

Formulation of Development Strategy and Business Model for the Geosis.Id Platform at PT Karya Berdiri Bersama

Davy Lydia^{1*}, Akhmad Yunani², Agus Maolana Hidayat³

Master of Business Administration Study Program, School of Economics and Business, Telkom University, Bandung, Indonesia

Corresponding Author: Davy Lydia davylydia1@gmail.com

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ABSTRACT

This research aims to formulate a responsive development strategy and business model for GeoSIS.id, a Location Intelligence-based digital platform managed by PT Karya Berdiri Bersama. GeoSIS.id is developed to support data-driven spatial decision-making across various sectors such as government, logistics, and retail. Currently, the platform is in the early stages of development with a project-based business model that is deemed unsustainable and difficult to scale. Therefore, a transformation to a more modular, flexible, and sustainable digital business model is required. This study uses a qualitative approach with a case study method. Data is collected through in-depth interviews, observations, and document studies. The analysis utilizes strategic tools such as SWOT, PESTEL, Porter's Five Forces, and Business Model Canvas (BMC) to formulate a development strategy that aligns with the dynamics of the digital industry. The resulting strategy is then mapped into a new business model structure. The findings indicate that GeoSIS.id has significant potential to grow as a nationally scalable spatial digital platform, especially if supported by enhanced value propositions, strategic partnerships, and diversified distribution and revenue channels. The development strategy focuses on strengthening internal technology, user experience, and the establishment of a subscription-based business model that is responsive to market changes and needs.

INTRODUCTION

Digital transformation has driven significant changes in various industrial sectors, including how organizations utilize data for decision-making. One approach experiencing rapid growth globally is Location Intelligence (LI), which utilizes spatial data combined with socioeconomic attributes to generate location-based insights. In developed countries such as the United States, the United Kingdom, and China, the use of LI has become common practice in the transportation, retail, logistics, and smart city governance sectors. LI-based solutions have even evolved into standalone platforms with a subscription-based approach that enables scalability and operational cost efficiency (ESRI, 2020; Batty, 2018).

In Indonesia, the adoption of Location Intelligence remains relatively low. Reports from DinarGeo (2023) and APJII (2024) note that low spatial literacy, limited data interoperability between agencies, and reliance on project-based approaches are key obstacles. Local platforms have yet to match the flexibility, scalability, and added value of global platforms like CARTO, Mapbox, or Clevermaps, which have already implemented digital platform-based business models.

GeoSIS.id is a local initiative developed by PT Karya Sikap Bersama (PT KBB) to address this challenge. This platform aims to provide adaptive, modular, and self-sufficient web-based Location Intelligence services. However, in its early stages of development, GeoSIS.id still adopted a project-based approach that did not support sustainable growth. Transforming to a subscription-based model is a strategic option, but there is insufficient literature examining this transformation process in the context of geospatial platforms in developing countries.

Theoretically, studies on digital platform business model transformation typically utilize a variety of strategic management frameworks. *Business Model Canvas* (BMC) (Osterwalder & Pigneur, 2010), the Resource-Based View (RBV) framework and dynamic capabilities (Barney, 1991; Teece et al., 1997), and digital platform theory are often used as references. However, the integration of these frameworks is still rarely done in the empirical context for local spatial platforms in Indonesia. This study aims to bridge this gap by developing a development strategy and redesigning the GeoSIS.id business model through a combination of SWOT, PESTEL, Porter's Five Forces, and TOWS Matrix analysis frameworks, which are synthesized in the formulation of a new BMC that is more adaptive and sustainable.

By highlighting the context of spatial technology platforms in emerging markets and integrating strategic analysis and cross-disciplinary theoretical approaches, this research is expected to provide practical contributions to the development of GeoSIS.id and theoretical contributions to enriching the literature on digital business model transformation in the geospatial sector. In addition to formulating a development strategy, this research also aims to identify key success factors in implementing subscription-based business models on digital spatial technology platforms in Indonesia.

The purpose of this research is to formulate a development strategy to support the transformation of GeoSIS.id's digital business model to be more adaptive and sustainable, in line with the development of the Location Intelligence industry and the challenges of digital transformation in Indonesia. Specifically, this research aims to:

1. Analyze the internal and external conditions of GeoSIS.id that influence the direction of platform development.
2. Integrating various strategic analysis approaches (SWOT, PESTEL, Porter's Five Forces, TOWS Matrix) in developing GeoSIS.id's development strategy.
3. Designing the transformation of GeoSIS.id's business model from a project approach to a more relevant and modular subscription-based model.
4. Identifying key success factors in implementing subscription-based models on spatial technology platforms in emerging markets.

