

Analysis Of Strategies for Strengthening the Online Game Industry Using an Industrial Cluster Approach

Liliani Suciasih^{1*}, Sugeng Santoso²
Universitas Mercu Buana, Jakarta, Indonesia

Corresponding Author : Liliani Suciasih : 55121120095@student.mercubuana.ac.id

ARTICLE INFO

Kata Kunci: Game ecosystem, Gaming industry, Industrial cluster, Value chain

Received : 14, June

Revised : 30, July

Accepted: 28, August

©2024 Suciasih, Santoso(s): This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRAK

Based on data, as one of the creative economy sectors, the game industry has much potential to boost the Indonesian economy. The total market value of the games industry in Indonesia is US\$ 1.92 billion or 25 trillion rupiah. However, This qualitative research uses interview methods with key informants, observation, and literature study, with purposive sampling as a sampling technique. The results show that the core industry value chain of the game industry cluster consists of Game Developers and Game Publishers and is supported by Supply industries (hardware providers, HR, digital content, and financial services) and supporting industries (marketing, logistics, law, and networks). There are related institutions/institutions such as the Ministry of Tourism and Creative Economy, the Coordinating Ministry for Maritime and Investment Affairs, the Ministry of Communications and Informatics, the Ministry of Education and Culture, and the Indonesian Game Association. This industry is also related to animation, music, e-sports and tourism. This value chain ends with buyers. This research recommends concrete steps for relevant agencies to enhance the gaming industry ecosystem through human resource development, increasing access to financing, promotion and providing technological infrastructure. Collaboration across industries is expected to increase the global competitiveness and contribute significantly to the national creative economy.

INTRODUCTION

The global gaming industry has experienced exponential growth, driven by technological advances, increasing internet penetration, and the proliferation of digital distribution platforms (Newzoo, 2023). However, amidst rapid industrial growth, there is a significant gap between the dominance of foreign games and the contribution of local games in many countries, including Indonesia (Ministry of Communication and Information, 2022).

Based on data from the Ministry of Tourism and Creative Economy for the last five years from 2018 to 2022, there has been an increase in global market growth compared to the previous year, namely in 2019 it was 5.20%, in 2020 it was 9.30%, in 2021 it was 10.36%, and in 2022 it will be 11.95%.

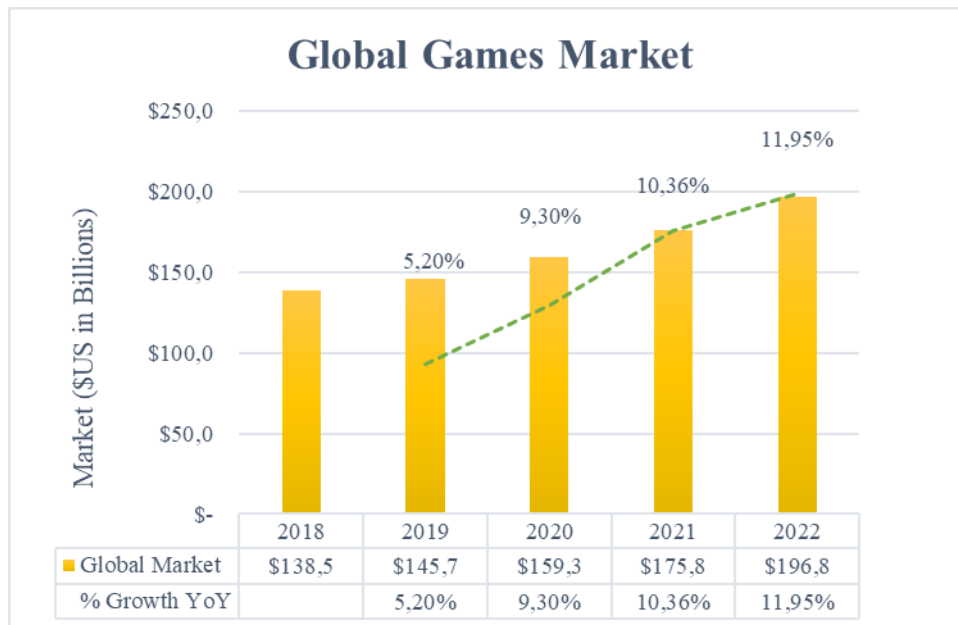


Figure 1.3: Global Market Share 2018-2022

Source: Kemenparekraf (2023)

