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Pharma Sort

S.P. Mone[1], Jinendra Bafna[2], Yash Nikam[3], Shreyas Lokhande[4], Prashant Pote[5]
[1, 2, 3, 4, 5]*Computer Department, Savitribai Phule Pune University*

Abstract: Pharma Sort is a Web Application that ensures the Management Process of the Medical distributor is done in a smoother way. The System will also help in decreasing errors mostly caused by Humans. The System provides distributors with various moduleswhich will help them to ease up the process related to debt recovery, handling complaints, and help analyse the product. This System describes the whole details Analytics of Sales using Data Analytical Methods and Algorithms, the project will help the medical distributor form a solid plan for their further marketing strategies. The algorithms used are such that they will give a solid understanding to the user about the company sales and allow them to execute their future sales operation according to the analysis generated.

Keywords: Post sales, Debt recovery, complaint handling, customer satisfaction.

I. INTRODUCTION

Pharmaceutical distributors can be considered a central part of the Indian healthcare ecosystem. Distributors manage a huge percentage of pharmaceutical sales and also bring efficiency and order to the supply chain that connects two highly disrupt markets. Despite the alluring potential, largest pharmaceutical firms have not been able to maintain a stable position in emerging markets– developing countries account for only 10-20% of the overall revenue of multinationals. Enter China and India. Competition has brought low-cost generic drugs and medical products to the masses, and along with it much growth in both the manufacturing and distribution sectors, especially for SMEs (Small to Medium-sized Enterprises). But for local distributors in developing markets, substantial challenges are looming as population growth cannot keep pace with the flood of products and competitors entering their markets. The weak players that are not able to adapt to this new reality and changing landscape will fade away and die.

For this reason, our team has proposed a more effective way to manage the relationship between the distributors and vendors with ease of management, less manual work, highlighting the critical subjects, and help them know their products which makes the distributors aware of their current situation that would eventually affect on their sustainability.

II. MOTIVATION

The pharmaceutical sector is experiencing a plethora of issues, with changing technology, expanding markets, pressured economies, and a more complicated supply chain being only the tip of the iceberg. We intend to bridge the gap between medicaldistributors and medical stores by providing robust way credit recovery, analyzing the product, marketing to the medical distributors, and providing a reliable complaint-tracking method to ease the process of management.

III. RELATED WORK

A. Analysis of Effectiveness Of APRIORI Algorithm In Medical Billing Data Mining

The Apriori algorithm has been extensively used for finding the frequent item sets in retail data. Used for the association rule mining algorithm. Apriori algorithm based on a priori property o f data i.e. all the subsets of a frequent itemset is always frequent.

B. Time-Trend Analysis of Medicine Sales And Shortages During Covid-19 Outbreak

This paper finds that the use of appropriate analysis would lower the inconvenience and shortage of medicine s and supplies. The use of min-max normalization method and time-trend analysis could result in better inventory management and reduce the sales drop rate in hard times like the recent pandemic.

C. Sales Prediction For A Pharmaceutical Distribution Company: A Data Mining BasedApproach

This paper describes the use of the time series data mining technique for the sales prediction of individual products of a pharmaceutical distribution company in Portugal. Through data mining techniques, the historical data of product sales are analysed to detect patterns and make predictions based on the experience contained in the data.

