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Analysis of Digital Service Business Development at Pln Using Swot Analysis and Business Model Canvas (BMC) (Case Study of PT PLN (Persero) UIW Nusa Tenggara Timur)

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Abstrak. *PLN's digital transformation in providing customer service in the electricity sector is growing with the implementation of digital services as a one-stop service for PLN to improve customer satisfaction and company sales. PLN's digital services provide many conveniences, from bill payment, electricity token purchases, PLN product requests, to providing a marketplace. An understanding of PLN's digital service business model is necessary in business development efforts to improve the company's services and sales. This study aims to analyze PLN Mobile's digital service business model for each customer segment based on the applicable tariffs at PLN using SWOT analysis and the Business Model Canvas (BMC), analyze internal and external factors influencing the business, develop new strategies, and provide recommendations for the BMC based on the results of these new strategies. The study will also utilize PESTEL and Porter's Five Forces to analyze external business factors. This research uses a qualitative and descriptive approach. Primary data collection will be conducted through in-depth interviews with internal and external company sources. Secondary data collection will be used as supporting data, such as the number of users, the number of token purchases/electricity payments, customer complaint/grievance transactions, and the number of transactions related to requests for PLN products through PLN Mobile. Data collection is obtained through internal reports from PLN UIW NTT. This research provides an understanding of the business model for PLN's digital services and provides an analysis of internal factors to identify strengths and weaknesses. External factors were also analyzed, taking into account the influence of PESTEL and Porter's Five Forces, to identify opportunities and threats posed by PLN's digital services. Through the new Business Model Canvas, PLN is expected to identify new strategies that can be implemented to improve service quality and increase company revenue. Based on the research results, 18 new strategies were obtained with short, medium and long-term strategy categories which are stated in the new Business Model Canvas with a focus on adding customer segments, revenue diversification, green energy support, to focusing on infrastructure and supporting resources in carrying out PLN's digital service operations.*

Keywords: *Digital Services, SWOT Analysis, Business Model Canvas, Electricity Sales Strategy.*

INTRODUCTION

In this era of globalization and rapid technological development, digital transformation has become a phenomenon that is changing the way companies do business, communicate with customers, and carry out operations. Various industrial sectors are now being encouraged to adapt to technological advances in order to improve efficiency, innovation, and corporate competitiveness. The acceleration of digital technology adoption has increased rapidly since the COVID-19 pandemic.

According to (Seiler & Hanselman, 2021), the overall adoption of digital technology by companies has accelerated by three to seven years in a matter of months. In 2021, McKinsey Global Survey conducted a survey on how companies are rethinking the role of digital technology in their overall business strategy and how to run their businesses at an increasingly rapid pace in carrying out company operations.

However, it is not only the pace of business that has changed fundamentally as a result of the COVID-19 crisis. According to a McKinsey Global survey, many respondents realized that their company's business model was outdated. Only 11% believed that their business model would remain economically viable until 2023, while 64% said their companies needed to build

new digital businesses to achieve that goal (Seiler & Hanselman, 2021).

At the same time, the pandemic has created new vulnerabilities to future disruptions. In the McKinsey Global Survey, respondents in every sector said their companies had significant vulnerabilities, particularly in terms of profit structures and the ability to combine products and operations. As Table 1.9 shows, many healthcare and pharmaceutical companies are investing in adapting their offerings, providing on-demand access to products and services, and improving the overall customer experience. However, according to the survey, these businesses face greater disruption risks in their value chains, operational cost structures, and the types of products offered by companies (Setiawan & Perdhana, 2019).

Digital dominance is not only evident in the superiority of large-scale technology companies, but also in the success of non-digital-native companies such as John Deere, Goldman Sachs, BHP, Disney, and Bosch. These companies have invested heavily in technology-enabled strategies and business models to differentiate themselves from other companies. For example, John Deere has begun to differentiate itself through an Internet of Things (IoT) ecosystem that provides digital services to customers, increasing the value that its machines deliver to customers. There are also companies in the housing sector, such as ZPG in the UK or Zillow in the US, that have started to create end-to-end ecosystems that include property search, property comparison, mortgage purchasing, and access to home improvement professionals (Seiler & Hanselman, 2021).

Not only that, companies engaged in the electricity industry are also undergoing customer-focused digital transformation by developing digital platforms to improve customer service and experience. Examples include UK Power Networks in the United Kingdom, E.ON in Germany, Pacific Gas & Electric (PG&E) in the United States, and AusNet Services in Australia. The main focus of digital platforms supporting digital transformation in customer service is to monitor energy usage, report disruptions directly, conduct digital payment transactions, and personalize the customer experience.

PT PLN (Persero), as a state-owned enterprise in the electricity sector in Indonesia, is also undergoing digital transformation in providing customer service by introducing the PLN Mobile application. The PLN Mobile application is one of PLN's “The Next Chapter of Transformation” initiatives that focuses on Digital Moonshoot. According to PLN's internal report, the PLN Mobile application has been downloaded by more than 76 million users as of January 2025. PLN Mobile was first launched in 2016 and continued to undergo a comprehensive digital transformation in 2020 in terms of features and service improvements.

In implementing digital transformation by providing digital services through the PLN Mobile application, PLN applies this to all business areas in Indonesia, including PLN UIW East Nusa Tenggara. As shown in Figure 1, PLN's business areas include power generation, transmission, distribution and load control centers, and distribution. For the purposes of digital transformation in this study, we will discuss digital services in the process of electricity distribution or the sale of electricity to customers.

PLN UIW NTT has 1.07 million PLN Mobile users in 2024. From 2020 to 2024, PLN Mobile has grown from only 64 transactions in 2020 to 195,568 transactions. Meanwhile, the transaction value on PLN Mobile was only Rp. 4,730,000 in 2020, reaching Rp. 73,737,327,955 in 2024. The number of user transactions included 47,093 non-electricity bill transactions, 281 electric vehicle transactions, 782 postpaid bill payment transactions, and

148,401 prepaid electricity token purchase transactions during that period.

PLN Mobile provides many conveniences for PLN customers through the digital services it offers with the aim of improving customer service and satisfaction. The digital transformation that PLN Mobile can carry out includes online digital service requests, real-time outage notifications, and information on electricity usage and estimates. Additionally, several services are available online, including electricity bill payments, electricity token purchases, reports of disruptions and complaints related to electricity, connection requests, SPKLU services, and information on connection product promotions, as well as shopping through the PLN marketplace.

