Eduvest – Journal of Universal Studies
Volume 6 Number 1, April, 2026
p- ISSN 2775-3735- e-ISSN 2775-3727

Evaluation of Financial and Operational Performance at BLU-Status Health Polytechnics: Multiple Case Study of 34 Ministry of Health Polytechnics

Muhammad Rizky Bahy Mu'afa[1]*, Dodik Siswantoro[2]
Universitas Indonesia
Email: muhrizky21@gmail.com*, kidod25@gmail.com

Keywords
public service agency, health polytechnic, performance, finance, operations, evaluation

Abstract
This study evaluates the financial and operational performance of thirty-four Public Service Agency (BLU) Health Polytechnics over 2022 to mid-2025 within the framework of Government Regulation No. 74 of 2012 and Ministry of Finance Regulation No. 202/PMK.05/2022. The method was a multiple-case qualitative study using within-case and cross-case descriptive analyses of Monitoring of Financial and Operational Performance (MKKO) data, performance contracts, and focus group discussions, followed by descriptive and diagnostic analyses applying the 5 Whys and the 4P/S categories (People, Process, Policy, System). The results show high dependence on single tuition fees, limited diversification of non-tuition revenue, a large share of non-academic expenditures, gaps between revenue and academic cost per student, uneven admissions selectivity, strong graduate tracer coverage but highly varied job placement within six months, unbalanced research productivity and down streaming, and unproportional lecturer and staff ratios and ranks. Policy implications emphasize performance-based governance, minimum shares for academic spending, cost-per-service calculations in the business and budget plan, standardized tracer studies, workforce planning and workload rebalancing, and the acceleration of research down streaming and revenue diversification.

INTRODUCTION

Work units in the form of Public Service Agencies (BLU) have more flexibility in financial management than ordinary PNBP work units with the aim that the work unit can improve the quality of services as explained on the general basis, namely in PP 23 of 2005 and updated through PP 74 of 2012 which regulates the determination of BLU, service standards and tariffs, as well as performance-based planning and budgeting. In the operational scope, the Ministry of Finance issued the BLU Management Guidelines through PMK 129/PMK.05/2020 which was later amended by PMK 202/PMK.05/2022. These guidelines affirm the principles of efficiency and productivity, sound business practices, and integrated RBA planning and budgeting governance (Fauzan et al., 2026; Jilani, 2025).

The budget implementation agenda in the current government period requires each work unit to implement budget efficiency while still maximizing performance (Isi et al., 2022; Li & Guo, 2022; Musiega et al., 2023; Onana, 2024). According to this directive, the Health Polytechnic as a network of government vocational universities needs to prove its institutional resilience and service quality through measurable improvements (Amante & Rodrigues, 2025; Goraş-Postică et al., 2022; Guo et al., 2024; Zhang et al., 2025). The transformation of the

Polytechnic is important not only to maintain the quality of graduates, but also to ensure that BLU's financial management is able to sustain education services in a sustainable manner amid budget efficiency pressures.

The general regulatory and operational framework in the management of BLU aims to encourage service improvement and financial efficiency (Kristianto et al., 2024; Ngarawula & Rozikin, 2024; Persada et al., 2024; Uma et al., 2026). However, achievement at the work unit level is largely determined by how rules are translated into planning and budgeting processes, how revenues are built and costs are managed, and how health education services are generated from available resources (Sarah Edmonda et al, 2025). This is where the need for an integrated evaluation that reads financial and operational performance becomes relevant.

One of the main supports for the revenue target of public service agencies engaged in education is the single tuition fee paid by students every semester (Sarah Edmonda et al, 2025). However, public interest in registering as students in the field of health workers is still low as mentioned by the Minister of Health of the Republic of Indonesia Budi Gunawan Sadikin, Indonesia is experiencing problems with health human resources, namely the problem of number, distribution, and quality (Ministry of Health, 2024). This statement is in line with the research of Muharram et al., (2024) that the distribution of health workers is uneven and burdens health services, Indonesian health workers are still in deficit against the WHO threshold of 4.45 per 1,000 population, to inequality that occurs in cities and villages. The statement of the minister of health is also in line with internal data related to student admissions at the Ministry of Health's Polytechnic. Analysis of operational indicators related to student profiles shows that in 2025, the total number of active students at the Ministry of Health's Polytechnics will be recorded at 129,699 people, with the number of new students reaching 45,270 people. Meanwhile, the total number of registrants amounted to 275,042 people, resulting in an average acceptance rate of 25% at the national level. This figure marks the attractiveness of the Polytechnic as well as shows the variation in demand between regions and study programs.

The context of this research is BLU education in the health sector with a compound case study in 34 Health Polytechnics of the Ministry of Health with BLU status. This study focuses on evaluating the performance of 34 Health Polytechnics by referring to the Key Performance Index that has been determined, namely financial indicators and service indicators. In addition, in order for the evaluation not to stop at the numbers in the indicators, conceptual references from the literature and previous studies on the performance of public service bodies in the field of education are needed.

This previous research provides some findings and inspiration that are in line with the research. The Balanced Scorecard study on BLU of higher education emphasizes the need for a balance of financial and non-financial measures to improve the governance of university performance (Muhammad Zulbasri, 2023). Research on the implementation of the Business Plan and Budget Information System shows that the planning process to monitoring and evaluation is running systematically, but planning discipline needs to be strengthened because there are still revisions. These findings mark the importance of performance-based planning so that budget implementation is more controlled (Moh Ronal Tuu et al., 2023). In the human resource aspect, the remuneration study in vocational BLU shows that performance-based remuneration has the potential to boost employee performance and service quality, with the

note that governance prerequisites and indicators must be clear and understood by implementers (Muchammad Adnan et al., 2023). Meanwhile, analysis before and after the implementation of BLU at a public university shows that budgeting flexibility has increased and several financial ratios have improved, encouraging continuous evaluation of the effectiveness of BLU (Syahromi & Cheisviyanny, 2020). In terms of governance, quantitative research found that supervision and redesign of the budgeting system had a significant effect on BLU's performance, while transparency and accountability were not always significant. These results underscore the importance of effective process design and control (Frisiska Oktarina et al., 2023).

Previous research related to public service bodies in the field of higher education is generally still a single case, both highlighting the Balanced Scorecard, RBA implementation, remuneration, and pre- and post-BLU analysis in one institution. This pattern produces in-depth lessons on a case-by-case basis, but does not present a pluralistic picture as a single health vocational education ecosystem. This research fills this gap by offering an evaluation of 34 health polyethnic so that performance differentiators, governance variations, and good practices can be mapped more convincingly and useful for policy improvement.

This research offers a new contribution through empirical analysis of 34 Polytechnics with BLU status. Unlike previous research that generally relies on a single case or one performance dimension, this study adopts a holistic approach that bridges financial and operational evaluations, while examining the alignment of practice in the field with regulatory references and related literature, resulting in strategic insights related to financial and operational performance as well as actionable improvement recommendations.

