Business Design Of LPPD Platform At Pt. Telekomunikasi Indonesia Tbk Directorate Of Digital Business

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Abstract—Telkom Indonesia company's digital business directorate was developing digital solution applications. Among the tribes utilized as research objects is the smart city, which are solutions for the government named E-LPPD particularly in the implementation of government at the district, city, and provincial levels. E-LPPD aims to digitize the process to improvement. However, designing this business necessitates the study of various factors, including market factors, technical factors, and financial factors, which are covered in the business feasibility analysis and sensitivity analysis. The market analysis determines the estimated market demand for new, existing, and target markets. Business processes, company procedures, human resources, platform design in the form of prototype dashboards and mockups, and other components of information system design require technical considerations. In the financial element, which covers business feasibility study and sensitivity analysis, the net present value (NPV), payback period (PBP), and internal rate of return (IRR) are calculated (IRR). The company received an estimated market demand of 198 target markets throughout Indonesia. Based on the results, the business was viable, with a net present value (NPV) of Rp 216,231,494, an internal rate of return (IRR) of 18,8 percent, and a payback period (PBP) of 3 years and three months.

Keyword—feasibility, sensitivity analysis, website design

I. INTRODUCTION

Indonesia itself is ranked 81st in the Word Smart City Index 2019 based on an assessment from IMD which is generally based on how people can accept and feel the impact of smart cities by balancing economic, technological, governmental, and human aspects. One of the solutions in the implementation of smart cities in Indonesia in the aspect of smart government is the existence of a government management application. Government management application from PT. Telkom Indonesia is one of them in the form of digitization in the report on the implementation of local government or LPPD called E-LPPD

LPPD is initiated referring to domestic regulations, namely Permendagri No. 18 of 2020 which contains macro performance evaluation, and performance evaluation of government affairs in mandatory affairs related to basic services, mandatory affairs not related to basic servants, elective affairs and supporting functions of government affairs

Based on data collected from PT. Telkom Indonesia, that currently the use of LPPD in the government still has a low level of data accuracy and is carried out manually, takes a long time in the evaluation process of about 7-8 months, so that the ranking will only be announced after the next 2 years, the evaluation results and rankings cannot be used as a reference for the preparation of regional programs and budgets in the following year, It requires large resources and funds to evaluate 548 local governments (provinces, cities and districts), and data is spread in each region without backups.

II. THEORITICAL REVIEW

A. Feasibility study

Feasibility study is used to find out the practicability of a proposal, business startup or an idea (Nematollahi and Kim, 2017). Kasmir and Jakfar (2015) defined. A feasibility study is an assessment of the practicality of a proposed plan or project. A feasibility study analyzes the feasibility of a project to determine whether the project or venture is likely to be successful.

B. Market Aspect

Market and marketing aspects are needed to find out how large the target market of the business may be and how much potential the business must grow (Kasmir and Jakfar, 2015). In addition to the target market, the marketing strategy is also needed to expand the existing business potential. The determination of target market and market potential can be determined by conducting market research

C. Technical Aspect

Technical aspects are related to the technical or operational processes of a business which can be fatal if not analyzed (Kasmir and Jakfar, 2015). According to (Sunyoto, 2014), several things that need to be considered in the technical aspect are product or service design, production process planning, facility layout, location determination and material handling, job design, product or service forecasting, and scheduling.

D. Financial Aspect

In the financial aspect, the cost planning required to run the business is being analysed. Not only that, the income and profits that can be obtained are also analyzed. According to Husnan and Suwarsono (2000), financial analysis compares the costs and benefits of a business to determine whether it will be profitable or not. The results from the financial aspect are then used to calculate NPV, IRR, and PBP.

E. Net Present Value (NPV)

Sartono (2010) defined net present value (NPV) as the distinction between the present value of net cash flow and the present value of an investment. According to Rangkuti (2012), NPV is a technique for assessing the viability of investments. According to Umar, the business proposal is acceptable if NPV exceeds 0. (2003, p201).

F. Internal Rate of Return (IRR)

The internal rate of return is used to calculate the estimated return of the project. The ratio is the relationship between the present inflow and outflow rates. If the internal rate of return (IRR) surpasses the required rate of return, the venture or project is authorized

G. Payback Period (PBP)

According to Keown et al. (2005), the payback period is the number of years required to recoup the initial investment in a particular firm or project. If the calculated payback duration is smaller than the company's or organization's stated payback period, the project is approved.

H. Sensitivity Analysis

Sensitivity analysis is the study of model output uncertainty dependent on the model's uncertain inputs (Saltelli, 2004). This research's sensitivity analysis is conducted by substituting values in the cost and benefit components to determine to what extent the change is still viable for the investment or profitable. When NPV equals zero (NPV=0), the profit threshold is attained. When NPV equals 0, the IRR equals the interest rate, and the benefit equals the cost. For a business to remain viable, a sensitivity analysis can be used to determine the maximum amount of expenses that can be incurred and the minimum amount of profit that can be reached.