PLN sells electricity to customers through postpaid billing and prepaid electricity tokens. Meanwhile, PLN has a Beyond kWh business, which consists of business activities other than the sale or supply of electricity (kWh). Transactions that occur on PLN Mobile to support the Beyond kWh business include Stroomnet, SPBKLU, Iconcash Order Bundling, and Charge In.

Based on the PLN UIW NTT sales report, sales up to December 2024 reached 1,454.14 GWh from the sales target of 1,470.93 GWh, or 98.86% of the 2024 target. There is still a sales gap of 1.67 GWh to reach 100% or 163.88 GWh to achieve the beyond performance target. Meanwhile, total electricity revenue reached IDR 1.79 trillion in 2024, with IDR 73.73 billion generated from PLN Mobile transactions. Looking at the revenue from each PLN customer tariff segment, as shown in Table 1.8, it can be seen that each segment has significant potential. The tariff segments are divided into six tariffs, namely social, household, business, industrial, government, and special services.

In order to increase the company's sales, it is necessary to have the right strategy by utilizing the business model implemented by the company. PLN can take advantage of digital transformation through the PLN Mobile digital service by maximizing the potential sales of electricity and Beyond kWh that can be obtained from each customer segment in accordance with the implementation of PLN tariffs through an understanding of the new business model.

Digital transformation strategies have four important dimensions, namely the use of technology, changes in value creation, structural changes, and financial aspects. Therefore, this study seeks to identify and concretize the relevant elements in these four dimensions (Matt, Hess, & Benlian, 2015, in (Reis et al., 2022).

The growth in users and transactions occurring on the PLN Mobile digital service requires an understanding of the company's business model so that it can be taken into consideration by stakeholders and policy makers in developing the potential for service and sales improvements on PLN Mobile. A customer-centric approach in business model design will open up new opportunities for the company. Innovation requires a deep understanding of customers, including their environment, routines, and aspirations (Osterwalder & Pigneur, 2010).

There is not much research that specifically discusses the business model of PLN Mobile's digital services. However, many other industries have conducted analyses using the Business Model Canvas (BMC) and Internet of Service (IoS). Several studies have been conducted in industries such as livestock farming (Reis et al., 2022), clothing rental (Arrigo, 2022), and cultural tourism (Ammirato et al., 2022). These studies analyzed existing business models to develop new business models for business development in order to benefit the industry.

Several studies show that the Business Model Canvas and SWOT analysis are important in strategic planning, analyzing internal and external factors, and creating strategies in a new Business Model Canvas to effectively guide the achievement of company sales targets. These include analyzing companies in the telecommunications infrastructure sector (Rachman, 2024), the restaurant industry (Lestari, 2024), and the university business sector.

Based on efforts to increase electricity sales through digital services via PLN Mobile, researchers sought opportunities to provide new business models through the potential of each customer segment per tariff applicable at PLN. Therefore, the researcher will conduct a study entitled: "Analysis of PLN Digital Service Business Development Using SWOT Analysis and Business Model Canvas (BMC) (Case Study of PT PLN (Persero) UIW Nusa Tenggara Timur)".

MATERIALS AND METHODS

This study will use qualitative research methods with descriptive objectives to provide an in-depth description of the development of PLN's digital service business. The study will focus on data collection through in-depth interviews, participatory observation, and analysis of internal company documents so as to provide an understanding of the context of interactions and experiences relevant to the study.

Qualitative methods are an in-depth and comprehensive research approach to understanding and explaining phenomena in their natural context. Unlike quantitative approaches, which emphasize measurement and statistics, qualitative methods emphasize interpretation, contextual understanding, and subjective meaning. (Rachman et al., 2024).

According to (Kusumawardani et al., 2015), qualitative research will answer research problems or research questions that lead to explanations of the process or background of an event in the form of an opinion, opinion, or explanation of a problem.

This study will use a case study research strategy, namely a case study of PLN UIW East Nusa Tenggara. A case study is an intensive, in-depth, and detailed exploration of a particular organization or phenomenon with the aim of obtaining a complete and in-depth description (Kusumawardani et al., 2015). The research is designed with moderate researcher involvement, where the researcher will take an active role in data collection and interaction with participants without changing the existing conditions.

The research background is non-contrived, where the research is conducted without making changes to the environment being studied. In addition, the research will use a cross-sectional approach, where data will be collected at a specific point in time. This design allows researchers to obtain a clear picture of the case study at that time, so that it can be analyzed and concluded efficiently without the need for continuous observation.

RESULTS AND DISCUSSION

Analysis of the Business Model Canvas (BMC) for Current Digital Services

The research began with collecting primary data through interviews with internal sources. Internal sources consisted of stakeholders or PLN management (Commerce & Marketing, Customer Service Implementation Unit, Sales & Retail). In addition, documentation and participatory observation of PLN's digital services also provided an overview of the company's digital service business model. Supporting data was also collected through company data,

which added to the series of analyses in compiling the existing BMC for PLN's digital services.

In the interview data collection process, data condensation will be carried out by filtering and summarizing key information with supporting documents to ensure relevance. The condensation results will be entered into nine BMC blocks so that each block component can be further identified. The next stage will be to analyze the relationships between each block in order to identify the strengths and weaknesses of the business model. The output stage of this research will produce an existing BMC in the form of nine blocks that reflect the current state of the business model.

The following are the stages of identification and analysis for each BMC block based on the results of condensed interviews with five internal sources conducted via Zoom Meetings.

1. PLN Digital Services Customer Segment

   In analyzing PLN's digital service customer segment, interviews with five internal sources were condensed and credibility was tested through source triangulation. All sources provided the same information regarding the customer segment of PLN's digital services to customers.

   "PLN's digital services target all tariffs and all PLN customers to access digital services for easy electricity payments, token purchases, reporting of disruptions and complaints, but for certain tariff segments, the focus is not yet there." According to Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 7 of 2024, PLN has several customer segments that are differentiated based on the purpose of the customer's electricity, such as households, businesses, industries, social, and government.

   According to observations, PLN's digital service customer segment is intended for all customer segments without exception. However, observations show that most household customers enjoy PLN Mobile's digital services, such as token purchases and electricity payments, connection requests, complaints, and service disruptions. As for the potential in specific customer segments, it is not yet available in PLN's digital services, such as business and industrial customer services. Currently, PLN's digital services still predominantly serve B2C, while B2B is not yet significantly visible in these digital services.

2. PLN Digital Services *Value Proposition*

   In analyzing the value proposition of PLN's digital services, interviews with five internal sources were condensed and credibility was tested through source triangulation. The conclusions of the internal sources provided several similar value propositions for digital services, with additional points from certain sources providing comprehensive information.