Based on data from the Netherlands-based research group, Newzoo, in 2021 – 2023, there is an increase in global market share from 2021 of \$175.8 billion to \$196.8 billion in 2022 and until 2023, the global market share for industry games themselves have reached \$187.7 billion as of August 2023. This figure is an increase of 2.6% compared to Year-on-Year (YOY) from the previous year. Meanwhile, based on analysis results (Niko Patners, 2023), Indonesia is included in the top ten countries with the largest gaming markets in Asia and is also included in the top three countries with the largest gaming market growth. In fact, in its latest analysis report in October 2023 for the SEA-6 Games market (Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam), Niko Partners projects that the PC and mobile games market in SEA-6 will generate \$5.8 billion (± Rp. 90 Trillion) in 2023, and reach \$7.2 billion (± IDR 111.8 Trillion) in 2027.

Gaming revenue continues to be dominated by the mobile gaming sector, with 66.4% of gaming revenue in the region coming from mobile in 2023. 2023 and the share is expected to increase to almost 70% in 2027. The Indonesian and Thai markets account for almost half of the SEA-6 Games revenue. Indonesia and Vietnam have 63% of gamers, and Indonesia leads in gamer growth. Indonesia and Singapore were the countries with the fastest income growth of 9.9% and 8.2% YoY.

Based on pre-survey data obtained from the Ministry of Tourism and Creative Economy, the Ministry of Maritime Affairs and Fisheries, and the Indonesian Games Association (AGI), in 2022, the total market value of the games industry in Indonesia will be US\$ 1.92 billion or 25 trillion rupiah. However, unfortunately, the games industry market in Indonesia is dominated by foreign developers (Europe and the US) which only accounts for approximately 0.49% of total revenue in this sector. This is very unfortunate considering that the huge potential in the gaming industry in Indonesia which should have the opportunity to help the national economy through the country's foreign exchange earnings cannot be maximized.

Results from pre-interview with PT. XYZ, which is one of the game developer companies in Jakarta, found several problems that were limitations in developing the company's game share, such as access to financing in game development that was not optimal, lack of skilled human resources in the game industry that could compete globally, lack of ability. competing in marketing compared to foreign companies or games, the technological infrastructure in the games industry is not yet optimal, and collaboration between game developers, publishers, distributors and other stakeholders is not optimal so that the games industry ecosystem is still not well developed.

One aspect that is considered crucial in the development of the games industry is related to a deep understanding of the existing value chain. The value chain, according to Porter (1985), is a series of activities carried out by a company to design, produce, market, deliver and support its products or services. Value chain analysis can help companies identify which activities create the greatest value for customers, as well as which activities can be improved to increase efficiency and effectiveness.

Industry clusters, according to Porter (1998), are geographic concentrations of interrelated companies in a particular industry, together with supporting institutions such as universities, business service providers, and trade associations. Industrial clusters are geographic concentrations of interconnected companies and institutions in certain sectors, which are interconnected because of togetherness and complementarity (Porter, 1990). As quoted from (Taufik, 2001), in the economic/business context, "industrial cluster" is a terminology that has a certain specific meaning. According to the OECD (2000) in Taufik (2001), an industrial cluster can be defined as a collection/group of businesses and

industries that are related through a common product chain, dependence on similar workforce skills, or the use of similar or complementary technology. Meanwhile, the Ministry of Industry and Trade (2000) in Homer et al (2016) defines an industrial cluster as an industrial group with a focal/core industry that is intensively interconnected and forms partnerships, both with supporting industries and related industries. Munnich Jr., et al (1999) define an industrial cluster as a geographic concentration of competing, complementary or related companies and industries that do business with one another and/or have similar needs for capabilities, technology and infrastructure.

