

DATA SCIENCE: MACHINE LEARNING PROJECT

Data Science Open Internship, INeuron.AI



Wireframe Report

On

BACKORDER PREDICTION

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Main Technology: Machine Learning

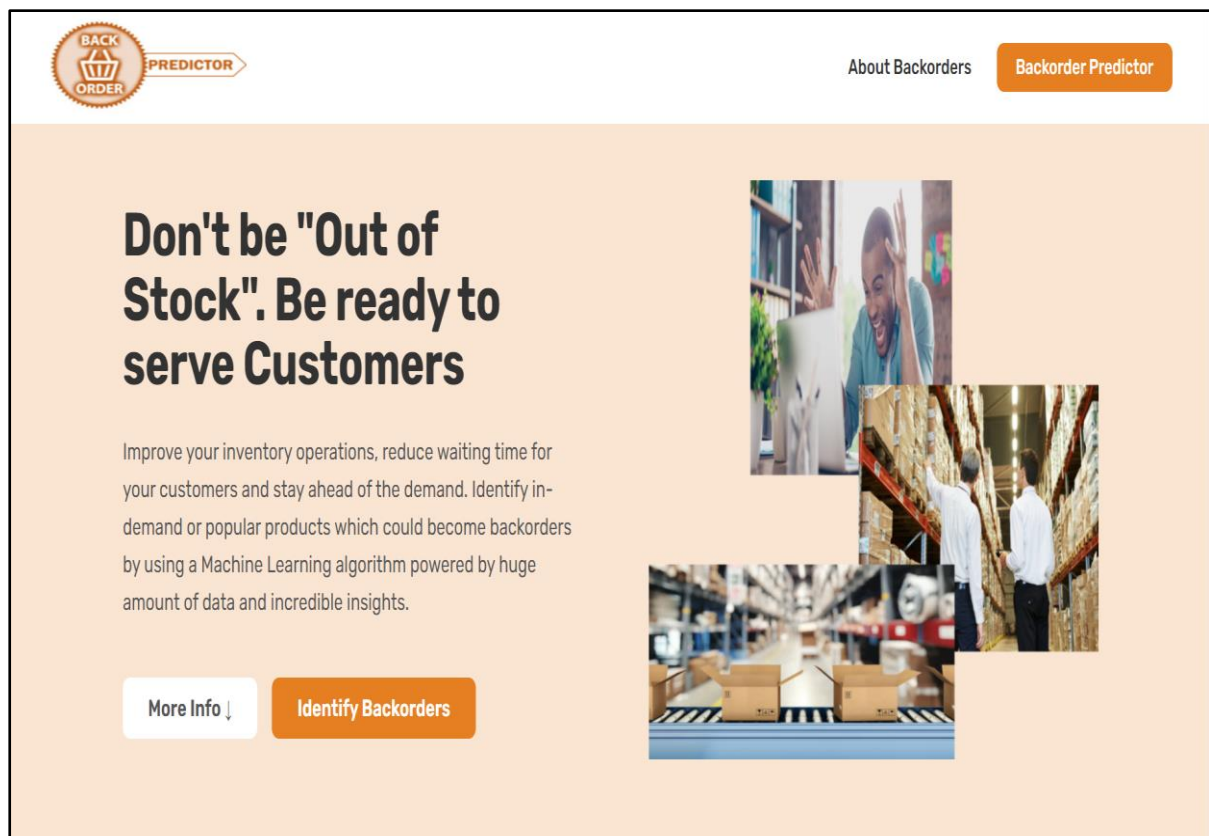
Domain: E-commerce

Project Start Date: 14th August 2021

1. HOME PAGE

The first page, also the landing page, is the home page of the user interface designed for the deployment of the project.

The page also contains a navigation pane which allows the user to scroll to the different sections on the webpage.



2. ABOUT BACKORDERS SECTION

The 1st section on the page gives a brief introduction to the viewers and users about backorders and its significance.

It has also listed the main risks or the significance of backorders for an E-commerce setup.

About Backorders


A backorder refers to an order containing an item that appears out of stock when a customer visits an online store's product page but is promised to ship once the item is available with the retailer or seller. It is a process to allow customers to shop products despite limited stock available in hand. When an order contains multiple items, and any object is a backordered item, the latter can't be packed and shipped given the lack of inventory.


LOOKING INTO BACKORDERS IS IMPORTANT AS THEY CAN LEAD TO

01

Inventory & Warehousing Issues

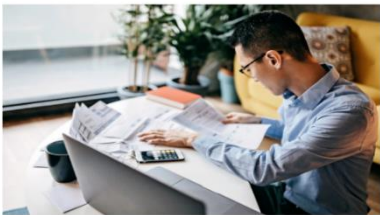
A high sales volumes followed by a wave of cancellations can mean companies have to deal with excess inventory for their space. If products are perishable or easily damaged, they could get damaged or spoiled. Backorders





BACKORDER
PREDICTOR

About BackordersBackorder Predictor



02


Risk of Debts

Though backorders lead to revenues, revenues can't be generated until the goods are delivered. Relying on sales from mounting backorders could cause huge risk of rising debts if a huge wave of order cancellations follow. Banking on backorder revenues put e-commerce companies in a risky position if they are not financially secure based on its in-stock products and orders they can fill.

03

Loss of Customers & Sales

If customers see desired products on backorders, they may decide to cancel their orders or look somewhere else for a substitute product. Frequent backorders and long waiting time could also frustrate loyal customers, who may decide to try other companies' products, thus switching loyalties. On the whole, a company loses out on business by not providing products



3. BACKORDER PREDICTION SECTION

The 2nd Section on the web page contains a form in which the user needs to fill the inputs with respect to the product they want to check for possible backorder.

