STRATEGIES TO BOOST AGRICULTURAL ENTREPRENEURSHIP PRODUCTIVITY THROUGH MAPPING PRIORITY ENTREPRENEURSHIP ECOSYSTEM ELEMENTS

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Abstract

The agricultural sector, although a key pillar of Bogor Regency's economy, contributes relatively less compared to other industries, largely due to limited entrepreneurial capabilities and an underdeveloped entrepreneurship ecosystem. This study aims to identify strategic priorities for enhancing agricultural entrepreneurship productivity through ecosystem strengthening. Using Importance-Performance Map Analysis (IPMA) on data collected from 110 agricultural entrepreneurs, the results indicate that while networking elements exhibit strong performance, several critical areas require strategic intervention. Specifically, promoting a research-driven entrepreneurial culture, expanding market access, empowering intermediary institutions, and reinforcing ecosystem leadership are essential. Strengthening these elements is expected to foster a more dynamic and sustainable entrepreneurial environment, ultimately accelerating the agricultural sector's transformation within the service-based economy.

Keywords: Demand, Entrepreneurial Culture, Intermediaries, Leadership, Networks.

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INTRODUCTION

The Agriculture, Forestry, and Fisheries sectors play a vital role in supporting the Gross Regional Domestic Product (GRDP) of Bogor Regency, which ranks among the highest in West Java Province. According to BPS Kab. Bogor (2023), the agricultural sector is classified as a key driver of the regional economy, contributing over 5% to the district's GRDP—a figure comparable to the agricultural sector's contribution at the provincial level, which stands at 8%. However, despite its central role, the agricultural sector's contribution remains lower compared to other leading sectors, and its growth rate is relatively sluggish (Hakim et al., 2022). Siregar and Sukwika (2007) further found that GRDP is a significant explanatory variable in determining the productivity levels of the agricultural sector in Bogor Regency, suggesting that the region is currently experiencing a productivity slowdown among agricultural business actors.

Several factors influence agricultural productivity, including human resources, urbanization levels, and the development of agricultural practices (Liu et al., 2020). In addition, Brodziński (2019) emphasizes the importance of entrepreneurial capacity, market access, and sustainable agricultural development. In the case of Bogor Regency, however, agricultural entrepreneurs face limitations in business capacity, and the entrepreneurial ecosystem remains underdeveloped. Research by Anwarudin et al. (2020) indicates that agribusiness capacity and activities, particularly among young farmers, are still at a low level. Similarly, Muharastri et al. (2015) reported low levels of personal character, entrepreneurial mindset, and business competence among dairy farmers in the region. Furthermore, the lack of a supportive entrepreneurial ecosystem—evident in limited assistance from government bodies, family, community, and markets—further hampers the development of agricultural entrepreneurship in Bogor Regency (Anwarudin et al., 2020).

Increasing the productivity of agricultural entrepreneurs is connected to the complexity of the roles and contributions of stakeholders so that the involvement of actors and factors in the business environment forms overlapping interests. Meanwhile, the recommended strategies are sometimes partial solutions to agricultural entrepreneurial productivity problems that represent conditions in certain regions. Even though the strategy is proposed holistically, more resources to strengthen all sectors are needed to overcome its realization.

This research uses a systems approach to finding strategic priorities for increasing agricultural entrepreneurial productivity through entrepreneurial ecosystems. So that the study of agricultural entrepreneurial productivity problems can be explained holistically, this was chosen considering that the entrepreneurial ecosystem is the fastest and most efficient strategy for responding to entrepreneurial challenges (Isenberg, 2011). This ecosystem involves close interactions between various attributes and actors, enabling entrepreneurs to exploit, develop, and succeed sustainably (Spigel, 2017).

The entrepreneurial ecosystem supports entrepreneurial activities, such as becoming potential entrepreneurs, start-ups, growth-oriented innovation companies, and large corporate entities (Brown & Mawson, 2019). The entrepreneurial ecosystem can also increase the growth of new business ventures or company entries (Szerb et al., 2019). The entrepreneurial ecosystem drives the creation of new products and business and market innovations (Acs et al., 2017). In the long term, new companies, start-ups, and growing businesses achieve sustainability in the entrepreneurial ecosystem.