   "The value that can be an advantage in PLN Mobile for customers is the ease of access to PLN services, bringing services closer to customers, becoming a one-stop solution for electricity features, real-time services, and being more responsive to customer complaints and requests."

   According to Wahyuddin et al. (2023), there are several advantages to the basic concept of digital capabilities, including increased efficiency, increased productivity, enabling adaptation to change, enabling better decision-making, and increasing competitiveness. (Osterwalder & Pigneur, 2010) emphasize how companies create value for customers, which can be quantitative (e.g., price and service speed) or qualitative (e.g., design and customer experience). The concept of capabilities in digital services can support the value proposition that companies want to offer to customers. The following are the results of an analysis of

PLN's digital service value proposition.

PLN ensures that customers receive several benefits, such as easy access to electrical and non-electrical services, providing comprehensive service features with a one-stop solution, real-time services, and more responsive services, thereby increasing customer trust with transparent services.

3. PLN Digital Service Channels

In analyzing PLN's digital service channels, interviews with five internal sources were condensed and credibility was tested through source triangulation. The sources provided information on how PLN communicates with customers through several media used to convey service information and ongoing promotions.

PLN's digital service channels explain how digital services provide communication and reach customer segments to convey their value proposition. The sources agree that, "PLN communicates with customers through social media, such as Instagram @pln_id, @plnmobile, Facebook, TikTok, and X. Specifically on PLN Mobile, promotional information appears in the form of pop-ups when customers access PLN Mobile or within the digital platform."

"The promotions implemented by PLN have achieved the objectives of specific segments or are in line with the thematic promotions issued. This is in accordance with the terms and conditions during the promotion period, such as those specifically for households or social groups. However, PLN has also implemented promotions for all tariffs during a single promotion period."

Based on the interview findings, it appears that PLN communicates digitally through social media, such as Instagram, Facebook, TikTok, and X. Through these media, PLN can provide the latest information and ongoing product promotions. To facilitate customer service interactions, PLN maximizes the use of live chat through collaboration with Contact Center 123 and via email.

4. *Customer Relationships PLN Digital Services*

In analyzing PLN's digital service customer relationships, interviews with five internal sources were condensed and credibility was tested through source triangulation. The sources explained how PLN maintains loyalty and provided consistent information across all sources.

"In maintaining customer loyalty in PLN Mobile's digital services, PLN implements easy transactions, a variety of services in one digital service, easy promotions only from PLN Mobile services, improved application performance and customer user experience, accelerated information, and power outage recovery."

In the digital age, customer engagement has become one of the key drivers of service innovation, particularly through the use of social media (Echeverri & Skålén, 2021). emphasize that social media plays an important role in driving customer engagement by enabling interactive communication. This study shows that companies that actively utilize social media are able to build closer relationships with customers, improve user experience, and support service innovation that is relevant to current customer needs.

Based on the interview findings, PLN has established customer relationships for its digital services by improving user experience as a one-stop solution for electricity, facilitating electricity and non-electricity transactions, building long-term loyalty through

rewards, and using multiple channels to make it easier for customers to access customer service.

5. PLN Digital Services Revenue Stream

   In analyzing PLN's digital service revenue stream, interviews with five internal sources were condensed and credibility was tested through source triangulation. The sources provided the same revenue information, with some sources providing additional information to make it more comprehensive.

   "Revenue is divided into electricity sales and non-electricity sales. Electricity sales come from token purchases, electricity bill payments, and connection fees for PB/PD/Pesta products. Non-electricity sales include revenue from REC, rooftop PV, marketplaces, and SPKLU usage."

   The analysis of PLN's digital service revenue stream shows that PLN has sources of income through the sale of electricity services and non-electricity services. Sales from PLN's digital services from electricity services include electricity bill payments, electricity token purchases, and non-electricity bill payments, as well as electricity sales from the use of Public Electric Vehicle Charging Stations (SPKLU). Meanwhile, sales from non-electricity services include the purchase of Renewable Energy Certificates (REC) and sales from the marketplace.

6. Key Resources PLN Digital Services

   In analyzing PLN's key digital service resources, interviews with five internal sources were condensed and credibility was tested through source triangulation. The sources provided the same resources from the perspective of PLN's digital service support and from the perspective of officers who will follow up on customer digital services.

   "In terms of application development, PLN Mobile involves a subholding company, namely PLN Icon Plus. PLN partners, such as banks, support payment channels. Support for digital services is provided by connection officers and technical service officers who resolve technical issues. There are also partners who record meters digitally"

   The results of the analysis of PLN's key digital service resources include digital service infrastructure through cooperation with sub-holdings, cyber security and personal data protection, technology development and maintenance teams, supporting human resources, and partnerships and stakeholders through cooperation with external and internal partners. PLN's external partners include banks, technical installation service providers, and the Ministry of Energy and Mineral Resources. Meanwhile, PLN's internal partners include Connection Officers, Technical Services, and Billing Management (Billman).

7. Key Activities PLN Digital Services

   In analyzing the key activities of PLN's digital services, interviews with five internal sources were condensed and credibility was tested through source triangulation. The sources described the same main activities in PLN's digital services, which were supported by observations from the service platform.

   "The main activities that can be carried out in relation to electricity services, such as accessing PLN product applications or promotions, reporting complaints and disruptions, purchasing electricity tokens or paying electricity bills (Table 4.18 No.18)." PLN ensures key activities in digital services, such as platform development and maintenance, handling customer requests, digital marketing and promotion, collecting and analyzing customer data

to provide usage evaluations, and ensuring compliance with personal data protection regulations and customer data security in digital services.

8. Key Partnerships PLN Digital Services

In analyzing PLN's key digital service partnerships, interviews with five internal sources were condensed and credibility was tested through source triangulation. The sources conveyed the same key partnerships in supporting PLN's digital services.

"PLN collaborates with PLN Icon Plus as an application supporter, banks in supporting transactions, and installers (LIT) supporting LSP Plus services. In addition, PLN collaborates with business partners in managing connection officers, technical services, and billing management."

In supporting the digital services provided, PLN has key partnerships with developers and providers of technology and innovation, working together through the PLN Icon Plus sub-holding company as a service platform supporter, digital payment partners, Technical Installation Service (LIT) partners, Service Officer partners, and regulatory bodies such as the Ministry of Energy and Mineral Resources and the Ministry of Communication and Information Technology in overseeing service standards and regulations, as well as personal data protection and cybersecurity regulations.

