

# Exploration and Exploitation Strategy for Innovation and Competitive Advantage of Companies

*Innovation and  
Competitive Advantage  
in the Orchid Industry*

Haikal Muhammad Hikam  
Universitas Brawijaya; Malang, Indonesia  
E-mail: haikalmhikam901@gmail.com

Rofiaty  
Universitas Brawijaya; Malang, Indonesia  
Email: haikalmhikam901@gmail.com

Christin Susilowati  
Universitas Brawijaya; Malang, Indonesia  
Email: haikalmhikam901@gmail.com

**4475**

---

Submitted:  
AUGUST 2025

Accepted:  
DECEMBER 2025

## **ABSTRACT**

*This study aimed to analyze the exploration and exploitation strategies implemented by one of the largest orchid producers in East Java. The research method employed a qualitative approach using a case study, with data collection techniques including in-depth interviews, observation, and documentation. The data were analyzed using qualitative descriptive techniques through data reduction, presentation, and systematic conclusion drawing based on field findings. The results show that the company's exploration strategies in the internal aspect include inclusivity, adaptive culture, digital-based financial management, product and process innovation, as well as the implementation of information systems, while external exploration focuses on value and new market creation, empowerment of plasma farmers, differentiation, and the adoption of new technologies. Meanwhile, internal exploitation strategies involve transparency, strengthened control, employee competency improvement, product and process development, and enhancement of information quality, whereas external exploitation is carried out through value and market improvement, collaboration with plasma farmers, product modification, and optimization of existing technologies. In conclusion, the consistent combination of exploration and exploitation strategies strengthens the company's competitive position while ensuring the business sustainability in the dynamic orchid industry.*

**Keywords:** *Competitive Advantage, Exploration Strategy, Exploitation Strategy, Orchid Industry.*

## **ABSTRAK**

*Penelitian ini bertujuan untuk menganalisis strategi eksplorasi dan eksploitasi yang diterapkan oleh salah satu produsen anggrek terbesar di Jawa Timur. Metode penelitian yang digunakan adalah pendekatan kualitatif dengan studi kasus, dengan teknik pengumpulan data meliputi wawancara mendalam, observasi, dan dokumentasi. Data dianalisis menggunakan teknik deskriptif kualitatif melalui reduksi data, penyajian, dan penarikan kesimpulan sistematis berdasarkan temuan lapangan. Hasil penelitian menunjukkan bahwa strategi eksplorasi perusahaan pada aspek internal meliputi inklusivitas, budaya adaptif, pengelolaan keuangan berbasis digital, inovasi produk dan proses, serta implementasi sistem informasi, sedangkan eksplorasi eksternal berfokus pada penciptaan nilai dan pasar baru, pemberdayaan petani plasma, diferensiasi, dan adopsi teknologi baru. Sementara itu, strategi eksploitasi internal meliputi transparansi, penguatan kontrol, peningkatan kompetensi karyawan, pengembangan produk dan proses, serta peningkatan kualitas informasi, sedangkan eksploitasi eksternal dilakukan melalui peningkatan nilai dan pasar, kolaborasi dengan petani plasma, modifikasi produk, dan optimalisasi*

**JIMKES**

Jurnal Ilmiah Manajemen  
Kesatuan  
Vol. 13 No. 6, 2025  
pp. xx-xxx  
IBI Kesatuan  
ISSN 2337 – 786X  
E-ISSN 2721 – 169X  
DOI: 10.37641/jimkes.v11i2.1750

## INTRODUCTION

The agricultural sector plays a vital role in Indonesia's national economy, contributing to food provision, industrial raw materials, employment creation, poverty reduction, and foreign exchange earnings (Khairiyakh & Mulyo, 2015; Junaidi & Jannah, 2020). As an agrarian country, Indonesia demonstrates the strategic importance of this sector, which contributed 13.22% to the national Gross Domestic Product (GDP) in 2021, absorbed around 35% of the workforce, and generated export revenues of approximately USD 35 billion in 2022 (Bank Indonesia, 2023). Among its various subsectors, horticulture stands out as one of the fastest-growing, particularly ornamental plants, driven by rising demands for aesthetics, lifestyle preferences, and economic diversification (Marbun & Nasution, 2019).

Within the horticultural sector, orchids hold a unique and prestigious position due to their exceptional beauty, wide variety, and high economic value (Hani et al., 2014; Fadilla et al., 2023). Indonesia is home to approximately 5,000 orchid species out of 30,000 known flowering plant species worldwide, positioning it among the countries with the richest biodiversity (Ferecatu & De Bruyn, 2022). Orchids are not only cherished by collectors and hobbyists but are also widely used for decorative purposes in offices, hotels, event halls, and official ceremonies, owing to their distinctive shapes and vibrant colors (Anggraeni, 2022). Despite steady productivity growth averaging 8.28% annually between 1997 and 2019, orchid imports have risen sharply by 138.71% per year during 2015–2019, revealing a gap between domestic production capacity and market demand (Pusat Data dan Sistem Pertanian, 2020).