Theoretically, productive entrepreneurship is also the output of an entrepreneurial ecosystem resulting from interactions between elements of the entrepreneurial ecosystem. Elements of the entrepreneurial ecosystem identified by Isenberg (2011) as many as six elements, including a conducive culture, supportive policies, leadership, availability of appropriate finance, quality human resources, product-friendly markets, and various institutional supports. Furthermore, these elements were constructed by Stam (2015) into the culture, leadership, talent, new knowledge, demand, finance, networks, infrastructures, intermediaries, and formal institutions, while Spigel (2017) divided them into cultural, social, and material.

The complexity of interactions among elements in the entrepreneurial ecosystem requires the development of specific, targeted strategies to improve agricultural entrepreneurship productivity in Bogor Regency. Conventional strategic analysis tools, such as SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis, have limitations because they tend to produce broad, descriptive outputs without clearly defining strategic priorities. Meanwhile, the Analytical Hierarchy Process (AHP), although capable of prioritization, often demands complex, multi-criteria structures that can be difficult to implement effectively in dynamic, resource-constrained entrepreneurial environments.

Given these considerations, this research adopts the Importance-Performance Map Analysis (IPMA) technique. Originally developed by Martilla and James (1977) to assess customer satisfaction in the automotive sector, IPMA has since been widely applied to strategic development by mapping attributes based on their perceived importance and actual performance (Ringle & Sarstedt, 2016). In the context of this study, IPMA offers a practical, focused approach to identifying priority areas for intervention within the agricultural entrepreneurial ecosystem. By linking importance (reflecting stakeholder needs and expectations) with performance (reflecting current conditions), this method enables policymakers and stakeholders to formulate more effective, evidence-based strategies to boost entrepreneurial productivity in Bogor Regency.

Therefore, this research aims to analyze the level of importance and performance of elements of the entrepreneurial ecosystem and provide priority strategies for stakeholders in Bogor Regency to implement in increasing the productivity of agricultural entrepreneurship. This research also contributes to developing Importance-Performance Map Analysis (IPMA), previously widely used to measure satisfaction levels and marketing strategies. This research analyzes the importance of elements of the entrepreneurial ecosystem, which have yet to be carried out in many studies related to priority performance. This research is a pioneering study that measures the level of importance and performance of entrepreneurial ecosystem elements associated with entrepreneurial productivity in the agricultural sector.

LITERATURE STUDY

Further analysis of the total effect of a model can be used for Importance-Performance Map Analysis (IPMA). Ringle and Sarstedt (2016) have extended the reporting of SEM-PLS results by adding a dimension that compares the average latent variable score (performance) with the total effect (importance). Consequently, both are mapped in a two-dimensional chart consisting of latent importance and performance information, which is then known as IPMA.

The initial IPMA was introduced by Martilla & James (1977) to generate insights into the priority indicator variables in achieving higher levels of the target latent variable. This concept was adopted in SEM-PLS by depicting the relationship of importance along the horizontal area and performance along the vertical area on a two-dimensional map (Figure 1). Each area is bisected by a perpendicular line to form four areas called quadrants.
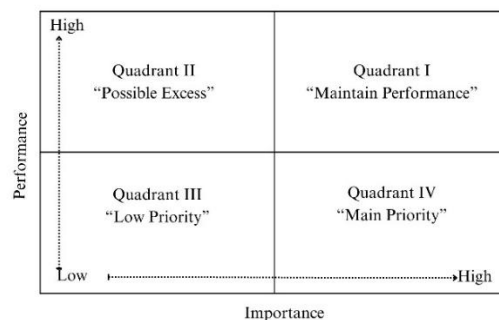
Source: Adopted and modified from Ringle and Sarstedt (2016)

Quadrant I describes a condition of high importance and performance, so this quadrant is interpreted as a quadrant of maintaining performance. Variables in this area represent opportunities to obtain or maintain superior target levels. Quadrant II conditions are described as low importance while performance is high. The interpretation of this quadrant is considered a possibility of excess because it is likely that resources are used too much to improve performance even though the level of importance is low. In Quadrant III, the variables in this quadrant are low priority with low importance and low-performance classifications. So, the priority quadrant of this analysis is in the Quadrant IV area. This quadrant indicates a high level of importance but low performance.

