

Chapter 2

Personalized Product Recommendation and User Satisfaction: Theory and Application

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ABSTRACT

A recommendation system is a significant part of artificial intelligence (AI) to help users' access information at any time and from anywhere. Online product recommender systems are widely used to recommend products based on consumers' preferences. The traditional recommendation algorithms of recommendation engines do not meet the needs of users in the AI environment when exposed to large amounts of data resulting in a low recommendation efficiency. To address this, a personalized recommendation system was introduced. These personalized recommendation systems (PRS) are an important component for ecommerce players in the Indian e-commerce aspects. Since personalized recommendations are becoming increasingly popular, this study examines information processing theory with respect to personalized recommendations and their impact on user satisfaction. Further, relationships between the variables were examined by conducting regression analysis and found a positive correlation exists between personalized product recommendation and user satisfaction.

DOI: 10.4018/978-1-7998-7793-6.ch002

INTRODUCTION

A growing number of online recommendation systems now recognize that consumers' preferences on product attributes can support their shopping decisions better (Ghasemaghaei, Hassanein, & Benbasat, 2019). Online Product recommendation [hereinafter, it is called OPRs] on any shopping sites are the examples of suggestions made on the basis of user's interests, (G.Bathla 2017). A number of different techniques are used in these recommendation systems based on content, collaborative filtering, or trust-based recommendations. A collaborative filtering algorithm delivers personalized recommendations based on user activity, user's browsing history and information needs, to predict user's possible future behaviour, so as to provide the user with personalized recommendations, (Wu, H. 2021). Most recommendation systems use a collaborative filtering method because they do not need any previous knowledge about users or items; rather they make recommendations based on interactions between them, (Nassar, N.et.al, 2020). Based on the information about a customer's most recent purchase, frequency of purchase, and the value of past purchase, OPR predicts the likelihood of further or future purchasing. Product recommendation engines in E-commerce websites recommend potentially interesting products to users, more quickly and efficiently.

Now days many companies are using Artificial Intelligence (AI) to deliver more personalized experiences to their customers to anticipate what they want or need. By using product recommendation engine, AI can predict potential customers who will buy the product. AI helps predict lead scoring through data analysis, perform content personalization, and improve the customer experience. Primarily AI sends highly customized and relevant suggestions to customers, taking into account their preferences, search history, personal preferences and spending patterns. So, eventually AI and its applications are adopted by the company and it will only continue to rise. Since the world becomes more digital, personalization creates unique experiences to keep users happy and engaged. Earlier traditional marketing focused on customer experience, functionality, and advertising for a highly targeted audience whereas today these are continuously improved with the use of Artificial Intelligence (AI).

The traditional recommendation algorithms, however, cannot provide users with accurate and fast recommendations and result low recommendation efficiency. So personalized recommendation were proposed to users. These personalised recommendations involve providing a specialized and customized products, services and information through the use of big data, (Subramanyan, 2014). Using this hyper-personalization, companies can create a customized online customer experience tailored to the needs of individual customers. Hyper-personalized recommendations which is driven by artificial intelligence (AI) can deliver more relevant content to its user which makes personalized marketing a step further. The advancement of

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