Clusters are a regional development strategy to exploit economic potential. This argument was reinforced by Porter, that today's economic map is dominated by what he called clusters (Porter, 1998). Research conducted by (Suyanto et al., 2021), shows that companies that are in industrial clusters in Indonesia have better performance than companies that are not in the cluster. This shows that industrial clusters can be an effective medium for increasing industrial competitiveness.

According to Marshall in (Homer et al., 2016) the formation of clusters can help industry to increase competitiveness. This is because with the agglomeration of similar companies that have similar or related activities, a boundary will be created for the resulting economic externalities which will help lower/reduce production costs that arise in the cluster. Having a cluster can also produce several benefits such as ease of access to capital and access to suppliers, maximum employment, and absorption/transfer of information and knowledge which can also produce special services that only exist within the cluster.

As quoted from (Santoso, 2023), in the Industrial cluster, there are interrelated elements, including the following:

- a. Core Industry is an industry that is the focus of attention or thematic and is usually used as an entry point for studies, it can be an industrial center; can be an advanced industry (characterized by innovation).
- b. Supplier Industry is an industry that supplies special products; can be in the form of special suppliers (specialists) who support cluster progress; while what is supplied includes main raw materials, additional materials, accessories.
- c. Buyers can be distributors or direct users; where buyers who are very "demanding" are the drivers of cluster progress; while buyers include, among others: distributors, retailers, direct users.
- d. Supporting Industries include services and goods industries, including financing services (Banks, Venture Capital)
- e. Related Industries are (i) industries that use the same infrastructure; (ii) Industries that use resources from the same source (eg groups of experts). Related industries do not have direct business relations with the core

industry. Related industries include: competitors, complements, substitutes.

- f. Supporting Institutions, including (i) government institutions, which are policy makers or carry out public roles; (ii) professional associations that work in the interests of members; (iii) non-governmental development institutions working in special supporting fields.

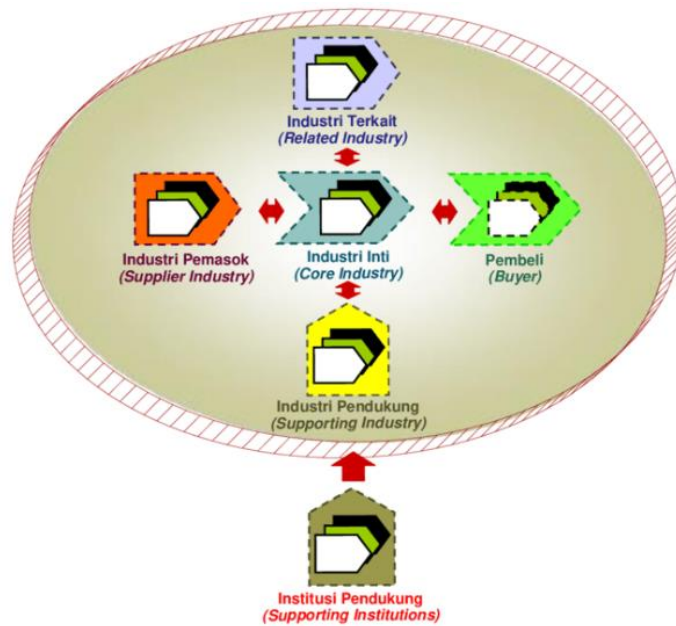


Figure 2.1 Generic Model of Industrial Clusters (Santoso, 2024)

So it can be concluded that an industrial cluster is basically a network of interrelated industries including core industries, supporting industries and related industries, parties/institutions that produce knowledge/technology (including universities, universities and research, development and engineering/R&D institutions), institutions that play a bridging role (for example brokers and consultants), as well as buyers, who are connected to one another in the value adding production chain.

