Chapter 13
Social Commerce Recommendation Systems:
Leveraging User Behaviour and Preferences

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ABSTRACT

Recommender systems are software tools that make recommendations based on user needs and are increasingly popular in both commercial and research settings, with various approaches being suggested for providing recommendations. To choose the appropriate algorithm, system designers must focus on specific properties of the application, such as accuracy, robustness, and scalability. Comparative studies are used to compare algorithms, and experimental settings are described. The chapter discusses the importance of understanding user acceptance of recommendations provided by recommender systems and the influence of source characteristics in human-human, human-computer, and human-recommender system interactions. This chapter contributes to the study of social commerce by assessing the effects of the social web on different stages of purchase decision making and presents a model for analyzing social commerce.

INTRODUCTION

Recommender systems have become essential in modern applications, aiding users in navigating vast collections of items by offering personalized recommendations. These systems can predict user preferences and present lists of suggested items. Algorithm selection for a recommender system depends on performance comparisons through experiments based on various constraints like data type, timeliness, and resource requirements. Traditional evaluation primarily focused on prediction accuracy, but it's now acknowledged that other factors, such as exploring new items, privacy preservation, and system responsiveness, play a vital role in a recommendation engine's success. Evaluating a recommendation system involves three types of experiments: offline, user studies, and online experiments (Shani & Gunawardana, 2011). Offline experiments assess algorithms using historical data, while user studies involve real users interacting with the system. Online experiments conduct live tests with actual users to measure system performance. By identifying relevant properties and evaluating a system's performance on those criteria, designers can create effective and efficient recommender systems tailored to specific application needs.

Recommender systems play a crucial role in providing personalized advice during complex decision-making processes. However, users may not always accept the recommendations, as credibility both of the recommendation and the system itself as the advice-giver influences users' perceptions. Considering the credibility of recommender systems becomes vital in increasing the likelihood of recommendation acceptance. Recent research highlights that technologies can be more persuasive when they leverage social aspects and elicit social responses from users. Thus, recommender systems act as quasi-social actors and persuasive sources of advice. Previous studies have explored various influential source characteristics in human-human communication, and recent research in human-computer interaction confirms their importance in interactions with technologies. While some studies have investigated source characteristics' influences on recommender systems' credibility evaluations, there are still many unexplored possibilities (Yoo & Gretzel, 2011).

In the context of social commerce, recommender systems have emerged as a powerful force, combining the influence of social networks with the convenience of online shopping. The fast expansion of social commerce platforms has transformed the way consumers interact with online buying. These recommendation systems are crucial in assisting users to navigate the enormous product catalogue and discover items that correspond with their tastes. The combination of recommendation systems and social commerce is advantageous to both sides. Personalization improves the user experience, increasing retention and loyalty on social commerce platforms. Meanwhile, social commerce platforms provide a wealth of user-generated content, enabling recommendation systems to react to changing consumer preferences.

Our book chapter "Social Commerce Recommendation Systems: Leveraging User Behaviour & Preferences" proposes a comprehensive approach to improve the performance of social commerce recommendation systems. By analyzing user behaviour and preferences, such as browsing history, purchase history, demographics, and social media activity, the author aims to enhance the online shopping experience and deliver personalized product suggestions. The chapter also emphasizes the importance of data security and privacy concerns, focusing on data encryption, access controls, and anonymization techniques. A hybrid recommendation approach combines collaborative filtering with content-based filtering strategies to provide diverse and relevant recommendations. Social graph analysis evaluates the power of social influence, evaluating users' social relationships and products loved, reviewed, or suggested by friends, influencers, and communities. Real-time customization is crucial for a personalized purchasing experience, and the chapter aims to provide a comprehensive architecture for social

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