# 2.
# Applications of AI in Retail

AI has a wide-range of abilities when it comes to retail. Almost every task related to retail can benefit from AI. It can improve the shopping experience for the customers by providing them relevant suggestions and assisting them during shopping. It can also predict the future outcomes like demand forecasting, sales prediction, and so on. Moreover, it can automate tasks like inventory management and store management and provide invaluable insights about the business. We can categorize the wide range of applications of AI in the retail industry loosely into four categories:


A. Improving Customer Experience
B. Demand Forecasting and Inventory Management
C. Store Management
D. Extracting Insights

Now let's discuss each of them in detail.

## A. Improving Customer Experience

The way people buy stuff has already changed drastically over the past few years. AI has played an integral role to fuel personalization, automation, and innovation to overhaul the customer experience in a good way. Let's discuss some of these roles of AI in improving customer experience.

### 1. Personalization

Personalization has now become a crucial part of the customer experience. Customers want to see ads, promotions, and other content that are relevant to them. According to a report, 53% of the customers will abandon their online purchase if they can't find a quick answer to their question. 70% of US millennials appreciate AI-based recommendations. As a result, it was estimated that 40% of retailers would use AI to improve the customer experience, resulting in a 30% increase in conversion and a 25% increase in revenue by 2019. It's 2021 now, and these numbers probably have gone much, much higher.

### 1.1 Recommender Systems

One of the driving factors of personalization is the recommender system. It, as its name suggests, recommends products to the customers. A person's choice may vary a little, but they generally follow a pattern. If we look closely, the stuff that a person likes has many similarities. For example, if someone liked Game of Thrones, they may as well like The Last Kingdom as they are very similar shows established with similar storylines, showcasing the medieval period. What a recommender system does is, it finds these similar patterns and recommend items that a person is most likely to be interested in.

Generally, there are two types of recommendation systems: collaborative filtering and content -based filtering.

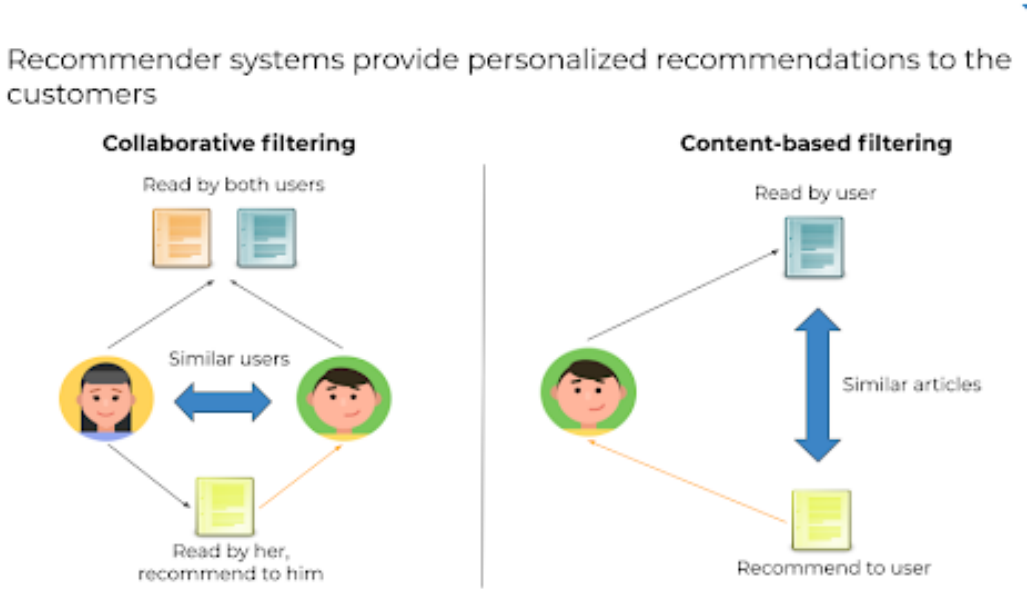


Figure: Collaborative filtering vs Content-based filtering