- Huang, L.; Huang, Y.; Huang, R.; Xie, G.; Cai,W. Factors Influencing Returning Migrants' Entrepreneurship Intentions for Rural E-Commerce: An Empirical Investigation in China. Sustainability **2022**, 14, 3682. https://doi.org/10.3390/su14063682
- Kirby, D.A. "Creating entrepreneurial universities: a consideration", School of Management, Working Paper, University of Surrey. (2002),
- Magni, Domitilla & Chierici, Roberto & Fait, Monica & Lefebvre, Kelly. A network model approach to enhance knowledge sharing for internationalization readiness of SMEs. International Marketing Review. ahead-of-print. 10.1108/IMR-03-2021-0110. (2021).
- Mkong, C.; Abdoulaye, T.; Dontsop-Nguezet, P.; Bamba, Z.; Manyong, V.; Shu, G. Determinant of University Students' Choices and Preferences of Agricultural Sub-Sector Engagement in Cameroon. Sustainability **2021**, 13, 6564.
- Mushtaq, S.; Reardon-Smith, K.; Cli\_e, N.; Ostini, J.; Farley, H.; Doyle, J. Can Digital Discussion Support Tools Provide Cost-E\_ective Options for Agricultural Extension Services? Inf. Technol. Int. Dev. **2017**, 13, 52–68.
- Ozdogan, B., Gacar, A., & Aktas, H. Digital agriculture practices in the context of agriculture 4.0. Journal of Economics, Finance and Accounting (JEFA), 4(2), 184–191. (2017). http://doi.org/10.17261/Pressacademia.2017.448
- Pehin Dato Musa, Siti & Pg Hj Idris, Pg Dr Siti Rozaidah & Mohamed Haris, Nur Bahiah. Investigating Agropreneurial Intention among Students in Higher Learning Institution using the Theory of Planned Behaviour. Pertanika Journal of Social Science and Humanities. 29. 1151-1170. 10.47836/pjssh.29.2.22. (2021).
- Pindado, E., & Sánchez, M. Researching the entrepreneurial behaviour of new and existing ventures in European Agriculture. *Small Business Economics*, 49(2), 421–444. (2017).https://doi.org/10.1007/s11187-017-9837-y
- Popov, E., Dolghenko, R., Simonovai, V., and Chelaki, I. (2021). Analytical model of innovation ecosystem development. E3S Web of Conferences **250**, 01004 (2021) *TRESP 2021* <a href="https://doi.org/10.1051/e3sconf/2021250010041">https://doi.org/10.1051/e3sconf/2021250010041</a>
- Quayson, M.; Bai, C.; Osei, V. Digital Inclusion for Resilient Post-COVID-19 Supply Chains: Smallholder Farmer Perspectives. IEEE Eng. Manag. Rev. **2020**, 1.
- Regele, M.D.; Neck, H.M. The entrepreneurship education subecosystem in the United States: Opportunities to increase entrepreneurial activity. J. Bus. Entrep. **2012**, 23, 25–47.
- Sambo, W. "A conceptual study of an intrapreneurship ecosystem at South African universities", Problemy Zarzadzania-Management Issues, Vol. 16 No. 1, pp. 192-215. (2018),

- Souitaris, V., Zerbinati, S. and Al-Laham, A. "Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources", Journal of Business Venturing, Vol. 22 No. 4, pp. 566-591. (2007),
- Srishailam, B., Sailaja, V., Nikhitha, A. and Kiran, P. K. Promoting Start-Ups in Agriculture: An Innovative Approach for Transforming Agriculture to Agri-Business. *Vigyan Varta* 3(4): 73-81. 2022.
- St-Pierre, J. and Foleu, L. "SME development challenges in Cameroon: an entrepreneurial ecosystem perspective", Transnational Corporations Review, Vol. 7 No. 4, pp. 441-462. (2015),
- Thursby, M. C., Fuller, A. W., & Thursby, J. an integrated approach to educating professionals for careers in innovation. *Academy of Management Learning & Education*, 8(3), 389–405. (2009). https://doi.org/10.5465/amle.8.3.zgr389
- Yoganandan, G., Abdul Rahman A.A., Vasan, M. and Meero, A. Evaluating agripreneurs' satisfaction: exploring the effect of demographics and emporographics. *Journal of Innovation and Entrepreneurship* (2022) 11:2 (2022).https://doi.org/10.1186/s13731-022-00193-9

# **Biography**

**Puji Prabowo** is a creativepreneur lecturer, and also a sociopreneur who has been working for 10 years. He is also a coach for business incubator at Binus University. He is enthusiastic about the entrepreneurial ecosystem, entrepreneurial skills, innovation, creative ideas, and business development.

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