9. Cost Structure of PLN Digital Services

In analyzing the cost structure of PLN's digital services, interviews with five internal sources were condensed and credibility was tested through source triangulation. The sources confirmed that the cost structure of PLN's digital services was based on key operational criteria and other supporting operational costs.

"Operational costs incurred are divided into application development and management costs, marketing promotion costs, HR operational costs for back office personnel to manage applications and connection officers, as well as material and work equipment investment costs."

In supporting PLN's digital services, a cost structure is needed to ensure that these services run optimally, such as platform development and management costs, marketing promotion costs for introducing digital services, operational costs for supporting human resources, operational costs for service partner officers, and investment costs for materials and work equipment needed by PLN in handling customer requests from digital services.

An analysis of PLN's current digital service Business Model Canvas is being conducted with the aim of gaining an understanding and evaluating the current business model in order to identify weaknesses and opportunities for improvement. Not only that, understanding the current business model will ensure that resources and changes can be made to provide future revenue potential.

In the Customer Segments block, PLN's digital services aim to reach all customer segments according to specific tariff categories. PLN's customer tariffs include households, industry, social, business, and government. Each customer segment can experience the value proposition that PLN wants to provide through PLN Mobile digital services in order to meet customer needs. The value proposition offered includes convenience, comprehensive service features, real-time services, and responsiveness to customer needs. The value provided demonstrates how PLN's services adapt to continuous electricity needs.

In supporting good customer relations, the Customer Relationship block shows PLN's

implementation of customer relations, including improving user experience with comprehensive digital service features, ease of transactions, building loyalty programs, and using multi-channels (contact center 123 and email pln123@pln.co.id). Additional channels supporting PLN's customer engagement include live chat (PLN Mobile Customer Service) and social media platforms such as Instagram @pln_id & @plnmobile, Facebook, TikTok, and X. All multi-channel initiatives are implemented to retain customers and provide them with easy access to PLN services.

The Revenue Stream block shows the company's sources of income, which consist of sales of electricity services and sales of non-electricity services. Electricity service sales include transactions for token purchases, bill payments, connection fees for New Connections / Power Changes / Temporary Lighting, and electric vehicles – SPKLU (Public Electric Vehicle Charging Stations). Meanwhile, non-electricity service sales include REC purchases and marketplace purchases.

From the revenue block, companies need to pay attention to the cost structure in the expenses incurred by the company in running its digital services business. The costs incurred by PLN in running its digital services include the costs of developing and managing digital platforms, marketing promotion costs, HR operational costs, service partner operational costs, and material and work equipment investment costs.

PLN Digital Services has Key Activities in its efforts to run service operations with a focus on platform development & maintenance, customer request handling, digital marketing and promotion, data collection & analysis, as well as compliance with personal data protection and cyber security regulations. These activities are supported by Key Resources, including digital service infrastructure, cybersecurity and personal data protection, technology development and maintenance teams, human resources, and partnerships and stakeholders (Banking, LIT, and the Ministry of Energy and Mineral Resources). Key Resources are important assets that enable PLN to carry out its main activities and deliver value to customers efficiently and effectively.

In the Key Partnerships block, PLN has a network of partners that help the company run an efficient business model, including technology developers and providers, digital payment partners, LIT partners, service officer partners, and regulatory bodies (Ministry of Energy and Mineral Resources & Ministry of Communication and Information Technology). Each partnership plays an important role in supporting smooth transactions, infrastructure development, and regulation.

Looking at the results of the analysis of the relationship between blocks in the BMC of PLN Mobile's digital services, it can be concluded that the digital service business model is the result of digital transformation with a focus on customer needs that has achieved harmony between customer segments, value propositions, revenue streams, and cost structures. The form of the digital service business model ensures that PLN is efficient in the business processes it carries out when providing digital services to customers. In the customer segment of PLN's digital services, services have not yet been specifically tailored to the needs of each tariff segment. With an understanding of PLN's current digital service BMC, it can become the basis for forming a new strategy that promotes efficiency, sustainability, and adaptability to all changes of the times and developments in customer needs.

Internal Environment Analysis

The internal environment within PLN's digital services will reveal strengths and weaknesses that influence the success of improving the quality of PLN's digital services and the company's revenue through efficiency and sales potential.

Internal environmental analysis will identify strengths and weaknesses through an understanding of the company's vision, mission, and long-term strategy. Furthermore, internal environment analysis will be conducted through Strengths-Weakness (S-W) analysis of organizational functions based on interviews with internal sources and identification of Strengths-Weakness (S-W) from understanding the current PLN digital service Business Model Canvas.

Each strength and weakness identified will be reassessed based on a focus group discussion (FGD) with resource persons. Resource persons will give scores ranging from 1 to 5, with 1 being less impactful and relevant and 5 being highly impactful and relevant. These scores will indicate that the higher the strength and weakness scores, the more important the factor is and the greater its impact on PLN's digital services.

Based on the assessment of the most impactful and relevant factors affecting the strengths and weaknesses of PLN's digital services, these factors will be included in the Business Model Canvas (BMC) mapping. The highest scores can be prioritized for consideration in developing future strategies.

In evaluating the analysis of the strengths and weaknesses of PLN's digital services, the results were obtained based on the condensation and conclusions of interviews with five internal sources. Questions related to Strengths-Weaknesses (S-W) were given to the sources and conclusions were drawn after a process of source triangulation.

Based on the conclusions of interviews with internal sources in Table 4.26, several strengths of PLN's digital services were identified. “PLN's advantage is that it has extensive electrical infrastructure that is integrated throughout Indonesia. Therefore, PLN's digital services will make it easier to reach many customers across the country.

“It is very effective because the PLN Mobile digital service is already capable of handling the number of customer downloaders with real-time service.”

There are several weaknesses in PLN's digital services that can be concluded based on the results of interviews with internal sources. “PLN faces several challenges in developing digital services that can meet customer needs, such as the distribution of SPKLU infrastructure, competition in administrative costs, and internet coverage.”

“The weaknesses that need to be considered are the performance of digital services and the inability to reach all customers (especially those without internet access).”

PLN has the advantage of extensive and integrated electrical infrastructure to reach all scattered customers, and has a digital service platform that is capable of handling the number of downloaders among PLN's customers in real time. With this strength, PLN needs to address weaknesses that require attention, such as digital service performance and customer reach outside of internet signal coverage.