Mapping latent variables based on the value of importance and performance in encouraging increased productivity of agricultural entrepreneurship. Further interpretation can be used as variable indicators in developing recommendations for strategies to increase entrepreneurial productivity in Bogor Regency.

Priority Entrepreneurial Ecosystem Elements

Entrepreneurship development, based on Shane (2004), involves the influence of individual, environmental, and their combined factors. The entrepreneurial ecosystem integrates these dimensions, emphasizing that entrepreneurial decisions are embedded within local or regional contexts (Spigel, 2017; Stam, 2015). Although the theory is still evolving, ecosystems offer a valuable framework for understanding the sustainability of high-growth entrepreneurship.

Isenberg (2011) highlighted entrepreneurial ecosystems as an effective strategy for boosting productivity. Empirical studies show that key ecosystem drivers vary by context: Zivdar and Sanaeepour (2022) emphasized cultural factors in rural areas, while Autio et al. (2017) stressed infrastructure and education as catalysts for entrepreneurial growth. Spigel (2017) further identified networks and entrepreneurial culture as essential components.These findings indicate that ecosystem structures are not uniform and must be tailored to local conditions. In Bogor Regency, where agricultural entrepreneurs face constraints in business capacity and environmental support, identifying and prioritizing critical ecosystem elements is vital. This study aims to map priority attributes to formulate more effective strategies for enhancing agricultural entrepreneurship productivity.

RESEARCH METHODOLOGY

This research was carried out from September to November 2023 in Bogor Regency. The location was chosen purposively because Bogor Regency is one of the West Java regions that contributes the largest GDP. Apart from that, the agricultural sector's contribution to the regional economic structure is the largest compared to the largest GDP-contributing region in West Java.

Data collection was carried out directly, so the primary data was taken using quantitative criteria and sample selection using the cluster method. The data used in this research is cross-section data obtained by surveying agricultural entrepreneurs using a 1-5 Likert scale questionnaire. The data taken consists of the characteristics of respondents, such as gender, age, business subsector, and length of business. Meanwhile, data on entrepreneurial ecosystem elements and indicators are presented in Table 1.

Table 1.
Entrepreneurial Ecosystem Elements and Indicators

Entrepreneurial Ecosystem Elements	Code	Indicator Variables	Reference
Talent	TAL001	Availability of freelance labor	(Khuong & Van, 2022)
Network	NET001	Innovation Collaboration Engagement	(Leendertse et al., 2022)
	NET002	Business partner network	(Lubis et al., 2023)
	NET003	Investor connectivity	(Lubis et al., 2023)
Demand	DMD001	Domestic market: Large companies	(Khuong & Van, 2022)
	DMD004	International market	(Khuong & Van, 2022)
Finance	FIN002	Ease of accessing loans	(Frimanslund, 2022);(Lubis et al., 2023)
	FIN003	Approved credit application	(ANDE, 2013)
Culture	CUL003	Research culture	(Khuong & Van, 2022)
	CUL004	Success story/role model	(Khuong & Van, 2022)
Leadership	LED001	Innovation project leadership	(Leendertse et al., 2022)
	LED002	Ecosystem leadership	(Lubis et al., 2023)
Formal Institutions	INS001	Business friendly policy	(Khuong & Van, 2022)
	INS003	Quality of government	(Leendertse et al., 2022)
Infrastructures	PHS001	Road access/transportation	(Leendertse et al., 2022)
	PHS002	Internet access	(Leendertse et al., 2022)
Intermediaries	IMS003	Professional service	(Khuong & Van, 2022)
	IMS004	Mentor/companion	(Leendertse et al., 2022)
New Knowledge	NEK001	Research investment	(Leendertse et al., 2022)

The data analysis technique this research applies is Importance-Performance Map Analysis (IPMA). The IPMA method evaluates the elements that form the entrepreneurial ecosystem. This analysis was developed further to measure the level of performance-importance at the indicator variable level so that priorities for actions that need to be taken to increase the productivity of agricultural entrepreneurship are obtained inclusively based on the analysis results. Then, these results constitute a management strategy to determine elements and actions that require strengthening or improving performance.