East Java is recognized as Indonesia's largest orchid-producing region, with major contributions from Batu City, Malang Regency, Pasuruan, and Mojokerto. In particular, Batu and Malang possess favorable climatic conditions and strong tourism potential that support orchid cultivation. The integration between tourism and horticulture is evident in the presence of orchid-based attractions such as Arjuno Park and Orchid Village, as well as national and international orchid exhibitions (Andri & Tumbuan, 2015; Artanti, 2022; Rofiaty et al., 2022). PT Java Indo Arjuna, known as Javina, exemplifies this integration through its engagement in orchid breeding, cultivation, trading, tourism, and education. Its main site, Taman Arjuna, located in Kreweh Hamlet, Gunungrejo Village, Singosari District, Malang Regency, spans about 4,100 m<sup>2</sup> and includes facilities such as administrative offices, a sales pavilion, research laboratories, and greenhouses. Javina also operates supporting sites on Jalan Tumapel Barat and Jalan Wijaya, serving as centers for orchid breeding, pollination, and plant enlargement.

However, despite promising opportunities, the orchid industry faces several pressing challenges. Increasing business competition has emerged as more small and medium-scale producers enter the market, with at least 98 orchid businesses identified across Malang Raya. Moreover, shifting consumer preferences require constant innovation through the development of new and unique orchid varieties to prevent market saturation (Sinulingga, 2006; Restanto et al., 2023). Environmental factors further threaten the industry's sustainability. As orchids are highly sensitive plants, climate change and global warming have reduced their reproductive success and endangered wild populations (Kolanowska et al., 2021a; Kolanowska et al., 2021b). These challenges necessitate adaptive strategies that balance innovation and operational efficiency to ensure the industry's long-term resilience.

In the strategic management perspective, this situation aligns with the well-known dilemma of exploration and exploitation (March, 1991; Zakrzewska-Bielawska, 2021).

Exploration involves seeking new opportunities, developing innovative products, and creating new knowledge for long-term advantage, while exploitation focuses on optimizing existing resources, improving efficiency, and achieving short-term profitability (Kyriakopoulos & Moorman, 2004; Osiyevskyy, 2023). Both strategies are interdependent exclusive reliance on exploration risks inefficiency, whereas overemphasis on exploitation may lead to stagnation and obsolescence. Therefore, achieving a dynamic balance between the two is crucial for sustainable competitiveness.

Previous studies, such as Popadiuk et al. (2010), have explored exploration-exploitation strategies in various contexts, such as telecommunications, engineering, and family-owned Small and Medium Enterprises (SMEs), showing that a balance between these strategies enhances innovation and performance. However, most of these studies were conducted in the technology, manufacturing, or SME sectors abroad. This research aligns with Almahendra and Ambos (2015) and Clauss et al. (2021) regarding the limited application of exploration-exploitation strategies in the agribusiness context, particularly the orchid industry in Indonesia.

Therefore, this study aims to analyze how exploration and exploitation strategies are implemented by PT Java Indo Arjuna (Javina) as one of the largest orchid producers in East Java. The findings are expected to offer practical insights for orchid business actors in formulating strategic responses to dynamic market and environmental challenges, as well as theoretical contributions to the field of strategic management, particularly regarding the balance of exploration and exploitation strategies.

## **LITERATURE REVIEW**

### **Strategic for Competitive Advantage**

Strategy is a decision-making process in dynamic conditions to maintain long-term development potential. Strategy serves as a regulator and director of development for the company, a link between the company and its environment, and a statement of intent and goals (Macmillan & Tampoe, 2001). Strategic choice is strategic decision-making towards the company's development goals and how to achieve them in the context of the effectiveness and efficiency of the decision such as the final result of the decision for the company (Zakrzewska-Bielawska, 2021). The choice of strategy should be to overcome strategic issues or solve strategic dilemmas that arise and are in line with the company's intentions (Macmillan & Tampoe, 2001). Furthermore, the choice of strategy should be in accordance with strategic suitability or strategic fit (Grant, 2016). Strategic fit is the consistency of the company's strategy with its environment, especially related to goals, values, resources, and capabilities so that in choosing a strategy, it must pay attention to the dynamic and multidirectional relationship between the company and its environment.

Strategic suitability emphasizes alignment between environmental and company conditions (Zakrzewska-Bielawska, 2021). In a dynamic business environment marked by frequent changes and disruptions, it considers environmental factors such as dynamism (rate of change), complexity (variety of influencing elements), and uncertainty (predictability of competitors, suppliers, and consumers). From the internal perspective, it assesses business potential through resource conditions (access and interdependence of strategic resources), structural conditions (organizational structure, integration, and differentiation), and behavioral conditions (processes, systems, values, and beliefs) that collectively ensure the organization's adaptability and strategic coherence.

### **The Concept of Exploration and Exploitation in Corporate Innovation**

Exploration is the creation and search for new capabilities, opportunities, knowledge, and ideas through experimentation and research in order to improve the response to market and environmental demands so as to obtain better company performance (March, 1991; Belderbos et al., 2010; Wenke et al., 2021; Zhang et al., 2023; Gómez-Zará et al., 2024). Exploration is characterized by a long-term perspective, prioritizing flexibility and adaptability, seeking drastic change, engaging in discovery and experimentation activities, seeking innovation and opportunities, striving to enter new markets, and

creating new products (Zakrzewska-Bielawska, 2021). Exploration tends to be more effective than exploitation in adaptation, especially when previous knowledge is no longer relevant so that in conducting exploration it will make it easier to find new technologies or markets, raise the knowledge base and navigate disrupted market conditions (Kim et al., 2023). Exploitation is the utilization, improvement and expansion of existing capabilities, competencies, knowledge and technology so that it can improve operational efficiency without disrupting business activities (Belderbos et al., 2010; Ehsani & Osiyevskyy, 2023; Gómez-Zar4 et al., 2024).