An analysis of the strengths and weaknesses of PLN's digital services was also conducted by identifying the Strengths-Weaknesses (S-W) of the 9 blocks of the Business Model Canvas (BMC) for PLN's current digital services. Each block of the current BMC underwent an identification of Strengths-Weaknesses (S-W) through discussions with internal sources,

followed by an assessment using a score of 1-5 to determine the extent of the impact and relevance to PLN's digital services. A score of 5 indicates the most impactful and relevant factor to the service.

Based on the ratings of 4 and 5 given by the informants through the group discussion forum, the strengths and weaknesses of PLN's digital services were identified.

Strength factors identify factors that support PLN's digital services, such as improving customer experience through easy access to services and analytical data management for service personalization. Meanwhile, weakness factors that require improvement in PLN's digital services include cybersecurity risks.

External Environment Analysis

External environmental analysis can provide significant influencing factors that affect PLN's digital services business. The analysis will be conducted using primary data sources through interviews with PLN management and industry experts using PESTEL and Porter's Five Forces analysis. In the data analysis process, an assessment will be made of the possibilities and impacts on digital services if they occur.

Opportunities and threats are assessed using low, medium, and high categories based on the assessment results submitted to internal and external sources. Low indicates <35%, medium indicates 35%-70%, and high indicates >70% likelihood and impact on PLN's digital services. The results of the analysis of the identification of opportunities and threats will be categorized into each BMC block.

Porter's Five Forces Analysis of PLN Digital Services

Porter's Five Forces analysis was conducted to understand the competitiveness and strategic position of the company in PLN's digital services business. By identifying strengths and weaknesses, such as the threat of new entrants, the power of suppliers and customers, the bargaining power of suppliers and buyers, and competition from other companies.

1. The Threat of Newcomers

   An analysis of the threat posed by new entrants to PLN's digital services was conducted through interviews with internal and external sources, which underwent transcription, data condensation, and credibility testing (member checking and triangulation). Internal sources agreed that PLN needs to pay attention to service quality and feature adjustments according to customer needs, as well as anticipate similar services from new entrants. Meanwhile, external sources also shared the same opinion as the internal sources regarding the threat of new entrants to PLN's digital services.

   The threat of new entrants poses an external risk arising from new companies. In this study, researchers examined how PLN would respond to obstacles if new companies entered the same digital service market. PLN management sources agreed that “PLN is still a monopoly company with efforts to maintain services by adding features as needed to digital services through service quality and the use of the latest innovations.”

   There is still the possibility of new entrants coming in through services that can be provided by newcomers, such as token purchasing and electricity bill payment services, as well as private services such as public electric vehicle charging. However, in PLN's main business, there are no new entrants to replace them.

   Industry experts also stated that “PLN has no competitors. Therefore, the threat does not come from its products, but from the services provided by the platforms used for

electricity payment or purchase. Its competitors are digital payment services provided by various banks. However, this does not pose a threat, as they are competitors in terms of services but do not cause any harm."

Based on the results of observations and in-depth interviews, the threat of new entrants from Porter's Five Forces has a moderate impact on PLN's digital services. Although there are no digital services in the main electricity business that can compete with PLN, such as strict regulations, large infrastructure, and complex data security requirements. However, similar digital services could potentially emerge through new companies, such as token purchase transactions or bill payments, electric vehicle-SPKLU services, or REC purchases.

2. Supplier Bargaining Power

The analysis of supplier bargaining power over PLN's digital services was conducted through interviews with internal and external sources, which underwent transcription, data condensation, and credibility testing (member check and triangulation). Internal sources agreed that PLN's main suppliers of digital technology and services and the cost and quality of digital services were not influenced by supplier bargaining power. Meanwhile, external sources also shared the same opinion as the internal sources regarding supplier bargaining power over PLN's digital services.

The influence of supplier bargaining power from Porter's Five Forces on PLN's digital services to understand how much influence suppliers have in determining the cost, quality, and security of the technological infrastructure that supports PLN's digital services. This study ensures that informants provide information about who the suppliers are in digital service technology and information related to their influence.

A PLN management spokesperson stated that "The key supplier of PLN's digital technology and services is PLN Icon Plus, which provides infrastructure, cybersecurity, and application development, but does not directly influence suppliers."

Even industry experts provided similar information: PLN uses subsidiaries that negotiate on their own behalf. Now that there are many suppliers that can maintain cyber security and application development, PLN has a very strong bargaining position. If a subsidiary is unable to do so, it can switch to another company that supports digital service development.

Based on observations and in-depth interviews, the bargaining power of suppliers in Porter's Five Forces has a low impact. All requests for digital services use prices in accordance with electricity tariffs set by the Ministry of Energy and Mineral Resources, so suppliers have no bargaining power over digital services.

3. Buyer Bargaining Power

The analysis of buyers' bargaining power over PLN's digital services was conducted through interviews with internal and external sources, which underwent transcription, data condensation, and credibility testing (member check and triangulation).

Internal sources agreed that buyers have no bargaining power over prices and service quality because these are regulated by the Ministry. External sources also shared the same opinion as the internal sources regarding buyers' bargaining power over PLN's digital services.

The influence of buyer bargaining power from Porter's Five Forces on PLN's digital services to understand the purchasing power and preferences of customers in using digital

services. If buyer bargaining power is high, customers have many alternatives and are able to suppress prices or request certain features.

Based on interviews with PLN management sources, researchers confirmed the extent of customer influence on the price and quality of services offered by PLN's digital services. "There is no customer influence on service quality because prices are fixed and regulated by the Ministry, so customers have no influence"

Even industry experts said, "When it comes to price, customers have no bargaining position to negotiate prices with PLN. PLN still has a strong bargaining position, including for digital and other services. Customers can only demand service quality."

Based on observations and in-depth interviews, the buyer bargaining power factor from Porter's Five Forces has a low impact. Customers do not have bargaining power to influence prices and service quality because prices are set by Ministry regulations and are not influenced by the number of customers making requests.

4. Threat of Substitute Products

The analysis of substitute product threats was conducted through interviews with internal and external sources, which underwent transcription, data condensation, and credibility testing (member checking and triangulation). Internal sources agreed that PLN's main electricity business would not be easily replaced, but some similar services could be duplicated. Meanwhile, external sources also shared the same opinion as the internal sources.

The influence of the threat of substitute products from Porter's Five Forces on PLN's digital services to understand how easily customers can switch to other digital platforms offered. Researchers concluded from PLN management sources that, "The threat of other products does not target all services, only services that can be duplicated, such as purchase transactions or bill payments, e-commerce."