It describes the research design as comprised of methods, techniques in collecting data, techniques of data analysis, and variables measurement, which are written in paragraphs, not numbering. The study's technical information is presented clearly. Therefore, readers can conduct research based on the techniques presented. Materials and equipment specifications are necessary. Approaches or procedures of study, together with data analysis methods, must be presented.

RESULT AND DISCUSSION

This research draws responses from several respondents surveyed in data collection and obtains insight into the perspective of the entrepreneurial ecosystem in the agricultural sector. A description of the respondents

used in this research is presented in Table 2. Based on this data, agricultural entrepreneurs who are respondents are generally men, reaching 90%, while only 10% are women. The businesses carried out are mainly in the fisheries and horticulture subsectors. Agricultural business actors are dominated by productive age. The business has been running for around 5 – 10 years. This experience is almost equivalent to the time it takes to achieve higher education. The comparison allows agricultural business actors in Bogor Regency to be competent enough to understand the agricultural sector more deeply.

Characteristics of Agricultural Entrepreneurs	Description	Frequency (Person)	Percentage (%)
Gender	Man	99	90.00
	Woman	11	10.00
Age	16 – 30	18	16.36
	31 – 45	43	39.09
	46 – 60	34	30.91
	>60	15	13.64
Business Subsector	Food	12	10.91
	Fishery	37	33.64
	Farm	27	24.55
	Horticulture	34	30.91
Length of business	1-4 Years	28	25.45
	5 -10 Years	31	28.18
	>10 Years	51	46.36

Table 2.
Characteristics of Agricultural Business Actors

The total effect of the elements of the entrepreneurial ecosystem on agricultural entrepreneurship productivity was rated as having varying degrees of importance. The highest level of importance in the ecosystem elements category is intermediaries and leadership, which are the elements that have the highest level of importance compared to other elements in driving entrepreneurial productivity (Table 3). Both elements have close values of 0.10 for intermediaries and 0.09 for leadership. Other values of high importance include culture, demand, and networks. The importance value of these elements is at the exact value of 0.08.

Elements	Importance	Performance
Culture	0.08	44.17
Demand	0.08	36.88
Finance	0.01	61.51
Formal Institutions	0.04	43.39
Infrastructures	0.04	57.20
Intermediaries	0.10	43.89
Leadership	0.09	40.08
Networks	0.08	45.27
New Knowledge	0.05	36.82
Talent	0.03	40.00

Table 3.
Characteristics of Agricultural Business Actors

Another case with the finance element is considered very unimportant in stimulating productive entrepreneurship. The importance value of the element is at a score of 0.01. In contrast, other elements are considered at a medium level in encouraging the productivity of agricultural entrepreneurs. Although these elements have a small value, the performance shown is better because it is above average except for new knowledge, which has the lowest performance. Meanwhile, finance performs the highest compared to other elements in terms of its performance score. The performance of finance can achieve a score of 61.51% towards the productivity of agricultural entrepreneurship in Bogor Regency.
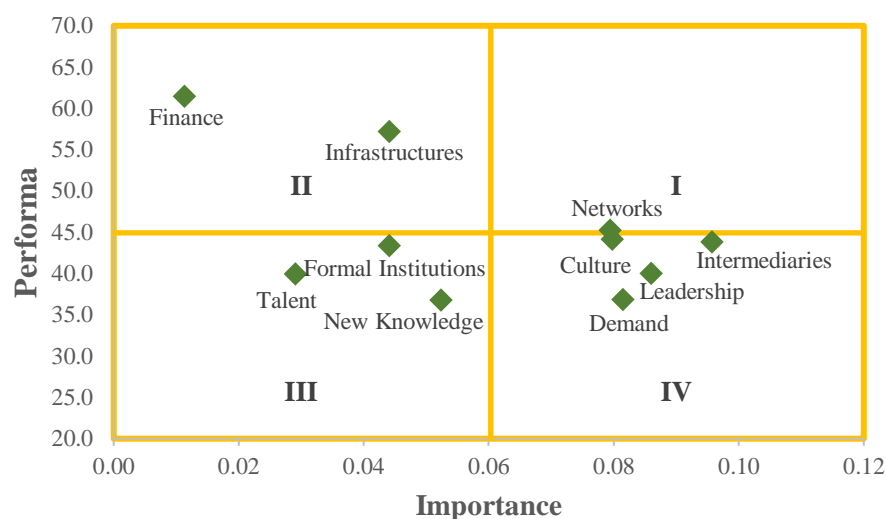
The importance and performance parameters show different results in this study, so even though the level of importance is high, it may have a low performance and vice versa. In each importance-performance map, the analysis concentrated on the bottom right area to enhance improvement because the items plotted in that area have a high level of importance with a high level of importance with low performance. Concentrating constructive actions on these areas will yield maximum results (Ringle & Sarstedt, 2016).

