

**INVENTORY PLANNING AND CONTROL OF MEDICINES
IN APOTEK XX**

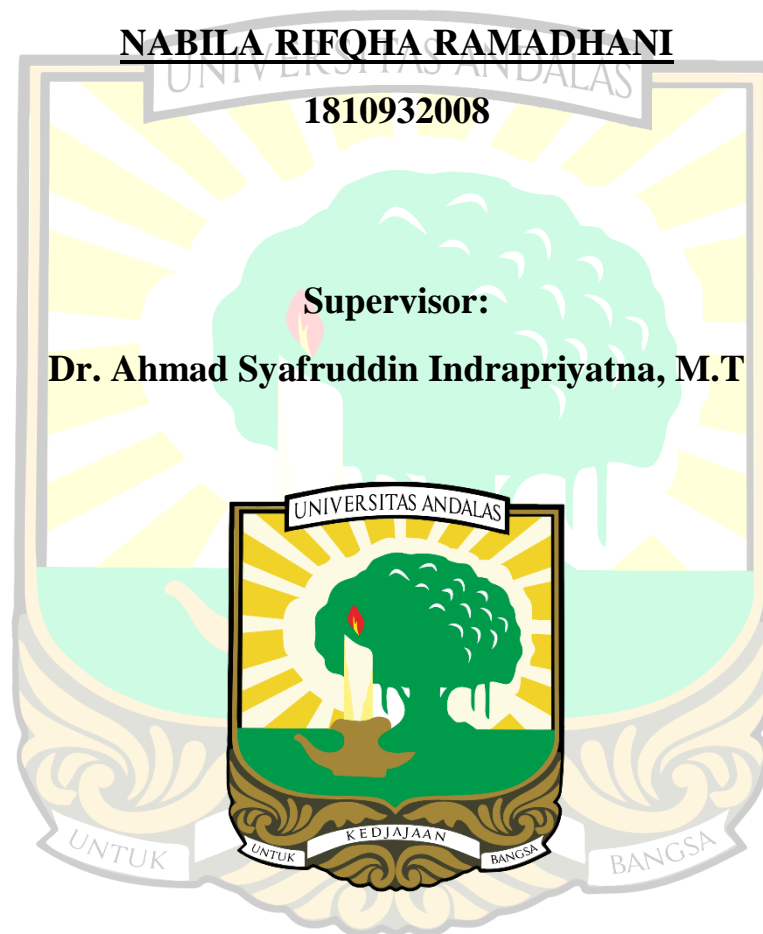
FINAL PROJECT REPORT

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**INVENTORY PLANNING AND CONTROL OF MEDICINES
AT APOTEK XX**

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*A report submitted to fulfil the requirement for the award of the degree of
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This final project is not perfect, but I hope it will be of help to anyone reading it.

