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From Monetization to Social Impact: Business Model Adjustment in Circlegeo's .GIS Platform

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ABSTRACT

This study explores the business model of the .GIS platform product developed by Circlegeo using the Nine Buildings framework based on the Business Model Canvas and the Theory of Change framework to analyze the social impact created by the .GIS platform. Data were obtained through semi-structured interviews, non-participant observation, and systematic document analysis. The results show a shift in the business model. In 2022, Circlegeo shifted its target market from its previous focus on B2C and B2G customer segments to B2B and B2G, which will continue until 2026. The social impact analysis also shows that the .GIS platform's contribution to society is not only practical for geospatial analysis but also its usefulness in academic research. These findings indicate that Circlegeo positions the .GIS platform as a dual-purpose PLG instrument: introducing the company to potential customers of other paid products while simultaneously creating independent social impact. Previous research on freemium and product-led growth (PLG) business models has generally positioned free strategies as customer acquisition tools toward monetization, with limited potential for creating tangible social impact. This research contributes to the literature on PLG and freemium business models by demonstrating that such strategies can be a pathway to authentic social impact creation, not simply a step towards monetization.

Keywords: *social business model; social impact; geospatial platform*

Introduction

The geospatial business is a relatively niche one, with a very limited market and limited innovation. Geospatial research is indeed a field that primarily serves as a support for various significant projects, ranging from infrastructure development (Maurya & Dahima, 2020), retail outlet development (Ting et al., 2018), to the development of e-commerce-based systems or applications (Beckers et al., 2022). Furthermore, according to Prof. Hartono, Professor of the Faculty of Geography at Gadjah Mada University, geographic information plays a crucial role in indicating the location, distribution, and quality of resources and various spatial phenomena to support national development. Furthermore, Geographic Information Systems (GIS) play a role in numerous studies related to disasters such as landslides, earthquakes, forest fires, and tsunami run-up estimation (Ika, 2012). Therefore, even as a supporter, geospatial science and technology play a very large role in various sectors, so that the development of innovation in the geospatial field is important (Bill et al., 2022; Kamraju, 2025).

Unfortunately, despite the supporting role of geospatial science, innovation in digital geospatial products in Indonesia has not been as rapid as other sectors,

hindering local innovation (Kohli & Melville, 2019). Even today, suppliers of geographic information system software in Indonesia still come from abroad. Some software frequently used for geographic data processing are products from Esri, a company from the United States with its flagship product, ArcGIS, as a commercial product; from Supermap, a product marketed commercially from the Bamboo Curtain country; and QGIS, an open-access and free product developed by Gary Sherman as an open source application (ASDReports, 2025).

Although the market for digital geospatial products is dominated by foreign products, PT Lingkar Reksa Geodata, better known as Circlegeo, still sees this as an opportunity to build its own geospatial platform. Initially, Circlegeo focused solely on providing digital map creation services for government clients. However, the lack of web-based digital map creation platforms and the growing public demand prompted Circlegeo to create a .GIS platform (Muhamad Rizky, 2024). This product innovation makes Circlegeo an interesting object for further study.

The business model of providing information technology services is not new in Indonesia, but unlike other companies in the same field which are mostly B2B, Circlegeo implements digital map products with a B2C scheme. This is based on the vision of Circlegeo's CEO, namely to give birth to other new entrepreneurs in the field of earth science, which then became the basis for the birth of various programs built by Circlegeo in addition to digital services and made Circlegeo grow by not only focusing on B2G strategies but also B2C. Circlegeo's journey from being only a company providing map-based information system creation services to then succeeding in providing digital products that can be utilized and modified is solely in order to realize the ambition of Circlegeo's CEO to give birth to new developers in map-based technology or geospatial technology, namely technology to obtain, manipulate, and store geographic information with information conveyed by the CEO.

Furthermore, the presence of the .GIS platform built by Circlegeo continues to experience adjustments in its business model over time. This adjustment shows that product placement in a business can be very dynamic (Zhang et al., 2026). The business model and business patterns developed by Circlegeo on the .GIS platform in order to retain customers or users are analyzed within the Business Model Canvas framework. A Business Model is a model that describes the rationale for how an organization creates, delivers, and captures value (Alexander Osterwalder & Yves Pigneur, 2011). The business model canvas created by Osterwalder & Pigneur is a tool widely used by organizations to present the concept of a business model so that it is easy to understand and provides a clear interpretation of what the company needs and the strategic elements that will have the greatest impact on the business (Cavalcante et al., 2011). With this framework, the author identifies how the .GIS platform business model has changed into three periods, namely 2018-

2021, 2022-2023, and 2024-present, which are divided based on significant changes in the placement of .GIS platform products and/or the platform's business model. Many businesses have examined the company's business model, but not many studies have tried to look at changes in business models, especially companies operating in the geospatial industry (Foss & Saebi, 2017) and how these changes in business models impact society as a form of social impact.

