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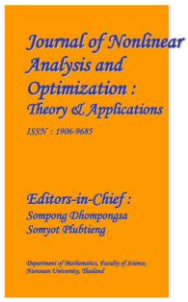

CHARACTERIZING AND PREDICTING EARLY REVIEWERS FOR EFFECTIVE PRODUCT MARKETING ON E-COMMERCE WEBSITES

K. Rambabu [1], Bale. Sivashankarsuryavara Prasad.

[1]**Assistant Professor(HOD), PG DEPT,** Dantuluri Narayana Raju College**, Bhimavaram, Andhara Pradesh**
Email:- kattarambabudnr@gmail.com
[2]**PG Student of PG, Dantuluri** Narayana Raju College**, Bhimavaram, Andhara Pradesh**
Email:- :balesivashankar@gmail.com

ABSTRACT

Online reviews have become an important source of information for users before making an informed purchase decision. Early reviews of a product tend to have a high impact on the subsequent product sales. In this paper, we take the initiative to study the behavior characteristics of early reviewers through their posted reviews on two real-world large e-commerce platforms, i.e., Amazon and Yelp. In specific, we divide product lifetime into three consecutive stages, namely early, majority and laggards. A user who has posted a review in the early stage is considered as an early reviewer. We quantitatively characterize early reviewers based on their rating behaviors, the helpfulness scores received from others and the correlation of their reviews with product popularity. We have found that (1) an early reviewer tends to assign a higher average rating score; and (2) an early reviewer tends to post more helpful reviews. Our analysis of product reviews also indicates that early reviewers' ratings and their received helpfulness scores are likely to influence product popularity. By viewing review posting process as a multiplayer competition game, we propose a novel margin-based embedding model for early reviewer prediction.

1 INTRODUCTION

Emergence of e-commerce websites has enabled users to publish or share purchase experiences by posting product reviews, which usually contain useful opinions, comments and feedback towards a product. As such, a majority of customers will read online reviews before making an informed purchase decision [1]. It has been reported about 71% The of global online shoppers read online reviews before purchasing a product [2]. Product reviews, especially the early reviews (i.e., the reviews posted in the early stage of a product), have a high impact on subsequent product sales [3]. We call the users who posted the early reviews early reviewers. Although early reviewers contribute only as mall proportion of reviews, their opinions can determine the success or failure of new products and services [4], [5].It is important for companies to identify early reviewers since their feedbacks can help companies to adjust marketing strategies and improve product designs, which can eventually lead to the success of their new products.

For this reason, early reviewers become the emphasis to monitor and attract at the early promotion stage of a company. The pivotal role of early reviews has attracted extensive attention from marketing practitioners to induce consumer purchase intentions [6]. For example, Amazon, one of the largest e-commerce company in the world, has advocated the Early Reviewer Program1, which helps to acquire early reviews on products that have few or no reviews. With this program, Amazon shoppers can learn more about products and make smarter buying decisions. As another related program, Amazon Vine2 invites the most trusted reviewers on Amazon to post opinions about new and pre release items to help their fellow customers make informed purchase decisions.

Literature Survey

1. Search Strategy:

Keywords: Use keywords such as "early reviewers," "product marketing," "e-commerce," "online reviews," "consumer behavior," and "predictive modeling."

Databases: Utilize academic databases like Google Scholar, PubMed, IEEE Xplore, JSTOR, and ACM Digital Library.

Journals and Conferences: Look into journals like Journal of Marketing Research, Journal of Consumer Research, and conferences like ACM CHI, ACM SIGIR, and IEEE ICWSM.

2. Key Concepts to Explore:

Early Reviewers: Understand what makes someone an early reviewer on e-commerce platforms.

Characterization: Identify traits or behaviors that differentiate early reviewers from others.

Predictive Modeling: Explore methodologies used to predict who will be an early reviewer.

Impact on Product Marketing: Study how early reviews influence product visibility, sales, and consumer trust.

3 IMPLEMENTATION STUDY

EXISTING SYSTEM:

- In the existing system, the term of early adopter originates from the classic theory for Diffusion of Innovations. An early adopter could refer to a trendsetter, e.g., an early customer of a given company, product and technology.
- The importance of early adopters has been widely studied in sociology and economics

Disadvantages:

- There is no estimating the Product Lifetime which results no early review detection.
- There is no early reviewer which tends to assign a higher average rating

Proposed System & alogirtham

- The proposed system presents a first study to characterize early reviewers on an e-commerce website using two real-world large datasets.
- In the proposed system, the system quantitatively analyzes the characteristics of early reviewers and their impact on product popularity.