Padang, August 8th 2022

Author

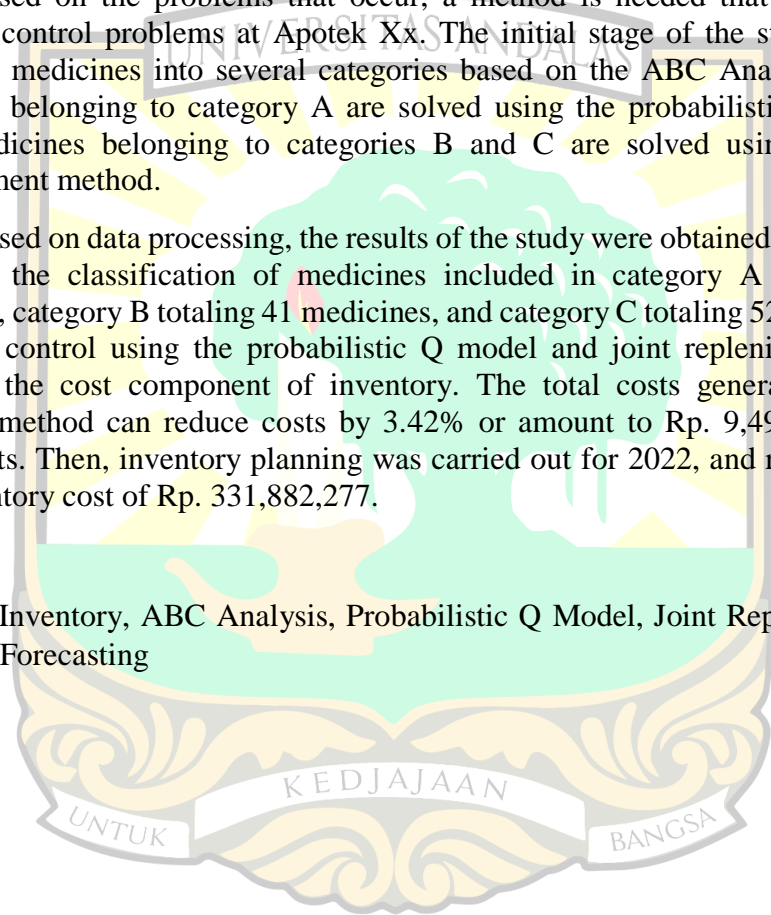
ABSTRACT

Inventory is one of the important components in a company. To provide greater profits to companies by minimizing storage costs, an effective and efficient inventory system is needed. The existence of an inventory system can help companies in reducing the amount of overstock and stockout so as to reduce the costs that must be incurred by the company. Apotek Xx is one of the pharmacies that sells various types of medicines and has a location in the city of Padang. The demand for medicines for pharmacies has an uncertain amount, so this leads to fluctuating demand figures and leads to shortages and oversupply.

Based on the problems that occur, a method is needed that can handle inventory control problems at Apotek Xx. The initial stage of the study was to divide the medicines into several categories based on the ABC Analysis. Then, medicines belonging to category A are solved using the probabilistic Q model, while medicines belonging to categories B and C are solved using the joint replenishment method.

Based on data processing, the results of the study were obtained, namely the results of the classification of medicines included in category A totaling 34 medicines, category B totaling 41 medicines, and category C totaling 52 medicines. Inventory control using the probabilistic Q model and joint replenishment can minimize the cost component of inventory. The total costs generated by the proposed method can reduce costs by 3.42% or amount to Rp. 9,498,206 from actual costs. Then, inventory planning was carried out for 2022, and resulted in a total inventory cost of Rp. 331,882,277.

Keywords: Inventory, ABC Analysis, Probabilistic Q Model, Joint Replenishment, Forecasting



ABSTRAK

Persediaan merupakan salah satu komponen penting pada suatu perusahaan. Untuk memberikan keuntungan yang lebih besar kepada perusahaan dengan meminimasi biaya simpan, diperlukan sistem persediaan yang efektif dan efisien. Adanya sistem persediaan dapat membantu perusahaan dalam mengurangi jumlah overstock dan stockout sehingga dapat mengurangi biaya yang harus dikeluarkan perusahaan. Apotek Xx merupakan salah satu apotek yang menjual berbagai jenis obat-obatan dan memiliki lokasi di Kota Padang. Permintaan obat terhadap Apotek memiliki jumlah yang tidak pasti, sehingga hal ini menyebabkan angka permintaan yang fluktuatif dan menyebabkan terjadinya kekurangan dan kelebihan persediaan.

Berdasarkan permasalahan yang terjadi, diperlukan adanya metode yang dapat menangani permasalahan pengendalian persediaan di Apotek Xx. Tahapan awal pada penelitian adalah dengan membagi obat-obatan dalam beberapa kategori berdasarkan Analisis ABC. Kemudian, obat-obatan yang termasuk dalam kategori A diselesaikan dengan menggunakan model Q probabilistik, sedangkan obat-obatan yang termasuk dalam kategori B dan C diselesaikan dengan menggunakan metode joint replenishment.

Berdasarkan pengolahan data, didapatkan hasil penelitian yaitu hasil klasifikasi obat-obatan yang termasuk dalam kategori A berjumlah 34 obat, kategori B berjumlah 41 obat, dan kategori C berjumlah 52 obat. Pengendalian persediaan dengan menggunakan model Q probabilistik dan joint replenishment dapat meminimasi komponen biaya pada persediaan. Total biaya yang dihasilkan oleh metode yang diusulkan dapat mengurangi biaya sebesar 3,42% atau sebesar Rp. 9.498.206 dari biaya aktual. Kemudian dilakukan perencanaan persediaan untuk tahun 2022, dan menghasilkan total biaya persediaan sebesar Rp. 331,882,277.

Kata Kunci: Persediaan, Analisis ABC, Model Q Probabilistik, Joint Replenishment, Peramalan