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IV. SYSTEM ARCHITECTURE

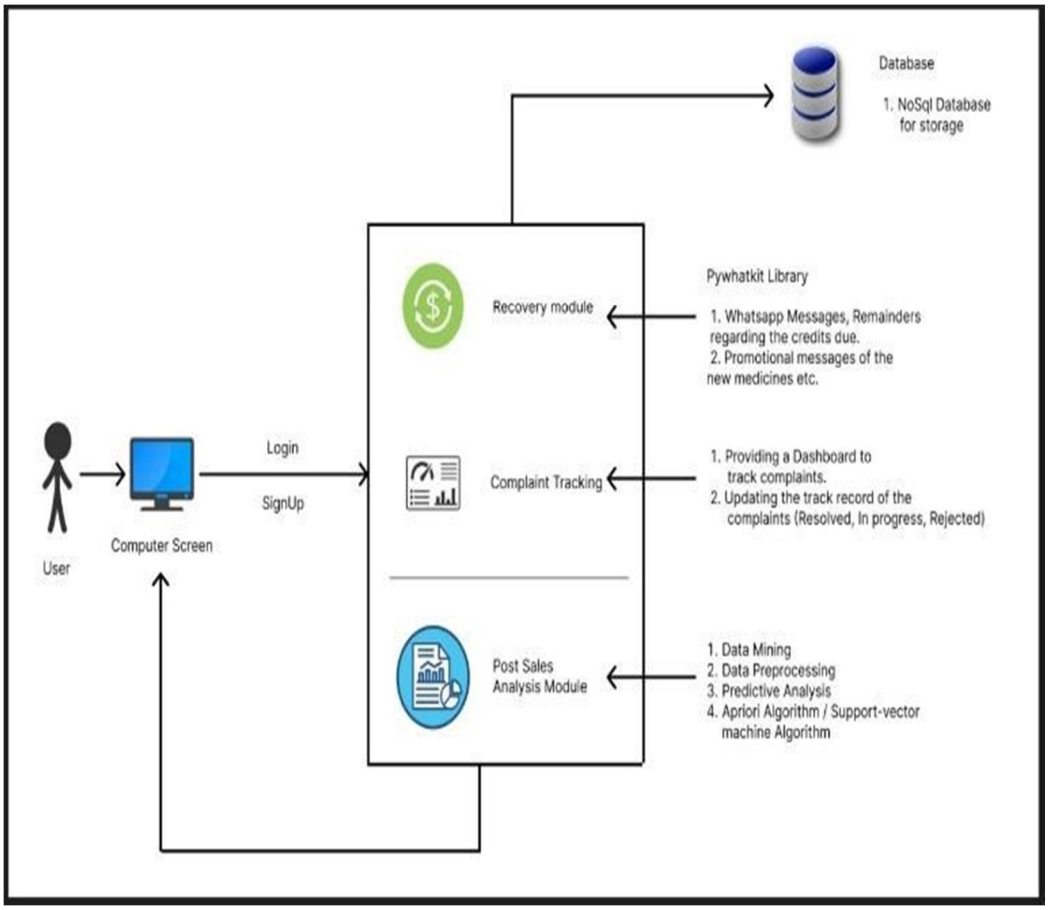


Fig. 1 System Architecture

The proposed model attempts to help the medical distributors to carefully analyse the products, Track complaints issues andalso provide an easy alternative to recover the debt which was once a tedious task to manage.
The web application contains 3 modules as following:

A. Credit Recovery

Automation Debt Recovery Module is designed to help recover debts that are in arrears. It allows you to collect all of your customer's current and unpaid bills via Email and Mobile App. This module allows you to choose which accounts will be under collection, how much they owe, and when the message will be sent to said account depending on their payment history, current balance, etc. The module also allows you to view detailed reports at any time by using the dashboard.

B. Complaint Tracking

The complaint tracking module provides a way for the distributor to keep a track of complaints that are fired by customers,regarding incomplete order delivery, etc. From there the distributor can view the complaints and update the status of the same. The customer will post the complaint through a mobile application which will add the complaint to the database from where the complaints will be mapped to the web application made available to the distributor from where he can get to know about those complaints and take appropriate actions and update the status of the complaint (Resolved, In progress, Rejected).

C. Post-Sales Module

For Pharmaceutical Distribution companies it is essential to obtain good estimates of medical needs, due to the short shelf life of many medicines and the need to control stock levels, to avoid excessive inventory costs while guaranteeing customer demand satisfaction, and thus decreasing the possibility of a loss of customers due to stock outages.