The formulation of problems in this study focuses on two main things, namely how the financial and operational performance of the 34 Health Polytechnics of the Ministry of Health has BLU status and what are the problems that are the main focus in efforts to improve performance. In line with that, this study aims to describe the results of the evaluation of financial and operational performance in all Polytechnics with BLU status and analyze the problems that arise in order to formulate the necessary corrective steps. This research is limited to the regulations and management practices of Public Service Agencies in the field of health education with a compound case study in 34 Polytechnic, including the evaluation of financial and operational indicators for the period 2020–2025 (August 2025). The limit was set because the Polytechnic has a strategic mandate in the provision of health workers and shows variations in fiscal and operational conditions that are relevant for comparative analysis. The benefits of the research include academic contributions in the form of additional empirical literature related to the performance of BLU education, as well as practical benefits in the form of strategic information and recommendations for improvement to improve the achievement of performance indicators and service quality at the Ministry of Health's Polytechnic.

METHOD

This study used a qualitative approach with a compound case study method in 34 Polytechnic with BLU status to explore a deep understanding of financial performance management and education services. Evaluative case studies were chosen so that the assessment not only describes practices, but also evaluates their suitability and effectiveness against public service objectives and BLU regulations. Data was obtained through official

documents and targeted interviews with triangulation techniques to improve validity. This approach produces performance maps across polytechnics, diagnosis of performance problems, and recommendations for governance improvements.

The selection of informants is carried out comprehensively to capture a 360-degree perspective from all stakeholders in the Polytechnic, ranging from leaders, academic units, operational support units, lecturers and education staff, directing/supervisory bodies, to service users such as students and alumni. Each party has a strategic role: the leadership sets the policy direction, the academic unit ensures the quality of education, the support unit manages the system and resources, while educators and students provide input based on field practice. The results of interviews and discussions are focused on mapping strengths, causes of problems, and actionable opportunities for performance improvement.

The research stages start from regulatory review, descriptive analysis of MKKO data, implementation of Focus Group Discussion, to diagnostic analysis using the 4P/S and 5 Whys methods to find the root of the problem. The FGD was conducted with six groups of informants using a literature-based question guide and BLU performance contract, then transcribed and reduced to key themes. MKKO data is used to validate field findings and compile within-case and cross-case analyses between Polytechnic. The data presentation process is assisted by NVivo software for coding, categorization, and pattern mapping systematically.

Data analysis is carried out qualitatively with the aim of understanding the driving factors, inhibitions, and consistency between the plan and the realization of financial-operational performance. The entire process is guaranteed to be valid through trustworthiness standards, including credibility through triangulation of sources, transferability through the presentation of a clear BLU context, dependability through systematic data collection and analysis procedures, and confirmability through cross-verification to avoid subjective biases of researchers. By applying all these stages and principles, this research is expected to produce a reliable performance evaluation and recommendations that are applicable to improving the governance of the BLU Health Polytechnic.

RESULT AND DISCUSSION

Descriptive Analysis of Within Case and Cross Case Data Monitoring of Financial and Operational Performance of 34 Polytechnics with Public Service Agency Status

One of the important foundations in the transformation process of the Polytechnic is the strengthening of the Financial and Operational Performance Monitoring (MKKO) system as an evaluation instrument that is carried out periodically. Data collection was carried out through independent reporting by the Polytechnics for the 2022, 2023, 2024, and January-June 2025 periods. The socialization and equalization of the operational definition of indicators has been carried out on July 29, 2025 to minimize differences in interpretation. However, there are still problems with completeness and accuracy of filling, one example is graduate profiles that have not been filled out correctly, incomplete entries in several Polytechnic, and reports that have not been updated in some others. This situation shows that MKKO has given an initial overview of the direction and pattern of performance, but it still needs continuous strengthening, both in terms of understanding indicators, reporting discipline, and data validation before consolidation.

The scope of MKKO compiled lists 38 Polytechnic, while the analysis in this chapter is centered on 34 Polytechnic with BLU status according to the focus of the research. Furthermore, subchapter 5.2.1 outlines financial performance by highlighting the structure of revenue and expenditure. Subchapter 5.2.2 discusses operational performance which includes student admissions, the quality of the learning process and the passing of competency tests, as well as the output of the *tridharma*. The qualitative findings of the Forum Group Discussion are presented in subchapter 5.2.3 to provide context for the data patterns, raise good practices, and highlight areas of need for systemic improvement. With this flow, the discussion proceeds from a qualitative interpretation that is ready to be followed up.

1. Financial Performance Analysis

Figure 1 shows the results of the analysis of the source of income of the Polytechnic in 2022 to 2024, which is still heavily reliant on Single Tuition (UKT).

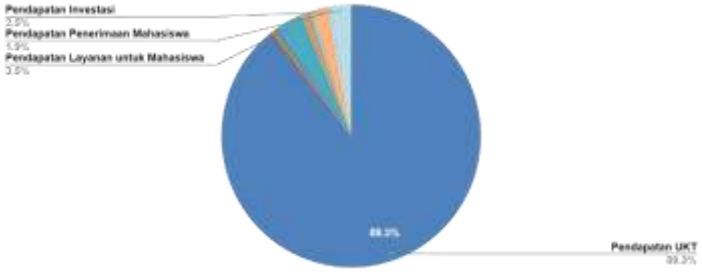

Figure 1 Income Structure of the Polytechnic

Source: Processed data

Figure 2 Distribution of Polytechnic Income

Source: Processed data

Figure 2 shows that all polytechnics from those that generate high to low incomes, consistently show that the contribution of UKT is in a very dominant range, so that it is concluded that the financial independence of polytechnics is vulnerable to the dynamics of the number of students and education cost policies. Figure 5.2 also shows that income from other UKTs such as student services, cooperation, asset utilization, training/certification activities, and research and service outputs is still relatively small and unevenly distributed between institutions. This pattern indicates limited financial flexibility and not yet optimal use of assets, external networks, and commercialization opportunities for core competencies in health

vocational. This is in line with the research of Sarah Edmonda et al (2025) who both assessed the financial independence of BLU with the result that BLU education has the same challenges, namely the challenge of the PNBP target and the importance of diversifying non-UKT income sources and business unit governance.

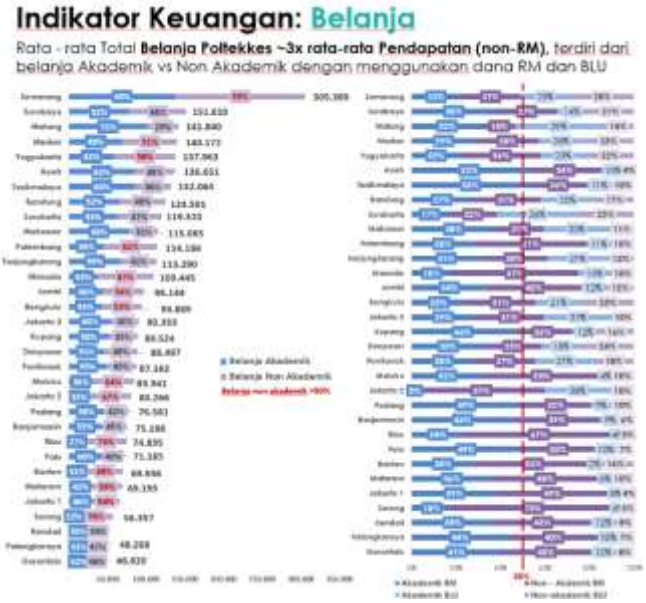

Figure 3 Polytechnic Shopping Structure
Source: Processed data

In terms of expenditure as shown in Figure 3, the composition between academic and non-academic expenditure shows wide variation. In many Polytechnics, the portion of non-academic expenditure is still dominant, with building capital expenditure as a large component. This condition indicates significant physical investment, but without compensation for strengthening academic quality (curriculum, learning, applied research, practical support) the direct impact on the quality of graduates has limited potential. Therefore, the repositioning of spending to be more productive and in line with the goals of vocational education services is an urgent need.

