

## Research article

# Integration of Public Service Information Systems for the Management of Non-Tax State Revenues at the Center for Radioactive Waste Technology

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**ORCID**Widya Handayani: <https://orcid.org/0000-0002-2384-4762>**Abstract.**

In today's millennial era, technological developments have had a positive impact in terms of increasing convenience in all aspects of community life, business, economy and trade. Most government organizations are oriented to public services which must always be dynamic in keeping up with increasingly sophisticated technological advances, as well as increasingly complex work demands. Therefore, all ministries and institutions compete to create technological innovations that can provide convenience for partners in obtaining fast, efficient and effective public services. Public services in the central government are generally closely related to non-tax state revenue (PNBP). The Center for Radioactive Waste Technology (PTLR) is one of the institutions within BATAN that provides public services in the form of radioactive waste management services to BATAN's stakeholders. To improve the quality of its public services, and PTLR performance as a PNBP management institution, PTLR created the E-LIRA web-based administration service application. Stakeholders can easily apply for radioactive waste management services without having to come in person so as to save costs and time. Since its launch in 2017, the E-LIRA application has been further developed by integrating several other government applications to address other problems and preferences of PTLR's partners. The integration of E-LIRA and the SIMPONI application of the Ministry of Finance is expected to provide convenience for the revenue treasurer as an internal party in managing PNBP, as the treasurer will no longer need to issue billing to external partners who can easily print the bill and obtain valid proof of payment.

**Keywords:** public service, E-LIRA, PNBP

## 1. Introduction

Human life in the world is inseparable from activities of fulfilling the needs of goods and services. private sector, which dominates business and trade activities in fulfilling these needs, provides an essential contribution to the country's income. In the public sector, the government enlivening business and trade to increase non-tax state revenues by delivering public services for the community, organizations, companies and other business actors.

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Activities to fulfil the community's need for goods and services carried out by Central Government Agencies, Regional Governments, Government Business Enterprises and Municipally Owned Corporation are forms of public services regulated by law. Public services are mandate of the Republic of Indonesia Constitution 1945, which states that the state is obliged to serve every citizen and resident to fulfil their fundamental rights and needs.

Covid-19 pandemic for almost two years has made human life dependent on technological advances that provide convenience in all activities. Society seems to be inseparable from virtual world technology in meeting all the clothing, food, housing and services. Private sector service providers compete to develop technological innovations that are increasingly growing to improve service quality so that they can meet all the complexities of demands from the community as seekers of goods and services.

The government as a non-profit service provider spreads across various work units of Ministries and Institutions is also required to adapt to technological advances and the pressures of globalization for the demands of more competitive service delivery. Modern technological innovations need to be implemented to improve and provide accessible, simple, inexpensive, effective and efficient public services to the entire community and improve service providers' performance to work more quickly and precisely and realize a good government system.

Public services are closely related to state revenue sources outside of taxation; payments for public services must be by the rates set by government regulations and those applicable in each agency. The income received will go into the state treasury and be recognized as Non-Tax State Revenue (PNBP) by each PNBP management work unit. Law Number 9/ 2018 states that PNBP managers must appoint an official PNBP's proxy of a budget user in each management work units. In the course of the PNBP's proxy of budget user in carrying out duty assistance by a revenue treasurer and several other management team members, this is necessary to carry out one of the public service mandates contained in Law Number 25/ 2009 article 3 state that there are clear boundaries regarding the right, responsibilities, obligations and authorities of all parties involved in the implementation of public services.

A development technology built by the PNBP managing work units in creating service must be able to accommodate the needs of stakeholders as service users and the needs of all teams involved in providing these services so that integration, accuracy and balance of data services are obtained to improve the quality of the unit reporting as a public administrator and also as a PNBP manager.

Center for Radioactive Waste Technology as a radioactive waste service provider and a PNB management working unit, is always committed to providing excellence service, taking advantage of developing technological advances by creating a radioactive waste management application called E-LIRA. This web-based application is continuously enhanced by integrating other government applications and interrelated, including the Ministry of Finance's Online PNB Information System (SIMPONI) and the BAPETEN Online License and Inspection System (BALIS). This integration is expected to answer most of the needs of stakeholders for simple, easy, effective and efficient services and answer the challenges of clean, open, accountable, fast and clean PNB management and administration.