Porter's Diamond Model, also known as Porter's Diamond of National Competitive Advantage, is a framework developed by Michael Porter to analyze the factors that determine a country's competitive advantage in a particular industry. (Porter, 1990). There are six elements in the Diamond Porter model, including the following:

- a. Factor Conditions: These include the natural resources, climate, geographic location, skilled workforce, infrastructure, and knowledge available in a country. These factors can become the basis of competitive advantage if managed well.
- b. Demand Conditions: The nature of domestic demand for a particular industry's products or services. High and sophisticated demand in the

domestic market can encourage companies to innovate and improve the quality of their products.

- c. Related and Supporting Industries: The existence of suppliers, distributors and other related industries that are internationally competitive. These industries can provide important support to key industries in terms of inputs, technology and innovation.
- d. Firm Strategy, Structure and Rivalry: The way companies in a country are managed and compete. Intense competition in the domestic market can encourage companies to improve efficiency, innovation and product quality to remain competitive in the global market.
- e. Government: The government's role in creating a conducive business environment, such as fiscal policy, regulation, investment in education and infrastructure, and protection of intellectual property rights.
- f. Opportunity: An unexpected event that can affect a country's competitiveness, such as the discovery of new technology, political change, or a natural disaster.

This research aims to analyze the value chain of the games industry in Indonesia using an industrial cluster approach, with a focus on efforts to increase the contribution of local games to a market dominated by foreign games. Value chain analysis allows the identification of critical stages in the game development and distribution process, as well as the added value generated at each stage (Porter, 1985). Meanwhile, the industrial cluster approach emphasizes the importance of collaboration and synergy between various actors in the games industry, including developers, publishers, distributors, support service providers, as well as government and educational institutions (Porter, 1998).

According to Tatang (2001), the industrial cluster approach can facilitate the identification and formulation of policies that are more selective and appropriate to operational needs so as to produce more effective policies. In the industrial cluster, there is a paradigm shift in the role of government, namely that government is considered as one of the keys to success. Meanwhile, Kim & Kang (2021) analyze the success of China's gaming industry in catching up with developed countries, highlighting the role of government policy and strategic capability development.

Research on the gaming industry has expanded in recent years, showing a variety of perspectives and focuses. Mulachela et al. (2020) highlighted state losses due to the inability of local actors to compete with foreign actors in the Indonesian gaming industry. Betzler & Leuschen (2021) identified a convergence between the gaming and film industries in Switzerland, emphasizing the challenges in developing transmedial products and content. A study by Prasetyo (2022) on the gaming industry cluster in Bandung shows how an industrial cluster approach can increase competitiveness. By facilitating collaboration between gaming companies, service providers and educational institutions, this

cluster has succeeded in creating an environment conducive to innovation and growth.

By identifying key factors that influence the competitiveness of local games, obstacles faced by local game developers, as well as opportunities that can be exploited to strengthen the position of local games in the market, this research is expected to contribute to the development of policies and strategies that more effective in supporting the growth of the local games industry in Indonesia. Apart from that, this research is also expected to provide insight for game industry players in increasing competitiveness and expanding local game market share, both at the national and international levels.

In the Industrial cluster approach, several stages will be carried out, including mapping of actors, analysis of the specific business environment using the diamond porter method, analysis of strengthening the business environment, priority goals, goal trees, and alternative strategies. (Tatang, 2001).