LITERATURE REVIEW

Location Intelligence (LI)

Location Intelligence (LI) is an analytical approach that combines geospatial data with other attribute information, such as demographic, social, and economic data, to generate location-based insights that support strategic decision-making (ESRI, 2020; Batty, 2018). This process includes the collection, integration, analysis, and visualization of spatial data to understand patterns, spatial relationships, and geographic dynamics in a given context.

In the context of GeoSIS.id, LI is not just a technical feature, but rather the foundation of the platform's core value proposition. GeoSIS.id develops a web-based system that allows users to independently access, visualize, and analyze spatial data through modules such as Map Explorer and Grid Analysis. Integration with artificial intelligence (AI) technology enables the platform to generate precise and dynamic spatial recommendations.

LI's advantage within GeoSIS.id lies in its ability to simplify previously complex spatial analysis processes, making them accessible to a wide range of users from both the public and private sectors. This makes LI a strategic basis for platform differentiation and a source of competitive advantage in Indonesia's digital data services landscape.

GeoSIS.id Competitor Analysis and Business Model

1. Competitor Analysis

Table 1. Competitor Table

Platform Name	Operational Area	Business Model	Main Advantages
Esri ArcGIS	Global	Software license	the most advanced and comprehensive GIS features, supported by a wide user community.
CARTO	Global	Subscription-based	Advanced spatial visualization, extensive API integration
Salesforce Maps	Global	Platform-as-a-Service	CRM integration + maps for sales optimization

CleverMaps	Europe	Analytics platform	Focus on decision-driven spatial analysis
Bhumi Varta	Indonesia	Project-based	Indonesian local data, basic spatial visualization
Maptive	Global	SaaS	Simple interface for non-technical businesses

Source: Processed data sources

2. Strategic Analysis Tools (Functions and Reasons for Use)

Table 2. Analysis Tools Table

Tools	Function in Research	Reason for Use
SWOT	Identifying the strengths, weaknesses, opportunities and threats of GeoSIS.id	Provides a comprehensive overview of internal and external conditions
PESTEL	Analyzing macro environmental factors (Political, Economic, Social, Technological, Ecological, Legal)	Assessing the external macro impact on business continuity
Porter's Five Forces	Analyzing the competitive structure of the LI industry	Understanding GeoSIS.id's position in the industry and potential market threats
TOWS Matrix	Designing a SWOT results-based strategy	Produce contextual and applicable strategies
Business Model Canvas	Evaluating and redesigning business models	Flexible systematic visual tools in digital innovation

Source: Processed data sources

Digital Business Model

A business model is a conceptual framework that explains how an organization creates, delivers, and captures value from its products or services (Teece, 2010). In the digital era, a business model not only describes the structure of revenue streams but also how an organization interacts with customers, manages digital assets, and adapts its operations to technological and market dynamics.

Digital transformation has driven the emergence of new, more adaptive, collaborative, and modular business model innovations. Osterwalder & Pigneur (2010) developed the Business Model Canvas (BMC) as a visual tool for understanding and designing business models in a digital context. The BMC consists of nine main blocks that describe the fundamental elements of an organization: Customer Segments, Value Propositions, Channels, Customer Relationships, Revenue Streams, Key Resources, Key Activities, Key Partnerships, and Cost Structure.

Strategic Analysis Tools
Business Model Canvas (BMC)

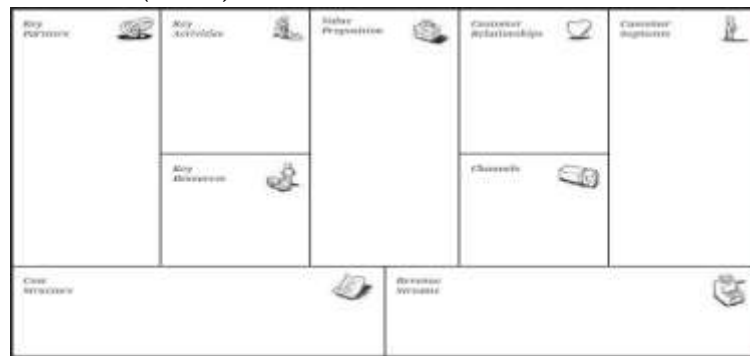


Figure 1. Business Model Canvas Framework
Source: Adapted from Osterwalder & Pigneur (2010)

BMC divides the business model into nine main blocks, namely:

1. *Value Proposition*: Describes the products or services offered by the company, as well as the unique value they provide to customers. This element articulates how the business solves customer problems, meets their needs, or creates specific benefits that differentiate it from competitors.