The realization of non-tax state revenues received by PTLR which sometimes exceeds the target or is less than the target is evidence of the poor budget and revenue planning made by PTLR. based on the report on the realization of PTLR's budget and revenues in 2019-2021, it was recorded as follows: in 2019 the realization of income was 109.10%, in 2020 it was 99.24% and in 2021 in semester 1 it was 35.25%. Ineffective planning will affect the assessment of the performance index of the implementation of the budget and income which is carried out by the ministry of finance. In addition, there is a demand for reliable financial reporting through the process of reconciling financial data and service data that have been provided to produce financial information that is accrued every month. Therefore, the integration of E-LIRA is expected to solve the problem of the lack of maturity of budget and revenue planning in PTLR and can provide financial information on real-time revenue realization that can be used by management and auditors to evaluate PNB management in PTLR.

## 2. method

The research method used by the author is descriptive; the author described the variables that exist in a study and conduct a observation on the variables studied, while the variable studied is the E-LIRA public service information system in its influence on the performance of PNB management. Direct observation of the E-LIRA application, by seeing the functions of the E-LIRA application, the data were collected through interview with respondents from developers, admin users whose are responsible for the E-LIRA application, PTLR public service officer, and several technical work and safety officers involved in the radioactive waste management. The observations were also conduted on the realization of PNB income reports, financial reports, IKPA (Index of Performance Budget Management) reports to see the possibility of unrecorded PNB receivables

from the 2019-2021 timeframe because as a result of the absence of reconciliation and how the value of IKPA each year is data and reports on customer survey results. .

## 3. Results and Discussion

### 3.1. Public Service

Public services are a series of service activities to fulfill the needs of goods, services and administrative services for every citizen provided by the government and regulated by laws. Referring to Law Number 25/ 2009, article 5 paragraph 2 state that public services consist of education and teaching, business, housing, communication and information, environment, health, social security, energy, banking, transportation, natural resources, tourism, and sector strategy.

The journey of developing public services has initially been seen simply as a service organized by the government "Whatever the government does is a public service" (Agus Dwiyanto, 2011:13). gave rise to the New Public Management (NPM) movement, which is involved in an action that is more responsive to service users, optimizing the use of existing resources to improve further and empower service providers to be more creative, innovative, and flexible in service.

The concept of the New Public Service (NPS), which developed after NPM, emphasized changing the position of the society as a customer to become a citizen who has the right to be served, NPS is often also referred to the concept of a humanist organization, the community is no longer as consumers of public services but as citizens who must be served and get adequate opportunity to determine how public services (Agus Dwiyanto, 2011:15).

The Center for Radioactive Waste Technology, which is under the Nuclear Energy Research Organization of National Innovation Research Agency, based on Indonesia's Republic law number 10/ 1997 regarding nuclear power, Chapter VI Radioactive Waste Management article 23 states that PTLR is the only Indonesian government organization assigned to provide public services for the management of radioactive waste from all over Indonesia. As a governmental organization that provides public services, PTLR serves stakeholders from various sectors, including industry, hospitals, education.

In law number 25/ 2009 article 3 states that public service providers perform evaluations of the performance of implementers within the organization on a regular and continuous basis, carried out with clear indicators and regulations by taking into account

the improvement of procedures and organizational enhancements by the principles of public services and rules.

Measurement of the Customers Satisfaction Index (IKM) for public services at PTLR is one of the requirements in evaluating the performance of public services; survey has been done through filling out questionnaires by stakeholders; the results of this survey became the basis for measuring the level of customer satisfaction and the basis for knowing out weaknesses or shortcomings of each element of public services so that improvements can be made to be better quality of public service delivery. Public service satisfaction assesment survey conducted by PTLR refers to the Regulation of Ministry of State Apparatus Empowerment and Bureaucratic Reform of the Republic of Indonesia Number 14/ 2017; there are nine elements of satisfaction in services provided, which are requirements, procedure mechanisms, completion time, costs, product details, range of services, application of competencies, behaviour application, control and resolution of complaints, facilities, and infrastructure. The survey was conducted on five types of services; liquid radioactive waste management services, solid radioactive waste management services, used sources radioactive waste management services, semi-liquid radioactive waste management services, and nuclear material waste management services. In 2020 there were 87 respondents filled out the IKM survey and the IKM for PTLR public services from 2019 to 2021 can be seen in the following table:

TABLE 1: The Costumers Satisfaction Indeks (IKM) PTLR

description	2019	2020	2021 (1st Semester)
IKM	3.64	3.65	3.57

#### 1. SKM at web PTLR BATAN

Based on the survey conducted through filling out a web questionnaire, in the first semester of 2021 the Community Satisfaction Index for PTLR's radioactive waste management services decrease from 3.65 to 3,57 (Table. 1). the lowest satisfaction value in waste management services for radioactive waste sources in terms of costs and tariffs, stakeholders do not know the new service tariffs that apply at PTLR. This might be the impact of Corona Pandemic that causes the radioactive waste management services become less than optimal according to the stakeholders. The rates for radioactive waste management services that apply for each stakeholder is regulated in Government Regulation Number 8/2019 concerning the types and rates of non-tax state revenues applicable at the National Nuclear Power Agency (BATAN)

### 3.2. Public Service Information System -- ELIRA

The information system is a collection of information sources of an organization that plays an essential role for company management to find out the extent of the development of a company's activities (Azhar Susanto, 2013, Yosep Musa, 2020: 2) so that it can be relied on in decision making (Yosep Musa, 2020: 2). The concept of quality information is related to an information system capable of producing accurate, reliable, relevant, and timely output (Azhar Susanto, 2013, Yosep Musa, 2020: 3). public service information systems has practical advantages for public bodies, including; (1). Inform public opinion through accurate information; (2). prevent untrue negative rumors; (3). Minimizing corruption and inside information; (4). more precise performance of public bodies; (5). Build good relations and increase public trust in public bodies; (6). Democratic Accountability. (Reydonnyzar Moenek, 2020:6-7)

Presidential Instruction No. 3/ 2003 was the initial gateway to implementing a technology-based information and communication system or E-Government. The purpose of government transformation towards E-Government is to simplify government administration by eliminating bureaucratic organizational barriers. A network of management systems and work processes are created to make government agencies work in an integrated manner so that public service user can access all public services and information provided by the government.

To run E-Government in nuclear organizations, in 2017 PTLR innovated technology-based public services by creating a web-based service application called E-LIRA. This application has four functions of public service administration that are integrated, among others: (1) registration admin for creation account for each stakeholder; (2) a technical admin function that verifies the application form for radioactive waste treatment, issuance of the total cost of processing each type of waste radioactive, and scheduling the delivery time of radioactive waste; (3) the financial admin function that issues billing letters, billing for radioactive waste management and payment receipts as well as managing all payments that go into the state treasury; (4) the IKM admin who performs the calculation of the customer satisfaction index for waste services as radioactive as one of the performances of public administration.

E-LIRA is used as an administrative service for stakeholders in fulfilling the requirements of the application for radioactive waste management before transportation until the handover of radioactive waste to PTLR. To improve standards for public services and to accommodate the needs of stakeholders, E-LIRA integrates the system with the BAPETEN BALIS system. In this interconnection application, stakeholders only need to

register by filling out complete data about company information; after the registration is approved, the company can directly log in and upload the waste application documents, which the technical admin will then be verified. After that, the stakeholders will be given details of costs and schedule radioactive waste transportation to PTLR as feedback on the submitted application. When the radioactive waste is sent to PTLR, the content of the package will be re-verified by the processing officer and safety officer to determine the suitability of the type of waste, the serial number of the waste contained in the transportation permit from BALIS BAPETEN with the application letter. After the waste receiving process is complete, the administrator finance will issue a billing to be paid by stakeholders; if the amount billing and filling of the IKM have been made, the stakeholder can print a receipt as proof of full payment.

Advances in technology require the development of E-Government on an ongoing basis; this aims to integrate the management and processing system of electronic documents and information in developing a public service system that is transparent, easy, and fast so that the public can participate in monitoring the performance of government organizations. All government agencies have made breakthroughs in the developing E-Government, including the development of the budget and state revenues management services at ministry of finance by creating administrative web applications such as the Agency Level Financial Application System (SAKTI), Online Information System of Non-Tax State Revenue (SIMPONI), E-SPM applications, and many others.