III. METHOD

This research is done by following the conceptual model as shown in Figure below. The research is done to figure out the feasibility of the business based on market aspect, technical aspect, and financial aspect. The market aspect analysis is done by finding out the potential market, available market, and target market of the business by distributing questionnaires. The technical aspect is done by designing the business process, proceeded by finding out the organizational need that includes need employee need. Platform need is also being analyzed to figure out the design for which the website can accommodate the business process. Lastly, the financial aspect analysis is done along with sensitivity analysis to conclude the feasibility of the business.

This research was conducted by following the conceptual model as shown in Figure 2.1. The study was conducted to determine the feasibility of a business based on market aspects, technical aspects, and financial aspects. Market aspect analysis is done by knowing the potential market, available market, and business target market by distributing questionnaires into government. The technical aspect is carried out by designing business processes, followed by knowing the needs of the organization. LPPD dashboard requirements are also being analyzed to find out a design that can accommodate the business processes. Then, a financial aspect analysis is carried out in conjunction with a sensitivity analysis to conclude business feasibility.

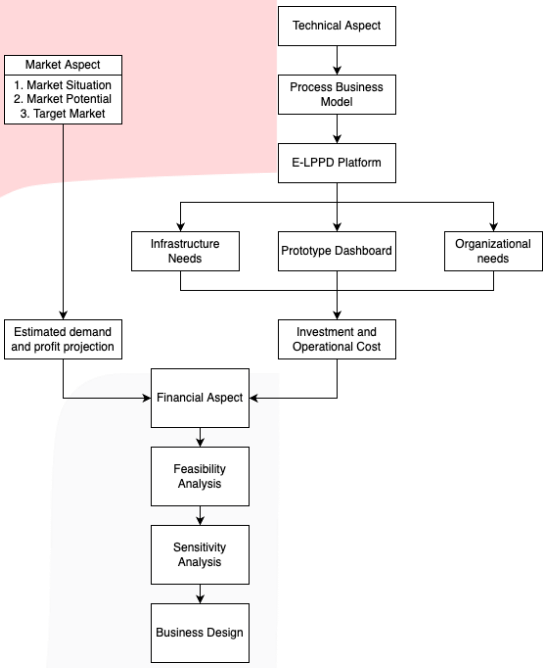

FIGURE III.1

IV. RESULTS AND DISCUSSION

Data collection in this final project research was obtained from observations, interviews, and data from companies and related speakers. The observations made for the design were carried out starting from observations on government data on official websites, especially by the Central Statistics Agency (BPS), and other data related to the government in Indonesia as well as direct data from related company sources to find out human aspects, market information, facilities, and others.

A. Market Aspect

549 districts, cities, and provinces make up LPPD's calculated target market in Indonesia, based on the country's total market size. Then, the author calculates the market potential as 86% of the total available market, which consists of 476 areas, followed by the market available, which consists of 397 areas, and the target market, which consists of 198 areas based on the calculation. The demand shown in table below, determined by estimation over a period of four years, is expected to increase at a rate of greater than 10% per year.

	Year 1	Year 2	Year 3	Year 4
Market Estimation	39	45	54	60
Percentage Increase		15.38%	20%	11%
Accumulated		160	254	358

FIGURE IV.1 Market Demand

B. STP Market

STP is segmentation, targeting, and positioning that is required in the market aspect to comprehend the market situation and competition to design a proposition plan for the company and its products. The following table summarizes the outcomes of calculating STP

TABLE IV.1 STP Market

Segmenting, Targeting, dan Positioning (STP)		
Segmenting	Geographic	All Regencies/Cities and Provinces in Indonesia
	Demographic	Government with a vision, mission and budget is available in the purpose of digitization as well as
	Psychographic	The use of digital platforms in government administration
Targeting	Regencies, Cities, and Provinces in Indonesia with an interest in digitizing LPPD	
Positioning	Product Digitalization	

C. Marketing Mix

It was conducting focusing on the 4Ps: product, pricing, location, and promotion. The following is a table of marketing mix results:

TABLE IV.2 Marketing Mixs

The description of Marketing Mix	
Product	Aplikasi E-LPPD berbasis website
Price	Installation Fee: Rp.15.600.000 (One time charge) Manage Service Fee: Rp. 1.800.000/Year (Prices are set based on the results of a market analysis relating to comparable products sold by the government, which are simpeldesa platforms from Telkom Indonesia, and on the results of government budget observations for the acquisition of information systems)
Place	Bandung
Promotion	Direct to government