Figure 4 Comparison of Academic Income and Fees per Student between Polytechnics
Source: Processed data

Furthermore, the comparative analysis of academic income and fees per student between polytechnics in Figure 5.4 shows the gap and clustering of polytechnics: high income with low academic fees, high income with high academic fees, low income with low academic fees, and low income with high academic fees. Typically, the income per student is below the academic fees per student in most polytechnics. Many institutions with per student income do not cover the academic burden, thus emphasizing the urgency of a dual strategy: diversification of non-UKT income and increasing the efficiency of academic spending. The quadrant mapping also shows the heterogeneity of financial positions between the Polytechnics and directs more targeted interventions according to their respective profiles.

Overall, the main findings on financial performance are: high dependence on UKT, small and uneven non-UKT contributions, dominance of non-academic spending in a number of institutions, and large variations between academic income and fees per student between polytechnics. The implications of the policy include accelerating the diversification of revenue sources (vocational training, educational laboratory/clinic services, asset utilization, local government/industry partnerships) and sharpening spending priorities that directly strengthen the academic process and graduate outcomes. This follow-up direction is deepened in subchapter 5.1.2 which analyzes operational performance, as well as subchapter 5.1.3 which presents the findings of the Forum Group Discussion as qualitative feedback on the identified financial performance patterns.

2. Operational Performance Analysis

As a follow-up to the general map of MKKO and highlights of financial performance, this section examines the operational side that is directly related to the attractiveness of the health polytechnic, the quality of education services, graduates and research.

Table 1 Growth of New Student Admissions at the Ministry of Health Polytechnic 2025

Polytechnic	YEAR 2025				Average Growth of Registrants (2022-2024)
	Number of Active Students	Number of New Students	Number of Registrants	Acceptance Ratio	
Semarang	10,309	4,248	17,026	25%	16%
Surabaya	6,663	2,360	23,334	10%	17%
Surakarta	6,350	2,271	23,869	10%	7%
Hapless	5,833	2,228	19,100	12%	8%
Terrain	5,816	2,197	9,091	24%	12%
Jambi	5,674	3,184	7,235	44%	22%
Bandung	5,332	2,049	19,577	10%	5%
Aceh	5,321	2,021	4,439	46%	-8%
Palembang	5,315	2,390	17,615	14%	9%
Makassar	5,221	1,973	7,917	25%	0%
São Paulo	4,538	1,724	11,751	15%	-5%
Tanjungkarang	4,456	1,629	13,504	12%	42%
Field	4,306	1,484	11,377	13%	11%
Yogyakarta	4,137	1,571	22,373	7%	8%
LakeMalaya	4,134	1,683	10,488	16%	9%
Bengkulu	4,034	1,513	14,074	11%	7%
Pontianak	3,638	1,277	2,708	47%	6%
Denpasar	3,534	1,372	4,421	31%	4%
Mataram	3,423	1,456	9,438	15%	50%
Banjarmasin	3,219	921	4,166	22%	30%
Jayapura	3,071	-	-	-	-

Polytechnic	YEAR 2025				Average Growth of Registrants (2022-2024)
	Number of Active Students	Number of New Students	Number of Registrants	Acceptance Ratio	
East Kalimantan	2,913	978	4,524	22%	6%
Jakarta 3	2,764	1,446	8,680	17%	1%
Manado	2,749	1,090	3,583	30%	5%
Jakarta 2	2,746	1,055	14,908	7%	18%
Palangkaraya	2,469	845	2,546	33%	34%
Kendari	2,393	885	1,661	53%	38%
Banten	2,377	839	5,306	16%	13%
Hammer	2,287	1,023	1,176	87%	-31%
Maluku	2,021	783			
Gorontalo	1,956	694	3,716	19%	8%
Ternate	1,645	700	8,480	8%	27%
Jakarta 1	1,631	534	6,285	8%	41%
Riau	1,566	592	918	64%	18%
Stretch out	1,459	527	566	93%	7%
Pangkalpinang	1,130	390	2,154	18%	-7%
Tanjungpinang	1,124	390	1,570	25%	5%
Stuttgart	282	128	299	43%	5%

Source: Internal data that has been processed

Table 1 shows that nationally, the attractiveness of polytechnics is still high but uneven. Large campuses in the center of demand stand out in the number of applicants, including Surakarta (23,869), Surabaya (23,334), Yogyakarta (22,373), Malang (19,100), Bandung (19,577), and Semarang (17,026). In this group, the acceptance rate tends to be tight in the range of 7-12 percent, for example Yogyakarta 7 percent, Surakarta 10 percent, Surabaya 10 percent, Malang 12 percent, and Jakarta I and Jakarta II 8 percent and 7 percent respectively. The pattern shows high competition in entry as well as a perception of quality and strong support of practice land in the relevant areas. Semarang seems to stand out in terms of capacity with the largest number of active students (10,309) and 4,248 new students.

On the other hand, there are campuses with a high acceptance rate because the number of registrants is relatively smaller than the capacity. For example, Sorong 93 percent, Palu 87 percent, Riau 64 percent, Kendari 53 percent, and Aceh 46 percent and Jambi 44 percent. This condition indicates low selectivity and potential challenges in attracting the interest of prospective students, both due to local market limitations, study program preferences, and accessibility factors. A number of campuses are in a medium position with an acceptance rate of 12-25 percent such as Tanjungkarang, Padang, Kupang, Palembang, Makassar, Semarang, and Tanjungpinang. This middle group is relatively more balanced between demand and capacity, but still needs to strengthen the program's advantages so as not to shift to a loose selectivity condition.

The growth trend of registrants in 2022-2024 also varies. A sharp increase was seen in Mataram (50 percent), Kendari (38 percent), Palangkaraya (34 percent), Banjarmasin (30 percent), Tanjungkarang (42 percent), and Jakarta I (41 percent), which indicates opportunities for measurable capacity expansion or effectiveness of promotional and partnership activities. On the other hand, there was a decrease in Palu (31 percent), Aceh (8 percent), Kupang (5 percent), and Pangkal areca nut (7 percent). The decline, which is also accompanied by high acceptance rates, such as in Palu and Riau, strengthens the signal of weakening interest so that

a review of the curriculum, strengthening of practice networks, scholarship schemes, and more targeted socialization strategies are needed. Some entries are still incomplete (e.g. Jayapura and some Maluku data), so the reading is focused on general patterns rather than final conclusions per campus.

Thus, the 2025 map depicts three operational groups: high-demand campuses and strict selectivity. A relatively balanced secondary campus. and campuses with loose selectivity that require an interest growth strategy. The implication for BLU management is the need for capacity adjustment and risk-based financing, because the dynamics of applicants and acceptance rates will have a direct effect on the UKT income base, the need for cost support per student, as well as investment priorities in academic services and practice partnerships.