"For PLN services that are the main business in product requests and service disruptions, customers do not easily switch. Meanwhile, customers can easily switch to other services, such as token purchases, SPKLU services, or services that can be duplicated by other digital services."

Based on the results of observations and in-depth interviews, the threat of substitute products from Porter's Five Forces has a high impact. Industry experts also stated that if PLN's features are the main business of electricity, it will be difficult to obtain substitute products. "If e-commerce will have competitors. For the internet, there are also other competitors. Even so, everyone still depends on PLN because in terms of infrastructure, it is still more than others."

5. Industrial Competition

An analysis of industry competition factors was conducted through interviews with internal and external sources, which underwent transcription, data condensation, and credibility testing (member checking and triangulation). Internal sources agreed that no other electricity industry competitor is capable of serving as wide an area as PLN. External sources also shared the same opinion as the internal sources.

The influence of Porter's Five Forces industrial competition on PLN's digital services to understand how intense competition is in the digital services market in the electricity sector and how this will affect PLN's digital service strategy. In-depth interviews with PLN

management sources concluded, "Competition in the electricity sector is not yet very intense, especially in terms of competition that can serve a wide range of customers and PLN's readiness to provide digital electricity services. There is minor competition for locations that are not yet accessible, such as rooftop solar power products with business areas outside PLN."

Industry experts also stated, “For sub-services such as SPKLU and e-commerce, there are other private companies that have their own platforms, and each feature can compete with PLN's digital services. Despite having competitors, PLN's infrastructure is still strong enough to compete with other similar companies.”

Based on observations and in-depth interviews, Porter's Five Forces indicate that industry competition has a moderate impact. PLN remains a state-owned company with a dominant market share in Indonesia. Competition from other companies is not yet strong enough to rival PLN's digital service infrastructure and electricity business services.

The results of Porter's Five Forces analysis in Table for the medium to high category will be followed by identifying opportunities and threats and conducting discussions with resource persons to see which ones have the most impact on the success of the sustainability of the digital service business.

Strategy Development Analysis through the TOWS Matrix

SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) is a framework that involves S, W, O, T from the results of internal and external factor analysis. Next, the SWOT matrix will be developed using the TOWS matrix for each Business Model Canvas block. The results of this development will produce 36 strategy concepts resulting from the combination of SO – ST – WO – WT strategies.

This study has identified internal and external factors that influence PLN's digital services, through 18 strengths, 18 weaknesses, 9 opportunities, and 9 threats. The results of the identification were then developed using a TOWS matrix, which produced 1 Strategy (Strengths-Opportunities), 1 Strategy (Strengths-Threats), 1 Strategy (Weaknesses-Opportunities), and 1 Strategy (Weaknesses-Threats) for each BMC block. Each strategy formulation based on the BMC Block will produce 36 strategy combinations.

This study identified 36 strategies compiled in the TOWS matrix, consisting of 9 SO strategies, 9 WO strategies, 9 ST strategies, and 9 WT strategies. Subsequently, a review was conducted on similar strategies to produce several strategies that represent the total number of strategies. A total of 18 strategies were formulated based on two similar strategies to make the implementation of strategies and the formulation of follow-up actions more effective and efficient.

New Business Model Canvas Recommendations

Formulation of 18 priority strategies as a result of a formulation process involving in-depth analysis of internal and external factors affecting PLN's digital services. The strategy formulation went through a TOWS matrix formulation, which was then evaluated and analyzed in relation to the priority strategies in the development of PLN's digital services business. By formulating a clear strategy, the company can ensure efficiency and effectiveness in carrying out digital transformation with a focus on customer service. The company can determine the priorities and allocation of resources needed to achieve the desired goals.

Once the strategy has been successfully formulated, the business model canvas (BMC)

will become a visual tool for implementing the strategy in practice. As an implementation of the strategy, the BMC will describe the important components of the business model, including elements such as value propositions, customer segments, and revenue streams. The relationship between strategy and BMC can be seen in how the elements in the canvas can support the execution of the established strategy.

The formulation of 18 priority strategies resulted in 12 short-term strategies, 2 mid-term strategies, and 4 long-term strategies. In implementing this strategy categorization, it was incorporated into the New Business Model Canvas (BMC) block for PLN's digital services.

Table 1. *Business Model Canvas* Baru – *Short Term*

BUSINESS MODEL CANVAS (NEW)	Digital Service PLN	By: Ni Wayan Asri Vitaloka	Date: 31 Oktober 2025	
Key Partnerships	Key Activities	Value Proposition	Customer Relationships	Customer Segments
1. Technology & innovation development and provider. 2. Digital payment partners (26 payment links) 3. Technical installation service partners (LIT) 4. Service officer partners (connection officers, technical service officers, and billing management officers) 5. Regulatory authorities (Ministry of Energy and Mineral Resources & Ministry of Communication and Information Technology) (+) Establishing strategic partnerships with social organizations and supporting CSR programs through the platform	1. Platform development and maintenance 2. Customer request handling 3. Digital marketing and promotion 4. Customer data collection and analysis 5. Compliance with personal data protection and data security regulations. (+) Maximizing the use of AI technology for service quality (+) Focusing on real-time and responsive digital-based services (+) Strengthening contact center services (live chat, email, and social media) using AI & chatbots (+) Focusing on customer experience management	1. Ease of access to services 2. Comprehensive service features 3. Real-time services 4. More responsive to service	1. Improving user experience as a one-stop solution for electricity (digital service features) 2. Improving user experience through ease of transactions (various banking & digital wallets) 3. Building long-term loyalty (rewards and promotions) 4. Utilizing multiple channels (Contact Center 123 and email pln23@pln.co.id) (+) Maximizing loyalty programs	Household (R), business (B), industrial (I), solutions (S), and government (P) customer segments (+) addition of potential customer segments (specific business/industrial customers) PLN for business
	Key Resources		Channels	
	1. Digital service infrastructure 2. Cyber security and personal data protection 3. Technology development & maintenance team 4. Human resources 5. Partnerships and stakeholders (banking, LIT, Ministry of Energy and Mineral Resources)		1. Social media: @pln_id &plnmobile, Facebook, TikTok, and X 2. Customer interaction through the PLN mobile customer service menu (live chat & email) (+) addition of a chatbot menu to serve customers	
Cost Structure			Revenue Streams	
1. Digital platform development and management costs 2. Marketing promotion costs 3. Human resources operational costs 4. Operational costs for service partners (connection officers, technical service officers, and billing management officers) 5. Investment costs for materials and work equipment			1. Sales of electricity services (token purchases, bill payments, PB/PD connection fees/temporary lighting (REC, Marketplace) (+) additional revenue through services to potential customer segments (specific business/industrial customers)	

Source: Processed data (2025)

In a priority strategy, short-term strategies are those that can be implemented with urgent importance and can be carried out in the near future. The implementation of the strategy can be seen visually through BMC Table 4.71 with additions to the Customer Segments, Customer Relationships Channels, Key Activities, Key Partnerships, and Revenue Streams blocks.