D. Business Process

The business process describes how the business of this E-LPPD can be implemented by the company and the business process of how this business works end-to-end including the involvement of stakeholders in the business process. business process of LPPD activities based on observations and according to PP No.18 of 2020. The process of implementing the E-LPPD business in related companies begins in the incubation stage after the business can be declared feasibility in terms of financial aspects and other technical aspects, described through the following process

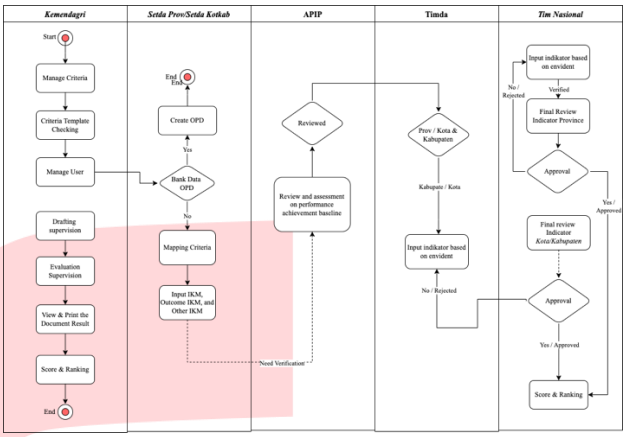

FIGURE IV.2 Business Process

E. Platform LPPD Design

The dashboard design proposed to support LPPD's business processes. It is performed by the actor Kemendagri as a national scoring and topoksi in government LPPD to evaluate, manage criteria, and check templates. Then every government levels ranging from district, city and province have their own Regional Secretariats that input SMI data and coordinate with their respective OPDs regarding reporting that will be entered into the E-LPPD dashboard.

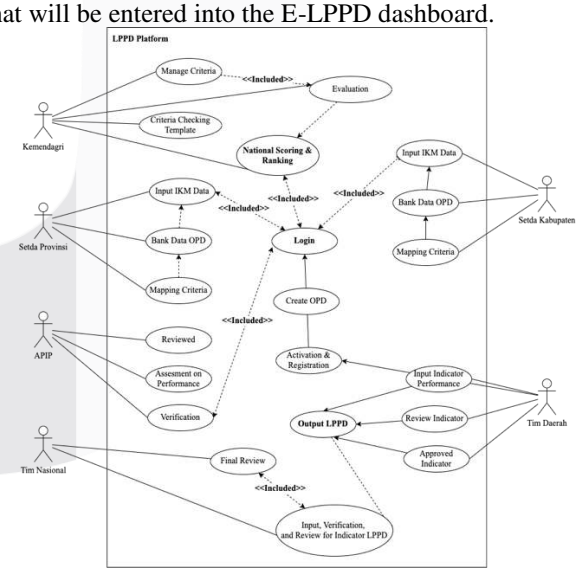

FIGURE IV.3 Use Case diagram

F. Financial Aspect

To establish the business, the fund needed is Rp 351,157,507. It consists of purchasing investment cost of research, licensed & equipment, intangible asset, and working capital for six months. The annual Earning After Interest and Tax (EAIT) is the result of a computation based on a financial element. EAIT for the year 2023 is -Rp83,584,362, Rp74,964,483, Rp261,562,289, and

Rp415,297,250 for the year 2026. From a financial perspective, NPV, IRR, and PBP are determined. The result indicates that the enterprise's NPV is Rp. 216,231,494 (NPV > 0). The payback period is approximately three years and one month, or 3.27 years. The internal rate of return is 18,8%, which is higher than the statutory rate of return (12.5%). Therefore, it can be argued that the enterprise is feasible to run.

G. Sensitivity Analysis

The sensitivity level is computed using three variables: pice decrease sensitivity which experiences risk at 12.37%, demand decrease sensitivity with risk at 10.79% and salary increase sensitivity at 18.16%. If the increase and drop rates reach these levels, the enterprise's NPV=0 or less. If these rates are exceeded, thus the business is no longer feasible

V. CONCLUSION

The business design of the LPPD or E-LPPD information system is carried out based on the policy of the President of the Republic of Indonesia No. 3 of 2003, Presidential Regulation No. 95 of 2018, Government Regulation No. 13 of 2019 Article 13 and Permendagri No. 18 of 2020. Estimated market demand in Indonesia still exists with a market potential of 476 districts/cities in Indonesia that still require digitization at the LPPD, this is obtained based on the results of interest through a questionnaire. The feasibility of the business and business from the design results in a business that can be said to be feasible with the calculation method through the net present value (NVP) of Rp. 216,231,494, internal rate of return (IRR) of 18,8% and payback period (PBP) for 3 years and 3 months. The sensitivity level is calculated with 3 variables, namely pice decrease sensitivity which experiences risk at 12.37%, demand decrease sensitivity with risk at 10.79% and salary increase sensitivity at 18.16%

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