Table 2 Graduate Achievements, Tracer Study, and Job Absorption until 2024

No	Polytechnic	Number of Active Students	Total Graduates	% *Tracer Study*	Graduate absorption <6 months	Graduates working abroad	Number of graduates continuing their education
1	Semarang	10,207	3,633	90%	66%	0.8%	12.9%
2	Surakarta	5,891	2,028	90%	39%	0.2%	17.4%
3	Hapless	5,689	1,858	73%	33%	1.3%	18.2%
4	Surabaya	5,455	1,514	95%	85%	0.4%	13.3%
5	Terrain	5,433	1,484	97%	27%	0.9%	10.0%
6	Bandung	4,681	1,366	80%	46%	1.6%	7.5%
7	Makassar	4,640	1,319	69%	49%	3.2%	7.4%
8	São Paulo	4,456	1,097	80%	61%	0.9%	2.7%
9	Jambi	4,436	308	80%	338%	1.7%	51.3%
10	Aceh	4,300	1,093	74%	22%	0.8%	10.0%
11	Tanjungkarang	4,295	1,229	70%	51%	0.5%	12.9%
12	Palembang	3,948	1,052	95%	66%	1.2%	8.8%
13	Yogyakarta	3,879	1,374	88%	73%	0.5%	16.6%
14	Bengkulu	3,436	998	70%	24%	4.5%	13.1%
15	LakeMalaya	3,419	917	82%	45%	1.0%	9.5%
16	Pontianak	3,411	1,033	90%	59%	0.4%	40.1%
17	Field	3,153	651	80%	43%	1.2%	5.9%
18	Denpasar	3,137	928	80%	24%	1.4%	20.3%
19	Mataram	2,865	1,021	83%	27%	0.7%	13.3%
20	Jakarta 2	2,819	797	80%	54%	0.0%	4.4%
21	Jakarta 3	2,718	945	90%	81%	2.2%	28.6%
22	Manado	2,711	701	80%	0%	3.0%	9.5%
23	Banjarmasin	2,571	710	100%	72%	0.6%	6.5%
24	Hammer	2,116	693	70%	49%	0.4%	10.3%
25	Kendari	1,985	471	55%	54%	0.4%	5.8%
26	Banten	1,811	429	100%	57%	1.6%	12.8%
27	Maluku	1,711	549	100%	24%	1.4%	1.1%
28	Palangkaraya	1,664	415	64%	40%	0.2%	5.5%
29	Gorontalo	1,550	365	99%	40%	0.1%	5.2%
30	Ternate	1,376	283	100%	30%	0.7%	7.8%
31	Stretch out	1,335	334	92%	51%	0.1%	5.2%
32	Riau	1,219	270	100%	53%	1.0%	22.0%
33	Jakarta 1	1,085	217	89%	0%	1.7%	3.1%
34	Pangkalpinang	776	177	44%	36%	0.9%	5.1%
35	Tanjungpinang	690	197	84%	35%	0.2%	3.9%
36	Jayapura	3,437	731				
37	East Kalimantan	2,630	1,079	60%	51%	0.3%	17.1%
38	Stuttgart	308	120	90%	50%	4.2%	8.1%

Source: Internal data that has been processed

Table 2 shows that the level of implementation of tracer studies in many polytechnics is already high. A number of campuses reported tracer levels above 90 percent, including Surabaya, Semarang, Surakarta, Banjarmasin, Pontianak, Jakarta III, Sorong, as well as several campuses with 100 percent such as Banten, Riau, Maluku, and Ternate. The wide scope of tracers provides a sufficient basis for reading the correlation with job absorption. On the absorption side, it can be seen that the superior group with the proportion of working in six months is above 70 percent, for example Surabaya 85 percent, Jakarta III by 81 percent, Yogyakarta by 73 percent, Banjarmasin by 72 percent, and Palembang and Semarang by 66 percent each. This pattern shows a relatively strong connection between academic processes, practice networks, and job market access.

Outside the superior group, there are campuses with relatively good tracers but job absorption is still moderate to low. For example, Medan with a tracer of 97 percent and absorption of 27 percent, Malang 73 percent and 33 percent, Bandung 80 percent and 46 percent, Denpasar 80 percent and 24 percent, Bengkulu 70 percent and 24 percent, and Aceh 74 percent and 22 percent. This pattern suggests that the tracking of graduates is already underway, but the connection to the job market needs to be strengthened, both through the expansion of practice land, strengthening partnerships of health care facilities, equalizing local competencies, and supporting career guidance. There are also campuses with medium tracer but medium absorption, for example Kendari 55 percent and 54 percent, and Jakarta II with 54 percent absorption. This shows the potential to strengthen the aspect of tracer implementation so that the evidence of performance is more representative.

Supporting indicators show variations in direction after graduation. The proportion of working abroad is generally small, but some campuses recorded more prominent figures such as Bengkulu 4.5 percent, Makassar 3.2 percent, Manado 3.0 percent, and Jakarta 3 at 2.2 percent. Meanwhile, interest in continuing education is quite high in several campuses, for example Jambi 51.3 percent, Pontianak 40.1 percent, Jakarta III 28.6 percent, Riau 22.0 percent, and Denpasar 20.3 percent. This pattern can be read as an opportunity to differentiate advanced academic programs as well as a signal that some graduates are delaying entering the job market to deepen their competencies.

There are incompleteness and anomalies in the data that need to be verified (for example, the blank column in Jayapura, the absorption of Jambi was recorded at 338 percent, and the zero value in Jakarta I and Manado which may not have been reported). Therefore, the current reading is focused on general trends, not conclusions per campus. The implication is that it is necessary to strengthen the quality of the tracers, standardize the definition of indicators, and validate the data so that the results of the analysis are suitable as the basis for determining targets and strategies for the placement of graduates. In conclusion, the post-graduation performance of the Polytechnic shows high heterogeneity. The coverage of tracers is generally good, but the absorption rate in 6 months varies greatly between campuses, accompanied by inconsistency in data quality, so it is necessary to strengthen job market partnerships and organize more reliable tracers so that the results are worthy of being used as a basis for service improvement.

In terms of the research produced, it can be seen in Figure 5.5 that the productivity and downstream of Polytechnic research is still disproportionate to the number of lecturers, with

some campuses showing good practices that need to be replicated to encourage more equitable use of research results. The total research of the Polytechnic amounted to 1,702 with a downstream portion of 95 works and commercialization of 30 works. This means that the majority of research is still in the non-downstream stage, so that the proportion of outputs that lead to utilization or economic added value is relatively small compared to the overall research activity. This condition shows that the process of transferring research results to real use has not run evenly across all work units.