Exploitation is characterized by a short-term focus, emphasizing stability, incremental improvements, efficiency, and cost reduction by utilizing existing markets, products, and technologies (Zakrzewska-Bielawska, 2021). It involves refining effective business models to achieve short-term results and adapt offerings to changing market needs (He & Wong, 2004; Kim et al., 2023). However, exploitation must be balanced with exploration, as firms focusing solely on exploration lack knowledge returns, while those relying only on exploitation risk obsolescence. Therefore, companies should pursue adequate exploitation for current survival while engaging in exploration to ensure future competitiveness (Kyriakopoulos & Moorman, 2004).

### **Strategic Basis in Determining Exploration and Exploitation**

The exploration strategy emphasizes discovering new market opportunities and developing products that deliver distinct value beyond existing offerings. Its orientation lies in building new knowledge and capabilities to meet long-term organizational needs, fostering flexibility and adaptability to dynamic market conditions. Conversely, the exploitation strategy focuses on optimizing existing resources, enhancing efficiency, improving current products, and satisfying existing consumer demands. Thus, exploration promotes renewal and innovation, while exploitation ensures continuity and operational stability (Zakrzewska-Bielawska, 2021).

The implementation of exploration and exploitation strategies is shaped by both internal and external environmental factors (Popadiuk et al., 2010). Internally, key determinants include structure, culture, resources, Research and Development (R&D), and organizational capabilities (Mielcarek, 2020; Atuahene et al., 2023). Structural elements such as centralization, formalization, and informal collaboration influence how organizations coordinate and make decisions (Bauer & Leker, 2013). Culture whether clan, adhocracy, market, or hierarchy also directs strategic orientation (Esp3n et al., 2023). Limited resources require a balanced allocation to sustain both strategies, supported by exploratory and exploitative R&D and effective knowledge utilization (Choi & Lee, 2015; Ibrahim et al., 2020; Alves et al., 2023).

Externally, markets, consumers, suppliers, competitors, and technology play major roles. Firms may engage in exploration through new segments and channels or exploitation through refining existing ones (Voss & Voss, 2013; Ho & Lu, 2015). Supplier collaboration fosters innovation and efficiency, while competitive pressure drives both product innovation and process improvement (Chiu, 2014; Hou et al., 2019). Technology supports exploration through innovation and exploitation through efficient application (Medcof, 2010; Yu & Yang, 2011; Nwankpa & Datta, 2017; Ruslim et al., 2024). Therefore, achieving ambidexterity a balance between exploration and exploitation is essential for sustainable growth and competitiveness.

### **RESEARCH METHODS**

This study employed a qualitative case study approach aimed at obtaining a comprehensive understanding of exploration and exploitation strategies in the orchid industry. Case studies focus on gathering information related to a specific object, event, or organization to gain a clear view of a problem from multiple perspectives using various data collection methods (Sekaran & Bougie, 2016; Yin, 2018). Qualitative research emphasizes social interpretation and understanding people's experiences to grasp social reality (Creswell, 2012; Mohajan, 2018). The research was conducted at PT. Java Indo

Arjuna (Javina), Singosari, Malang Regency, East Java, chosen as one of the largest orchid business actors with a tissue culture laboratory, farmer partnership system, and product innovation initiatives through fertilizer research and variety differentiation.

Informants were determined using purposive sampling based on recommendations from the company to ensure data relevance (Rezaul et al., 2022). Key informants included the president director, general manager, head of human resource and general affairs, laboratory supervisor, head of plasma department, cultivation staff, and head of marketing and sales. Primary data were collected through in-depth semi-structured interviews, observations of production, tissue culture, seed rearing, and distribution processes, while secondary data were obtained from company documents, internal reports, official publications, and related literature on exploration and exploitation strategies.

Data analysis followed the Miles & Huberman model consisting of data reduction, data presentation, and conclusion drawing (Sekaran & Bougie, 2016). Interview data were transcribed and coded based on exploration and exploitation themes, followed by pattern analysis to identify relationships and distinctions between internal and external strategies. This approach enabled the identification of consistent strategic patterns, emphasizing the interaction between innovation, efficiency, and sustainability.

To ensure research validity and reliability, several techniques were applied, including prolonged engagement, persistent observation, triangulation, member checking, thick description, audit trail, and diary (Lincoln et al., 1985; Sim & Sharp, 1998; Korstjens & Moser, 2018). These procedures enhanced the credibility and trustworthiness of the findings. Prolonged engagement built contextual understanding, triangulation validated data from multiple sources, and member checking confirmed accuracy with participants. Thick description provided rich contextual insights, while audit trails and diaries ensured transparency and reflexivity throughout the research process.

## **RESULTS**

### **Exploration-Oriented Strategic Implementation in Companies**

To maintain long-term competitiveness in the orchid industry, PT. Java Indo Arjuna's internal exploration strategy prioritizes information management, financial optimization, innovation, inclusivity, and flexibility. This company top management leads the decision-making process, but it also integrates inclusivity by letting staff members offer their perspectives based on their fieldwork. Decisions are made with consideration for operational realities and contextual relevance thanks to this participatory mechanism. The company's scientific and experimental nature is reflected in the formalized Standard Operating Procedures (SOPs) and informal directives that incorporate inclusivity. Employees are involved in the drafting, testing, and implementation of SOPs, which are developed through a trial-and-error process because the orchid industry lacks standardized references. To facilitate quicker, more organized, and more significant decision-making, the company also uses a digital data management system to arrange ideas and inputs (Zakrzewska-Bielawska, 2021).