The results of the study show that the implementation of a strategy to add potential customer segments (particularly business and industrial customer segments) through PLN for Business has had an impact on customer relationship blocks through the maximization of loyalty programs, supported by the addition of a chatbot channel to ensure that regular and potential customers can be served effectively and efficiently in accordance with the value proposition of BMC's current digital services.

Through the addition of the PLN for business customer segment, there has been an increase in key activities and key partnerships. The addition of key activities includes maximizing the use of AI technology to improve service quality, focusing on real-time and responsive digital services for all segments and specifically for potential PLN for Business customers, strengthening contact center services, live chat, and email using AI, and focusing on customer experience management, especially for the addition of potential customer segments. In terms of key partnerships, there has been an addition through the establishment of strategic partnerships with social organizations in supporting CSR programs through digital service platforms. This is a form of strategic development in the implementation of the new potential customer segment, namely PLN for Business. The increase in revenue through revenue streams is obtained through additional income from services in the potential customer segment with specific services for business and industrial sector customers.

Table 2. *Business Model Canvas* Baru – *Mid Term*

BUSINESS MODEL CANVAS (NEW)		Digital Service PLN	By: Ni Wayan Asri Vitaloka	Date: 31 Oktober 2025
Key Partnerships	Key Activities	Value Proposition	Customer Relationships	Customer Segments
1. Technology & Innovation Developers and Providers; 2. Digital Payment Partners (26 payment links); 3. Technical Installation Service Partners (LIT); 4. Service Officer Partners (Connection Officers, Technical Service Officers, and Billing Management Officers); 5. Regulatory Authorities (Ministry of Energy and Mineral Resources & Ministry of Communication and Information Technology).	1. Platform Development and Maintenance; 2. Customer Request Handling; 3. Digital Marketing and Promotion 4. Customer Data Collection & Analysis; 5. Personal Data Protection Regulation Compliance & Data Security.	1. Ease of access to services; 2. Comprehensive service features; 3. Real-time services; 4. More responsive to customers. (+) Complementing and adding new menus for potential customers (specific business/industry customers)	1. Improving user experience as a one-stop electrical solution (digital service features); 2. Improving user experience through ease of transactions (various banking & digital wallets); 3. Building long-term loyalty (Gelegar Points & Promotions); 4. Using multiple channels (Contact Center 123 & email pln123@pln.co.id).	Residential (R), Business (B), Industrial (I), Social (S), and Government (P).
	Key Resources		Channels	
	1. Digital service infrastructure; 2. Cyber security and personal data protection; 3. Technology development and maintenance team; 4. Human resources; 5. Partnerships and		1. Social media: Instagram @pln_id & @plnmobile, Facebook, TikTok, and X; 3. Customer interaction through the PLN Mobile customer service menu (live chat &	

	stakeholders (Banking, LIT, Ministry of Energy and Mineral Resources). (+) Addition of human resources with technological expertise (+) Additional investment in cybersecurity and the utilization of new technologies	email).
Cost Structure		Revenue Streams
1. Digital Platform Development & Management Costs; 2. Marketing Promotion Costs; 3. Human Resources Operational Costs; 4. Service Partner Operational Costs (Connection Officers, Technical Service Officers, & Billing Management Officers); 5. Material & Work Equipment Investment Costs. (+) Costs for adding or supporting the latest technology		1. Sales of electricity services (token purchases, bill payments, PB/PD/Temporary Lighting connection fees, electric vehicles); 2. Sales of non-electricity services (REC, marketplace).

Source: Processed data (2025)

In a priority strategy with a mid-term strategy category as a strategy that can be implemented within 1-3 years with significant importance, but can be carried out with the support of several related parties. The implementation of the strategy can be seen visually through BMC Table 2 with additions to the Value Proposition, Key Resources, and Cost Structure blocks.

The results of the study show that in implementing a medium-term strategy to create a new value proposition, it is necessary to supplement and add new menus for potential customers (specifically business/industrial customers). The new value proposition through a variety of new service menus for potential customers requires additional key resources, including additional human resources with technological expertise and additional investment in cybersecurity and the utilization of new technologies. The addition of service menus will certainly require supporting human resources and improved cybersecurity. The addition of key resources will have an impact on the cost structure, through the cost of additional human resources or the latest technological support.

It is evident that the impact of adding to the value proposition of a digital service BMC will certainly require key supporting resources, with the consequence of adding to the company's cost structure in order to support the addition to other blocks.

Table 3. *Business Model Canvas* Baru – *All Term*

BUSINESS MODEL CANVAS (NEW)	Digital Service PLN	By: Ni Wayan Asri Vitaloka	Date: 31 Oktober 2025	
Key Partnerships	Key Activities	Value Proposition	Customer Relationships	Customer Segments
1. Technology & Innovation Developers and Providers. 2. Digital Payment Partners (26 payment links). 3. Technical Installation Service Partners (LIT). 4. Service Officer Partners (Connection Officers, Technical Service Officers, and Billing Management Officers).	1. Platform Development and Maintenance. 2. Customer Request Handling. 3. Digital Marketing and Promotion. 4. Customer Data Collection & Analysis. 5. Personal Data Protection Regulation Compliance & Data	1. Ease of access to services. 2. Comprehensive service features. 3. Real-time services. 4. More responsive to customers.	1. Improving user experience as a one-stop solution for electricity (digital service features). 2. Improving user experience through ease of transactions (various banking & digital wallets). 3. Building long-term loyalty (Gelegar Points & Promotions).	Customer segments: Residential (R), Business (B), Industrial (I), Social (S), and Government (P).