A business model pattern is a description of a business model, including its characteristics, block arrangements, and behavior. Business model patterns are constantly evolving and can be developed by each company as an innovation to maintain or improve their business. Karolin Frankenberger et al. (2014) analyzed 250 business models implemented in various industries over 25 years and identified 55 business model patterns that became the basis for past business models. Alexander Osterwalder & Yves Pigneur (2011) wrote about five business model patterns in their book, Business Model Generation, where the five business model patterns were translated into a Business Model Canvas for easy understanding, comparison, and implementation. The five business model patterns are:

1. Unbundling is a pattern where customer relationships, product and service innovation, and infrastructure are operated separately.
2. Long Tail is a pattern where companies shift to focus on a few best-selling products.
3. Multi-Sided Platform is a pattern where companies serve two or more distinct but complementary segments.
4. Free Model is a pattern where companies focus on providing products or services for free to attract customers. This model has three offering forms:
    a. Freemium, where customers can get a free but limited version and then have to pay for the full version.
    b. Bait and hook, offering free products or services for a limited time.
    c. Advertising, or using advertising as a substitute for revenue streams from products or services being shared for free.
5. Open Business Model is a pattern where companies adopt an open attitude to collaborate with various parties to increase productivity and reduce costs.

Previous studies have focused more on the freemium and product-led growth (PLG) business models as mechanisms for offering basic functionality for free and ultimately monetizing users with more comprehensive features (Rietveld, 2018), with social impact positioned as a side effect, rather than a planned, systematic evaluation. This study differs because it demonstrates a case where there is a shift in the freemium model, maintained not only as a commercial channel but also explicitly evaluated for its social impact within the Theory of Change framework, a combination that has not been widely explored empirically in the context of technology platforms, as far as literature searches are concerned.

This study contributes to the literature on business model innovation and Product-Led Growth in three ways. First, it provides a broader understanding of the motives behind freemium strategies, moving from the acquisition-to-conversion logic to maximizing opportunities for social impact. Second, it demonstrates how a company can pursue both strategic objectives: business or commercial growth (through innovation or other product development) and social impact (through providing access to a .GIS platform) without the two being mutually exclusive. This adds nuance to the business model adjustment literature, which typically assumes a trade-off between commercial and social objectives. Third, it demonstrates the application of the Theory of Change in validating the social impact of business model decisions across technologies, a rarely used methodological combination.

This study aims to explore how Circlegeo's business model decisions for the .GIS platform have evolved over time, and to uncover the resulting social impacts, even though this was not the company's primary objective from the outset. This study is guided by three questions: (1) how has the .GIS platform business model changed since its launch until now? (2) what patterns are visible in these changes? and (3) to what extent has the .GIS platform generated social impacts since its release, analyzed using the Theory of Change framework?

Research Methods

The research design used in this study is descriptive, which aims to describe or outline the characteristics and functions of the business model and social impacts implemented by Circlegeo. The approach used in this study is a qualitative approach to explore and understand the meaning derived from individuals and groups, where in the context of this study is a group, namely the company (John W. Creswell & Cheryl N. Poth, 2018). In this study, the research object is specifically the Circlegeo business with a product in the form of a .GIS platform. In other words, this research is descriptive qualitative.

In this research process, the analytical basis used refers to the Business Model Canvas to identify nine main blocks and business patterns according to the framework developed by Osterwalder and Pigneur. The business patterns used as a reference for identification include unbundling, long tail, multi-sided platform, free model, and open business model. Then, the social impact analysis of the use of the .GIS platform on society was conducted using the Theory of Change framework (Kriswibowo et al., 2021).

Data collection techniques, both primary and secondary data, were obtained through several methods. Primary data were obtained through semi-structured interviews with three Circlegeo management members: the Chief Executive Officer (CEO), the Product Manager, and the Marketing Manager. Secondary data were then obtained through non-participant observation conducted by the author of

various company activities related to the business model and business patterns. The author also conducted a literature review using company documents and other supporting sources such as documentation in digital media.