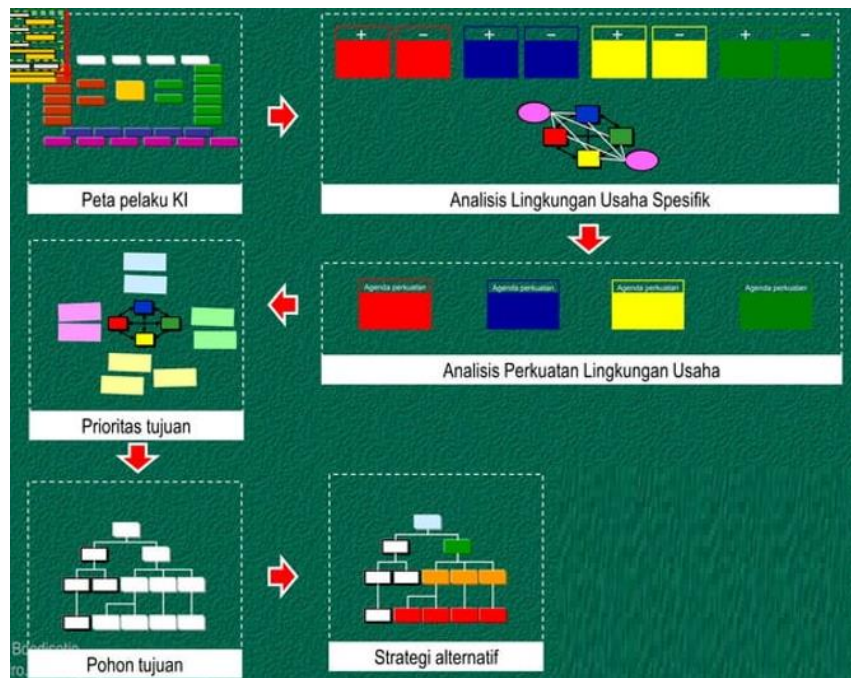


Figure 2.3: Stages of Industrial Cluster Analysis (Tatang, 2001)

METHODOLOGY

This research adopts an exploratory descriptive qualitative methodology to understand in depth the dynamics of the gaming industry value chain in Indonesia and the role of industrial clusters in increasing the contribution of the local gaming industry from an industrial cluster perspective. This approach allows for in-depth exploration of complex and multifaceted phenomena in the

gaming industry, and reveals patterns, relationships and meaning that may not be captured through quantitative approaches.

In collecting data, this research uses the triangulation method to ensure the validity and reliability of the data. Triangulation was carried out by combining several data collection techniques, namely in-depth interviews with key informants as game industry players (developers, publishers, distributors, government, academics), direct observation of game company operational activities, as well as analysis of related documents such as industry reports, regulations, government, and scientific publications. The collected data is then analyzed thematically to identify patterns, relationships and meanings that are relevant to the research objectives.

FINDINGS AND DISCUSSION

Based on research that has been carried out regarding the existing games industry, the following results were found:

1. Actor Map

Gaming industry cluster analysis is a method used to identify and group companies operating in the gaming industry based on their similar characteristics. The goal of a gaming industry cluster analysis is to understand the structure of the industry, identify opportunities and threats, and develop effective strategies to compete.

Based on the results of data processing obtained with key informants, it can be seen that the core industry that is the focus of attention is Game Developers. In this case, there are several industry components that are interrelated and form a mobile game industry cluster. Based on the research results, in this industry (core industry) there are game developers (Game Developers) and Game Publishers (Game Publishers) whose final products or services are aimed at Industrial Users (Buyers). In the process, there are interconnected and continuous industries such as the supplier industry consisting of Infrastructure Service Providers, HR / Outsourcing Service Providers, Digital Content Providers, and Financial Service Providers (Banks, Ventures, Capital Markets, etc.). Supporting Industry which consists of Network Platform Providers, Marketing Service Providers (Mass Media, Influencers), Logistics Service Providers, Legal Service Providers (Consultants, etc.). There are also supporting institutions such as the Ministry of Tourism and Creative Economy, the Ministry of Maritime Affairs and Fisheries, the Ministry of Communication and Information, Educational Institutions / Ministry of Education and Culture, the Indonesian Game Association (AGI), and other government institutions. Outside the gaming industry cluster, there are related clusters related to the gaming industry itself, for example the

Animation Industry, Music Industry, E-Sports Industry and Tourism Industry.