The overall clustering of the importance and performance values of each latent variable for entrepreneurial productivity improvement is presented in Figure 2. The importance-performance mapping is distributed across four quadrants with a concentration in Quadrant IV. The quadrant is filled by almost 50% of

latent variables. This result shows the dominance of latent variables prioritized to improve their performance.

Figure 2.
Mapping Priority
Elements

The network element is in quadrant I, so networks are elements whose performance must be maintained to support the entrepreneurial ecosystem. Connections between agricultural entrepreneurs, communities, and investors must be maintained. Maintaining these strong relationships will ensure synergism in supporting the growth and sustainability of agricultural businesses. Harmonious collaboration between these parties will also help share resources, knowledge, and opportunities so that the entrepreneurial ecosystem can develop more optimally and be highly competitive.

Meanwhile, overperformance occurs in the finance and infrastructure elements. That is because the performance of these elements is good, but their importance in increasing entrepreneurial productivity still needs to be considered more critically by agricultural entrepreneurs. So, finance and infrastructure are in quadrant II.

Sources of funding and information to gain access to finance for agricultural entrepreneurs are numerous and easy to obtain. However, considering guarantees and the suitability of the amount approved with what is needed is only partially relevant to the needs for business development. Likewise, infrastructure, good quality roads, and the internet must be sufficiently utilized to support the distribution process of agricultural products or increase productive business activities.

The elements of talent, formal institutions, and new knowledge are in Quadrant III, which shows that these elements are in a low-priority position to be developed. Both in performance and performance, these elements are of low value. This quadrant is reflected in the quality of human resources in Bogor Regency, which has an education level at the middle level, which argues that a career in the agricultural sector is not the primary choice.

Thus, agricultural entrepreneurs can invest in something other than the development of innovations and knowledge. Meanwhile, there still needs to be more access to business development information at formal institutions.

In contrast, elements of the entrepreneurial ecosystem, such as leadership, culture, intermediaries, and demand, are prioritized for performance improvement to encourage entrepreneurial productivity. This priority is because these elements are in quadrant IV, which indicates a high level of importance but low performance. Addressing the weakest elements of the entrepreneurial ecosystem is likely to provide the most efficient and effective way to improve the overall quality of the entrepreneurial ecosystem (Acs et al., 2014).

The results of the analysis using IPMA confirm that the strategy to increase the productivity of agricultural entrepreneurship in Bogor Regency can be done by strengthening and improving the quality of the entrepreneurial ecosystem. Strengthening the entrepreneurial ecosystem is done partially by improving the performance of priority elements such as leadership, culture, intermediaries, and demand.

This research tries to analyze more deeply for concrete strategies that need to be carried out by stakeholders based on the results of the IPMA, so the indicators of the entrepreneurial ecosystem elements built in the research model are described according to the quadrant they occupy (Table 4). Thus, the description becomes the basis fot preparing

strategies to strengthen the entrepreneurial ecosystem and increase entrepreneurial productivity in Bogor Regency.