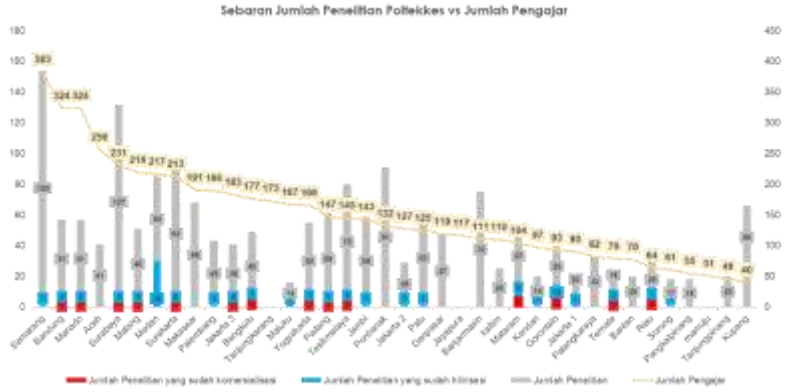

Figure 5 Number of Lecturers and Research Downstream

Source: Internal data that has been processed

If it is associated with the capacity of lecturers, research productivity is not always comparable. There is an inequality between the number of lecturers and the number of research in several Polytechnic, for example Maluku with 217 lecturers producing 14 studies and Bandung with 324 lecturers producing 51 researches. On the other hand, there are examples of high productivity, such as Pontianak with 127 lecturers producing 91 studies and Banjarmasin with 111 lecturers producing 75 studies. This difference indicates that there are different leverage factors in each campus, such as research traditions, teaching load, facility support, and partnerships with the world of work.

In terms of output quality, there are campuses that stand out in the percentage of down streaming, for example Medan with 30 out of 55 studies (around 54 percent) and Gorontalo with 10 out of 25 studies (around 40 percent). For commercialization, the highest examples appeared in Mataram with 7 out of 37 studies (about 19 percent) and Gorontalo with 4 out of 25 studies (about 16 percent). This pattern shows that although the amount of large research is not necessarily downstream, supportive governance is needed to strengthen the path of utilization of research results, which is in line with the research of Muchammad Adnan et al (2023) that the interpretation of service achievements (quality of graduates and research) is driven by the governance that supports it. One of them is good incentives or remuneration.

Table 3 Distribution of Lecturers and Educators

Polytechnic	Number of Active Students	Number of Permanent Lecturers	Number of Education Personnel (Staff)	Propose %		Ratio (1: N) of Students	
				Lecturer	Staff	Lecturer	Staff
Semarang	10,309	351	263	57%	43%	29	39
Surabaya	6,663	231	222	51%	49%	29	30
Surakarta	6,35	190	249	43%	57%	33	26
Hapless	5,833	203	182	53%	47%	29	32
Terrain	5,816	211	124	63%	37%	28	47
Jambi	5,674	129	76	63%	37%	44	75
Bandung	5,332	229	198	54%	46%	23	27
Aceh	5,321	256	188	58%	42%	21	28
Palembang	5,315	176	153	53%	47%	30	35
Makassar	5,221	186	86	68%	32%	28	61
São Paulo	4,538	173	112	61%	39%	26	41
Tanjungkarang	4,456	166	119	58%	42%	27	37
Field	4,306	145	139	51%	49%	30	31
Yogyakarta	4,137	146	149	49%	51%	28	28
LakeMalaya	4,134	140	135	51%	49%	30	31
Bengkulu	4,034	142	60	70%	30%	28	67
Pontianak	3,638	124	120	51%	49%	29	30
Denpasar	3,534	111	96	54%	46%	32	37
Mataram	3,423	94	66	59%	41%	36	52
Banjarmasin	3,219	110	98	53%	47%	29	33
Jayapura	3,071	101	132	43%	57%	30	23
East Kalimantan	2,913	89	67	57%	43%	33	43
Jakarta 3	2,764	115	131	47%	53%	24	21
Manado	2,749	113	74	60%	40%	23	27
Jakarta 2	2,746	125	138	48%	52%	22	20
Palangkaraya	2,469	79	61	56%	44%	31	40
Kendari	2,393	93	27	78%	23%	26	89
Banten	2,377	57	63	48%	53%	42	38
Hammer	2,287	119	72	62%	38%	19	32
Maluku	2,021	106	86	55%	45%	19	24
Gorontalo	1,956	85	84	50%	50%	23	23
Ternate	1,645	66	95	41%	59%	25	17
Jakarta 1	1,631	81	89	48%	52%	20	18
Riau	1,566	60	69	47%	53%	26	23
Stretch out	1,459	49	72	40%	60%	30	20
Pangkalpinang	1,13	48	33	59%	41%	24	34
Tanjungpinang	1,124	37	44	46%	54%	30	26
Stuttgart	282	44	39	53%	47%	6	7

Source: Internal data that has been processed

Furthermore, regarding the distribution of lecturers and educators (Staff), according to Table 3, the majority of Polytechnic have not shown a relative proportion according to the OECD, Australia, US references where the Ratio of Lecturers: Students is 1:13-1:20 and LAMPTKes is 1:25-1:30. The average composition of human resources in 38 Polytechnic is 54 percent of lecturers and 46 percent of staff have not reached the 2:1 proportional reference (66.7 percent of lecturers: 33.3 percent of staff). The average student-to-lecturer ratio is 1:27 (looser than the LAMPTKes reference of 1:25-1:30 and far from the international standard of 1:13-1:20), while the student-to-staff ratio is 1:34. A number of campuses have approached good practices in terms of lecturer ratio, for example Palu (1:19), Maluku (1:19), Jakarta 1

(1:20), Jakarta 2 (1:22), Gorontalo (1:23), Bandung (1:23), Manado (1:23), Jakarta 3 (1:24). but many are still loose such as Jambi (1:44), Mataram (1:36), Denpasar (1:32), Palangkaraya (1:31), Tasikmalaya and Padang (1:30). In terms of staff support, some campuses have shown good sufficiency (Ternate 1:17. Jakarta 1 1:18. 1:20. Jakarta II and Jakarta III around 1:20-21. Maluku 1:24. Gorontalo/Riau 1:23), while some others are very high in load per staff (Kendari 1:89. Jambi 1:75. Bengkulu 1:67. Stuart 1:61). The institutional composition is also not uniform: some tend to be heavy personnel weights (e.g. Surakarta 57 percent Staff. Jayapura 57 percent. Push 60 percent. Jakarta III 53 percent. Jakarta II 52 percent. Yogyakarta 51 percent), and there are those who tend to weigh the weight of lecturers (e.g. Kendari 78 percent. Bengkulu 70 percent. Makassar 68 percent. Medan/Jambi 63 percent), so the need for strengthening is different: the heavy campus needs additional lecturers to reduce the teaching ratio, while the heavy campus with a high staff ratio needs to strengthen laboratory/IT/administrative support services.

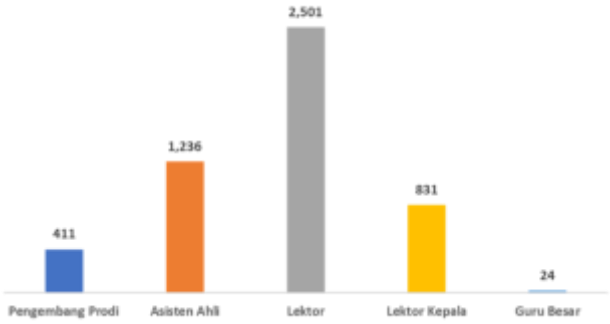

Figure 6 Distribution of Lecturer Profiles
Source: Internal data that has been processed

Furthermore, regarding the distribution of lecturer profiles, according to the graphic illustration in Figure 5.6, it shows that the position structure of the Polytechnic is still dependent on the Lector with an uneven distribution of Head Lecturers and Professors, so that the acceleration of the development of functional positions from the reduction of non-functional positions to the acceleration of promotion to Head Lecturers and Professors is the key to equitable distribution of the quality of the *tridharma*.