The company's adaptive culture reflects its proactive stance toward environmental changes and market uncertainty. Given that orchids are sensitive to climate variations and difficult to reproduce naturally, this company instills a culture of continuous experimentation through routine brainstorming and testing sessions. This adaptive orientation allows the company to respond swiftly to shifts in weather patterns and cultivation challenges, fostering innovation and resilience across departments (Clauss et al., 2021).

Financially, the company maintains a balanced approach through a strategic financial management system emphasizing cost efficiency, revenue generation, and innovation-driven investment. Cost efficiency focuses on minimizing operational expenses, while sales support ensures steady turnover through effective distribution and marketing. The development budget is prioritized for R&D activities that enhance production methods and product quality. The company integrates digitalization into its financial processes

through a custom-built financial management system designed to accommodate the orchid industry's unique financial structure. This system, developed with internal expertise, ensures transparency and optimal resource allocation for ongoing innovation (Belderbos et al., 2010).

In terms of product and process innovation, the company distinguishes itself through its in-house orchid nursery, allowing it to control the entire production cycle. The company utilizes both vegetative and generative propagation, though it prioritizes the latter through tissue culture to ensure quality consistency and large-scale production. The tissue culture method, managed by a specialized laboratory, guarantees genetic uniformity and high-quality outputs. New orchid variants originate from cross-breeding experiments, followed by propagation in the laboratory and subsequent rearing by the Cultivation Department and plasma farmers. This continuous innovation process, supported by an extensive collection of parent plants, gives the company a significant competitive edge. The company's investment in scientific and technological development reinforces its position as a leading innovator in Indonesia's orchid industry (Kyriakopoulos & Moorman, 2004).

Information plays a central role in PT. Java Indo Arjuna's exploratory efforts. The company maintains an integrated information system that facilitates inter-departmental communication and collaboration. Regular meetings ensure the timely exchange of industry updates, while collaboration with National Research and Innovation Agency (*Badan Riset dan Inovasi Nasional/BRIN*) researchers provides access to advanced orchid research and propagation insights. Moreover, the company has developed a custom internal information system to streamline communication, ensure transparency, and support data-driven decision-making across organizational levels.

Externally, PT. Java Indo Arjuna emphasizes the creation of new market values, empowerment through partnerships, differentiation, and the adoption of advanced technologies to sustain competitiveness. The company introduces new market values by prioritizing plant resilience a distinctive trait developed through a "full sun and full rain" cultivation method that enhances durability under diverse environmental conditions. This unique value proposition differentiates its orchids from competitors that prioritize only morphological aspects such as height or stem thickness. To strengthen its market presence, the company also pioneers a specialized e-commerce platform tailored for orchid enthusiasts. This digital platform integrates specific orchid identities, enabling seamless transactions between producers and buyers while expanding market reach (Popadiuk et al., 2010).

The company's empowerment strategy extends beyond internal development to external stakeholders, particularly plasma farmers. The company collaborates with these partner farmers, who act as secondary nurseries responsible for growing seedlings and maturing plants. This partnership model ensures mutual benefit farmers receive technical and educational support while the company secures a reliable supply of high-quality orchids (Atuahene et al., 2023). Through training and joint research, plasma farmers gain new competencies in advanced orchid care, particularly in maintaining plant health and optimizing growth. This skill transfer not only enhances production quality but also fosters shared ownership and innovation across the value chain.

Differentiation remains a cornerstone of the company's exploration strategy (Claus et al., 2021). In the highly competitive Malang Raya orchid market home to both small-scale breeders and large producers the company distinguishes itself through self-produced seeds and advanced cross-breeding capabilities. Unlike many competitors who rely on imported seeds, the company Arjuna leverages its in-house laboratory to generate new variants, thereby ensuring independence and quality assurance. Despite facing competition from established players such as DD Orchid in Batu City, PT. Java Indo Arjuna maintains an edge by consistently innovating and registering new orchid varieties with the Royal Horticultural Society (RHS) in the United Kingdom. Although this process is time-intensive, it strengthens the company's credibility and ensures international recognition of its products.

The company demonstrates strong technological foresight through the adoption of new technologies. PT. Java Indo Arjuna's investment in orchid cloning technology exemplifies its long-term strategic commitment to innovation. Cloning allows the company to replicate plants genetically identical to their parents, ensuring uniformity and quality while enabling mass production. This advanced capability positions the firm among the few in Indonesia capable of executing such complex biotechnological processes. Looking forward, the company plans to implement Smart Farming Greenhouse systems to automate monitoring of temperature, humidity, and aeration reducing reliance on manual labor while increasing efficiency and sustainability.

### **Operational Exploitation Strategy Supports Company Stability**

The internal exploitation strategy of PT. Java Indo Arjuna emphasizes transparency, control, human capital development, process optimization, and information refinement to maximize efficiency and stability. Transparency in decision-making encourages participation and reinforces trust between leaders and employees. Open communication and informal relationships within the company foster a sense of belonging and encourage employees to engage actively in implementing decisions. This culture of openness, grounded in trust, empowers employees to make appropriate decisions within their authority levels while strengthening commitment to organizational goals (Jacoby, 2005). The company also manages internal conflicts proactively, leveraging close interpersonal relationships to resolve issues swiftly and maintain operational harmony.

