

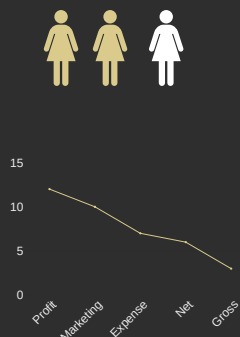
# AI Based Smart Inventory Management for Retail Stores

Out of Stocks is big challenge for retailers and it causes an average retailer 4% of their annual sales margin. Majority of the Out of Stock Problem is due to inefficient inventory tracking in the store and the inability of the stores to predict and analyz their stocks.

## Current Methods of Inventory Management



## The Loss due to the Inefficiency



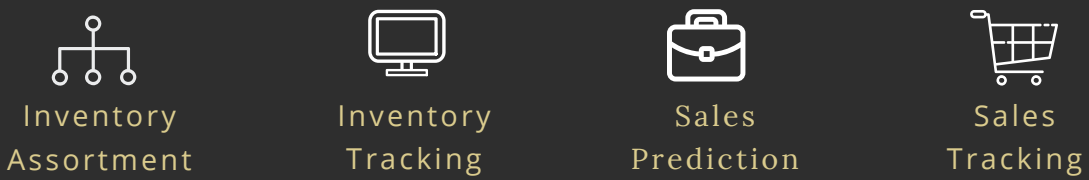
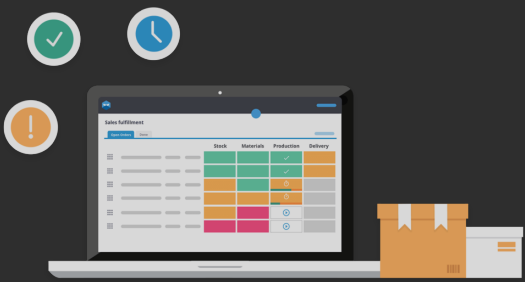
In 2018, More than 1 out of 3 Retail Shoppers Attributed bad shopping Experience to Out of Stock. More than 43% these customers opt for another retailer in case of the Out of Stock scenarios in the store.

Out of Stocks lead more than 4% loss on the overall annual sales margin for the retailers making it very difficult for them to make profit in the very competitive retail space.

## Our Solution



To build a Real time inventory and performance dashboard



# Process of updating inventory

capture **image** using **OpenCV**



**store** the data of **image** in **S3**



**transform** image into **products**  
and **quantity** using **ReKognition**



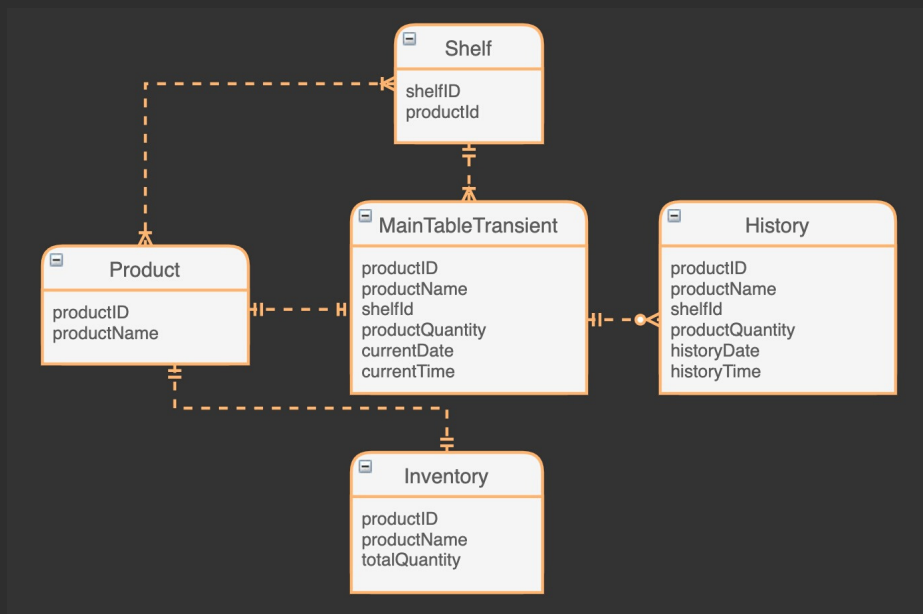
**store** the data in **S3**



data queried and transformed in  
**Amazon Athena**



display the **trend of inventory**  
in **Tableau**



## Benefits of the Interactive Dashboard

REAL TIME INVENTORY	INVENTORY ANALYSIS	A/B TESTING
SALES PREDICTION	SHELF OPTIMIZATION	STORE PLANNING

Team Member:  
Ankit Singh (sing0622@umn.edu) Nitin Wahie (wahie001@umn.edu)  
Mahir Raitani (raita007@umn.edu) Anupam Shandilya (shand078@umn.edu)  
Kartikeya Tiwari (tiwar093@umn.edu) Yulin Liu (liu01223@umn.edu)