The user needs to provide a total of 10 inputs with respect to the concerned product such as the Sales of the product in past 6 months, forecasted sales for the next 6 months, lead time, quantity of product overdue, any deck or product part approval risk involved, etc.

ANSWER THE FOLLOWING QUESTIONS RELATED TO YOUR CONCERNED PRODUCT

What is the forecasted sales of the product for next 6 months *

Enter answer in amount in \$

What was the sales of the product in the last 6 months *

Enter answer in amount in \$

What was the product performance against forecasted quantity to sell, on average, in the last 6 months *

Enter answer in %

What is the present national level of inventory for the product *

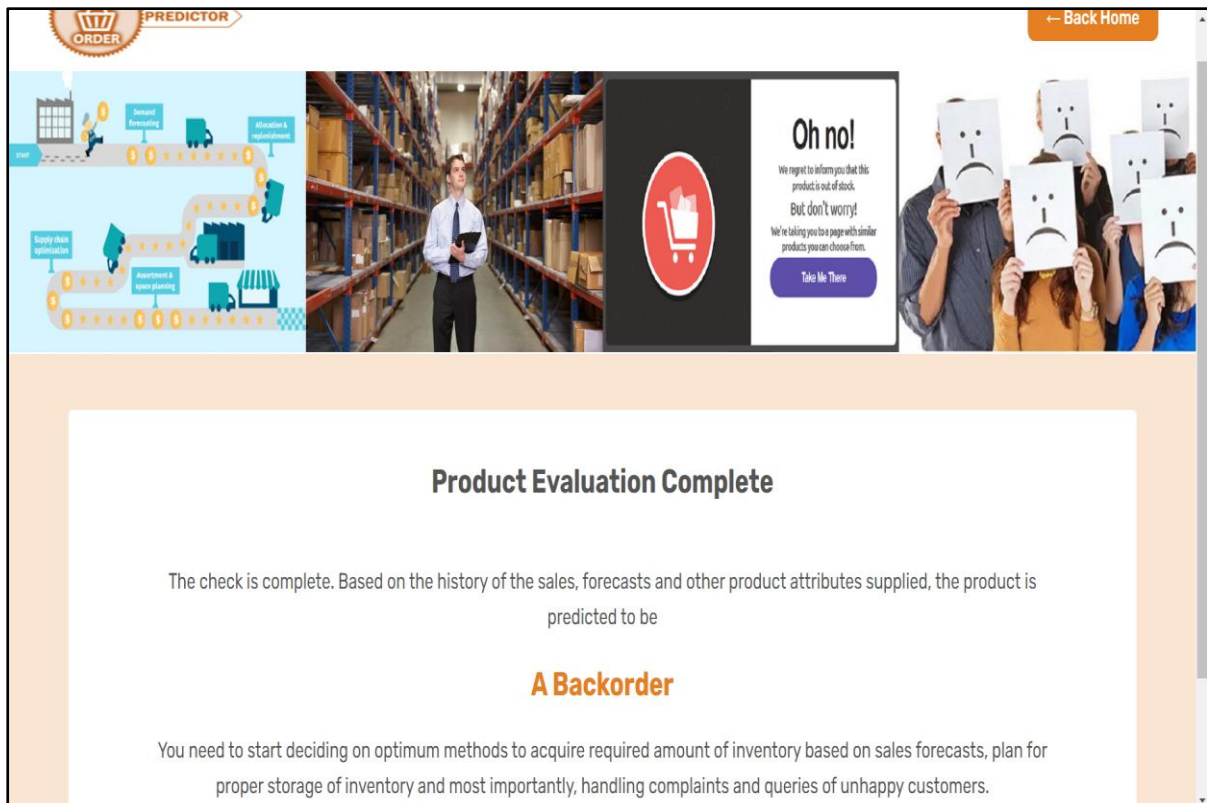
Enter answer in quantity

4. PREDICTION RESULT PAGE

On providing all required inputs and submitting the form, the user is redirected to another webpage.

On processing the inputs provided by the user and passing it to the Machine Learning model running at the backend, an output for the product being a backorder or not is provided.

The output generated by the model is in form of 0 and 1. If the output is 0, the result displayed to user is “Not a backorder” and if 1, the output displayed is “A Backorder”.



The screenshot displays a web application interface for a backorder predictor. At the top, there is a navigation bar with a "PREDICTOR" button and a "Back Home" link. The main content area is divided into three sections: a process flow diagram on the left, a warehouse image in the center, and a group of people holding sad face signs on the right. The process flow diagram includes steps like "Supply chain optimization", "Demand forecasting", "Inventory & stock management", and "Assessment & order planning". The warehouse image shows a person standing in a large aisle. The group of people holding sad face signs is a visual representation of unhappy customers. Below these sections, a large orange box contains the text "Product Evaluation Complete". The text states: "The check is complete. Based on the history of the sales, forecasts and other product attributes supplied, the product is predicted to be **A Backorder**". It also provides advice: "You need to start deciding on optimum methods to acquire required amount of inventory based on sales forecasts, plan for proper storage of inventory and most importantly, handling complaints and queries of unhappy customers."

Product Evaluation Complete

The check is complete. Based on the history of the sales, forecasts and other product attributes supplied, the product is predicted to be

A Backorder

You need to start deciding on optimum methods to acquire required amount of inventory based on sales forecasts, plan for proper storage of inventory and most importantly, handling complaints and queries of unhappy customers.