Optimizing Revenue through Inventory Planning, Budget Revision, and Buprenorphine Inventory Turnover Analysis at Jakarta Drug Dependence Hospital Jakarta

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Abstract

This research has the main objective of examining the impact of inventory planning, budget revision, and inventory turnover of buprenorphine drugs on revenue at the Drug Dependence Hospital (RSKO) Jakarta. The research process was conducted in the environment of RSKO Jakarta, focusing on drug addiction. The data used are secondary data obtained from the Finance Department, Planning Department, and Pharmacy Installation of RSKO Jakarta from 2017 to 2021. Data analysis was performed using the path analysis method with the support of SmartPLS software version 3.0. The research results show some significant findings. First, it was found that the inventory planning of buprenorphine drugs has a positive and significant impact on revenue at RSKO Jakarta. Second, budget revisions do not have a significant impact on revenue at RSKO Jakarta. Third, the inventory turnover of buprenorphine drugs has a positive and significant impact on revenue at RSKO Jakarta.

Keywords: revenue, inventory planning, budget revision, inventory turnover

1. Introduction

In principle, when a company is established, its objectives have already been set. The primary goal of any company is to achieve as much profit as possible. Therefore, companies will tirelessly strive to generate profits to advance their business. However, even though a Hospital is a non-profit organization, it remains a fact that in its operations, all types of companies, including hospitals, seek to improve the well-being of their employees. Hospitals also act as healthcare service providers and play a role as medical safety organizations, offering healthcare services to the public in the form of goods and/or services without prioritizing profit or profit-oriented goals. Although hospitals fall into the non-profit category, generating revenue in line with the set targets is still necessary to achieve these objectives. One of the supporting indicators of this success is the increase in Bed Occupancy Rate (BOR), the growth of revenue from outpatient services, and the increase in revenue from supporting segments such as income from the pharmacy sector, all of which increase each year.

Research on the factors that affect revenue has been conducted by several researchers, including Kartikaahadi et al. (2012), Sonia Novita Ahmad (2022), Neli Selviana (2019), M. Mustaqim (2018), Yohanase Lawe (2021), Sari et al. (2021), and Pratama Maesza (2021). However, none of these researchers have conducted studies specifically on hospital revenue. This research is conducted at the Drug Dependence Hospital (RSKO) Jakarta, which is under the auspices of the Ministry of Health of the Republic of Indonesia. RSKO is...
a government hospital that is obligated to provide healthcare services to all segments of society in accordance with the regulation KMK 349/KMK.05/2009, which designates RSKO as a State-Owned Legal Entity Hospital.

Several sources of revenue found at RSKO Jakarta include Revenue from the State Budget (APBN), revenue from outpatient services, revenue from inpatient services, revenue from Emergency Department services, and revenue obtained through other supporting services.

To achieve the expected revenue or meet the set targets, aspects that need to be considered include inventory planning, budget revisions, and inventory turnover. Effective, needs-based, relevant, and realistic planning will have a significant impact on the hospital's success. Budget revisions will also affect hospital revenue because the budget revision process takes time and greatly influences financial activities. Additionally, inventory turnover provides insights into inventory quality and the success of managing inventory movement and sales, which in turn impact hospital revenue. The aim of this research is to examine the impact of inventory planning, budget revisions, and the turnover of Buprenorphine inventory on revenue at the Drug Dependence Hospital (RSKO) Jakarta.

2. Literature Review

Income

The Indonesian Institute of Accountants (2019:22), Financial Accounting Standards for Entities without Public Accountability (SAK ETAP) defines Income as the result of receipts arising from an entity’s activities, generally known by various terms such as sales, remuneration, interest, dividends, royalties, and rent. Meanwhile, according to Martani et al. (2016:04), Income is revenue derived from the normal activities of an entity and refers to various terms such as sales, service revenue, interest, dividends, and royalties. According to Kartikahadi et al. (2012:186), income is an increase in economic benefits during an accounting period in the
form of receipts or additions to assets or reductions in liabilities resulting in an increase in equity that is not contributed by investors.

As for the source of hospital revenue in PSAK Number 23 Year 2019 regarding revenue, it can come from the sale of services, the sale of goods, the use of the entity's assets by others resulting in interest, royalties, and dividends.

As a General Service Agency Hospital (BLU) designated in 2017 through the Minister of Finance Decree Number 281/KMK.05/2017, RSKO Jakarta is responsible for providing health and rehabilitation services to individuals with substance use problems, including narcotics, alcohol, and addictive substances (NAPZA). Despite having autonomy in financial management, RSKO Jakarta still adheres to the guidelines set out in the Minister of Finance Regulation (PMK) Number 129 Year 2020 regarding the procedures for managing public service agencies.