Quadran	Strategies	Action Plans
I	Maintaining Performance	• (NET002) Maintaining an established network of business partners among agricultural entrepreneurship actors; • (NET001) Maintain innovation collaboration; • (NET003) Maintain relationships with investors.
II	Possible Excess	• (FIN002) Ensure ease of access to loans • (FIN003) Evaluate the amount of credit approved; • (PHS001) Monitoring and evaluating the use of road access/transportation in the distribution of agricultural products; • (PHS002) Streamline the use of internet access.
III	Low Priority	• (NEK001) Undermining research investments made by agricultural entrepreneurs; • (TAL001) Reduce the availability of casual labor; • (INS001) Ensure that policies are friendly to agricultural enterprises; • (INS003) Complete activities to improve the quality of formal institutions.
IV	Main Priority	• (CUL003) Internalize research culture; • (CUL004) Motivate the community with success stories/role models; • (LED001) Increase the number of entrepreneurs involved in innovation projects; • (LED002) Foster ecosystem leadership regeneration; • (DMD001) Connect market access to large companies (B to B); • (DMD004) Expansion of international market access; • (IMS002) Enhanced role of business incubators; • (IMS004) Optimization of the role of business mentors/companions; • (IMS003) Increased role of professionals in agricultural entrepreneurship development.

Table 4. Strategies and Action Plans

Referring to the conceptual approach of Ringle and Sarstedt (2016), based on this mapping, a strategy for increasing the productivity of agricultural enterprises in Bogor District can be developed with a focus on quantum IV or high-priority strategies. However, other strategies can be considered when implementing the strategy for relevant stakeholders.

Maintaining the network of business partners that have been formed between agricultural entrepreneurship actors (NET002), maintaining investment (NET003), and involving stakeholders in innovation collaboration (NET001) is a strategy that can be carried out for strategies to maintain the performance of entrepreneurial ecosystem elements in Quadrant I. This network is maintained because the connection between demand and leadership elements is vital, so the marketing and innovation network that has been formed only needs to be maintained.

Meanwhile, based on the formulation of strategies in Quadrant II, there is a possible excess use of resources, so there needs to be a diversion of resources used to improve infrastructure and access to finance. This action can be seen from the number of roads in good condition and the increasing number of communication towers. Re-monitoring related to the urgency of infrastructure development, such as road access/transportation (PHS001) and the effectiveness of internet access (PHS002), is needed to support the productivity of agricultural entrepreneurship. Meanwhile, the Bogor District Government's accountability performance assessment results have been rated good.

Likewise, with access to finance for agricultural entrepreneurs in Bogor District, the ease of accessing loans (FIN002) and the amount of credit approved (FIN003) need to be reconsidered for their importance in increasing entrepreneurial productivity. Collateral and amount approved have the highest performance scores, but agricultural entrepreneurs need to consider them more essential because many alternative sources of finance can be accessed.

On the other hand, stakeholders need to override research investments made by agricultural entrepreneurs (NEK001), reduce the availability of casual labor (TAL001), evaluate the need for and implementation of friendly policymaking (INS001), and complete efforts to improve the quality image of government (INS003). Although agricultural entrepreneurs are not currently stimulated to set aside their business budgets for investment, the availability of labor in Bogor District is considerable. The policies that have been formulated make it easier to start a business, so the image of government institutions is considered good. Therefore, this quadrant strategy is a low priority for implementation.

Conversely, indicators in Quadrant IV are a high priority for improving performance. Strategies need to be carried out to increase entrepreneurial productivity by improving the performance of entrepreneurial culture, the role of leadership, the role of intermediary stakeholders, and expanding market access. Stakeholders must focus on cultivating entrepreneurial activities such as research (CUL003) and motivating people with success stories/role models (CUL004). Regarding research by agricultural entrepreneurs, entrepreneurial culture still needs to be improved, but it is motivated by successful entrepreneurs. Agricultural entrepreneurs primarily receive existing knowledge, not from the experiments' results.

Prioritizing the role of stakeholders and entrepreneurship support institutions such as business incubators (IMS002), mentors/companions (IMS004), and professional services (IMS003) to stimulate innovative agricultural entrepreneurs. Meanwhile, the involvement of entrepreneurs in leading innovation projects (LED001) and ecosystem leadership (LED002) also needs to be a priority for performance improvement. This performance coordinates the roles of intermediary institutions and agricultural entrepreneurs in Bogor District.