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V. USE CASE DIAGRAM

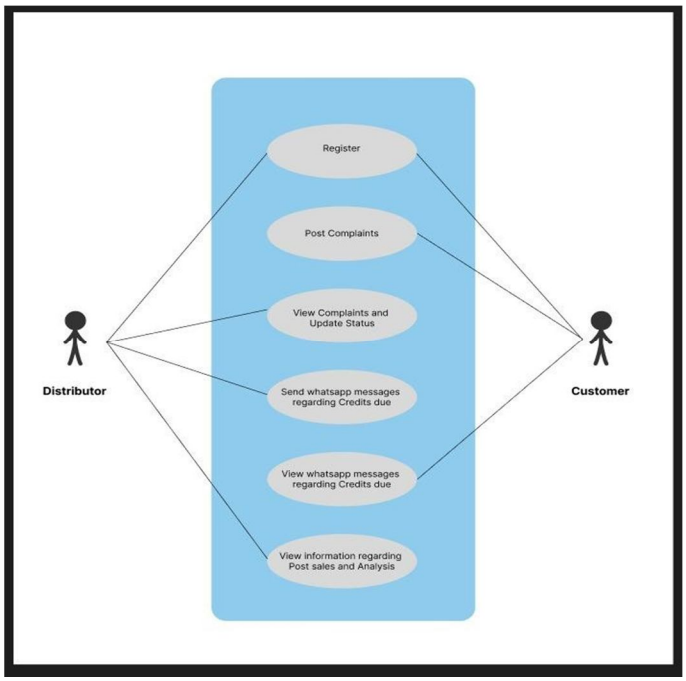


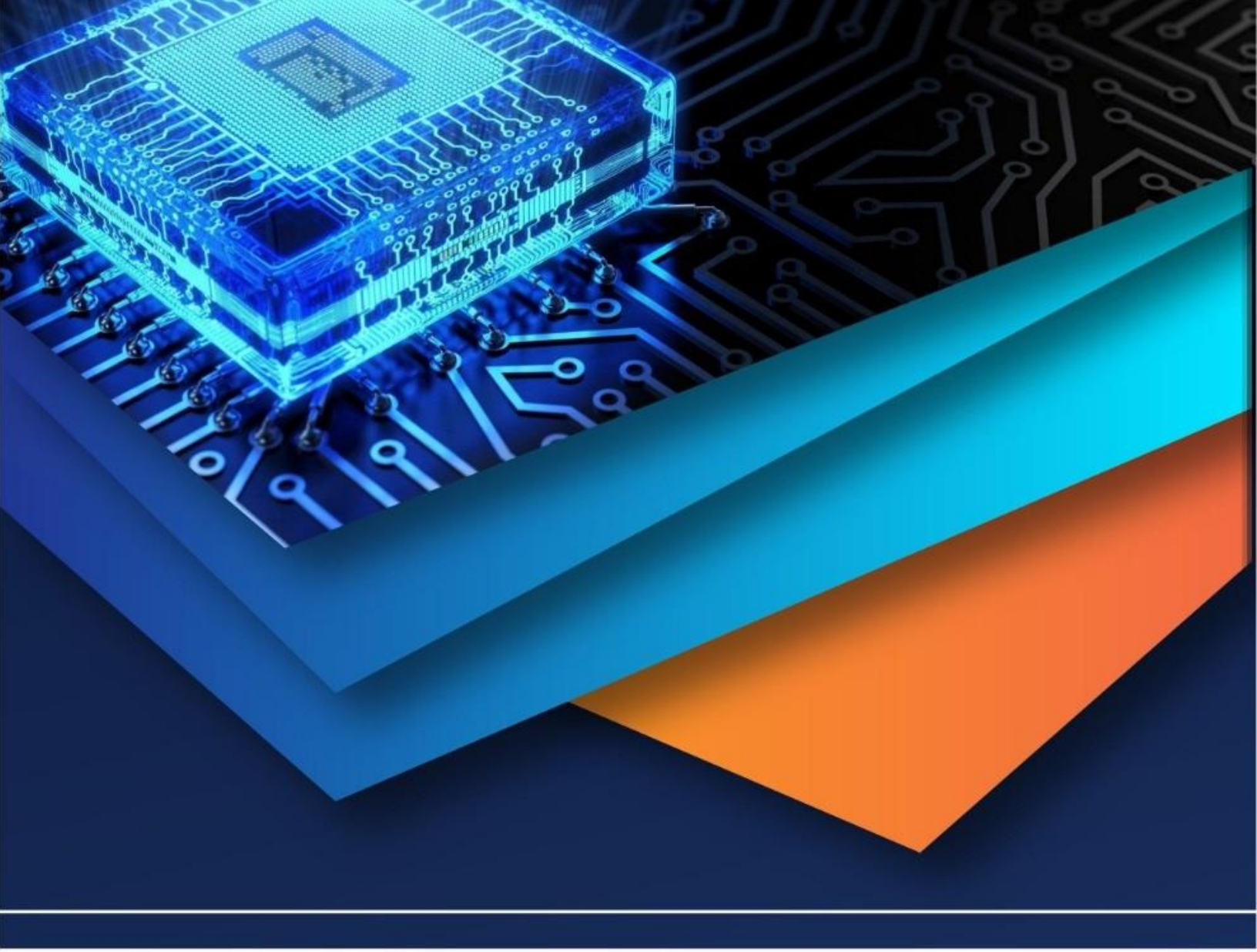
Fig 3 Use Case Diagram

VI. CONCLUSION

Pharma-sort offers innovative and cost effective solutions for companies who deal with high risk clients. Distributors play an important role by allowing consumers to source more competitively priced products, while simultaneously aiding the growth of their own business. While Distributors should be focused on engaging their customers. They want to know what's going on with them, what they need, and how they can help. We have presented three modules design to help pharma distributors brand ownersand their agencies engage with their customers, manage customer complaints and ensure compliance in the Pharmaceutical industry.

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