After data collection, the data was analyzed step by step by mapping nine blocks in the Business Model Canvas to examine Circlegeo's business model on the .GIS platform product for all three periods. Business patterns were also identified based on Osterwalder and Pigneur's five business pattern framework. Furthermore, the social impact of the .GIS platform was analyzed using the Theory of Change framework to examine the relationship between platform activities and their contribution to society for all three periods, divided based on the business model changes that occurred. The three periods in question are the period until 2020, 2021-2023, and since 2024.

This study used source triangulation to validate the data. The sources, management interviews as internal narratives, were compared with independently observed external evidence, such as documentation from scientific publications and project publications generated using a .GIS platform. This approach allowed researchers to verify the consistency of the company's internal claims against data not sourced from the company itself. Triangulation in this study combines three data sources: (1) semi-structured interviews with three Circlegeo management to capture internal narratives of decision-making, (2) document analysis of scientific publications that use the .GIS platform in various projects, including compiling project examples into summary tables, and (3) non-participant observation of publications on social media and Circlegeo's website to find information on business model changes that have occurred. These three sources complement each other to verify social impact claims independently from the company's internal narratives.

Results and discussion

The Business Model Analysis using the Business Model Canvas was conducted over three time periods based on changes or adjustments occurring within Circlegeo. The business model analysis was only conducted for the .GIS platform product, which remained in existence throughout the three periods, although the business model changes also impacted Circlegeo's business model for this product. Then, in the final period, Circlegeo shifted the position of the .GIS platform, which was no longer a revenue stream for the company.

1.1 Circlegeo Business Model Changes

Data for the analysis of Circlegeo's Nine Building Blocks of Business were obtained through non-participant observation conducted by the researcher and semi-structured interviews with three key individuals within Circlegeo. Both methods revealed that Circlegeo experienced a shift in its business model based on

evaluations of product performance and customer response. Circlegeo is not afraid to pivot. This is done to address declining profits or mismatches between the company's products or services and customers, leading to a profitable situation (Rayie Tariaranie Wiraguna, 2021).

Circlegeo's first pivot occurred in early 2021, resulting in changes to its Business Model Canvas. Information about this first business pivot was obtained through semi-structured interviews with Circlegeo executives. Circlegeo then pivoted again in early 2024, information obtained through non-participant observation. The following is a summary of Circlegeo's Business Model Canvas for the periods up to 2020, 2021-2023, and since 2024, compiled by the author.

Table 1. Business Model Canvas of .GIS platform during period up to 2020

<table>
<tr>
<td rowspan="2">Key Partners

Parent companies that support promotions, government project searches, and Customers who have spatial and attribute data</td>
<td>Key Activities

- Promotion to B2C customers,
- Sales and lead follow-up,
- Product development,
- Customer data maintenance</td>
<td rowspan="2">Value Propositions

Providing a way for everyone to increase their income through web-based digital maps as a ‘geopreneur’</td>
<td>Customer Relationships

- Online communities,
- Online seminars,
- Competitions,
- Through .GIS technology products, customers can create their own digital maps (co-creation).</td>
<td rowspan="2">Customer Segments

B2C refers to the mass market customer segment, anyone who needs web-based digital maps.

B2G refers to governments that need web-based digital maps.</td>
</tr>
<tr>
<td>Key Performances

Human Resources (HR): Marketing Team, Product Team, and Development Team

Goods: Devices to support HR activities</td>
<td>Channels
Social Media (Instagram, YouTube, Telegram, LinkedIn), Circlegeo Website, Email Marketing, Community Telegram Group, Organic Search on Google assisted by SEO</td>
</tr>
<tr>
<td colspan="3">Cost Structure
a. Fixed cost
- Employee Salaries
b. Operational cost
- Product development costs
- Internet costs
- Office building operating costs</td>
<td colspan="2">Revenue Streams
- Payment for premium .GIS services
- Payment for additional storage services
- Payment for access to training classes
- Membership payments</td>
</tr>
</table>

	- Honorarium from government-owned Web GIS development projects

Table 2. Business Model Canvas of .GIS platform during period 2021-2023

<table>
<tr><td rowspan="2">Key Partners

Parent companies that support promotions, government project searches, and Customers who have spatial and attribute data</td><td>Key Activities

Promotion to client companies (B2B),
Sales and lead follow-up for potential customers,
Product development,
Customer data maintenance</td><td rowspan="2">Value Propositions

Easy digitization of geospatial information and easier distribution of geospatial information</td><td>Customer Relationships
Region-based communities,
Offline community activities,
Online seminars,
Competitions,
Through .GIS technology products, customers can create their own digital maps (co-creation).</td><td rowspan="2">Customer Segments

B2B refers to companies that require web-based digital maps and/or WTA services.