This high priority is in line with the findings of Sitorus et al. (2023) in their study of business incubators in Bogor Regency, which states that the main weakness of the incubator is the lack of external mentors or assistants while the potential for developing a vast open international network is the foremost opportunity with the obstacle of regulatory/policy changes that limit the incubator. Meanwhile, the role of other intermediaries, namely government field assistants, as shown by Wardani & Anwarudin (2018), although these actors affect the strengthening and independence of farmer groups, they have yet to be able to regenerate farmers as independent field assistants do. This is because self-help field assistants in Bogor District have a high classification in the roles of facilitator, marketing partner, motivator, environmental analyzer, and companion (Haryanto et al., 2017).

Furthermore, another priority strategy is expanding market access, such as agricultural entrepreneurship actors, which can also be facilitated towards domestic market access to companies with business-to-business schemes (DMD001) and international market access (DMD004) in terms of market expansion. Such market expansion is because direct consumers have continuously become customers with good purchasing power. In addition to being a top priority, market access is also central to the entrepreneurial ecosystem network, so this strategy is fundamental to the concentration on increasing the productivity of agricultural entrepreneurship in Bogor District.

CONSLUSION

This research recommends that increasing the productivity of agricultural entrepreneurship in Bogor Regency can be achieved by strengthening key entrepreneurial ecosystem elements, particularly leadership, culture, intermediaries, and demand. These elements collectively foster a more supportive environment that indirectly drives productivity improvements. The priority strategies identified include promoting innovation, enhancing business capabilities, and encouraging the internationalization of agricultural enterprises, aligning with the need to build a more dynamic and competitive ecosystem.

However, given that entrepreneurial ecosystems evolve over time, the findings based on cross-sectional data present a limitation. Longitudinal studies are necessary to capture the dynamic changes within the ecosystem and validate the long-term effectiveness of the recommended strategies.

Future research should explore comparative evaluations of strategic analysis tools beyond IPMA, to assess their suitability in different entrepreneurial contexts. Additionally, expanding the analysis to other industries and regions would provide valuable insights into how ecosystem structures and priorities vary across sectors. This study thus opens new avenues for refining entrepreneurship development strategies through more context-specific ecosystem mapping and analysis.

REFERENCES

Acs, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. Research Policy, 43(3), 476–494. https://doi.org/10.1016/j.respol.2013.08.016

Acs, Z. J., Stam, E., Audretsch, D. B., & O'Connor, A. (2017). The lineages of the entrepreneurial ecosystem approach. Small Business Economics, 49(1), 1–10. https://doi.org/10.1007/s11187-017-9864-8

ANDE. (2013). Entrepreneurial Ecosystem Diagnostic Toolkit. Aspen Network of Development Entrepreneurs.

Anwarudin, O., Sumardjo, S., Satria, A., & Fatchiya, A. (2020). The entrepreneurial capacity of young farmers on agribusiness activities in West Java. Jurnal Penyuluhan, 16(2), 267–276. https://doi.org/10.25015/16202031039

BPS Kab. Bogor. (2023). Produk Domestik Regional Bruto Kabupaten Bogor Menurut Lapangan Usaha 2018-2022. BPS Kab. Bogor.

Brodziński, Z. (2019). Entrepreneurship of agricultural producers – Determinants of development. In Annals of the Polish Association of Agricultural and Agribusiness Economists: Vol. XXI (Nomor 3, hal. 21–29). https://doi.org/10.5604/01.3001.0013.3544

Brown, R., & Mawson, S. (2019). Entrepreneurial ecosystems and public policy in action: A critique of the latest industrial policy blockbuster. Cambridge Journal of Regions, Economy and Society, 12(3), 347–368. https://doi.org/10.1093/cjres/rsz011:

Frimanslund, T. (2022). Financial entrepreneurial ecosystems: An analysis of urban and rural regions of Norway. International Journal of Global Business and Competitiveness, 17(1), 24–39. https://doi.org/10.1007/s42943-022-00050-2

Hakim, D. B., Hadianto, A., & Panjaitan, D. V. (2022). Analisis komponen pertumbuhan ekonomi Kabupaten Bogor periode 2016-2019. Bina: Jurnal Pembangunan Daerah, 1(1), 66–82. https://doi.org/10.62389/bina.v1i1.8

Haryanto, Y., Sumardjo, Aminah, S., & Tjitropranoto, P. (2017). Efektivitas peran penyuluh swadaya dalam pemberdayaan petani di Provinsi Jawa Barat. Jurnal Pengkajian dan Pengembangan Teknologi Pertanian, 20(2), 141–154.

