CHAPTER 1
INTRODUCTION

I.1 Background

In the era of rapidly developing globalization, the use of technology is indispensable and beneficial for all walks of life where technology makes everything easier, faster, and more accurate. The advantages of technology can be seen in improving the quality of public services in the field of information, where currently public services are very accessible, and almost all levels of society can use them. Smart City is the application of smart cities in urban areas that implement and develop several types of technologies in urban spatial management such as integrated resources, assets, and services. Smart Cities produce more dynamic interactions between the community and service providers or the Government, where people can interact directly in managing the city.

According to the journal entitled "Smart City, the concept of smart city as an alternative to solving urban problems in regencies/cities, in big cities in North Sumatra Province" there are four pillars in the development of Smart City including the first pillar is people (users) including character, compliance with policies. The second pillar is service mechanisms and standards, including relationships between stakeholders. The third pillar is ICT infrastructure, including the integration of services, information, online access, media, and so on. The fourth pillar is the institutional structure of smart cities in conducting analysis, integrators, evaluations, and aligning IT Governance with business processes.

Discover the Smart City Index ranking

Overall ranking	City	Overall rating
1	Singapore	A A A
2	Zurich	A A A
3	Oslo	A A
4	Geneva	A A
5	Copenhagen	A A
6	Auckland	A
7	Taipei City	A
8	Helsinki	A
9	Bilbao	A
10	Dusseldorf	A
11	Amsterdam	A
12	San Francisco	A
13	Vancouver	A
14	Sydney	A
15	Toronto	A
16	Montreal	A
17	Vienna	B B B
18	Bologna	B B B
19	Prague	B B B
20	London	B B B
21	Madrid	B B B
22	Milan	B B B
23	Lyon	B B B
24	Melbourne	B B B
25	Stockholm	B B B
26	Hanover	B B B
27	Brisbane	B B B
28	Gothenburg	B B B
29	The Hague	B B B
30	Dublin	B B B
31	Washington D.C.	B B B
32	Boston	B B B
33	Denver	B B B
34	Seattle	B B B
35	Los Angeles	B B B
36	Rotterdam	B B B
37	Hong Kong	B B B
38	New York	B B B
39	Berlin	B B B
40	Zhuhai	B B
41	Tianjin	B B
42	Chongqing	B B
43	Shenzhen	B B
44	Hangzhou	B B
45	Dubai	B B
46	Tel Aviv	B B
47	Seoul	B B
48	Barcelona	B B
49	Zaragoza	B B
50	Busan	B B
51	Paris	B B
52	Birmingham	B B
53	Chicago	B B
54	Philadelphia	B B
55	Nanjing	B
56	Abu Dhabi	B
57	Guangzhou	B
58	Chengdu	B
59	Shanghai	B
60	Beijing	B
61	Warsaw	B
62	Tokyo	B
63	Osaka	B
64	Brussels	B
65	Ho Chi Minh City	C C C
66	Hanoi	C C C
67	Hyderabad	C C C
68	New Delhi	C C C
69	Krakow	C C C
70	Kuala Lumpur	C C C
71	Riyadh	C C C
72	Moscow	C C C
73	St. Petersburg	C C C
74	Ankara	C C C
75	Bangkok	C C C
76	Lisbon	C C C
77	Rome	C C C
78	Mumbai	C C
79	Bengaluru	C C
80	Makassar	C C
81	Jakarta	C C
82	Medan	C C
83	Budapest	C C
84	Bratislava	C C
85	Bucharest	C C
86	Santiago	C C
87	Buenos Aires	C C
88	Mexico City	C C
89	Sofia	C C
90	São Paulo	C C
91	Medellin	C
92	Kiev	C
93	Cape Town	C
94	Manila	C
95	Athens	C
96	Rio de Janeiro	C
97	Abuja	D
98	Bogota	D
99	Cairo	D
100	Nairobi	D
101	Rabat	D
102	Lagos	D

Figure I.1 Indek Ranking Smart City

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. E-LPPD is a product in the form of a cloud management services dashboard platform in the context of reporting on the implementation of local government that can integrate data between the Directorate General of Otda and local governments in Indonesia starting from the provincial, city, and district levels.

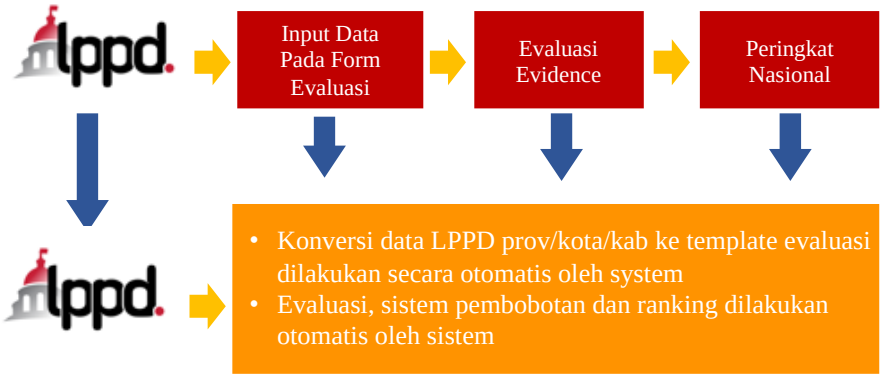

Figure I.2 Proses Bisnis LPPD

So that the data results can be monitored, analyzed, and evaluated accurately and in *real time* which has outputs as material for evaluators and national rankings. The E-LPPD application is made with different access and authority, covering.