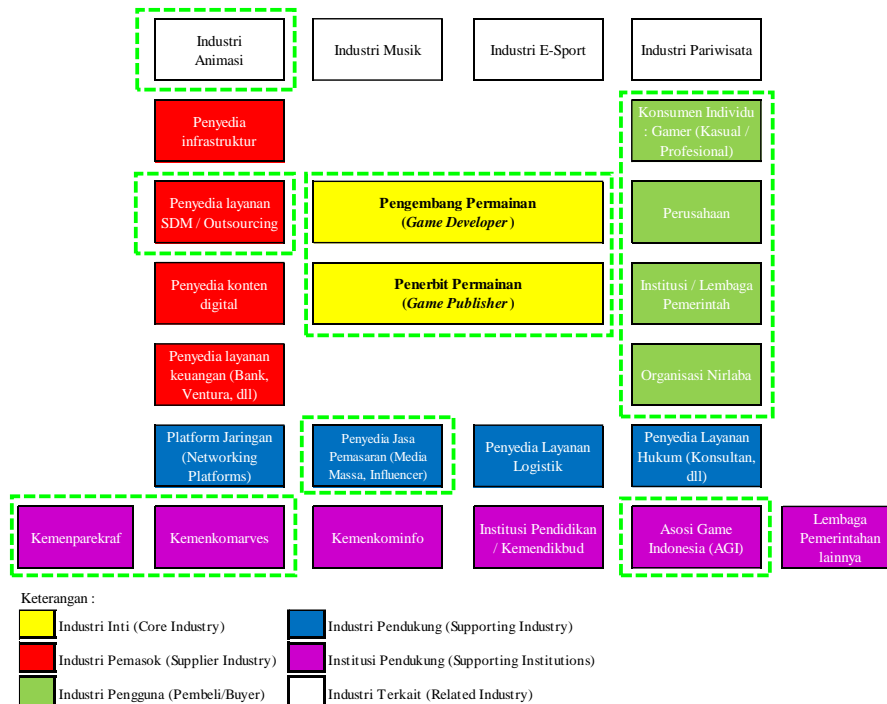


Figure 4.2: Game Industry Cluster Actor Map

2. Business Environment

The gaming industry in Indonesia is currently at an exciting point of development, driven by a unique combination of strong drivers and significant challenges. On the one hand, this industry has tremendous growth potential, supported by factors such as rapid market growth along with increasingly widespread internet and smartphone penetration, the availability of abundant creative talent, competitive production costs, a rich popular culture that can a source of endless inspiration, and increasing government support for the digital creative industry.

Additionally, the rapid growth of smartphone and internet users in Indonesia has created a huge market for mobile games, which is the largest segment in the global gaming industry. Rising interest in esports has also driven demand for competitive and watchable games, opening up new opportunities for local game developers to create products that appeal to a wider audience.

The diversity of game preferences among Indonesian players also represents a great opportunity for developers to create games that suit a variety of tastes and interests. Support from the strong gaming community in Indonesia also plays an important role in promoting local games and building a healthy ecosystem for the gaming industry.

The growth of the digital creative industry as a whole, including animation, film and music, has also provided significant support to the gaming industry in terms of content, talent and technology. Additionally, government support for creative industries, including gaming, has provided impetus for the development of related and supporting industries.

The emergence of active and organized game developer communities has also facilitated knowledge exchange, collaboration, and the development of a stronger industry ecosystem. Innovative independent game studios are also emerging, developing games with unique themes and gameplay, showing the great potential for creativity and innovation in the Indonesian games industry.

However, despite the huge growth potential, the gaming industry in Indonesia also faces a number of challenges that cannot be ignored. One of the main challenges is limited access to funding for game developers, especially small and medium scale ones. The lack of skilled labor with specific expertise in the field of game development is also a barrier to industry growth. Limited technological infrastructure in some areas, especially outside big cities, is also an obstacle in game development and distribution.

Suboptimal regulations regarding the gaming industry, especially in terms of licensing and incentives, are also a challenge for industry players. Tight competition from foreign games that have high quality graphics and gameplay also poses a threat to local game developers. Additionally, game piracy is still a serious problem in Indonesia, which is detrimental to game developers and hinders industry growth.

The preference of most game players in Indonesia, which still gravitates towards foreign games because of better graphic quality, gameplay and marketing, is also a challenge for local game developers to compete. Limited purchasing power among most gamers also makes it difficult for game developers to monetize their games through direct purchases.

