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A Survey on Connecting Social Media to E-Commerce Using Microblogging Information

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Abstract— In recent years, the boundaries between e-commerce and social networking have become increasingly blurred. Many e-commerce websites support the mechanism of social login where users can sign on the websites using their social network identities such as their Facebook or Twitter accounts. Users can also post their newly purchased products on microblogs with links to the e-commerce product web pages. In this paper, we propose a novel solution for cross-site cold-start product recommendation, which aims to recommend products from e-commerce websites to users at social networking sites.

Keywords **—** E-Commerce , Social Networking , Facebook , Twitter

I. INTRODUCTION

Today, social media spending makes up a small fraction of most business marketing budgets. A recent Duke University survey found that, on average, social media spending accounted for just 9% of the overall budget. But that number is projected to expand to nearly 22% in the next five years.

Clearly, ecommerce marketers recognize the power of social media to connect with an audience. Facebook, Twitter, LinkedIn, and Instagram are nearly abundant in our lives. They're like the 21st-Century Main Street; we use them to communicate, find information quickly, and increasingly, to shop for products. Today, social media spending makes up a small fraction of most business' marketing budgets. A recent Duke University survey found that, on average, social media spending accounted for just 9% of the overall budget. But that number is projected to expand to nearly 22% in the next five years.

For Web businesses, effective social marketing represents real value. Social networks offer new ways to reach first-time customers, engage and reward existing customers, and showcase the best your brand has to offer. Your social network profiles and the content you share are as important as a business' storefront signage and displays in the 1950s.

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Businesses that integrate social media into their marketing strategy – from customer acquisition, to sales, to re-engagement campaigns – will benefit. Marketers can see in real-time what your audience cares about most, their interests, the conversations they're having and what they like. Use your social networks to better segment audience and understand your target demographics. This will help you optimize your campaigns and deliver more targeted messaging. Immediacy is big in social media; we want information and we want it now. That's why social networks are so great for customer service. They enable businesses to quickly respond to customer inquiries. Plus, social media makes it easier to spot and respond to unpleasant customer experiences. Develop a strategy for responding to customer inquiries via social media.

Your social profile is really your storefront. Customers are now using social networks to research companies and products. Your Yelp, Facebook, LinkedIn and other social pages provide the perfect opportunity to make a lasting impression. Start by optimizing your profiles and making important information easy-to-find. Also, encourage your existing customers to review your company on Facebook, Google, or Yelp.

The Objective is to develop a web application, using web services for interconnection social network E-commerce application. Feature Mapping used for recommended products and it will be classified and micro blogging information has been implemented. Micro blogging been implemented for efficient data retrieval and data transfer. Gathering the details from the user's social network profile and creating product recommendations.

II. VARIOUS RECOMMENDATION METHODS

Table1.Analysis of product recommendation methods

S.NO	TITLE	PROCESS
1.	Amazon.com recommendations: Item-to-item collaborative filtering[1]	In this paper, we use recommendation algorithms to personalize the online store for each customer. Our algorithm produces recommendations in realtime, scales to massive data sets, and generates high quality recommendations.
2.	Leveraging product adopter information from online reviews for product recommendation[2]	This paper proposes a novel approach to the extraction of product adopter mentions from online reviews. we aim to extract product adopter mentions from online reviews,

		categorise product adopters into a number of different user groups, aggregate demographic information of many adopters to form product demographics, which can be used for future product recommendation.
3.	Improving Latent Factor Models via Personalized Feature Projection for One Class Recommendation[3]	In this paper we propose a novel personalized feature projection method to model users' preferences over items. Specifically, for each user, we define a personalized projection matrix, which takes the place of user-specific factors from existing models. This matrix describes a mapping between items' factors and users' preferences in order to build personalized preference models for each user and item. The proposed personalized feature projection method is quite general and existing latent factor models.
4.	Distributed representations of words and phrases and their compositionality[4]	Skip-gram model is an efficient method for learning high-quality distributed vector representations that capture a large number of precise syntactic and semantic word relationships. It is used to show that sub sampling of frequent words during training results in a significant speedup (around 2x - 10x), and improves accuracy of the representations of less frequent words.
5.	Addressing Cold-Start in App Recommendation: Latent User Models Constructed from Twitter Followers[5]	In this paper, we describe a method that accounts for nascent information culled from Twitter to provide relevant recommendation in such cold-start situations. We use Twitter handles to access an app's Twitter account and extract the IDs of their Twitter-followers. We create pseudo-documents that contain the IDs of Twitter users interested in an app and then apply latent Dirichlet allocation to generate latent groups.
6.	Efficient estimation of word representations in vector space[6]	Vectors space provide state-of-the-art performance on our test set for measuring syntactic and semantic word similarities.The main goal of this paper is to introduce techniques that can be used for learning high-quality word vectors from huge data sets with billions of words, and with millions of words in the vocabulary. we try to maximize accuracy of these vector operations by developing new model architectures that preserve the linear regularities among words
7.	Matrix factorization techniques for recommender systems[7]	In this paper, we Match consumers with the most appropriate products is key to enhancing user satisfaction and loyalty. Recommender systems are based on one of two approaches. The content filtering approach creates a profile for each user or product to characterize its nature. Collaborative filtering approach analyzes relationships between users and interdependencies among products to identify new user-item associations.
8.		The contributions of this paper are four-fold: (1) We elaborate how social network information can benefit recommender systems; (2) We interpret the differences between social-based recommender systems and trust-aware recommender systems; (3) We coin the term Social Regularization to represent the social constraints on recommender systems, and we systematically illustrate how to design a matrix factorization objective function with social regularization; and (4) The proposed method is quite general, which can be easily extended to incorporate other contextual information, like social tags, etc. The empirical analysis on two large datasets demonstrates that our approaches outperform other state-of-the-art methods.

III. CONCLUSION

In this paper, we have studied a novel problem, about recommending products from e-commerce websites to micro blogging users without historical purchase records. Our main idea is that on the e-commerce websites, users and products can be represented in the same latent feature space through feature learning with the recurrent neural networks.

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