2. *Customer Segment*: Describes the customer groups that make up a company's target market. Each segment has different needs, preferences, and behaviors, making it important for businesses to tailor their products and services to suit the characteristics of each segment.

3. *Channels*: Describes the various channels a company uses to reach customers and deliver its value proposition. This includes communication, distribution, sales, and after-sales service channels.

4. *Customer Relationships*: Describes the types of relationships a company builds with customers, whether for acquisition, retention, or loyalty development. These approaches can be personalized, automated, community-based, or self-supported.

5. *Revenue Stream*: Describes the various revenue sources generated from each customer segment. Examples include one-time sales, recurring subscriptions, licensing fees, freemium models, and advertising-based revenue.

6. *Key Resources*: These are the key assets needed to create and deliver value propositions, reach markets, build customer relationships, and generate revenue. These resources can be physical, intellectual, human, or financial.

7. *Key Activities*: Describes the critical activities a company must undertake to ensure the business model is successful. This includes production, troubleshooting, platform/network maintenance, and technological innovation.

8. *Key Partnerships*: Refers to the network of external partners that help a company run its operations and mitigate risks. This includes suppliers, technology providers, strategic alliances, and distribution partners.

9. *Cost Structure*: Identify all costs associated with operating the business model. This includes fixed costs, variable costs, economies of scale, and economies of scope.

The Relevance of BMC for GeoSIS.id's Digital Transformation

1. PESTEL Analysis

The macro environment is the highest layer of external analysis and encompasses broad factors that impact the majority of organizations in an industry. The PESTEL framework identifies key trends in six categories: political, economic, social, technological, environmental, and legal factors, which serve as drivers of change and the basis for developing strategic scenarios (Morrison, 2017; Johnson et al., 2008; Gillespie, 2011).

2. Porter's Five Forces Analysis

Porter's analysis consists of five forces that influence the attractiveness of an industry.

1. Threats from competitors in the industry: How strong is the pressure from competitors in the same industry.
2. Threat of substitute products or services: How easily consumers can switch to alternative products or services.
3. Bargaining power of suppliers: How much influence suppliers have in determining the price and quality of raw materials.
4. Bargaining power of buyers: How much influence buyers have in determining the price and quality of a product or service.
5. Threat of new products or services: How big are the barriers for new companies to enter the industry.

3. VRIO Analysis

Evaluates a company's internal resources and capabilities based on Value, Rarity, Imitability, and Organization (Barney, 1991). VRIO is used to assess whether GeoSIS.id's core resources can become a sustainable competitive advantage. This tool complements SWOT by providing depth to the internal analysis (whether a strength is truly unique and difficult to imitate, etc.).

4. SWOT Analysis

The purpose of a SWOT analysis is to identify internal factors (Strengths and Weaknesses) and external factors (Opportunities and Threats), as shown in Figure 2.5. These factors must be formulated specifically to provide a sufficient basis for developing an appropriate strategy (David et al., 2016). Identification of SWOT factors can be done through interviews with relevant parties, gathering input from stakeholders, and compiling an organizational profile (Wehrich, 1982).

5. TOWS Matrix

The TOWS Matrix identifies four main groups of strategies:

1. SO (Strengths–Opportunities) Strategy: Leveraging internal strengths to capture geospatial market opportunities.
2. WO (Weaknesses–Opportunities) Strategy: Minimizing weaknesses by responding to regional digitalization opportunities.

3. ST (Strengths-Threats) Strategy: Using technical capabilities to address competitors and threats from open-source platforms.
4. WT (Weaknesses-Threats) Strategy: A defensive strategy that focuses on reducing weaknesses and avoiding regulatory and market risks.