Proximity and control play equally vital roles in ensuring productivity. The strong kinship among employees, rooted in the founder's values, promotes teamwork and shared responsibility. However, kinship alone is not sufficient. Therefore, the company integrates structured control systems to monitor progress and evaluate performance. This balance ensures that employees perceive feedback and supervision as developmental tools rather than constraints, fostering continuous improvement and accountability (Ibrahim et al., 2019).

Employee experience and capability development are treated as strategic assets. Given the technical complexity of orchid cultivation and research, PT. Java Indo Arjuna invests in training programs and knowledge transfer to enhance workforce competence. The company adopts a pragmatic human resource approach optimizing existing employees' potential before considering external recruitment. This developmental focus ensures that human resources grow with the company's evolving needs, fostering loyalty and reducing turnover (Tamayo-Torres et al., 2014).

Product and process enhancement form another crucial aspect of exploitation. PT. Java Indo Arjuna continuously refines orchid quality and cultivation efficiency through product and process improvement initiatives. One notable achievement is the internal development of specialized fertilizers tailored to the nutritional needs of orchids. This innovation reduces dependency on imported fertilizers, cuts costs, and yields products competitive in the market. Combined with the company's "full sun and full rain" cultivation technique, these fertilizers enhance orchid resilience and adaptability across diverse climates, improving overall product performance and market appeal (He & Wong, 2004). These continuous improvements not only strengthen efficiency but also create new revenue opportunities for the company.

Information quality improvement supports the company's operational excellence. PT. Java Indo Arjuna leverages diverse information sources including customers, resellers, and industry networks such as the Indonesian Orchid Association (*Persatuan Anggrek Indonesia/PAI*) to gather market insights. Consumers provide valuable feedback on trends and preferences, while resellers offer market intelligence from direct interactions. This dynamic exchange of knowledge fosters continuous learning and adaptation. Information is systematically validated through laboratory trials before implementation, ensuring decisions are both evidence-based and practical. Such knowledge integration enhances responsiveness and strengthens the company's competitive positioning (Espín et al., 2023).

Externally, PT. Java Indo Arjuna's exploitation strategy focuses on strengthening customer relationships, empowering production partners, product modification, and optimizing existing technologies. To enhance value and market trust, the company offers product guarantees an uncommon practice in the orchid industry due to the fragility of plants during shipment. This initiative builds consumer confidence and differentiates the brand. The company also cultivates loyalty through personalized gestures such as birthday discounts, festive gifts, and acknowledgment messages, deepening emotional ties with customers. Furthermore, the live-selling strategy through various digital channels combines education and promotion, increasing consumer knowledge and encouraging repeat purchases of more complex orchid varieties (Voss & Voss, 2013).

Empowerment through shared improvement extends to partnerships with plasma farmers. These collaborations allow PT. Java Indo Arjuna to overcome resource constraints while maintaining high production quality. Farmers meeting specific land and skill requirements receive seedlings and technical support in exchange for returning mature plants to the company. This arrangement ensures a steady supply chain and fosters interdependence. Joint research between the company and plasma farmers further improves cultivation efficiency by developing superior seeds and custom fertilizers, which accelerate growth without compromising quality. This partnership model represents an effective exploitation of external resources while promoting sustainable growth within the orchid ecosystem (Ibrahim et al., 2020).

Modification and imitation also play a role in PT. Java Indo Arjuna's strategy to remain competitive. The company replicates imported orchid varieties from Taiwan and Thailand using its laboratory capabilities, offering similar products at more accessible prices. However, these replications are not mere imitations; they incorporate the company's signature advantage enhanced weather resistance resulting in superior hybrid orchids. This strategic modification blends exploitation and innovation, allowing the company to capture new market segments while maintaining efficiency (Hou et al., 2019).

PT. Java Indo Arjuna maximizes current technology utilization to sustain operational excellence. Having invested heavily in laboratory infrastructure, the company ensures that existing technologies are fully optimized. Its advanced cloning facilities not only support internal production but also position the company as a potential national orchid cloning center. Furthermore, continuous refinement of internally developed fertilizers complements the cloning process, ensuring superior plant quality and creating synergistic benefits. Together, these improvements strengthen the company's operational stability, reduce costs, and secure a durable competitive advantage (Nwankpa & Datta, 2017).

## **DISCUSSION**

The results of this study show that the exploration strategy of PT. Java Indo Arjuna in internal aspects includes inclusivity, adaptive culture, digital-based financial management, product and process innovation, and the implementation of information systems. This is in line with the findings of Clauss et al. (2021) that exploration contributes to competitive advantage through product innovation and organizational adaptation. However, this study expands the context by showing that exploration in the orchid industry is also realized through the empowerment of plasma farmers as well as the differentiation of unique products, which have not been widely reviewed in previous research. Meanwhile, external exploration strategies that are focused on value creation and new markets as well as the adoption of new technologies are in line with the idea of Popadiuk et al. (2010) that the external environment dimension is an important factor in developing an exploratory strategy. Thus, the findings of this study confirm and at the same time expand the exploration framework in the context of horticultural agribusiness.