- Otda of the Ministry of Home Affairs as the highest-level administrator who creates report templates and manages local government access
- Regional secretary (setda) as a level 2 administrator who regulates the filling of reports and allocates OPD / Bureau in accordance with related reporting functions
- Opd / Bureau fills out reports in certain fields according to the allocation of the Regional Office
- Evaluators perform the function of evaluating and clarifying data easily
- Delivery and checking of reports in stages, ranging from OPD, City / District Regional Offices to Provincial Regional Offices

E-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.

According to Frost and Sullivan's analysis, the potential of the smart city market globally continues to increase until 2025, with the largest sector being Smart

Governance & Smart Security. And E-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 the current conditions, the author uses a Fishbone Diagram to find out the cause and effect that occurs from a problem, and the following is a view of the Fishbone Diagram of the current condition

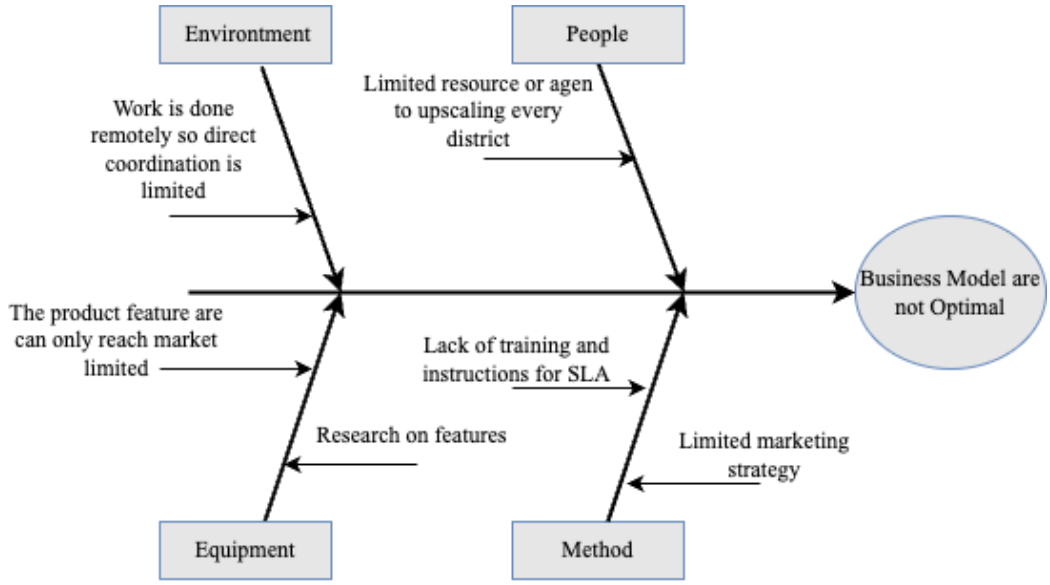

Figure I.3 Fishbone

The background of the fishbone carried out with the data and result of author observation with detail below:

1. The Environtment

   The environtment shown about how the organization in the tribe implemented work remotly in recently based on *Surat Edaran Perusahaan* number C.Tel.169/PS 000/HCB-10000000/2022. As an observation, it impacted to lack of coordination to product research and development process

2. The People

   Recently the team of Go to Market which has job role to selling product into each disctric has number of people are 8 people, which are the total of

government regional in Indonesia are 549, author can conclude it was not effective to do selling process

3. The Equipment

   Recently, the feature of product only implemented for Ditjen OTDA as a requested platform based on enhancement application based on Permendagri No. 18 Tahun 2020. Then the company with *Peraturan Direksi Perusahaan Perseroan* (Persero) PT Telekomunikasi Indonesia Tbk Number: PD.512.00/r.00/HK.200/COP-A2000000/2020 Date 31 Maret 2021 about *Pengelolaan Bisnis Digital Telkom Group khusus nya terkait kewenangan persetujuan atas justifikasi inisiatif bisnis LPPD Ditjen OTDA*.

   The author sees there was still opportunity to improve the business model which are selling in regional level or *pemda* it also can implement based on *Peraturan Pemerintah* No. 13 Tahun 2019 Pasal 13 regarding the submission of evaluations of the implementation of regional government carried out through an online information system (online) in *Pemda*. The feature improvement will be research on chapter IV Design Process.