Lack of awareness of local games among gamers is also an obstacle for local developers to expand their market reach. Apart from that, the lack of adequate esports infrastructure also hinders the development of the esports ecosystem in Indonesia.

The game industry ecosystem in Indonesia is still immature, with limitations in terms of supporting service providers such as marketing, localization and game testing, which also poses a challenge in itself. Dependence on foreign technology and services, such as game engines, distribution platforms and game development tools, is also an obstacle to the independence of the Indonesian games industry.

Supporting industries, such as marketing and localization service providers, also often have difficulty gaining access to adequate funding. The lack of clear industry standards for game quality, services, and business practices may also hinder the growth of related and supporting

industries. Some support industries, such as game testing service providers, may lack a workforce with sufficient technical skills. The dominance of foreign games in the Indonesian market is also a big challenge for local game companies. Many local gaming companies have limited resources, both financial and human, which hinder their ability to compete with larger foreign companies. Lack of experience and expertise in developing and marketing high-quality games is also a barrier for local game companies. Tight price competition from foreign games which are often sold at lower prices also makes it difficult for local games to compete. Apart from that, the lack of innovation and creativity among some local game companies who tend to copy successful foreign games is also a challenge for the development of the Indonesian games industry as a whole.

Based on the results of actor mapping, analysis of the specific business environment, and analysis of strengthening the business environment in the games industry, a priority objective was formed, namely increasing the competitiveness of local Indonesian game companies in the global market. The goal tree for achieving priority goals is as follows:



CONCLUSION

By analyzing the gaming industry value chain using this industrial cluster approach, it is hoped that each actor will be able to understand the company's position and role in the gaming industry ecosystem, enabling the development of a more focused and effective business strategy. Companies can identify new opportunities and challenges, and determine the right target market. Effective business strategies can also help companies to increase competitiveness and achieve competitive advantage. Therefore, managerial implications that can be carried out in efforts to increase the contribution of the games industry in the creative economy sector include the following:

1. Local game companies need to develop products that have clear competitive advantages compared to foreign games. This could be themes and characters relevant to Indonesian culture, unique and innovative gameplay, or high quality graphics. Additionally,

- companies also need to pay attention to market trends and player preferences to ensure their products remain relevant and attractive.
2. Local gaming companies need to build a strong brand that is easy for consumers to remember. This involves developing a consistent brand identity, creating a compelling story behind the game, and using the right marketing channels to reach the target audience. Apart from that, companies also need to actively interact with the player community through social media, online forums and gaming events.
 3. Local game companies need to establish strategic partnerships with various parties, including global game publishers and distributors, digital distribution platforms, as well as governments and financial institutions. This partnership can help companies in terms of funding, marketing, distribution and technology development.
 4. Local gaming companies need to play an active role in building a strong gaming industry ecosystem in Indonesia. This involves collaboration with fellow game developers, investors, governments, educational institutions, and other interested parties. Companies also need to support the development of local talent, increase access to funding, and strengthen the gaming industry's supporting infrastructure.
 5. Local gaming companies need to continuously monitor and evaluate the performance of their strategies. This involves collecting data on sales, downloads, ratings, reviews, brand awareness, and other metrics. Based on this data, companies can identify areas that need improvement and make necessary strategy adjustments.
 6. Improve cross-sector coordination between the central government, regional governments and business entities in the gaming industry. Managers in various sectors need to improve collaboration and communication skills to ensure the smooth implementation of programs carried out across sectors.

Based on the results of the analysis carried out by the author in which the actors who form the ecosystem in the local games industry and the supporting environmental conditions were mapped, four main strategies were identified to increase the contribution of local game companies and their competitiveness in the global market, namely as follows:

1. **Game Product Quality Improvement Strategy.** This strategy focuses on improving the technical quality and content of games, including the use of the latest technology, increasing developer skills, and encouraging creativity and innovation. Indicators of success include increasing game ratings and reviews, number of downloads or sales, and player engagement levels.