In accordance with the provisions in PMK Number 129 Year 2020, BLU entities are required to formulate the BLU Business Strategic Plan and Business Plan as well as the BLU Budget. These documents contain the plans, activities, performance targets, and budgets of the BLU. Therefore, it is clear that BLUs have expectations of achieving revenue in line with the targets set. Success in achieving revenue targets is expected to have an impact on the quality of services and well-being that the hospital can provide.

According to PSAK in Government Regulation 71 Year 2010, Operational Income Statements (LO) are recognized when the right to income arises or there is an inflow of economic resources. The Revised Budget Statement (LRA) income is recognized when cash is received in the State/Regional General Cash or by the reporting entity.

**Planning**

Planning refers to an ongoing process that includes two dimensions, namely the formulation of plans and their implementation. The role of planning involves the ability to control and evaluate activities, given the basic nature of plans as guidelines for action (Listyaningsih, 2014:90). In the context of a hospital, planning is essentially an effort to determine elements such as physical facilities, equipment, manpower, and financial resources needed to provide healthcare services to the community in line with existing needs.

According to the Minister of Finance Regulation Number 153/PMK.06/2021 on State-Owned Goods Needs Planning, State-Owned Goods Needs Planning (BMN) is an activity to detail BMN needs with the aim of connecting the procurement of goods that have occurred with the current situation, which is then used as the basis for future actions. Referring to the guidelines set out in the Drug Needs Plan (Ministry of Health of the Republic of Indonesia, 2019), this planning is carried out following pharmaceutical service standards. The aim of this approach is to ensure the availability and use of drugs in accordance with their intended purpose, while also improving the accuracy of estimates during the planning process. Planning processes that do not adhere to these standards have the potential to have a negative impact on the validity of planning estimates. This can lead to issues such as excess stockpiles, expired drugs, or even shortages of drug supplies.

Based on the guidelines of the Ministry of Health of the Republic of Indonesia in 2019, which determine the Method of Drug Requirement Calculation, some of the methods include:

1. **Consumption Method.** The consumption method calculates the requirement based on real drug consumption data from the previous period, with various adjustments and corrections.

**Formula for the Consumption Method:**

\[
CT = (CA \times T) + SS - \text{sisa stok}
\]

Where:
- \(CT\) = Planned requirements per time period
- \(CA\) = Average monthly consumption
- \(T\) = Duration of need (months/years)
- \(LT\) = Lead time (procurement waiting time)
- \(SS\) = Safety Stock (CA x LT)
2. **Morbidity or Epidemiology Method.** This method is called the morbidity/epidemiology method because it calculates pharmaceutical supply requirements based on the pattern of diseases, estimated increases in visits, and lead time. The basis of this method is the amount of pharmaceutical supplies needed to serve the morbidity load.

*Formula for the Morbidity or Epidemiology Method:*

\[
CT = (CE \times T) + SS - \text{Remaining Stock}
\]

Where:
- \(CT\) = Requirements per time period
- \(CE\) = Standard Treatment Calculation
- \(T\) = Duration of need
- \(SS\) = Safety Stock

3. **Combination Method.** The combination method combines the consumption method and the morbidity/epidemiology method. It is used when there is clear consumption data but the disease cases tend to fluctuate (increase or decrease).

*Formula for the Combination Method:*

\[
CT = (CA + CE) \times T + SS - \text{Remaining Stock}
\]

Where:
- \(CE\) = Standard Treatment Calculation
- \(CA\) = Average time requirement (months)
- \(T\) = Duration of need
- \(SS\) = Safety Stock

**Budget Revision**

According to Halim and Kusufi (2016:48), a budget is a document that contains estimates of work results, both in terms of revenue and expenses, expressed in currency values expected to be achieved in a specified period and expressed in financial terms. Budgeting, on the other hand, refers to a process or method for preparing a budget.

M. Fuad (2020:3) states that the benefits of budget preparation include integrated planning, serving as a guideline for company activities, coordination tool, work supervision tool, and evaluation tool for company activities.

The Ministry of Finance of the Republic of Indonesia Regulation Number 208/PMK.02/2020 concerning Procedures for Budget Revision for the Fiscal Year 2021. This regulation explains that Budget Revision is a change in the detailed budget that has been determined based on the current fiscal year’s State Budget (APBN) and is approved in the List of Budget Implementation Activities for the current fiscal year.