B2G refers to governments that require web-based digital maps.</td></tr>
<tr><td>Key Performances
Human Resources (HR): Marketing Team, Product Team, and Development Team

Goods: Devices to support HR activities</td><td>Channels

Social Media (Instagram, YouTube, Telegram, LinkedIn),
Circlegeo Website,
Email Marketing,
Community Telegram Group,
Organic Search on Google assisted by SEO</td></tr>
<tr><td colspan="3">Cost Structure
a. Fixed cost
- Employee Salaries
b. Operational cost
- Product development costs
- Internet costs
- Office building operating costs</td><td colspan="2">Revenue Streams
- Payment for premium .GIS services,
- Payment for additional storage services,
- Honorarium from government Web GIS development projects
- Honorarium from company projects</td></tr>
</table>

Table 3. Business Model Canvas of .GIS platform during period since 2024 until present

<table>
<tr>
<td rowspan="2">Key Partners

Parent companies that support promotions, government project searches, and Customers who have spatial and attribute data</td>
<td>Key Activities

Promotion to client companies (B2B),
Sales and lead follow-up for potential customers,
Product development,
Customer data maintenance
Organizing consultation sessions to prospective B2B customers</td>
<td rowspan="2">Value Propositions

Provider of digital solutions in geo and climate technology, tailored to the unique needs of each client, in order to improve operational efficiency, data-driven decision-making, and drive sustainable innovation.</td>
<td>Customer Relationships

Region-based communities,
Offline community activities,
Online seminars,
Competitions,
Through .GIS technology products where customers can create their own digital maps (co-creation),
Consultation sessions</td>
<td rowspan="2">Customer Segments

B2B (business) and B2G (government) that require digital solutions in the form of geo or climate technology</td>
</tr>
<tr>
<td>Key Performances

Human Resources (HR): Marketing Team, Product Team, and Development Team

Goods: Devices to support HR activities</td>
<td>Channels

Social Media (Instagram, YouTube, Telegram, LinkedIn),
Circlegeo Website,
Email Marketing,
Community Telegram Group,
Organic Search on Google assisted by SEO</td>
</tr>
<tr>
<td colspan="3">Cost Structure
a. Fixed cost
- Employee Salaries
b. Operational cost
- Product development costs
- Internet costs
- Office building operating costs</td>
<td colspan="2">Revenue Streams
- Payment for premium .GIS services,
- Payment for additional storage services,
- Honorarium from government Web GIS development projects
- Honorarium from company projects
- Payment for Geo Enabler and Climate Enabler technology services
- Payment for custom services/products according to client needs</td>
</tr>
</table>

In the first period, 2020 and earlier, the target customer base was B2C, but this was changed to B2B in 2021. Circlegeo made this pivot due to the perceived