Of the total of around 5,003 lecturers in the Polytechnic, the composition of functional positions is dominated by Lecturers at around 50 percent, followed by Expert Assistants at around 25 percent, Head Lecturers at around 16 percent, while Professors are still very small at around 0.5 percent. The portion of non-functional lecturers is still around 8 percent, indicating that some educators have not been consolidated in the functional career path. At the initial level, some campuses rely heavily on Expert Assistants, for example Tanjung Pinang and Pangkal Pinang above 60 percent, while there are low ones such as Denpasar around 7 to 8 percent and Mataram around 8 to 9 percent. At the core level, the highest proportion of Lectors appeared in Mataram and Medan at around 63 percent, while the lowest was found in Tanjung Pinang and Pangkal pinang at around 16 to 33 percent, which illustrates the inequality of mentorship, research, and teaching capacity between work units. At the advanced level, the Head Lectors are spread unevenly: there are strong ones such as Denpasar around 46 percent and Jakarta I around 33 percent, but there are also thin ones such as Pangkal pinang around 2

percent and Maluku around 3 percent. Professors are recorded to be present in around 21 polytechnics and the highest proportion is still around 2-3 percent, for example in Jakarta II, so that there is a "bottleneck" at the peak of academic careers.

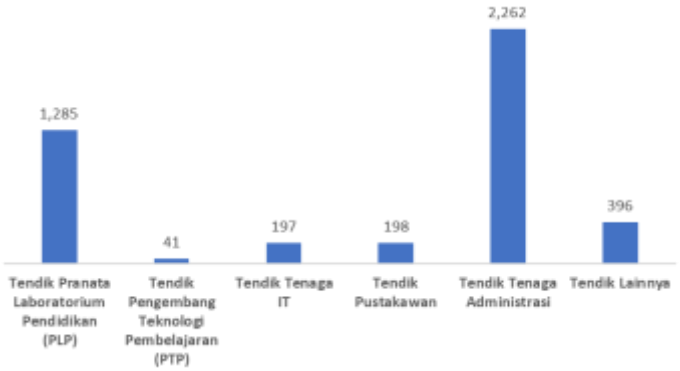

Figure 7 Distribution of Educator Profiles
Source: Internal data that has been processed

Furthermore, the distribution of the profile of polytechnic educators is shown to be a large portion in the administrative field and uneven in the technical functions of learning, so that the redesign of formations and strengthening specific competencies needs to be prioritized to support the quality of academic processes and practices. Of the total education staff in the Polytechnic, around 4,499 people. The composition is dominated by administrative personnel at 52 percent, followed by educational laboratory institutions (PLP) at 29 percent, IT personnel at 4 percent, librarians at 4 percent, learning technology developers at 1 percent, and other categories at 9 percent. This structure indicates that the administrative function is still the backbone of operational support, while the portion of technical personnel for learning, laboratories, and information literacy is relatively smaller.

The distribution between campuses shows inequality. The lowest proportion of PLP was recorded in Makassar and Riau around 15 to 17 percent, while the highest in Jambi was 47 percent and Jakarta 1 was around 46 percent. The portion of administrative personnel varies greatly, ranging from low in Ternate and Aceh around 17 percent to very high in Padang 72 percent and Tasikmalaya 71 percent. The category of "other staff" is even zero percent in 17 Polytechnic, but very large in Aceh 56 percent and Pontianak 36 percent, which may reflect differences in job classifications or typical non-academic service needs.

The group of competencies that supports learning seems to be uneven. Learning technology developers are in the range of one percent with many campuses still at zero percent, even though this role is important for the development of digital content and technology-based learning. The minimum IT workforce is around two percent in some campuses such as Manado and Bandung, but it reaches 15 percent in Sorong and almost 10 percent in Ternate. Librarians are in the range of one to eight percent with the highest portion in Makassar and Riau, which shows that some campuses have strengthened information literacy and reference management services, while others are still limited.

This picture implies the need for a more balanced arrangement of staff formations, especially the increase of technical learning personnel, laboratories, IT, and librarians on

campus, which is still low, while reviewing the classification of "other staff" to align with service-based needs.

3. Hasil Forum Group Discussion

The Focus Group Discussion was held to explore the field conditions, identify key problems, as well as potential practical solutions along with initial performance indicators that can be adopted by the Polytechnics. The synthesis and codification for the determination of the following themes combines the items of the integrated interview questions with findings/pain points and potential solutions submitted by cross-groups: leaders, academic units, support and supervisory staff, students, and alumni. The determination of the theme was assisted by word frequency analysis which was visualized using NVivo15 software and produced the 'Word Cloud' in Figure 5.8. From the analysis of the frequency of this word, it was determined that the presentation of the results of the FGD with five themes was determined, namely: human resources, academics, finance, graduates, research and innovation.

Figure 8 Word Cloud Results Focus Group Discussion

Source: FGD transcript processed using NVivo15

A. Theme 1: Human Resources (Availability, Workload, and Development)

The availability and distribution of lecturers and education staff affect the quality of academic services and smooth operations. The main focus is on the adequacy of formations per study program, the mechanism for recording and balancing workloads, and the direction of competency development connected to unit and individual performance indicators. Some of the opinions of the speakers regarding this issue are as follows:

"The ratio of lecturers to students is not evenly distributed, there are study programs with dense students but the addition of lecturers has not yet followed." (Polytechnic Leadership Group, 2025).

"Administrative workload is piling up in certain units because workflows have not been documented and there has been no periodic redistribution." (Operational Support and Management Unit, 2025).

"The training is already underway, but it is not always directed at specific achievements such as passing competency tests or improving research outputs." (Representative of Functional Positions and Educators, 2025).

"We need data-driven workload maps, cross-unit task balancing, and individual performance contracts that are clearly linked to incentives." (Polytechnic Leadership Group, Operational Support and Management Unit, 2025).

The results of the FGD emphasized the need to organize the formation and distribution of lecturers and staff, standardize workload recording, and competency improvement programs that are aligned with key performance indicators, with the direction of workload audit solutions, data-based redistribution, individual performance contracts, and training paths that target service indicators.

B. Theme 2: Academics (Curriculum, Access to Learning, and Uniformity of Guidelines)

Academic quality is determined by the suitability of the curriculum with the needs of health services and tracer study feedback, equitable access to learning, and consistency of academic guidelines across study programs and campuses. The following are some opinions from the speakers regarding this issue:

"Curriculum improvements are already underway, but the use of tracer study results as input is still inconsistent." (Academic and *Tridharma* Implementation Unit, 2025).

"Laboratory access and digital learning differ between campuses, this affects students' readiness to face competency tests." (Representative of Functional Positions and Educators, 2025).

"Academic guidelines are available, but interpretations in the field vary so a more detailed standard procedure is needed." (Internal Steering and Supervisory Board, 2025).