**Inventory Turnover**

Karongkong (2018) states that inventory is goods stored for future use or for sale at a specified time, depending on existing or future demand. Shortages in warehouse stock and the inability to meet buyer orders will affect a company’s revenue. Conversely, excessive inventory in the warehouse will result in high storage costs. According to PSAK No. 4 (Indonesian Institute of Accountants, 2015:14.2), inventory is an asset available for sale in the course of routine business activities, either in the form of production or sales processes, or in the form of materials or equipment used in production or service delivery. The importance of inventory also plays a significant role in the smooth production process, which is an integral part of a company’s activities.
Companies generally or profit-oriented companies calculate Total Asset Turnover (TATO) using the formula: (Kasmir, 2016:286)

\[
\text{TATO} = \frac{\text{Penjualan}}{\text{Total aktiva}}
\]

The Inventory Turnover Rate at RSKO Jakarta is calculated in accordance with the guidelines stated in the Directorate General of Treasury Regulation Number Per-24/PB/2018. As one of the parameters evaluated in performance measurement, management must pay special attention to the value of inventory turnover in the context of the company or the Hospital. Based on these rules, RSKO Jakarta has been regulated regarding the determination of the score value in terms of inventory turnover if it wants to maintain good performance. Within the framework of Per-24/PB/2018, the calculation of the inventory turnover ratio becomes a significant performance indicator for RSKO Jakarta, and this is related to the performance agreement reached between RSKO and the Directorate General of Treasury of the Ministry of Finance, as stated in Decree Number PRJ-23/PB/2020, with specific indicators as follows:

<table>
<thead>
<tr>
<th>Perputaran Persediaan (Hari) (PP)</th>
<th>Skor</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP &gt; 60</td>
<td>0</td>
</tr>
<tr>
<td>55 &lt; PP ≤ 60</td>
<td>0,75</td>
</tr>
<tr>
<td>45 &lt; PP ≤ 55</td>
<td>1,25</td>
</tr>
<tr>
<td>35 &lt; PP ≤ 45</td>
<td>1,75</td>
</tr>
<tr>
<td>30 &lt; PP ≤ 35</td>
<td>2,25</td>
</tr>
<tr>
<td>25 &lt; PP ≤ 30</td>
<td>1,75</td>
</tr>
<tr>
<td>15 &lt; PP ≤ 25</td>
<td>1,25</td>
</tr>
<tr>
<td>5 &lt; PP ≤ 15</td>
<td>0,75</td>
</tr>
<tr>
<td>0 &lt; PP ≤ 5</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Peraturan DDJPB No. Per-24/PB/2018

3. Methods

The data used in this study are quantitative data obtained from the financial reports of Jakarta Drug Dependency Hospital (RSKO Jakarta) for the years 2017-2021. The data obtained were processed using SmartPLS 3.0.

The operational variables in this study are as follows:

<table>
<thead>
<tr>
<th>NO</th>
<th>Variable</th>
<th>Description</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Revenue</td>
<td>According to the Indonesian Institute of Accountants (2015:23.1), revenue is income that arises from the normal activities of an entity and is known by various names, such as sales, service income, interest, dividends, royalties, and rent</td>
<td>Income obtained from the services provided by RSKO Jakarta</td>
</tr>
<tr>
<td>2.</td>
<td>Planning</td>
<td>Based on the Guidelines for Planning Drug Needs and Controlling Drug Inventory in Hospitals, Ministry of Health of the Republic of Indonesia in 2019, planning for drug needs and drug inventory control in hospitals is part of the drug management chain in hospitals, which includes drug selection, drug need planning, procurement, receipt, distribution, disposal, withdrawal, administration, monitoring, and evaluation.</td>
<td>CT = (CA + CE) x T + SS – Remaining stock</td>
</tr>
</tbody>
</table>
Hypothesis testing with the following criteria: t-statistic value > 1.96 and p-value < 0.05 indicates that the hypothesis will be accepted, while if the t-statistic value < 1.96 and p-value > 0.05, the hypothesis will be rejected:

H1: There is a positive influence of budget planning on revenue at RSKO Jakarta.
H2: There is a negative influence of budget revision on revenue at RSKO Jakarta.
H3: There is a positive influence of inventory turnover of buprenorphine drugs on revenue at RSKO Jakarta.