To increase the public services quality to the public, the government evaluates every implementation of public performance in each work unit in the ministry and institution. As one of the critical aspects of assessing public service performance, it must continue to be developed. Innovations in public service information systems are needed to provide public services that are simpler, open, accountable, cost-effective to give general satisfaction.

An information system must have a broad scope of functions covering the financial and non-financial fields. The system created should give benefit for various parties to improve performance in carrying out their inherent duties. The E-LIRA service system was also built not only for the needs of stakeholders but also for everyone involved in the provision of public services for managing radioactive waste, especially the need for the financial administration of non-tax state revenues to be more effective and efficient, that is due to all payments originating from public services are recognized as non-tax state revenues. The integration of the E-LIRA system with the SIMPONI of the Ministry of Finance is PTLR's effort to improve the performance of PLTR PNBP administration to be faster and more precise. This interconnection makes it easy for the treasurer as a

financial administrator for issuing invoices; the treasurer does not need to create billing and upload it to the E-LIRA application manually, but it can be published directly on the E-LIRA application, and receipt of payment is automatically printed; this it will reduce human error and work time efficiency of receiving treasurer.

### 3.3. Non- Tax Revenue

In the NPM concept, an organizational manager is required not only to serve the community with optimal use of the budget but also to contribute to the source of revenue for the government from the services it provides.

Based on the type of revenue, government revenue for public services provided to the community is a non-tax state revenue. According to law number 9/ 2019, non-tax state revenues are contributions paid by individuals or entities that obtained directly or indirectly for services or utilization of resources and rights acquired by the state, excluding taxes and grants which are managed in the mechanism of revenues and expenditures state.

The object of government PNBP revenue are the utilization of natural resources, services, management of separated assets state, management of state property, management of funds, and other state rights. each PNBP object has a tariff according to the applicable government regulations in each ministry and institution.

PNBP is the second source of state revenue after taxes in realizing national independence and supporting national development. Regarding to the posture of the APBN, the target of state revenue sourced from PNBP tends to increase every year, but in 2020 there is decrease in the target of non-tax revenues; this is explained in detail in Presidential Regulation Number 72/ 2020 instead of Presidential Regulation Number 54/ 2019 which illustrated in the following table:

TABLE 2

Changes in State Revenue Posture in 2020			
No	Income Type	Initial	Becomes
1	Tax revenue	1.865.702.816.382.000	1.404.507.505.772.000
2	Non- revenue Tax	366.995.145.278.000	294.140.953.906.000
3	Grant	498.740.000.000	1.300.000.000.000
	<b>Total</b>	<b>2.233.196.701.660.000</b>	<b>1.699.948.459.678.000</b>

<sup>b</sup> Law No. 20/ 2019 and Presidential Regulation No. 72/ 2020

As one of the elements of the state budget, PNBP is a part of state financial management that needs to be managed and accounted for by revenue treasures in every



TABLE 3: State Revenue Breakdown 2019, 2020, 2021.

State Revenue Breakdown 2019, 2020, 2021				
No	Income Type	2019	2020	2021
1	Tax revenue	1.786.378.650.376.000	1.404.507.505.772.000	1.444.541.564.794.000
2	Non- Tax revenue	378.297.855.438.000	294.140.953.906.000	298.204.166.025.000
3	Grant	435.310.000.000	1.300.000.000.000	902.816.508.000
	<b>Total</b>	<b>2.165.111.815.814.000</b>	<b>1.699.948.459.678.000</b>	<b>1.743.648.547.327.000</b>

<sup>c</sup>. Law No. 12/ 2018 , Presidential Regulation No. 72/2020 , Law No. 9/ 2020

work unit. To support the reliability of government financial reports, it is necessary to implement an internal control system, the reconciliation process of agency financial transactions. Reconciliation related to non-tax state revenues at PTLR can be carried out first internally between the revenue treasurer who receives payment for radioactive waste management services and the technical, administrative officer who receives the request for the proposal for the management of radioactive waste and which takes into account the value of services for each type of waste. Necessary to identify the possibility of discrepancies in recording that could affect the validity and accuracy of the data presented in the financial statements of the work unit. The interconnection of E-LIRA with SIMPONI as a service system that has been built for two years is expected to accommodate the need for internal control at the request of the technical administrator of radioactive waste recipients with the financial administrator.

