**What does a Recommendation System do?**

Recommendation system is an Artificial Intelligence System that suggest user new content based on previous history. Consider you are watching a video, and you want to see similar related content but without Recommendation systems, you will have to manually search those videos. As you only know the person’s video you are watching, you could not explore more content. Here, Recommendation Systems play a huge role.

**What is the Recommendation Prediction Problem?**

Recommendation Systems are a type of information filtering where the system filter outs information and ranks / rates the content that the user will like. Algorithms in Recommendation systems evaluate user data such as previous purchases, reviews and browsing history.

**What data do we have?**

We have two types of data:

* **Explicit Feedback:** These are the explicit rating given by a user itself like comment on a YouTube video, likes on social media posts and product reviews etc. This type of data is hard to collect as most users don’t typically write reviews.
* **Implicit Feedback:** This is the information assumed based on user-item interaction that indicate preferences. It include purchasing history of a user, list of songs played by user. This data is abundant but less detailed and noisy. As most modern Recommender Systems tend to rely on implicit feedback.

**Using Population Averages**

Recommendation system recommends data based on overall popularity or average rating across all users. It is calculating overall average of the product and then ranking them, then recommending the product to everyone. It is simpler and easier to implement but it is not personalized as it assumes everyone likes same things.

**Using Population Comparisons & Ranking**

Instead of just taking average, compare how items perform relative to others in the population and rank them. It also takes rating distributions, popularity within specific groups and statistical measure in account. It is often better than plain averages because it considers relative performance and it can sometime rank items higher that have less but excellent reviews. It is still not personalized to individual and requires more computation.