4. Results and Discussion

Here are the results of data analysis using SmartPLS

Figure 5. Path Coefficient (2022)
From figures 5 and 6 in this study, the equation obtained is as follows: Revenue = 0.658 planning + 0.095 budget revision - 0.248 inventory turnover + e (1-0.669)

Figure 7. R-Square (2022)

Figure 7 shows that the ability of the variables Planning, Budget Revision, and Inventory Turnover to explain Revenue is 66.9%

Pengujian hipotesis dan pembahasan

|                      | Original Sam | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (|O/STDEV|) | P Values |
|----------------------|--------------|-----------------|-----------------------------|-------------------------|----------|
| perencanaan -> pendapatan | 0.658        | 0.654           | 0.142                       | 4.632                   | 0.000    |
| perputaran persediaan -> pendapatan | 0.249        | 0.247           | 0.100                       | 2.476                   | 0.013    |
| revisi anggaran -> pendapatan       | 0.095        | 0.093           | 0.114                       | 0.830                   | 0.407    |

From hypothesis testing, it was found that planning for revenue has a t-statistic value (4.632) > 1.96 and a p-value (0.000) < 0.05, and it has a positive direction of the relationship. Therefore, planning has a positive influence on revenue. Planning plays a role in controlling and evaluating the development of activities because the fundamental nature of a plan serves as a guide for action. This is reinforced by previous research conducted by Yohanes Lawet (2020), where the results of the study revealed that planning in the annual purchase of raw materials has a positive impact on revenue in the trading business. Effective and reality-based planning reduces the need for budget revisions or shifts, minimizing the frequency of recurring revisions every year. If planning is not aligned, the services at the hospital can be hindered, and the desired goals may not be achieved. Conversely, with careful planning, the need for goods can be met, ultimately contributing to increased revenue at RSKO Jakarta.
Furthermore, the budget revision for revenue has a t-statistic value (0.830) < 1.96 and a p-value (0.407) > 0.05, and it has a positive direction of the relationship. Therefore, budget revision does not have an influence on revenue. Budget revision refers to changes in budget details that were originally established based on the State Budget (APBN) for the current fiscal year, as approved in the Budget Implementation List (DIPA) for the current year. The required budget changes have been regulated and determined by the Ministry of Finance. According to the provisions in these regulations, any changes to the budget recorded in RSKO’s DIPA, whether it involves adding or reducing the budget, must go through an approval process by the Directorate General of Treasury (DJPB). However, the time-consuming approval process for DIPA revisions significantly impacts financial activities. Nevertheless, it should be noted that budget revisions do not have an impact on RSKO Jakarta’s revenue. This is also supported by interviews with the Finance Department (Sri Nurhayati, February 21, 2022). In fulfilling services, the management of RSKO Jakarta often collaborates with third parties (partners) to ensure the supply of goods. Although these supplies are delivered before payment is made (resulting in debt), this may be necessary to ensure the provision of services at RSKO Jakarta. However, this approach is not recommended, but in certain situations, management must make decisions to ensure the continuity of services at RSKO Jakarta.

Lastly, inventory turnover in relation to revenue has a t-statistic value (2.476) > 1.96 and a p-value (0.013) < 0.05 and has a positive direction of the relationship. Therefore, inventory turnover has a positive influence on revenue. At RSKO Jakarta, the inventory turnover ratio is regulated according to the provisions in the Directorate General of Treasury Regulation Number: Per 24/PB/2018. Inventory Turnover is calculated by dividing the total value of all pharmacy drug inventories by the Revenue of the Public Service Agency (BLU) obtained as compensation for goods and services provided to the public, including revenue from grants, collaborations, and others. Similar results were found in a study conducted by Stefani Mariana Palimbong (2020), which showed that inventory turnover has a positive impact on company profit. Another study by Herlin (2014) also revealed that to some extent, inventory turnover has an influence on company profit. Increased profit, among other factors, is due to increased revenue. Therefore, the higher the inventory turnover, the potential for increased revenue.

5. Conclusion

The research results indicate that planning has a positive influence on revenue. This suggests that the increase or decrease in pharmacy revenue at RSKO Jakarta is influenced by the effectiveness of its planning. If planning is done better, closer to real needs and ensures sufficient inventory in line with demand, it can contribute to an increase in pharmacy revenue at RSKO Jakarta.

Budget revisions do not have an impact on revenue. This indicates that fluctuations in revenue, whether up or down, are not influenced by budget revisions at RSKO Jakarta. This suggests that budget revisions are not the primary element affecting changes in revenue at RSKO Jakarta.

Inventory turnover has a positive influence on revenue. This indicates that fluctuations in the increase and decrease in revenue, one of them, are influenced by the turnover of buprenorphine inventory at RSKO Jakarta. This signifies that the level of turnover of buprenorphine inventory is also an element that plays a role in influencing changes in revenue at RSKO Jakarta.

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