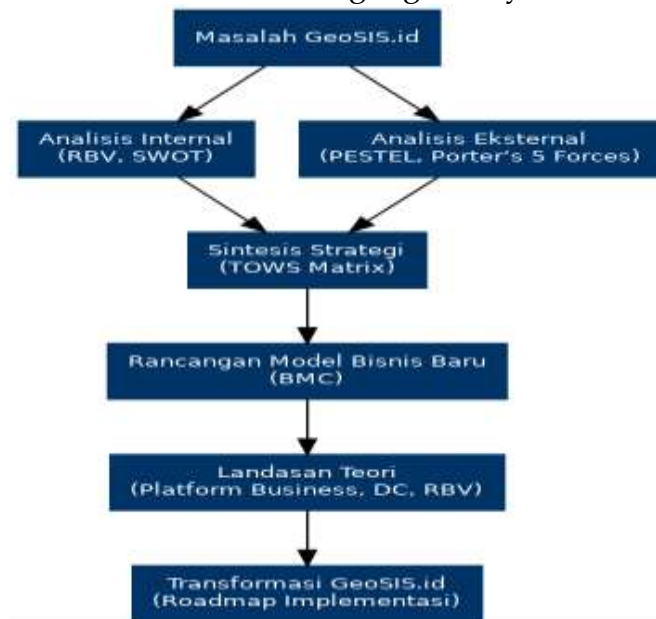


Figure 3. Conceptual Framework

METHODOLOGY

This research employs a qualitative exploratory approach with an interpretivism-constructivism paradigm and a single case study strategy at PT Karya Sikap Bersama (KBB), the developer of the GeoSIS.id Location Intelligence platform. This approach was chosen to deeply understand the transformation process of GeoSIS.id's business model from a project-based to a subscription-based digital platform. The focus of the research is not on generalizations, but rather on understanding the context, meaning, and social dynamics of the organization.

The research was conducted in Bandung, West Java, from January 2024 to July 2025, through several systematic stages: problem identification, literature review, conceptual framework development, case study focus determination, data collection, data analysis, strategy synthesis, roadmap development, validation of findings, and final report development.

Data was collected using three main techniques, namely:

1. In-depth interview (semi-structured) with internal (CEO, CTO, project managers, development team) and external (clients, academics, IT consultants, potential users) informants;
2. Documentation study to internal documents (roadmaps, team structures, project reports) and public (policies, industry articles, scientific journals);
3. Non-participatory observation to the dynamics of the GeoSIS.id team's work.

To maintain data validity, a triangulation strategy was used, involving data, theory, and researchers, as well as a member-checking process with key informants. Theoretical triangulation involved integrating the Resource-Based

View (RBV), Dynamic Capabilities, and Platform Theory as a basis for interpreting the results.

Data analysis was conducted using thematic analysis according to Braun & Clarke (2006). The stages included interview transcription, data familiarization, open coding, category grouping, synthesis of key themes, and interpretation and contextualization with strategic theory. The results of this analysis were integrated with strategic tools such as SWOT, PESTEL, Porter's Five Forces, TOWS Matrix, and Business Model Canvas to formulate a comprehensive transformation strategy for GeoSIS.id.

RESEARCH RESULTS AND DISCUSSION

GeoSIS Project Portfolio and Experience



Figure 4. Meeting with Clients in the Geospatial System Development Process

Source: Documentation of PT Karya Berdiri Bersama (2025).

This image shows the collaborative process between the PT KBB development team and the client in defining project requirements. Activities such as these strengthen understanding of field needs and spatial data usage patterns.

Table 3. Main Projects of PT Karya Berdiri Bersama

No	Project Name	Partners / Clients	Project Objectives	Technology Used	Output / Results
1	GIS-Based Surveillance Information System	Inspectorate General of Communication and Information Technology	Monitoring BTS infrastructure and internet access	Web GIS, analysis dashboard	Spatial-based BTS & AI distribution monitoring application
2	Bordercomm System for JCC Database	Ministry of Communication and Information	Border coordination and radio frequency notification	Bordercomm digital notification system, DB JCC	e-Notice coordination dashboard
3	Banten Perkim SIG	Banten Provincial Housing Service	Digital settlement PSU monitoring	Web & Mobile GIS	PSU dashboard and real-time reporting
4	SIGAP FBB	Ministry of Communication and Information	Support broadband penetration	Public GIS Web	Spatial dashboard and data input

5	SIMASI 2.0	PT Semen Indonesia Tbk	GIS-based asset management	Web GIS (Laravel, PostgreSQL)	SIMASI Online & Desktop Application
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This project experience demonstrates PT KBB's technical capabilities in integrating GIS, *web services*, and spatial analytics to support location-based decisions. However, custom project work patterns present challenges: high reliance on human resources, long lead times, and a lack of recurring revenue.