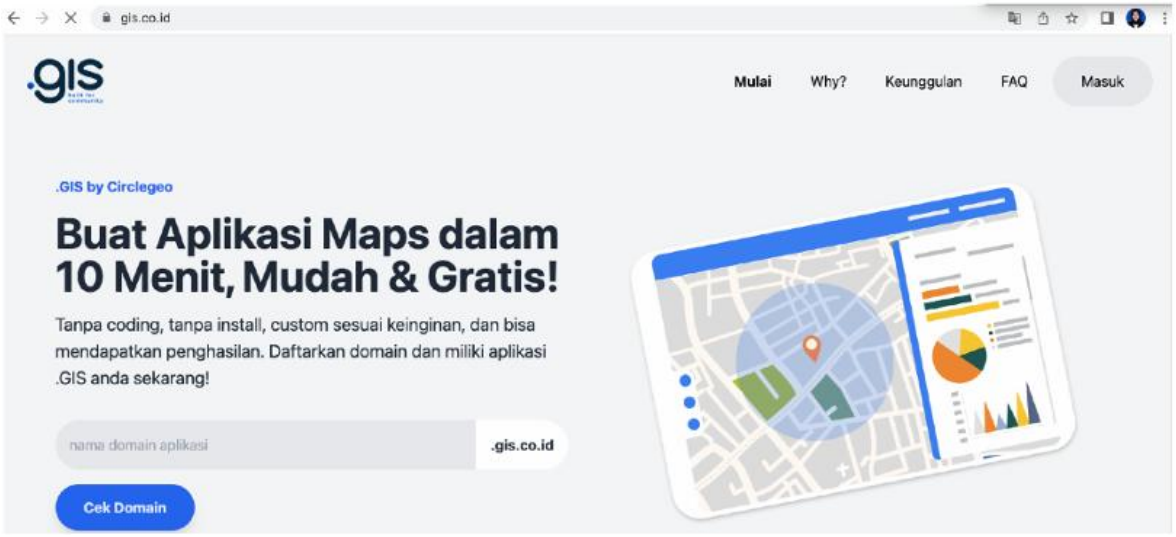
underperformance of the B2C segment despite maximizing internal efforts. Due to the change in customer segments, the channel utilization strategy was also adjusted, from primarily utilizing social media to optimizing email marketing. Overall, there were no channel changes, but there were adjustments to the channel utilization strategy. Revenue streams also changed, with payments for training classes no longer coming from the client company, but instead project fees.

Starting in 2024, entering its third phase, Circlegeo's business model will also undergo changes, driven by business conditions and the development of innovative technological products produced by Circlegeo. This also impacts the position of the .GIS platform within Circlegeo's business model, shifting from being a source of revenue to a community driver and providing social impact. Currently, Circlegeo has geo- and climate-based technology products packaged as digital solutions for both B2B and B2G clients. To meet the needs of potential clients, Circlegeo offers free consultations, which also serve as a customer relationship channel. This demonstrates the development of Circlegeo's business model to remain relevant to the market. This practice demonstrates a customer development approach based on the Lean Startup framework, which uses direct interaction with customers to understand market needs and validate the business model (Eric Ries, 2011; Steve Blank & Bob Dorf, 2012).

1.2 Business Patterns of .GIS platform

In the period up to 2023, based on the results of participant observation conducted by researchers where researchers conducted observations by directly trying the products offered by Circlegeo, it can be concluded that Circlegeo applies a Free Model business model with a freemium offering. Circlegeo provides unlimited access to .GIS products for free but only has basic and limited features. Circlegeo has a premium version of .GIS if customers want to get more complete features and a larger data storage container size in order to maximize the use of its digital maps so that digital map visitors can access the information they need more optimally.

Figure 1. Display of the gis.co.id website (.GIS Platform) where customers can create digital maps with their own .gis.co.id domain.



Source: gis.co.id (2026)

Observations also revealed that Circlegeo implements an open business model where customers are involved in the creation of digital maps, through the provision of map theme ideas, spatial and attribute data, and the design of digital map displays. Users of digital maps must be assisted by external parties, particularly in terms of theme ideas and data, as Circlegeo focuses solely on providing a customizable platform for creating digital maps, rather than on creating ready-to-use digital maps. Internally, Circlegeo acts as a platform developer.

The channels Circlegeo has developed allow customers to interact with each other and provide input on each digital map project they are working on. By engaging customers, Circlegeo focuses on building an innovation ecosystem that engages anyone who wishes to participate (Adner, 2017). The success of Circlegeo's open business model is evident in the success of Circlegeo's customer projects, which have been able to monetize and generate revenue, as shown in the following table.

Table 4. List of Examples of Circlegeo Developer User Projects That Have Successfully Generated Income Through Monetization

Project Name	Project Brief Description	Project Link
Peta Vaksin Indonesia *English: Indonesia Vaccine Map*	Geographic Information System Website showing the progress of vaccination programs in cities and districts throughout Indonesia	https://petavaksinindonesia.geo.id/
SINTANKOT (Sistem Informasi Kesehatan Kota) *English: City Health Information System*	A website that provides information about various health services such as ambulances, community health centers, and doctor services and their locations.	https://kotakusehat.geo.id/