The exploitation strategy of PT. Java Indo Arjuna also shows compatibility with previous theories and studies. The practices of transparency, strengthening control, and improving employee competencies found in this study are in line with Jacoby (2005) who emphasizes the importance of internal mechanisms to balance research and production in exploitative strategies. In addition, improving the quality of information and product

development at PT. Java Indo Arjuna can be compared with the results of Tamayo-Torres et al. (2014) which confirm the significant linkage between exploitation strategies, organizational flexibility, and learning. This research adds a new perspective by emphasizing the optimization of existing technologies (such as cloning laboratories and in-house fertilizer development), which differs from the more high-tech manufacturing or high-tech contexts that were the object of previous research.

From the external side, the exploitative practices of the company in the form of collaboration with plasma farmers shows its own uniqueness. These findings support the research of Ibrahim et al. (2019) which highlights the influence of family organization culture in shaping a variety of exploration and exploitation strategies in SMEs. The difference is that at PT. Java Indo Arjuna, the factor of collaboration with plasma farmers is an exploitative strategy that allows companies to maintain efficiency while expanding production capacity without having to bear the full infrastructure costs. This is an added value that has not been seen in the previous literature, especially in the context of partnership-based agribusiness.

Furthermore, the combination of exploration and exploitation strategies implemented by PT. Java Indo Arjuna emphasized the relevance of the theory of March (1991) which was further developed by Almahendra and Ambos (2015) regarding the importance of balance between the two strategies for organizational sustainability. However, unlike previous studies that have extensively researched the technology, manufacturing, and service industries, this study emphasizes that the application of exploration and exploitation in the orchid industry in Indonesia not only strengthens competitiveness but also ensures business sustainability in the midst of typical horticultural market dynamics. Thus, this research fills the academic gap in the exploration and exploitation literature, while making a practical contribution to the development of competitive strategies in the agribusiness sector.

This research contributes significantly to applying exploration and exploitation strategies in the orchid industry, demonstrating their benefits for company sustainability through innovation-oriented exploration and efficiency-focused exploitation, as evidenced by prior studies. It introduces the Houghton Mifflin Harcourt Company Model for tailored analysis in this sector. The findings serve as a reference for enhancing business strategies, informing other firms facing similar challenges, and aiding decision-making on adopting these strategies for short- and long-term gains. However, limitations include its focus on a single entity, PT. Java Indo Arjuna, without quantifying strategy usage percentages or delving into division mechanisms. Future research should broaden the scope, measure implementation proportions, and explore deeper integration of exploration and exploitation in the orchid industry.

## **CONCLUSION**

Based on the results of the analysis, this study shows that PT. Java Indo Arjuna implements exploration and exploitation strategies simultaneously by adjusting to the company's internal and external conditions. In terms of exploration, internal strategies include inclusivity, adaptive culture, digital-based financial management systems, product and process innovation, and the implementation of information systems, while external exploration is focused on value creation and new markets, empowerment of plasma farmers, differentiation, and adoption of new technologies. In terms of exploitation, internal strategies can be seen in the practice of transparency, strengthening control, improving employee competencies, developing products and processes, and improving information quality.

Meanwhile, external exploitation includes increasing value and markets, empowering plasma farmers, modifying products, and optimizing existing technologies. The synergy between exploration and exploitation strengthens the company's competitiveness, maintains cost efficiency, while encouraging sustainable innovation in the orchid industry. However, limitations include its focus on a single entity, PT. Java Indo Arjuna, without quantifying strategy usage percentages or delving into division mechanisms. For

further research, it is recommended to expand the scope of other orchid nurseries with different characteristics, as well as examine more deeply the role of laboratories and research facilities as centers for the development of company innovations.

### Acknowledgement

The author would like to express sincere gratitude to PT. Java Indo Arjuna and all participants who have contributed valuable insights and support throughout this research.