GeoSIS.id Business Model Canvas (Existing Project-Based Model)

Key Partners Instansi pemerintah pengguna Penyedia data spasial publik Vendor cloud/server	Key Activities Pengembangan sistem kustom Pengolahan data spasial Penyusunan dokumen teknis	Value Propositions Sistem informasi geospasial berbasis web, disesuaikan secara kustom dengan kebutuhan klien	Customer Relationship Satu kali transaksi proyek (one-time delivery) Komunikasi intensif selama proses pengembangan	Customer Segments Instansi pemerintah pusat dan daerah (Kominfo, Pemkot, BNPB, dll.) BUMN (PT Semen Ind)
	Key Resources Tim teknis internal (GIS & developer), server hosting, tools open source		Channel Penawaran langsung oleh tim PT KBB, melalui relasi institusional, proposal, dan tender proyek	
Cost Structure Gaji tim Biaya operasional proyek Biaya server/infrastruktur teknis per proyek			Revenue Stream Pembayaran berdasarkan kontrak proyek individual Tidak berulang	

Figure 5. GeoSIS.id Business Model Canvas – Old Model (Project-Based)

Source: Processed by the author, 2025

PESTEL Analysis (Political, Economic, Social, Technological, Environmental, Legal)

Table 4. Summary of Interview Results – GeoSIS.id PESTEL Analysis

No	Code	Position / Affiliation	Discussion Topics	Interview Results Summary
1	I1	CEO of PT KBB	Politics & Policy	Government support for digital transformation and the One Map policy strengthens the legitimacy of the national geospatial platform.
2	I2	CTO GeoSIS.id	Technology	Advances in cloud computing and AI integration open up opportunities for developing more efficient spatial analytics features.
3	I3	Project Manager	Economy	The SaaS model creates more stable recurring revenue than traditional project systems.
4	I4	Institutional Users	Social	The demand for spatial data is increasing, but digital literacy in the regions is still limited.
5	I5	Geospatial Expert	Environment & Regulation	Openness of spatial data and privacy policies are important factors for user trust.

6	I6	Government Clients	Politics & Regulation	Indonesia's One Data Policy encourages the integration of spatial data across agencies.
7	I7	Smart City Academics	Social & Technology	The adoption of cloud and AI is accelerating public awareness of spatial data.
8	I8	IT Consultant	Economy & Competition	The geospatial market is wide open, but global SaaS competition is getting fiercer.

Based on the interview results, the external environment presents a combination of growth opportunities and competitive challenges for GeoSIS.id. Government policy support, technological advancements, and increasing digital literacy are key catalysts for transformation, while global competition and the digital adoption gap remain limiting factors.

1. Political Factors

Reports from PwC Indonesia (2024) and the ASEAN Geospatial Agency (2024) show that Indonesia now leads the geospatial analytics market in ASEAN (approximately 30% share). This advantage is driven by regulatory factors, geographic conditions, and government investment in cloud computing and artificial intelligence (AI).

Table 5. Analysis of Opportunities and Threats of Political Factors

Opportunities	Threats
National regulatory support: One Map Policy (Presidential Decree No. 23/2021) and One Data Indonesia (Presidential Decree No. 39/2019) open up opportunities for cross-institutional collaboration.	Competition is getting tighter between local and global platforms to meet national standards.
Domestic & regional geospatial market growth (ASEAN share $\pm 30\%$).	Dependence on government policies and national political direction.
Digital technology advancements & AI/cloud investments are driving local SaaS efficiencies.	The risk of regulatory changes and bureaucracy that could slow down collaborative projects.

Source: Data processed by researchers (2025)

2. Economic Factors

Table 6. Analysis of Opportunities and Threats of Economic Factors

Opportunities	Threats
The national economy is stable ($\pm 5\%$ growth per year).	The risk of an economic slowdown reduces the digitalization budget.
Geospatial market growth and digitalization across industries.	Competition with global platforms (Esri, CARTO, Salesforce Maps).
Cloud & AI investments are increasing significantly.	Exchange rate fluctuations affect the cost of cloud services.

