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PHARMA SUPPLY CHAIN SYSTEM USING SMART CONTRACTS

Parmeshwar Parekar[*1], Dnyaneshwar Mane[*2], Akanksha Sasulkar[*3], Gayatri Bagul[*4], Shital Mohite[*5]

[*1,2,3,4,5]Department Of Information Technology, Pimpri Chinchwad Polytechnic, Pune, Maharashtra, India.

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ABSTRACT

Our Pharmaceutical Supply chain systems using smart contracts can have wide range of applications across the pharmaceuticals industry. Smart contracts are self-executing agreements with the terms of the agreement directly written into the code. They can be use to automate the process of supply chain management and reduce costs, increase transparency and account ability, and improve patient safety.

Keywords: Contracts, Credentials, Supply Chain, Drug.

I. INTRODUCTION

The pharmaceutical industry faces significant challenges related to the security and integrity of the supply chain, including issues such as counterfeiting, diversion, and theft. These challenges can compromise patient safety, reduce the effectiveness of drugs, and cause financial losses for companies. Addition ,traditional paper-based supply chain management systems are outdated and inefficient, increasing the likelihood of errors and delays in the supply chain. There is a need for a more secure and transparent system that can enable efficient tracking and tracing of drugs from the point of manufacture to the point of consumption. Our Pharmaceutical Supply Chain systems using smart contracts can have a wide range of applications across the pharmaceutical industry. Smart contracts are self-executing agreements with the terms of the agreement directly written into the code. They can be used to automate the process of supply chain management and reduce costs, increase transparency and accountability, and improve patient safety.

Every transaction and movement of goods can be and tracked on a shared ledger that is visible by all participates.

Can increase trust, accountability, and traceability in the supply chain.

The supply chain is responsible for the maintaining and safety of pharmaceuticals product. From row materials sourcing to manufacturing, packaging and the distribution etc.. each step followed.

Planning, sourcing, producing, Delivering, Product, Returning these component are very important in this project.

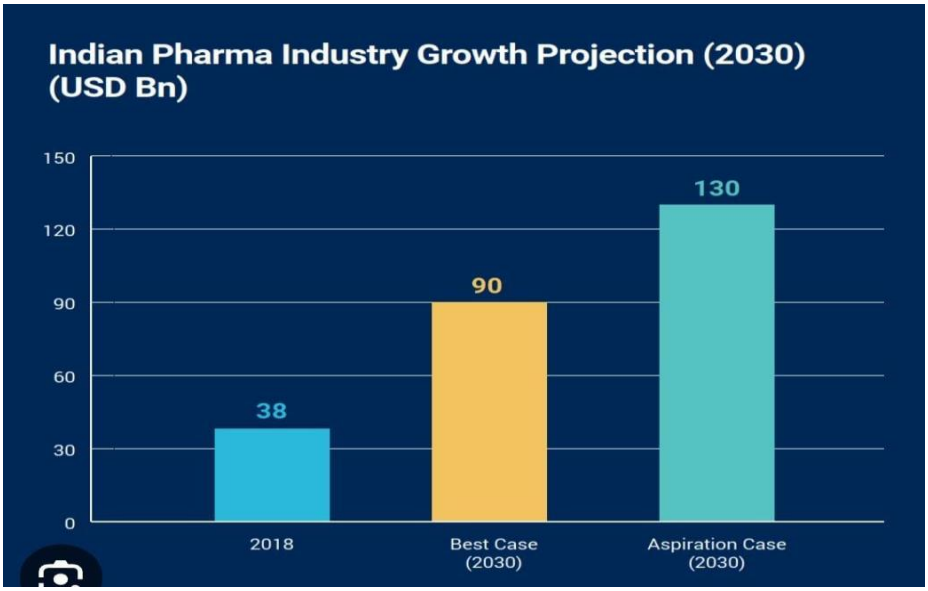

Fig.1: Indian Pharma industry growth

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The pharma industry is growing rapidly. That is, because the demand for medicines is also increasing. So, this project will be very important in the future**.**

There will be a lot of scope in this project in the coming time**.**

II. METHODOLOGY

There are six modules in this system .

It as follows:

i. Admin

ii. Supplier

iii. Manufacturer

iv. Wholesaler

v. Distributer

vi. Customers

The admin can log in using their credentials. Admin is the person who manages everything in this system. Such like they can manage the Supplier, Manufacturer, Wholesaler, and Distributor and create and assign smart contracts to them. In other words Admin is the real leader or captain of this system. They will have to approve the customer's account and create and assign smart contracts.

The admin can view the supply chain of each order along with the transaction and block details. If any block or transaction has been tampered with or manipulated, the admin will get to know.

The supplier can log in using their credentials. They can manage the raw materials. They can view the orders from the manufacturer and assign a transporter.

The manufacturer can log in using their credentials. They can manage the medicines and add the raw materials. They can add, update, view and delete the orders for raw materials. They can verify the order and update the status.

The wholesaler can log in using their credentials. They can manage the order they placed from the manufacturers. They can verify the order and update the status. They can view the medicine orders placed by the distributor. They can assign a transporter.

The distributor can log in using their credentials. They can manage the orders they placed from the wholesaler. They can verify the order and update the status. They can view the orders placed by the customers. They can assign a transporter.

The customers would require to register first to access the system. They can log in using their credentials. Customers can search for the medicines they want to buy and order them. They can also verify the source of the medicines. They can view the orders they placed and view the source of the medicines.

Here, we are using Stratis Smart Contract. Smart Contracts and accounts are created manually in Cirrus Core Dashboard and then assigned the account information in the system. We have used SHA (Secure Hash Algorithm) cryptographic hash functions to create a hash method and analysis which is performed in your research work should be written in this section. A simple strategy to follow is to use keywords from your title in first few sentences.

Subheading

Pharma supply process techniques.

Subheading

Pharma supply process technique.

III. MODELING AND ANALYSIS

This diagram(Fig.2) shows a logo like a company that is a company or Manufacturer.

Manufacturer will upload your product on the system. If any wholesaler wants any drug, he will order it. Then the manufacturer will give the order to the supplier then the supplier will deliver the order to the given address. Similar process will be done from wholesaler to distributer and distributer to customer. Each order will be delivered by the supplier.

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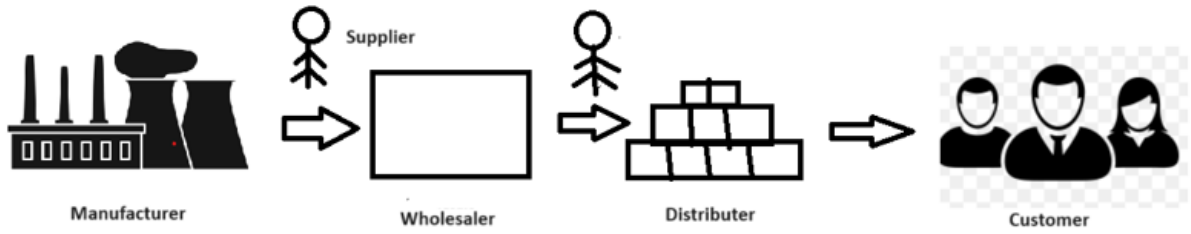

Fig.2: Pharma supply chain

IV. CONCLUSION

A Smart contracts are self-executing agreements with the terms of the agreement directly written into the code. They can be used to automate the process of supply chain management and reduce costs, increase transparency and accountability, and improve patient safety.

V. REFERENCE

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