5. Regulatory Authorities (Ministry of Energy and Mineral Resources & Ministry of Communication and Information Technology).	Security. (+) Focus on improving human resource management. (+) Focus on managing high operational cost risks. (+) Focus on infrastructure management.	4. Using multiple channels (Contact Center 123 & email pln123@pln.co.id).
	Key Resources	Channels
	1. Digital service infrastructure. 2. Cyber security and personal data protection. 3. Technology development and maintenance team. 4. Human resources. 5. Partnerships and stakeholders (Banking, LIT, Ministry of Energy and Mineral Resources).	2. Social media: Instagram @pln_id & @plnmobile, Facebook, TikTok, and X; 4. Customer interaction through the PLN Mobile customer service menu (live chat & email).
Cost Structure		Revenue Streams
1. Digital Platform Development & Management Costs. 2. Marketing Promotion Costs. 3. Human Resources Operational Costs. 4. Service Partner Operational Costs (Connection Officers, Technical Service Officers, & Billing Management Officers). 5. Material & Work Equipment Investment Costs. (+) Additional Human Resources Management Costs. (+) Service Support Maintenance Costs.		1. Sales of electricity services (token purchases, bill payments, PB/PD/Temporary Lighting connection fees, electric vehicles); 2. Sales of non-electricity services (REC, marketplace).

Source: Processed data (2025)

In a priority strategy with a long-term strategy category (all terms) as a strategy that requires the support of all parties for implementation, it cannot be carried out in the near future. The implementation of the strategy can be seen visually through BMC Table 3, which focuses on the addition of Key Activities and Cost Structure.

The results of the study show that by focusing on additional key activities, namely focusing on improving human resource management, focusing on managing the risk of high operational costs for the implementation of digital services, and focusing on infrastructure management. The implementation of these strategies has led to an increase in the cost structure through the addition of costs for managing additional supporting human resources and the costs of maintaining the supporting services required for the PLN Mobile digital service platform.

Table 4. *Business Model Canvas* Baru Layanan Digital PLN

BUSINESS MODEL CANVAS (NEW)	Digital Service PLN	By: Ni Wayan Asri Vitaloka	Date: 31 Oktober 2025	
Key Partnerships	Key Activities	Value Proposition	Customer Relationships	Customer Segments
1. Technology & Innovation Developers and Providers. 2. Digital Payment Partners	1. Platform Development and Maintenance. 2. Customer Request	1. Ease of access to services. 2. Comprehensive service features.	1. Improving user experience as a one-stop solution for electricity.	1. Household (R), Business (B), Industrial (I), Social (S), and Government

(26 payment links). 3. Technical Installation Service Partners (LIT). 4. Service Officer Partners (Connection, Technical Services, and Billing Management). 5. Regulatory Authorities (Ministry of Energy and Mineral Resources & Ministry of Communication and Information Technology). (+) Establishing strategic partnerships with social organizations to support CSR programs through the platform (Short-Term Strategy).	Handling. 3. Digital Marketing and Promotion. 4. Customer Data Collection & Analysis. 5. Personal data protection & data security compliance. (+) Maximizing the use of AI technology for service quality (Short-Term Strategy). (+) Focusing on real-time and responsive digital services (Short-Term Strategy). (+) Strengthening contact center, live chat, and email services using AI & chatbots (Short-Term Strategy). (+) Focus on customer experience management (Short-Term Strategy). (+) Focus on improving human resource management (Long-Term Strategy). (+) Focus on managing high operational cost risks (Long-Term Strategy). (+) Focus on infrastructure management (Long-Term Strategy).	3. Real-time services. 4. More responsive to customers. (+) Complement and add new menus for potential customers (specific business/industry customers) (Medium-Term Strategy).	2. Improving user experience through easy digital transactions. 3. Building long-term loyalty (Gelegar Points & Promotions). 4. Multi-channel usage (Contact Center 123 & email). (+) Maximizing loyalty programs (Short-Term Strategy).	(P) customer segments. (+) Addition of potential customer segments (specific business/industrial customers) - PLN for business (Short-Term Strategy).
	Key Resources		Channels	
	1. Digital service infrastructure. 2. Cyber Security and Personal Data Protection. 3. Technology Development & Maintenance Team. 4. Human resources. 5. Partnerships and stakeholders (Banking, LIT, Ministry of Energy and Mineral Resources). (+) Addition of human resources with technological expertise (Medium-Term Strategy). (+) Additional investment in cybersecurity and the utilization of new technologies (Medium-		1. Social media: Instagram, Facebook, TikTok, and X. 2. Interaction through the PLN Mobile Customer Service menu (live chat & email). (+) Addition of a chatbot menu to serve customers (Short-Term Strategy).	

Term Strategy).

Cost Structure	Revenue Streams
1. Digital Platform Development & Management Costs. 2. Marketing Promotion Costs. 3. Human Resources Operational Costs. 4. Service Partner Operational Costs. 5. Material & Work Equipment Investment Costs. (+) Additional Human Resources Management Costs (Long-Term Strategy). (+) Service Support Maintenance Costs (Long-Term Strategy). (+) Latest Technology Addition or Support Costs (Medium-Term Strategy)	1. Sales of electricity services (tokens, accounts, PB/PD, electric vehicles). 2. Sales of non-electricity services (REC, marketplace). (+) Additional revenue through services to potential customer segments (business/industry) (Short-Term Strategy).
Description - Short-term strategy: Red - Long-term strategy: Green - Medium-term strategy: Blue	

Source: Processed data (2025)

CONCLUSIONS

This study aims to analyze PLN's current digital service business model through BMC, evaluate internal and external factors, formulate new development strategies using the TOWS matrix, and create new BMC recommendations. The following are the conclusions of the analysis that has been conducted previously:

1. PLN has a Business Model Canvas (BMC) for its current digital services with 1 customer segment, 4 value propositions, 4 customer relationships, 2 channels, 5 key resources, 5 key activities, 5 key partnerships, 5 cost structures, and 2 revenue streams. In the current BMC, PLN's digital services still focus on all customer segments.
2. Internal analysis based on observations of PLN's current digital service BMC shows that PLN's digital services have 20 strengths and 20 weaknesses, while external analysis yields 9 opportunities and 9 threats for formulating a new digital service business development strategy.
3. This study shows that the SWOT analysis and TOWS matrix produced 36 strategies with 18 priority strategies that were evaluated and analyzed based on criteria that impact the company in terms of revenue and financing, priority criteria that can be implemented in terms of business and resource interests, and the strategy implementation period. Based on the evaluation and analysis, the priority strategies were categorized into 12 short-term strategies, 2 medium-term strategies, and 4 long-term strategies.
4. Recommendations for PLN's new digital service BMC resulted in BMCs for short-term, mid-term, and long-term strategies, where PLN's BMC gained additional blocks, including 1 customer segment, 1 value proposition, 1 customer relationship, 1 channel, 2 key resources, 7 key activities, 1 key partnership, 3 cost structures, and 1 revenue stream.

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