Source: Data processed by researchers

3. Social Factors

Table 7. Analysis of Opportunities and Threats of Social Factors

Opportunities	Threats
Increasing national digital literacy and smart city trends.	Traditional organizations' resistance to subscription systems.
Positive adoption from early adopters.	The digital literacy gap between regions.
Urbanization & the need for data-driven decision making.	Dependence on the readiness of the user organization's human resources.

4. Technology Factors

Table 8. Analysis of Opportunities and Threats of Technology Factors

Opportunities	Threats
Big Data & AI advances for spatial predictive analytics.	Rapid technological development → risk of feature obsolescence.
Cloud computing ecosystem & open API support integration.	Dependence on external cloud vendors.
Support for national digital transformation.	Technological competition with global players.

Technology factors become *key enabler* and a source of competitive pressure. GeoSIS.id must maintain an adaptive advantage through continuous R&D and innovation based on the local Indonesian context.

5. Environmental Factors

Table 9. Analysis of Opportunities and Threats of Environmental Factors

Opportunities	Threats
Increasing the use of spatial data for disaster mitigation and emergency response.	Decline in startup funding due to global funding winter.
The company's need for environmentally friendly solutions and ESG reporting.	Competition with large institutions (BIG, BMKG, Esri, Bhumi Varta Technology).
Availability of a national open data ecosystem (One Map Policy, Satu Data Indonesia, OpenStreetMap).	Potential restrictions on public data access if regulations are tightened.

Source: Interview results (Informant I3, CTO GeoSIS.id) and secondary document analysis (Gaveau et al., 2016; Kompas, 2023; Presidential Decree No. 98/2021).

Environmental factors act as strategic drivers that expand the social and sustainability value of digital business models. The need for disaster monitoring and mitigation systems makes geospatial data a national strategic commodity. However, this factor also demands a long-term commitment to innovation and responsible data governance. Without open collaboration mechanisms and consistent regulatory support, the enormous potential of the environmentally friendly geospatial industry could be hampered. Therefore, GeoSIS.id's strategy needs to balance commercial orientation with socio-environmental contributions to maintain legitimacy and strengthen sustainable competitiveness in the green economy era.

6. Legal Factors

Table 10. Analysis of Opportunities and Threats of Legal Factors

Opportunities	Threats
Strong legal basis through Law No. 4/2011 which encourages national geospatial data standardization.	Risk of violation of the Personal Data Protection Act if system security is inadequate.
Demand is increasing for service providers that comply with official regulations (BIG, BPS, and the PDP Law).	High costs for certification, audits, and maintaining legal compliance.
Opportunities for collaboration with government agencies through the One Map Policy and One Data Indonesia policies.	Rapid regulatory changes regarding data and cloud can incur technical adjustment costs.

Source: Interview results (Informant I2, PT KBB) and analysis of regulatory documents (Law No. 4/2011; Law No. 27/2022; Presidential Decree No. 39/2019).

Overall, legal factors provide a strong foundation for the development of SaaS-based geospatial services in Indonesia. Compliance with data regulations, official licensing, and privacy protection are not only administrative obligations but also a means of building public trust (*institutional trust*). Thus, legal factors can serve as a source of legitimacy and strategic differentiation for GeoSIS.id in strengthening its position in the national geospatial technology industry.

Industry Analysis (Porter's Five Forces Model)

1. Rivalry among Existing Competitors

Table 11. Rivalry Analysis among Existing Competitors

Opportunities	Threats
The national location intelligence market remains large and continues to grow in both the public and private sectors.	High level of competition between global and local players with similar offerings.
Differentiation opportunities through local data, contextual insights, and superior customer service.	<i>Switching cost</i> low, customers easily switch to other providers.
Building user communities and local ecosystems.	The technology is easy to copy because it is open-source and rapidly evolving.
A more affordable alternative to global platforms.	Competitors have integrated product ecosystems and strong vendor lock-in.

2. Threat of New Entrants

Table 12. Threat Analysis of New Entrants

Opportunities	Threats
First mover advantage in the Indonesian local market.	Technical barriers to entry are low – new players can emerge quickly.
Strong portfolio and credibility enhance reputation.	Newcomers can use aggressive pricing strategies.

Building a loyal user community as a barrier to entry.	The winner takes most phenomenon has the potential to concentrate the market on big players.
Strengthening partnerships with data and technology agencies.	Rapid innovation could erode GeoSIS.id's edge if it is not sustainable.