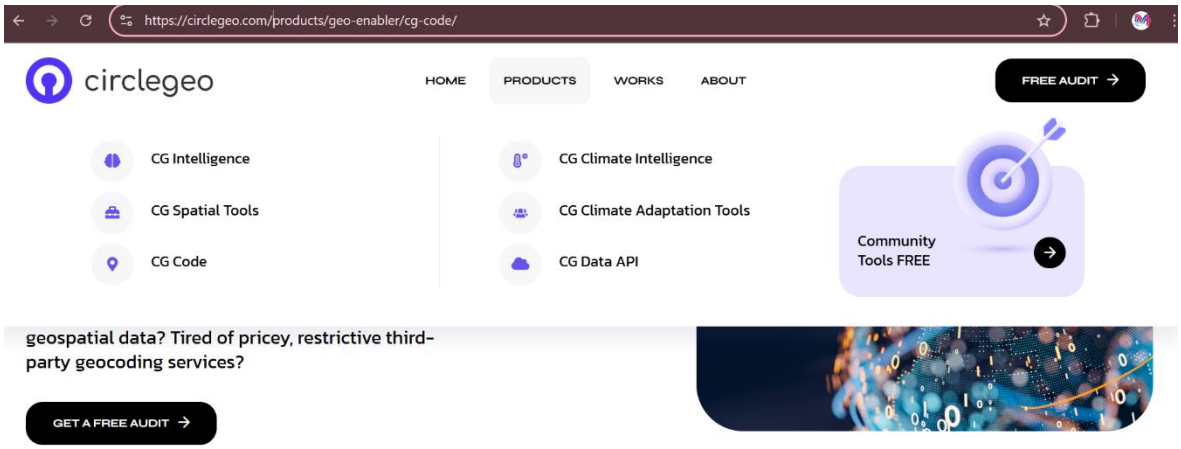
SIPEGA (Sistem Informasi Peta Gayo Lues) *English: Gayo Lues Map Information System*	Geographic Information System Website that presents information related to mapping in Gayo Lues Regency for decision making and policy making in regional spatial planning.	https://sipega.geo.id/

Source: Adapted from "Circlegeo Company Profile" (2020)

1.3 Social Impact of .GIS Platform

After reviewing the revenue growth of the .GIS platform and considering the development team's success in developing various technological product innovations, Circlegeo has decided to adjust the position of the .GIS platform within its business model. Starting in 2024, Circlegeo has decided to make the .GIS platform a community-based or community-supporting product. The .GIS platform can still be used by the general public, including students, workers, community members, and even the government, but it will no longer be the primary product offered as Circlegeo's primary source of revenue. Access to the .GIS platform itself is no longer positioned as a primary product on the Circlegeo website (www.circlegeo.com), but can still be accessed through the 'Product' menu and then the 'Community Tools FREE' button.

Figure 2. Navigation to the .GIS platform on the Circlegeo website



Source: www.circlegeo.com (2026)

Although no longer a source of income, the author's non-participant observation revealed that many parties still utilize the .GIS platform, for example, for final assignments or research. The author sought to determine the extent to which the .GIS platform is utilized in research by searching the Google Scholars page. Using the following keywords:

a. .gis.co.id yielded 29 publication findings, 20 of which were verified, and published between 2021 and 2024.
b. Circlegeo yielded 129 publication findings, 4 of which were verified, and published between 2022 and 2025.
c. And two books were verified to utilize the .GIS platform for explanations, examples, or other materials.

By using a tool to measure website activity, namely www.similarweb.com, it was found that the gis.co.id site had received 3,700 visitors with a visit duration of 00:01:45.

Within the Theory of Change framework, the transformation of the .GIS platform from a monetization-oriented to a community-based ecosystem, accessible for free, can be understood as Circlegeo's move to create long-term social impact by increasing participation, access, and utilization of geospatial technology by the wider community. This aligns with literature stating that technology adoption by the community or users is a key factor in creating value and impact from digital transformation (Everett M. Rogers, 2003; Vial, 2019).

At the input stage, in addition to the .GIS platform being accessible to the wider public, the company's geospatial technology and knowledge serve as the primary basis for maintaining the sustainability of the .GIS platform. Then, at the activity stage, the .GIS platform is used for various professions and needs, from government, students, to researchers, to build web-based maps. From these activities, outputs are generated in the form of an increase in the number of .GIS platform users as evidenced by various academic publications and books. The number of visits to the .GIS platform also indicates that this platform is still used and beneficial to the community as users. Furthermore, ongoing outputs increase the capacity of the community as users in utilizing geospatial technology through the .GIS platform and are known as outcomes. The resulting impacts are in the form of the .GIS platform's contribution to development and strengthening the geospatial ecosystem in Indonesia, both in research and improving the quality of human resources in the geospatial field. The .GIS platform has proven to provide its own strategic value for Circlegeo and proves that Circlegeo also plays a role as a bridge between geospatial technology and society, as the vision Circlegeo conveys through its website (Jacobides et al., 2018).