"We need a minimum standardization of academic guidelines as well as evaluation cycles that incorporate tracer study feedback." (Academic and *Tridharma* Implementation Unit, 2025).

The results of the FGD emphasized the need for minimum standardization of academic guidelines, equitable distribution of learning facilities, and systematic integration of tracer results into curriculum reviews, accompanied by audits of compliance with guidelines and laboratory fulfillment plans as well as digital learning support.

C. Theme 3: Finance (Revenue and Reporting)

Sustainability of funding affects the ability to meet core services. The main highlights are the dependence on UKT, opportunities to strengthen non-UKT income through business units and partnerships, as well as standardization of timely and easy-to-read reporting by management. Here are the majority of the opinions of the FGD participants regarding this issue:

"The revenue structure still depends on UKT, business units exist but the contribution is not consistent." (Polytechnic Leadership Group, 2025).

"Regular financial reporting is available, but the format and timeliness are not uniform, making it difficult to make quick decisions." (Operational Support and Management Unit, 2025).

"Cost-per-service information has not been widely used to control spending." (Internal Steering and Supervisory Board, 2025).

"We need a clear non-UKT revenue portfolio, standard cooperation guidelines, and standardized reporting that presents a per-service fee." (Polytechnic Leadership Group, Operational Support and Management Unit, 2025).

The results of the FGD emphasized the need for a revenue diversification strategy, reliable and timely reporting standardization, and the application of cost per service calculation as an efficiency control tool, with the direction of non-UKT portfolio map solutions, partnership SOPs, and report dashboards containing cost and service performance indicators.

D. Theme 4: Graduates (Tracer Study and Job Absorption)

The quality of graduates is not only measured by academic achievements, but also by the speed and quality of job absorption and its relationship with market needs. Therefore, the implementation of a reliable, consistent, and actionable tracer study is the key to reading the suitability of graduate competencies as well as providing feedback for study programs and career services. In this theme, the main concerns include the quality of instruments and the implementation of the tracer, the management of the network in collaboration with health and industrial facilities, and the mechanism for using tracer results for curriculum improvement and support services. Here are some opinions from the FGD participants regarding this issue:

"The tracer response rate is not evenly distributed, there are high campuses, some are still low so the analysis is not always apple to apple." (Academic and *Tridharma* Implementation Unit, 2025).

"Job absorption is heavily influenced by the strength of networks with hospitals, health offices, and industry partners who actively offer opportunities." (Recipient of Education Services, 2025).

"The tracer findings have not always translated into curriculum adjustments, career services, and structured job preparation guidance." (Internal Steering and Supervisory Board, 2025).

"We need a uniform tracer instrument, minimum response targets, clear data managers, and follow-up mechanisms to the curriculum and career centers." (Academic Unit and *Tridharma* Implementer, Recipient of Education Services, 2025).

The results of the FGD emphasized the importance of standardization of tracer study instruments and governance, strengthening job placement networks, and orderly follow-up loops to the curriculum and career centers, with the direction of solutions for setting response targets, assigning steward data, and integrating tracer results to improve competencies and career guidance services.

E. Theme 5: Research and Innovation (Downstream Research and Industry Collaboration)

Research and innovation performance determines academic reputation and potential added value for the institution. It is not enough to stop at publications, research results need to be directed towards downstream through intellectual property protection, technology feasibility testing, partnerships with industry and healthcare facilities, and incubation schemes that encourage real utilization. This theme highlights strategies for increasing research outputs, readiness for intellectual property rights support, access to industry networks, and incentive mechanisms that are attractive to researchers and study programs. Here are some opinions from the FGD participants regarding this issue:

"Publications are increasing, but the downstream and commercialization of research products is slow because mentoring and partnership channels are not yet established." (Academic and *Tridharma* Implementation Unit, 2025).

"The process of applying for intellectual property rights, licensing, and regulatory readiness requires more intensive technical support." (Representative of Functional Positions and Educators, 2025).

"A dedicated downstream unit is needed that coordinates patents, technology feasibility testing, and access to potential industry partners." (Polytechnic Leadership Group, 2025).

"We need a clear partnership map and product incubation scheme so that research results don't stop at publication, including incentives that are proportionate to measurable outputs."

(Academic Unit and *Tridharma* Implementer, Representative of Functional Positions and Educators, 2025).

The results of the FGD emphasized the clear institutional need for down streaming, comprehensive intellectual property support, and systematic industry collaboration, with the direction of solutions for the establishment of downstream units, intellectual property rights and licensing assistance, structured incubation programs, and output-based incentives that encourage the use of research results.

Diagnostic Analysis of Financial and Operational Performance Monitoring Data of Polytechnics and Focus Group Discussion Results

This section presents diagnostic analysis to trace the root cause of the problem while formulating actionable remedies. The approach used combines the 5 Whys and the 4P/S (People, Process, Policy, System) category. The 5 Whys method digs into the "why" question over and over again until it reaches the underlying cause. The 4P/S category is used to group findings into human factors, processes, policies, and systems, so that each cause is clearly connected to the person in charge and its corrective instrument. The combination of the two was chosen because it is suitable for complex and heterogeneous cross-polytechnic contexts, simple, transparent, and directly links problems to managerial action options and policy structuring.

1. Dependence on UKT and Low Non-UKT Contribution

The income of the Polytechnic is still highly dependent on UKT, while the contribution of non-UKT such as business units, partnerships, laboratory services, training, and research downstream is still small and uneven. The analysis of the 2022–2025 MKKO document and the results of the FGD show that business units have not made consistent contributions due to uneven business development capacity, non-standard SOPs and business models, non-UKT incentives that are not yet strong, and the absence of a data system and portfolio dashboard. This condition causes undiversified income, increased funding risk, and limited innovation space. Improvements can be made through the establishment of business development units, strengthening non-UKT incentives, standardizing partnership SOPs, and quick maps of the superior service portfolio.

2. Dominance of Non-Academic Spending and Lack of Efficiency of Learning Spending

Non-academic expenditures such as building construction and maintenance still dominate, while allocations for learning, curriculum, applied research, and practice are disproportionate. The findings of the MKKO and FGD show that planning is not yet based on cost-per-service analytics, there is no minimum allocation policy for academic spending, and costing data has not yet become the basis for decisions. As a result, academic quality is difficult to encourage and spending efficiency is not measurable. Improvements are directed at determining the minimum portion of academic spending, centrally approving building construction, and reviewing the graduate's quality-based spending portfolio.

3. Variations in the Attractiveness of Polytechnics Between Regions

Polytechnics in Java, Sumatra, and Bali have high enrollment, while campuses in other regions tend to have loose selectivity due to location access, tariff competition, promotion, and the strength of practice networks. The analysis of 2022–2025 admissions and the findings of the FGD show that marketing strategies have not been differentiated, scholarships and value

propositions have not been strong, and market intelligence has not been utilized. This condition increases the inequality of interest in entry and has the potential to reduce the quality of student input. Improvement efforts include market maps, repositioning study programs, strengthening practice networks with health facilities and industry, as well as redistribution of capacity and affirmative scholarships.