3. *Bargaining Power of Buyers*

Table 13. Analysis of Bargaining Power of Buyers

Opportunities	Threats
Building long-term relationships through multi-year subscription contracts.	High-value clients have great bargaining power and can drive down prices.
Providing unique data and specific local insights.	Clients may turn to other alternatives (global competitors or in-house solutions).
A customer-centric approach increases customer loyalty.	<i>Switching cost</i> low, customers easily switch platforms.
Custom consultative and integration services strengthen client retention.	Inability to provide high value can decrease retention.

4. *Bargaining Power of Suppliers*

Table 14. Analysis of Supplier Bargaining Power

Opportunities	Threats
The availability of public and open-source data reduces dependency.	Some specific data is monopolized by certain institutions (expensive to access).
Diversification of cloud providers and map APIs provides flexibility.	Reliance on a single technology vendor increases risk.
Strategic partnership with BPS/BIG increases long-term efficiency.	The scarcity of experienced GIS human resources adds to the pressure on human resource costs.
Competitive work culture and compensation increase HR loyalty.	Losing key talent can hamper product development.

5. *Threat of Substitutes*

Table 15. Threat of Substitutes Analysis

Opportunities	Threats
Deep spatial analytics features as unique values.	In-house solutions (ArcGIS/QGIS) can replace platform functions.
Self-service features and fast onboarding increase appeal.	Ad-hoc consultants are an alternative for incidental needs.
Curated, real-time local data adds to the advantage.	BI tools (Tableau/Power BI) can be sufficient for simple analysis.
Hybrid consultative services (platform + advisory) are expanding the market.	Open-source developments accelerate substitution capabilities.

The results of Porter's Five Forces analysis show that GeoSIS.id operates in an industry that competitive but prospective. High rivalry and dominant buyer power demand continuous differentiation, while the threat of new entrants and

substitutes can still be controlled through innovation, strategic partnerships, and local advantages.

To understand the extent to which GeoSIS.id is able to maintain and strengthen its competitive advantage amidst the pressures of the industry, the following section will discuss Internal Environment Analysis (VRIO) to identify the resources and capabilities that provide *sustainable competitive advantage* for the company.

Global and Local Competitor Analysis

1. CARTO



Figure 6. CARTO Platform Home Page Display

Source: CARTO (2025), www.carto.com

2. ESRI ArcGIS

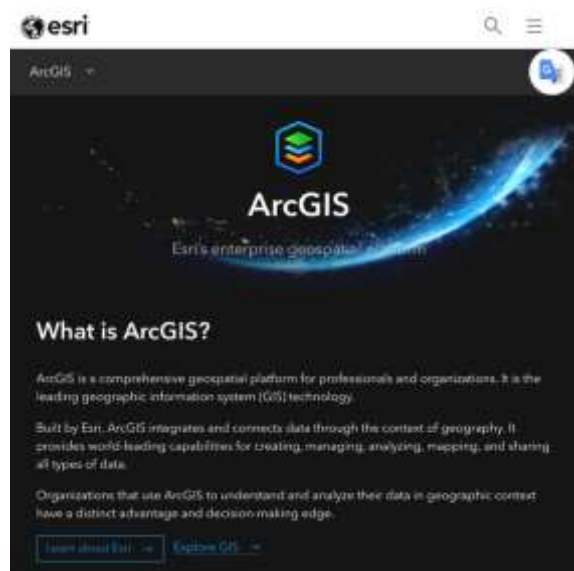


Figure 7. ArcGIS Platform Main Page View

Source: ArcGIS (2025), www.arcgis.com

3. *Maptive*



Figure 8. Maptive Platform Home Page View
Source: Maptive (2025), www.maptive.com

4. *Maptitude*



Figure 9. Maptitude Platform Home Page Display
Source: Maptitude (2025), www.maptitude.com