2. Strengthening Marketing and Branding Strategy, where this strategy emphasizes the importance of building a strong brand, developing an effective marketing strategy, utilizing digital platforms, and collaborating with global publishers and distributors. Indicators of success include increased brand awareness, number of new players, sales or downloads following a marketing campaign, and number of collaborations with external parties.
3. Distribution Network Expansion Strategy. This strategy aims to reach a wider market through partnerships with global publishers and distributors and the use of digital distribution platforms. Indicators of success include an increase in the number of countries covered, sales or downloads in international markets, and the game's ranking on distribution platforms.
4. Strategy for Building a Strong Industrial Ecosystem. This strategy involves increasing access to funding, encouraging collaboration between industry players, and improving supporting infrastructure. Indicators of success include an increase in the number of local game studios, the amount of investment in the local games industry, and the number of games industry events and activities.

This research has limitations in terms of time which does not allow for an in-depth analysis of the strategy indicators that have been identified. Therefore, it is hoped that future research can focus more on measuring and evaluating these indicators comprehensively, so as to provide a deeper understanding of the effectiveness of strategies in increasing the contribution of local gaming companies to the global market.

REFERENCES

- Betzler, D., & Leuschen, L. (2021). Digitized value chains in the creative industries: Is there a convergence of Swiss film and game production? *Creative Industries Journal*, 14 (3), 226-244. <https://doi.org/10.1080/17510694.2020.1796440>
- Homer, E. N., Wicaksono, A. D., & Usman, F. (2016). Penentuan Jenis Klaster Industri Di Kawasan Industri Arar Kabupaten Sorong Berdasarkan Metode Delphi Dan Analytical Hierarchi Process (AHP). *Indonesian Green Technology*, 5(1), 1-8.
- Kementerian Komunikasi dan Informatika. (2022). Laporan Tahunan Industri Gim Indonesia 2022.
- Kim, J. Y., & Kang, S. H. (2021). Windows of Opportunity, Capability, and Catch-Up: The Chinese Game Industry. *Journal of Contemporary Asia*, 51 (1), 132-156. <https://doi.org/10.1080/00472336.2019.1656761>

- Munnich Jr., F. E., et al. (1999). Cluster-based economic development: An emerging approach. *Economic Development Administration*.
- Newzoo. (2023). *Global Games Market Report 2023*.
- Niko Partners. (2023, December 16). *ASIA Games Market Report 2023*. <https://Nikopartners.Com/Asia-Games-Market-Report/>.
- Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. Free Press.
- Porter, M. E. (1998). *On Competition*. Harvard Business School Press.
- Prasetyo, Y. (2022). The impact of game industry cluster on the competitiveness of game companies in Bandung. *Jurnal Manajemen dan Kewirausahaan*, 24(2), 123-135.
- Santoso, S. (2023). Pengembangan Klaster Industri Inovasi Ekstrak Produk Perikanan dan Teripang Melalui Implementasi Iptek Kelautan dan Perikanan. *UHO Universitas Halu Oleo*, 1, 1-23.
- Suyanto, S., Sugiarti, Y., & Setyaningrum, I. (2021). Clustering and firm productivity spillovers in Indonesian manufacturing. *Heliyon*, 7(3). <https://doi.org/10.1016/j.heliyon.2021.e06504>
- Taufik, Tatang A. (2001). "Perspektif Kebijakan: Pendekatan Klaster dalam Pengembangan Unggulan Daerah" dalam Taufik, Tatang A., dan Subagjo, Ign. (Eds). 2001. *Menumbuhkembangkan Pemanfaatan Sumber Daya Lokal dan Perlindungan Aset Intelektual Bangsa*. BPPT. Jakarta. 2001.
- Sugeng Santoso dkk (2024) *Konsepsi dan Telaah Implementasi Manajemen Risiko Pembangunan Nasional (MRPN) Lintas Sektor*, Kementerian Koordinator Bidang Kemaritiman dan Investasi, ISBN: 9786238846740