Figure 3. Circlegeo .GIS Platform Theory of Change Diagram

Source: Developed by Author (2026)

Conclusion

Circlegeo, a geospatial technology company in a niche industry in Indonesia, maintains its presence by continually adapting its business model to market conditions. Circlegeo pivots its business model every 2-3 years, ideally based on the Lean Startup approach, where organizations iteratively test and adjust their business models using a build-measure-learn cycle to ensure product-market fit (Eric Ries, 2011; Steve Blank, 2013).

However, Circlegeo has not abandoned its idealism, as evidenced by adapting the .GIS platform as a community-driven tool for benefiting the wider community, without limitations. This commitment has also been enshrined in Circlegeo's vision since the company was founded in 2019. In fact, by ensuring the .GIS platform remains beneficial to the community even though it is no longer a source of revenue, the company's image has improved due to the tangible social impact it generates (Bruna & Nicolò, 2020). This is also evident in the continued use of the .GIS platform by many people, as evidenced by scientific publications between 2022 and 2025. The .GIS platform can be considered a Product-Led Growth (PLG) Ecosystem engine, a product that drives customer acquisition, retention, and expansion by allowing users to try the product directly and independently, without being pushed by a sales team (Silva et al., 2020).

Furthermore, considering its history, Circlegeo began product innovation in 2022 to develop a weather-based technology called Weather Targeting Automation (WTA), motivated by the lack of similar technology produced or used in Indonesia. Then, in 2024, Circlegeo expanded its product offering to include a climate enabler business. In this regard, Circlegeo demonstrates the characteristics of a growing and sustainable company (Bajwa et al., 2017) by continuing to innovate by improving product quality and maintaining market adaptability, utilizing digital technology in its processes ((Hadi Sulistyanto et al., 2025).

This research uses a single case study design at Circlegeo Company, therefore the findings on business model changes or shifts and their social impacts cannot be directly generalized to other company or industry contexts. This research also relies on the perspective of Circlegeo's internal management as the primary source of understanding of business model decisions, so the perspective of external stakeholders such as end users of the .GIS platform is not accommodated. The depth of analysis in this case was chosen deliberately with the aim of understanding in detail the mechanisms of the conditions that occurred, with full awareness of the limitations of such generalizations.

This research strengthens its position in the literature by demonstrating that previous empirical studies of freemium and PLG (e.g., Rietveld, 2018) consistently focus on the dynamics of acquisition and conversion towards monetization, but rarely explicitly link them to social impact evaluation through a systematic framework such as Theory of Change. Thus, the findings of this research do not stand in isolation, but rather fill a specific gap in this established literature.

Suggestion

Circlegeo is advised to maintain and develop its .GIS platform user community as part of its freemium-based promotional strategy. This community not only expands adoption and increases platform visibility but can also serve as a

gateway for upselling other products or services the company offers. Thus, an ecosystem-based approach can continue to be leveraged as a source of long-term growth.

These findings also have implications for digital startups in emerging markets: building a user base through free access and community can be an effective strategy for increasing adoption while creating indirect monetization opportunities. This approach allows startups to remain relevant and competitive, especially in developing and price-sensitive markets.

Further research is recommended to be able to explore the generalization pattern of business model shifts in other technology companies with different products and industries, and also involve external stakeholders such as end users or parties who utilize the platform or technology. Then, this study provides an initial overview that digital products can be a source of sustainable social impact if the operational costs of maintaining them can be reduced to a minimum, without limiting the company's innovation space on other products that are seen to occur in Circlegeo, so that future research can test this proposition more systematically, including through a longitudinal design to observe the sustainability of social impact in the long term.

Acknowledgements

The author would like to express sincere gratitude to PT Lingkar Reksa Geodata (Circlegeo) for their willingness to support this research. It is hoped that future studies will further explore niche businesses as case studies, in order to enrich insights into the types of services and products offered, as well as the business models implemented in Indonesia.

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