5. Clevermaps

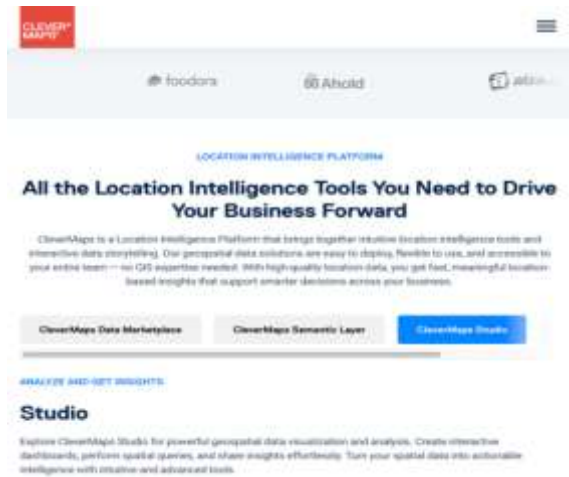


Figure 10. Clever Maps Platform Home Page View
Source: Clevermaps (2025), www.clevermaps.com

6. Woosmap



Figure 11. Woosmap Platform Home Page View
Source: Woosmap (2025), www.woosmap.com

7. Salesforce Maps



Figure 12. Platform Main Page ViewSalesforce
Source: Salesforce(2025), www.Salesforce.com

8. Bhumi Varta



Figure 13. Platform Main Page View Bhumi Varta
Source: Bhumi Varta(2025), www.bhumivarta.com



Figure 14. GeoSIS.id Competition Position Map
Source: Researcher Analysis Results (2025)

The competitive position map in Figure 4.29 shows that GeoSIS.id currently occupies the position local to regional, with a still limited market reach but significant growth potential. When compared to global players such as ESRI ArcGIS And CARTO, the most striking difference lies in scale of adoption and complexity of analytical features. ESRI ArcGIS, for example, dominates the global market thanks to its comprehensiveness *tool set* and widely recognized multi-platform integration, while CARTO excels in API flexibility and broad adoption among enterprise users and data analysts.

On the other hand, platforms like Clevermaps, Maptive, And Mapitude indicates a middle ground with a focus on efficiency and ease of use, indicating a market niche for simpler yet functional solutions. In this context, GeoSIS.id And Bhumi Varta occupy the local segment with the advantage

of domestic data and approach *tailored solution*. These two players are working on a market that has not been deeply penetrated by global players: the provision of spatial data and analytics relevant to the Indonesian context. GeoSIS.id's position demonstrates strong competitive foundation as a national geospatial SaaS provider, which has the potential to grow to a regional level if it is able to strengthen analytical features, system reliability, and strategic cross-sector collaboration.

CONCLUSIONS

This study concludes that transforming GeoSIS.id's business model from a project-based approach to a subscription-based platform is a strategic step to increase scalability, cost efficiency, and recurring revenue. Through SWOT, PESTEL, Porter's Five Forces, and BMC analyses, it was found that GeoSIS.id's main strengths lie in technological competency, local spatial data, and growing national market opportunities. This transformation requires a shift in value orientation, organizational structure, and marketing strategy toward a sustainable product and service approach.

RECOMMENDATIONS

To strengthen competitiveness and sustainability, GeoSIS.id is advised to:

1. Implementing value communication strategies through market education (webinars, case studies, educational content).
2. Establish a Customer Success Management unit to increase user retention.
3. Expanding collaboration with government, academia, and the geospatial community to strengthen the ecosystem.
4. Implement tiered pricing (Basic–Enterprise) and pay-per-use options to be more inclusive. These steps will strengthen GeoSIS.id's position as a sustainable national location intelligence platform.

ADVANCED RESEARCH

Further research is recommended to conduct comparative studies with similar platform providers, both at the national and global levels, in order to gain a broader understanding of competition patterns, differentiation strategies, and the dynamics of technology adoption.

Second, this study used a qualitative approach based on strategic analysis and in-depth interviews, so the assessment of perceived value, user satisfaction, and customer retention factors has not been quantitatively measured. Therefore, future research could employ survey or mixed methods to produce more empirical, measurable, and statistically testable findings, for example through measuring Customer Lifetime Value (CLV), Churn Rate, or User Satisfaction Index.

Third, the financial feasibility of subscription-based business models has not been analyzed in depth in this study. Future research could potentially develop revenue forecasting models and economic feasibility analyses based on

user growth scenarios, thereby providing an overview of business sustainability in the medium and long term.

Fourth, the development of geospatial technology and spatial analytics continues to advance, including the integration of machine learning, big data, and artificial intelligence-based mapping automation. Therefore, further research can examine the impact of implementing intelligent spatial analytics (spatial AI) on enhancing platform value propositions and its implications for resource requirements and organizational readiness.

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