### REFERENCES

- [1] Almahendra, R., & Ambos, B. (2015). Exploration and exploitation: a 20-year review of evolution and reconceptualisation. *International Journal of Innovation Management*, 19(01), 155-168.
- [2] Andri, K. B., & Tumbuan, W. J. A. (2015). Potensi pengembangan agribisnis bunga anggrek di Kota Batu Jawa Timur. *Jurnal LPPM Bidang EkoSosBudKum (Ekonomi, Sosial, Budaya, dan Hukum)*, 2(1), 19-30.
- [3] Anggraeni, N. (2022). Potensi anggrek Indonesia di tengah pandemi Covid-19. *Mimbar Agribisnis*, 8(2), 639-648.
- [4] Artanti, N. P. (2022). *Selaras KPKNL Malang: Mengenal keindahan bunga anggrek*. Retrieved in July 23, 2025 from <https://www.djkn.kemenkeu.go.id/kpknl-malang/baca-kilas-peristiwa/14585/Selaras-KPKNL-Malang-Mengenal-Keindahan-Bunga-Anggrek.html>
- [5] Atuahene, N. A., Asadina, C., Acquah, R., & Boateng, P. A. (2023). Exploring the relationship between organizations internal and external environments: a conceptual study. *International Journal of Research and Scientific Innovation*, 10(8), 1-11.
- [6] Bank Indonesia. (2023). *Statistik ekonomi dan keuangan Indonesia*. Jakarta: Bank Indonesia.
- [7] Bauer, M., & Leker, J. (2013). Exploration and exploitation in product and process innovation in the chemical industry. *R&D Management*, 33(3), 433-444.
- [8] Belderbos, R., Faems, D., Leten, B., & Looy, B. Van. (2010). Technological activities and their impact on the financial performance of the firm: exploitation and exploration within and between firms. *Product Innovation Management*, 27(3), 869-882.
- [9] Chiu, Y.-C. (2014). Balancing exploration and exploitation in supply chain portfolios. *IEEE Transactions on Engineering Management*, 61(1), 18-27.
- [10] Choi, D. Y., & Lee, K. C. (2015). Dynamic resource allocation for exploitation and exploration with ambidexterity: Logical mechanism and simulations. *Computers in Human Behavior*, 42, 120-126.
- [11] Clauss, T., Kraus, S., Kallinger, F. L., Bican, P. M., Brem, A., & Kailer, N. (2021). Organizational ambidexterity and competitive advantage: The role of strategic agility in the exploration-exploitation paradox. *Journal of Innovation and Knowledge*, 6(4), 203-213.
- [12] Creswell, JW. (2012). *Research design: qualitative, quantitative, and mixed methods approach* (4th Edition). London: Sage Publication.
- [13] Ehsani, M., & Osiyevskyy, O. (2023). Firm failure and the exploration/exploitation dilemma: The role of firm life cycle. *Long Range Planning*, 56(3), 563-578.
- [14] Espín, J. A. G., Jiménez Jiménez, D., & Martínez Costa, M. (2023). Effects of the organizational culture and knowledge exploration and exploitation on results in the EFQM model framework. *Journal of Knowledge Management*, 27(6), 1607-1636.
- [15] Fadilla, A., Kartika, J. G., & Sopandie, D. (2023). Aspek hortikultura dan usaha tani budidaya tanaman hias asteraceae dan violaceae di Cianjur, Jawa Barat. *Agrohorti*, 11(2), 185-192.
- [16] Ferecatu, A., & De Bruyn, A. (2022). Understanding managers' trade-offs between exploration and exploitation. *Marketing Science*, 41(1), 139-165.
- [17] Fernandes Rodrigues Alves, M., Pacheco, L. M., & Galina, S. V. R. (2025). Balancing exploration and exploitation across boundaries: Evidence from new product development. *BRQ Business Research Quarterly*, 28(1), 164-179.
- [18] Gómez-Zarà, D., Liu, Y., Neves, L., Shah, N., & Bos, M. W. (2024). Unpacking the exploration-exploitation tradeoff on Snapchat: The relationships between users' exploration-exploitation interests and server log data. *Computers in Human Behavior*, 150(1), 108-124.
- [19] Grant, R. M. (2016). *Contemporary Strategy Analysis* (9th Edition). New Jersey: John Wiley & Sons.
- [20] Hani, A., Sulistyati Widyarningsih, T., Ratna, & Damayanti, U. (2014). Potensi dan pengembangan jenis-jenis tanaman anggrek dan obat-obatan di jalur wisata Loop-Trail Cikaniki-Citalahab Taman Nasional Gunung Halimun-Sala. *Jurnal Ilmu Kehutanan*, 8(1), 81-98.
- [21] He, Z. L., & Wong, P. K. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization science*, 15(4), 481-494.
- [22] Ho, H. (Dixon), & Lu, R. (2015). Performance implications of marketing exploitation and exploration: Moderating role of supplier collaboration. *Journal of Business Research*, 68(5), 1026-1034.