PTLR, as a non-tax revenue management organization, every year plays a role in providing a source of income for the state for non-tax revenues from radioactive waste management services. In contrast, the types of services related to radioactive waste management are regulated in Government Regulation Number 8/ 2019. They are divided into eight categories of waste management services with various kinds of management specifications and service rates. The planned PNBPN target every year always increases, even when there are changes in the 2020 state revenue and expenditure budget as regulated in presidential regulation Number 72/ 2020, that one of which is the change in the revenue targets of all ministries and institutions due to Covid-19 pandemic. PNBPN target from several ministries dan agencies has decreased from the initial plan, including the BATAN PNBPN target. but, among other units workings at BATAN, the PTLR PNBPN target has increased; the details presented in the following table.

Tabel 6.

TABLE 4: Non Tax Revenue posture in 2020 BATAN.

No	Unit Work	Initial	Becomes
1	Kantor Pusat Batan	268.571.000	390.000.000
2	PAIR	5.609.594.000	4.336.498.488
3	PTBGN	592.500.000	592.500.000
4	PSTNT	750.000.000	300.000.000
5	PSTA	250.000.000	500.392.130
6	PTKMR	6.020.600.000	6.020.600.000
7	PUSDIKLAT	3.465.700.000	2.821.500.000
8	PRSG	3.500.000.000	1.200.000.000
9	PTBBN	683.040.000	771.665.904
10	PSTBM	384.000.000	300.000.000
11	PRFN	150.000.000	73.374.013
12	PTRR	663.050.000	663.050.000
13	PTLR	783.200.000	810.466.862
14	STTN	2.679.920.000	2.679.920.000
15	PSMN	271.750.000	160.415.100
	<b>Total</b>	<b>26.071.925.000</b>	<b>21.620.382.497</b>

<sup>d</sup>. Internal Memo of main secretary BATAN

TABLE 5: Target Non-Tax Revenue PTLR.

Non-Tax Revenue Target Posture at PTLR			
Identity	2019	2020	2021
Non Tax Revenue Target	1.632.250.000	810.470.000	1.000.000.000

<sup>e</sup>. Budget Implementation List of PTLR Years 2019 – 2021

TABLE 6: Realization of Non-Tax Revenue PTLR.

Non-Tax Revenue Realization Posture at PTLR			
Identity	2019	2020	2021
Non Tax Revenue Target	1.780.750.000	804.310.000	352.500.000

<sup>f</sup>. Finance Report of PTLR Years 2019 – 2021

From 2019-2021, there were fluctuations value in PTLR PNBPN from every annual realization compared to the PNBPN target that have been previously set (Table 5 and Table 6). In 2019 the realization of PTLR PNBPN exceeds the target set for that year, whilst in 2020 the realization value did not meet the previously set target with the level of achievement 99.24%. Meanwhile in the first semester of 2021, the realization only 35.25% of the target. This fluctuation will undoubtedly disrupt the performance of budget management in the budget absorption element; If the realization is too high,

it will cause the unit work personnel can not able to make maximum use of PNBP to improve the public service, and so does if the realization is too low.

## 4. Conclusions

The integration of the E-LIRA system with SIMPONI and BALIS provides convenience, time, and cost efficiency for stakeholders and public service providers. However, the integration of ELIRA and SIMPONI and BALIS has not accommodated the needs of internal service providers controlling PNBP in the form of data reconciliation, has not been able to project non-tax revenues to be received next year, and has not provided easy access for management and auditors to conduct public supervision and control of PNBP.

Based on the conclusions of the study, the authors would like to provide recommendations:

First, there is a need for continuous development of the interconnection of the ELIRA and BALIS systems for PNBP projections because the BAPPETEN BALIS system has data regarding the expiration of permits for the use of radioactive substances used by several companies and hospitals so that PTLR can make projection of PNBP receipts for the year N+1 accurately;

Second, there is a need for continuous development of the E-LIRA system to add some access menus, such as; (1)The applicable tariffs for all types of services available at PTLR so that stakeholders well informed; (2)The information menus that can only be accessed by the leaders and auditors; (3) Data reconciliation needs between technical administrators and financial administrators so that internal control over non-tax revenues can be implemented and the revenue treasurer can obtain information to update the data for recording accounts receivable if there are stakeholders who have not fulfilled their obligations.

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