4. Tracer Coverage is High But Job Absorption Varies

Although the tracer study has a high scope, the absorption of <6-month work varies greatly between campuses, accompanied by invalid data due to uneven filling. Based on MKKO and FGD, the implementation of tracer is not uniform, not connected to curriculum revisions and career services, and the placement network is not managed centrally. As a result, the information on graduate absorption is inconsistent, making it difficult to use it for capacity projections and policy directions. Improvements include standardization of center-campus integrated tracers, minimum response targets, strengthening work networks, and integrating tracer results into curriculum and career services.

5. High Research Productivity but Weak Downstream

The number of research is quite large, but the proportion of down streaming, commercialization, and utilization of technology is still small and uneven. The findings of the MKKO and FGD show that IPR assistance, feasibility tests, and industrial partnership channels are not well established, incentives are still focused on publication, and there is no standard process for patents or commercialization. This condition limits economic added value and non-UKT income opportunities. Improvements include the establishment of downstream governance, strengthening innovation management units, and incentive schemes based on downstream outputs.

6. Disproportionate Lecturer-Staff Ratio and Unequal Functional Level

The student-lecturer ratio of around 1:27 is still looser than the standard, supported by the composition of education personnel who are dominated by administration compared to technical staff such as PLP and IT, as well as the functional level of lecturers who accumulate in Lecturers. The findings of the MKKO and the FGD explain that formation planning has not been consistent, workload redistribution has not been standardized, staff ratio and proportion standards have not yet been established, and a competency mapping system has not been used for recruitment decisions. The impact is a high administrative burden and an inhibition of the quality of learning and *tridharma*. Improvements include workload audits, minimum ratio standards, recalculation of technical staff formations, acceleration of functional levels, and implementation of an integrated WLA system.

CONCLUSION

This study concludes that the financial and operational performance of Health Polytechnics with BLU status still faces structural challenges in the form of high dependence on UKT, small non-UKT contributions, varying cost efficiency, and income per student which often does not cover academic costs. Operationally, there is an inequality in the selectivity of student admissions, tracer studies whose scope is high but work absorption is uneven, research productivity and downstream that are not proportional to the capacity of lecturers, and the composition of human resources that have not met the referral ratio and are still dominated by the functional positions of lecturers with an unequal distribution of technical staff. MKKO data

shows real conditions but still contains incompleteness, differences in definitions, and delays in reporting, which is in accordance with the results of the FGD regarding the root causes in the aspects of people, processes, policies, and systems. In general, improvements are needed in the form of strengthening the capacity and formation of human resources, standardizing academic processes and reporting, structuring performance-based incentives, and integrating academic, financial, HR, tracer, and research data into managerial dashboards that are routinely used for evidence-based decision-making.

REFERENCES

Adnan, M., dkk. (2023). *Implementasi sistem remunerasi BLU pada pendidikan vokasi*.

Amante, S., & Rodrigues, H. (2025). Advancing internationalisation at the Polytechnic University of Viseu: Transforming challenges into opportunities with short-term mobilities. *Research in Globalization, 11*, 100292.

Edmonda, S., dkk. (2025). *Analisis kinerja keuangan BLU pada PPI Madiun dalam mencapai target penerimaan non-APBN*.

Fauzan, M., Lubis, S. W., Uli, D. B., Deliana, D., & Napitupulu, I. H. (2026). The role of internal audit in enhancing the effectiveness of budgetary control at the High Prosecutor's Office of North Sumatra. *Prosiding Simposium Ilmiah Akuntansi*, 18–31.

Goraş-Postică, V., Cheptanari, S., & Negrean, M. (2022). The intellectual output of strategic planning in the service of quality vocational education. *Studia Universitatis Moldaviae (Seria Ştiinţe Ale Educaţiei), 155*(5), 17–25.

Guo, T., Li, T., & Qi, Z. (2024). Perceived school service quality and vocational students' learning satisfaction: Mediating role of conceptions of vocational education. *PLOS ONE, 19*(8), e0307392.

Isi, L. R., Taiwo, A. I., Okereke, M., & Sofoluwe, O. (2022). Sustainability-centered budgeting framework for local governments to achieve long-term development and environmental goals. *International Journal of Multidisciplinary Research and Growth Evaluation, 3*(2), 156–172.

Jilani, S. S. A. (2025). Public budgeting in theory and practice: A comprehensive overview. *BNBWU Journal of Multidisciplinary Research, 1*(1), 54–62.

Kristianto, K., Purba, D. T., Hazelinling, H., Saragih, M., & Girsang, Y. S. N. (2024). Analysis of the implementation of financial management of regional public service agency (BLUD) on the performance of public hospital employees Dr. Djasamen Saragih. *Jurnal Ilmiah Accusi, 6*(2), 290–303.

Li, H., & Guo, Y. (2022). Performance management of university financial budget execution relying on comprehensive budget management strengthening model. *Advances in Multimedia, 2022*(1), 4758609.

Muharram, F. R., Sulistya, H. A., Swannjo, J. B., Firmansyah, F. F., Rizal, M. M., Izza, A., Isfandiari, M. A., Ariningtyas, N. D., & Romdhoni, A. C. (2024, April 1). The Indonesia health workforce quantity and distribution. *medRxiv*. https://doi.org/10.1101/2024.03.31.24305126

Musiega, A., Tsofa, B., Nyawira, L., Njuguna, R. G., Munywoki, J., Hanson, K., Mulwa, A., Molyneux, S., Maina, I., & Normand, C. (2023). Examining the influence of budget execution processes on the efficiency of county health systems in Kenya. *Health Policy and Planning, 38*(3), 351–362.

Ngarawula, B., & Rozikin, Z. (2024). Financial management of regional public service agency: Evaluation study of Regent's Regulation No. 5 of 2020 concerning financial management guidelines for regional public service agency within the Sumbawa Regency Government. *International Journal of Research in Social Science and Humanities, 5*(2), 139–158.

https://doi.org/10.47505/IJRSS
Oktarina, F., dkk. (2023). *Transparansi, pengawasan, akuntabilitas, redesain penganggaran, dan kinerja BLU*.
Onana, S. P. (2024). Do programme budget mechanisms improve the efficiency of public spending? Elements of theory and empirical data from Cameroon. *International Review of Administrative Sciences, 90*(1), 185–202.
Persada, T., Wati, L. N., & Geraldina, I. (2024). Financial strategies of state universities in transition to public service agencies: A case study of Universitas Bangka Belitung. *Society, 12*(1), 27–49.
Syahromi, & Cheisviyanny, C. (2020). Analisis kinerja keuangan sebelum-sesudah penerapan BLU pada universitas negeri.
Tuu, M. R., dkk. (2023). *Implementasi sistem informasi rencana bisnis dan anggaran (RBA) pada BLU*.
Uma, N. A., Setiaji, B., & Purnamasari, R. (2026). Analysis of the public service agency (BLUD) system on the management of the health center budget in the city of Cilegon. *Eduvest: Journal of Universal Studies, 6*(1), 518–536.
Zhang, F., Liu, Y., & Fan, L. (2025). How to promote the quality of technical education? A fuzzy-set qualitative analysis of 16 technical colleges in China. *PLOS ONE, 20*(10), e0332115.
Zulbasri, M. (2023). *Pengaruh pengukuran balanced scorecard (BSC) terhadap kinerja perguruan tinggi: Studi kasus pada BLU UIN Sultan Syarif Kasim Riau*.