4. The Method

   The method analyzed based on the background occurs in after sales product activities. Due to the product on research and development, there was no activity after selling proposed such as SLA and training, as well as on marketing activities the author concludes that currently there is still an opportunity to develop and provide suggestions on marketing strategy

5. The Result

   Based on the diagram above, it was found that the main problem is in the business model of the products that offered in the market, the quality of the products is caused by several *variables* such as people, with government markets throughout Indonesia, there are no agents in each region who can monitor conditions in each government, then *methods* that are still lacking marketing strategies and limited, then *equipment* or the technology that will be used in making applications still needs to be researched to support additional features and needs can also be in the form of a mobile version of the application which according to the author's observation can make it easier to monitor.

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.

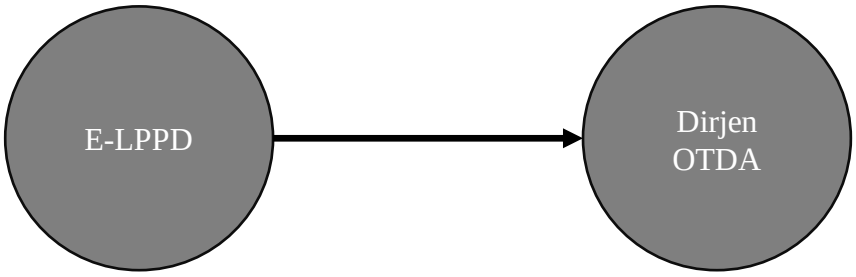

Figure I.4 Existing Target LPPD

The sales scheme of the E-LPPD recently application carried out is with a *Business to Government* (B2G) model with only market into Dirjen OTDA,

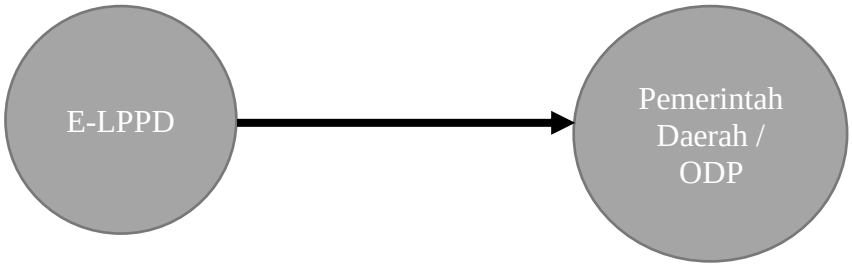

Figure I. 5 Opportunity Target LPPD

Then there is opportunity for the product improvement to direct selling to local governments at the district/ city, provincial, and national levels.

I.2 Alternative Solutions

The following is an analysis of the background described as the root of the problem and potential solutions, so that alternative solutions are obtained in building quality products

Table I.1 Alternative Solutions

No	Problem Roots	Potential Solution
1	Business Model Improvement of products as a solution in digitizing the Government LPPD	Creating an E-LPPD platform with feature fit in regional level
2	Not yet created profitable business value for companies with available business models	Make a feasibility analysis in financial, marketing, and technical aspects
3	The scope of the sale of the LPPD platform by the company to the government is still in the development stage and only for the level of the Director General of OTDA	Adding business models by developing sales to the regional level

1.3 Problem Formulation

Based on this background, the formulation of the problem to be discussed is:

1. What is the estimated market demand of LPPD in the government segment?
2. What is the design of the operational and technical technical aspects of the LPPD platform business?
3. What is the financial feasibility of the LPPD platform business?
4. What is the sensitivity level and risk level of the LPPD platform business?

I.3 Final Project Objectives

The objectives based on the formulation of the problem are:

1) Measuring the feasibility of E-LPPD development based on market aspects, technical aspects, operational aspects, and financial aspects

2) Measuring the level of sensitivity in building an E-LPPD digital platform.

I.4 Benefits of the Final Project

The benefits that can be obtained from this study are:

1. For Researchers

   Add insight, knowledge, and experience in conducting analysis and research on feasibility analysis and creating a service platform that is useful in the advancement of smart cities in Indonesia

2. For Enterprises

   Can be a reference and reference for future business development and input for decision making in the future

3. For Future Research

   This research is expected to help further research in the form of providing information and data that can be used as a reference for the smart sector and its feasibility in terms of operational aspects, technical aspects, and financial aspects.

I.5 Writing Systematics

The systematics of writing this study is described as follows:

CHAPTER 1 Introduction

This chapter contains a description of the research background, problem formulation, research objectives, research scope, research benefits, and writing systematics

CHAPTER II Theoretical Foundations

This chapter contains literature relevant to the problem under study. In addition, this chapter also contains the results of previous research and its discussion. The second part discusses the relationship between concepts that are the object of study in research and a description of research contributions.

CHAPTER III Methodology

This chapter outlines conceptual models and systematic problem-solving methods that describe the detailed steps of the study including the identification and preliminary stages, the data collection and processing stage, the analysis stage, and the conclusion and recommendation stage.

CHAPTER IV Integrated System Design

This chapter contains the data needed, collected, and processed in the steps of research feasibility analysis.

CHAPTER V Results Analysis and Evaluation

This chapter contains various analyses of data that have been collected and processed in the context of research feasibility.

CHAPTER VI Conclusions and Suggestions

This chapter contains the conclusions of this study and suggestions for further research