Isenberg, D. J. (2011). The entrepreneurship ecosystem strategy as a new paradigm for economic policy: Principles for cultivating entrepreneurships. In The Babsos Entrepreneurship Ecosystem Project (Vol. 1, Nomor 781). Babson Global.

Khuong, M. N., & Van, N. T. (2022). The influence of entrepreneurial ecosystems on entrepreneurs' perceptions and business success. Gadjah Mada International Journal of Business, 24(2), 198–222. https://doi.org/10.22146/gamaijb.67416

Leendertse, J., Schrijvers, M., & Stam, E. (2022). Measure twice, cut once: Entrepreneurial ecosystem metrics. Research Policy, 51(9), 1–27. https://doi.org/10.1016/j.respol.2021.104336

Liu, J., Wang, M., Yang, L., Rahman, S., & Sriboonchitta, S. (2020). Agricultural productivity growth and its determinants in south and southeast Asian countries. Sustainability (Switzerland), 12(12). https://doi.org/10.3390/su12124981

Lubis, A. S., Wijaya, C., & Sakapurnama, E. (2023). Analysis of entrepreneurial ecosystem factors on productive entrepreneurship of digital start-ups in Indonesia. International Journal of Business Ecosystem & Strategy (2687-2293), 5(3), 11–21. https://doi.org/10.36096/ijbes.v5i3.439

Martilla, J. A., & James, J. C. (1977). Importance performance analysis. Journal of Marketing, 41(1), 77–79.

Muharastri, Y., Pambudy, R., & Priatna, W. B. (2015). Hubungan karakteristik wirausaha dengan kompetensi. Jsep, 8(1), 25–36.

Ringle, C. M., & Sarstedt, M. (2016). Gain more insight from your PLS-SEM results: the importance-performance map analysis. Industrial Management & Data Systems, 116(9), 1865–1886. https://doi.org/10.1108/imds-10-2015-0449

Shane, S. (2004). Chapter I: Introduction. In A General Theory of Entrepreneurship (hal. 352). Edward Elgar Publishing. https://doi.org/10.4337/9781781007990.00008

Siregar, H., & Tatan, S. (2007). Faktor-faktor yang mempengaruhi kinerja pasar tenaga kerja dan implikasi kebijakannya. SOCA: Socioeconomics of Agriculture and Agribusiness, March 2017, 1–22.

Sitorus, G. F., Machfud, M., & Anggraeni, E. (2023). Strategi pengembangan inkubator bisnis dalam pendampingan bisnis Usaha Mikro, Kecil, dan Menengah (UMKM). Jurnal Aplikasi Bisnis dan Manajemen, 9(3), 987–997. https://doi.org/10.17358/jabm.9.3.987

Spigel, B. (2017). The relational organization of entrepreneurial ecosystems. Entrepreneurship: Theory and Practice, 41(1), 49–72. https://doi.org/10.1111/etap.12167

Stam, E. (2015). Entrepreneurial ecosystems and regional policy: A sympathetic critique. European Planning Studies, 23(9), 1759–1769. https://doi.org/10.1080/09654313.2015.1061484

Szerb, L., Lafuente, E., Horváth, K., & Páger, B. (2019). The relevance of quantity and quality entrepreneurship for regional performance: the moderating role of the entrepreneurial ecosystem. Regional Studies, 53(9), 1308–1320. https://doi.org/10.1080/00343404.2018.1510481

Wardani, W., & Anwarudin, O. (2018). Peran penyuluh terhadap penguatan kelompok tani dan regenerasi petani di Kabupaten Bogor Jawa Barat. Journal TABARO Agriculture Science, 2(1), 191. https://doi.org/10.35914/tabaro.v2i1.113:

Zivdar, M., & Sanaeepour, H. (2022). Dimensions and strategies of sustainable rural entrepreneurship ecosystem: An explorative-mixed research study. Qualitative Report, 21(3), 626–647. https://doi.org/10.46743/2160-3715/2022.507