- [23] Hou, B., Hong, J., & Zhu, R. (2019). Exploration/exploitation innovation and firm performance: the mediation of entrepreneurial orientation and moderation of competitive intensity. *Journal of Asia Business Studies*, 13(4), 489–506.
- [24] Ibrahim, N., Rizal, A. M., Hee, O. C., Baskaran, S., & Sahimi, M. (2020). Resource allocation between exploration and exploitation strategies: a case study of a Malaysian SME family firm. *International Journal of Entrepreneurial Venturing*, 12(4), 355-365.
- [25] Ibrahim, N., Rizal, A. M., Kamarudin, S., & Husin, M. M. (2019). Exploration and exploitation strategies in SME family firms. *International Journal of Academic Research in Business and Social Sciences*, 9(1), 89-100.
- [26] Jacoby, N. (2005). Exploration and exploitation strategies. What kind of analytical models?. *Cahiers de la Maison des Sciences Economiques*. 40(5), 393-402.
- [27] Junaidi, E., & Jannah, M. (2020). Dynamics of economic growth in agriculture sector and dynamics of economic growth in agriculture sector and farmer's term of trade in Indonesia. *Journal of Applied Economics in Developing Countries*, 5(2), 60–67.
- [28] Khairiyakh, R. U., & Mulyo, J. H. (2015). Contribution of agricultural sector and sub sectors on Indonesian economy. *Ilmu Pertanian*, 18(3), 150–159.
- [29] Kim, G., Lee, W. J., & Jang, Y. (2024). Navigating a crisis: do exploration and exploitation help SMEs when they respond to COVID-19 disruption?. *Asian Journal of Technology Innovation*, 32(1), 65-82.
- [30] Kolanowska, M., Michalska, E., & Konowalik, K. (2021a). The impact of global warming on the niches and pollinator availability of sexually deceptive orchid with a single pollen vector. *Science of the Total Environment*, 795(3), 838-850.
- [31] Kolanowska, M., Rewicz, A., & Nowak, S. (2021b). Significant habitat loss of the black vanilla orchid (*Nigritella nigra* sl, Orchidaceae) and shifts in its pollinators availability as results of global warming. *Global Ecology and Conservation*, 27(3), 1560-1580.
- [32] Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, 24(1), 120–124.
- [33] Kyriakopoulos, K., & Moorman, C. (2004). Tradeoffs in marketing exploitation and exploration strategies: The overlooked role of market orientation. *International Journal of Research in Marketing*, 21(3), 219–240.
- [34] Lincoln, Y. S., Guba, E. G., & Pilotta, J. J. (1985). Naturalistic inquiry. *International Journal of Intercultural Relations*, 9(4), 438–439.
- [35] Macmillan, H., & Tampoe, M. (2001). *Strategic management process, content, and implementation*. Oxford: Oxford University Press.
- [36] Marbun, J., & Nasution, E. (2019). Prospek pengembangan usaha tanaman bunga hidup (Studi kasus Kota Pematangsiantar). *Jurnal Agrilink*, 1(1), 10-20.
- [37] March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71–87.
- [38] Medcof, J. W. (2010). Exploration, exploitation and technology management. *International Journal of Technology Intelligence and Planning*, 6(4), 301-312.
- [39] Mielcarek, P. (2020). Three-dimensional perspective of organization's process maturity towards company's exploration and exploitation: a research study. *European Research Studies Journal*, 23(2), 232-244.
- [40] Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environment, and People*, 7(01), 23–48.
- [41] Nwankpa, J. K., & Datta, P. (2017). Balancing exploration and exploitation of IT resources: the influence of Digital Business Intensity on perceived organizational performance. *European Journal of Information Systems*, 26(5), 469–488.
- [42] Popadiuk, S., Vidal, P. G., & Franklin, M. A. (2010). Measuring knowledge exploitation and exploration: an empirical application in a technological development center in Brazil. *Espacios*, 31(3), 34–36.
- [43] Pusat Data dan Sistem Pertanian. (2020). *Outlook anggrek komoditas pertanian sektor hortikultura*. Jakarta: Kementerian Pertanian.
- [44] Restanto, D. P., Khozin, M. N., Soeparjono, S., Rahmadyah, I., Damayanti, A., Batuto, W. I., Soejono, D., & Kusbianto, D. E. (2023). Managemen produksi dan distribusi tanaman anggrek di DD Orchid Nursery. *Jurnal Pengabdian Magister Pendidikan IPA*, 6(2), 162-174.
- [45] Rezaul, M., Niaz, I., Khan, A., & Baikady, R. (2022). *Principles of social research methodology*. London: Springer.
- [46] Rofiaty, R., Aisjah, S., & Susilowati, C. (2022). The effect of entrepreneurship orientation and flexibility toward adaptive innovation and improved firm performance. *BISMA (Bisnis Dan Manajemen)*, 15(1), 51-62.
- [47] Ruslim, N. M., Yusof, Y., Mohamad, M. S., & Mudaber, M. H. (2024). A bibliometric review on Deoxyribonucleic Acid (DNA) splicing system. *Journal of Advanced Research in Micro and Nano Engineering*, 18(1), 123-137.
- [48] Sekaran, U., & Bougie, R. (2016). *Research methods for business: a skill-building approach* (7th Edition). Hoboken: John Wiley & Sons.

- [49] Sim, J., & Sharp, K. (1998). A critical appraisal of the role of triangulation in nursing research. *International Journal of Nursing Studies*, 35(1–2), 23–31.
- [50] Sinulingga, M. H. (2006). *Analisis manajemen strategis Pt. Anggrek Persada Indah dalam menghadapi persaingan bisnis anggrek dendrobium*. Bogor: Institut Pertanian Bogor.
- [51] Tamayo-Torres, J., Gutierrez-Gutierrez, L., & Ruiz-Moreno, A. (2014). The relationship between exploration and exploitation strategies, manufacturing flexibility and organizational learning: An empirical comparison between Non-ISO and ISO certified firms. *European Journal of Operational Research*, 232(1), 72–86.
- [52] Voss, G. B., & Voss, Z. G. (2013). Strategic ambidexterity in small and medium-sized enterprises: Implementing exploration and exploitation in product and market domains. *Organization Science*, 24(5), 1459–1477.
- [53] Wenke, K., Zapkau, F. B., & Schwens, C. (2021). Too small to do it all? A meta-analysis on the relative relationships of exploration, exploitation, and ambidexterity with SME performance. *Journal of Business Research*, 132(3), 653–665.
- [54] Yin, R. K. (2018). *Case study research and applications* (Vol. 6). Thousand Oaks, CA: Sage.
- [55] Yu, F., & Yang, X. (2011). Balancing exploration and exploitation in technological context: the role of strategic flexibility. In *2011 International Conference on Management and Service Science* (pp. 1-4). IEEE.
- [56] Zakrzewska-Bielawska, A. (2021). *Ambidextrous strategy: Antecedents, strategic choices, and performance*. London: Routledge.
- [57] Zhang, X., Chu, Z., Ren, L., & Xing, J. (2023). Open innovation and sustainable competitive advantage: The role of organizational learning. *Technological forecasting and social change*, 186(1), 122-134.