4.1 Advantages:

- The system determining the Complete Review Time Span.
- Fast technique to Review Spammer Detection and Removal

IMPLEMENTATION

MODULES:

ADMIN

- In this module, the Admin has to login by using valid user name and password.
- After login successful he can do some operations such as View All Users and Authorize,View All E-Commerce Website and Authorize,View All Products and Reviews,View All Products Early Reviews,View All Keyword Search Details,View All Products Search Ratio,View All Keyword Search Results,View All Product Review Rank Results:

View and Authorize Users:

- In this module, the admin can view the list of users who all registered
- .In this, the admin can view the user's details such as, user name, email, address and admin authorizes the users.

View Chart Results:

- View All Products Search Ratio,View All Keyword Search Results,View All Product Review Rank Results Ecommerce User
- In this module, there are n numbers of users are present. User should register before doing any operations. Once user registers, their details will be stored to the database.
- After registration successful, he has to login by using authorized user name and password.
- Once Login is successful user will do some operations like Add Products,View All Products with reviews,View All Early Product's reviews,View All Purchased Transactions.

5 RESULTS AND DISCUSSION

5.1 SCREEN SHOTS:

HOME PAGE

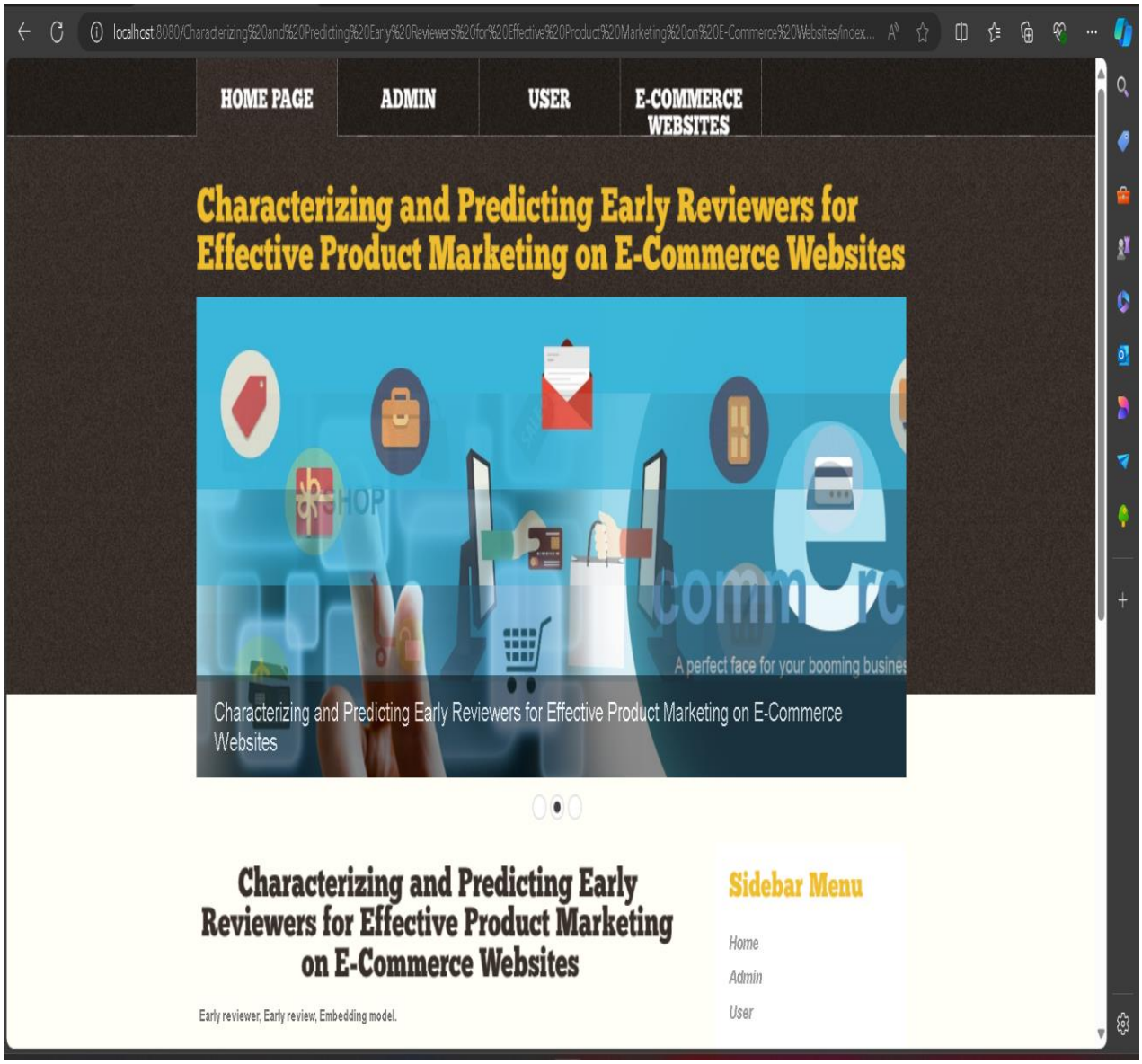

Fig: 5.1

ADMIN PAGE:

Fig: 5.2

VIEW ALL PRODUCTS:

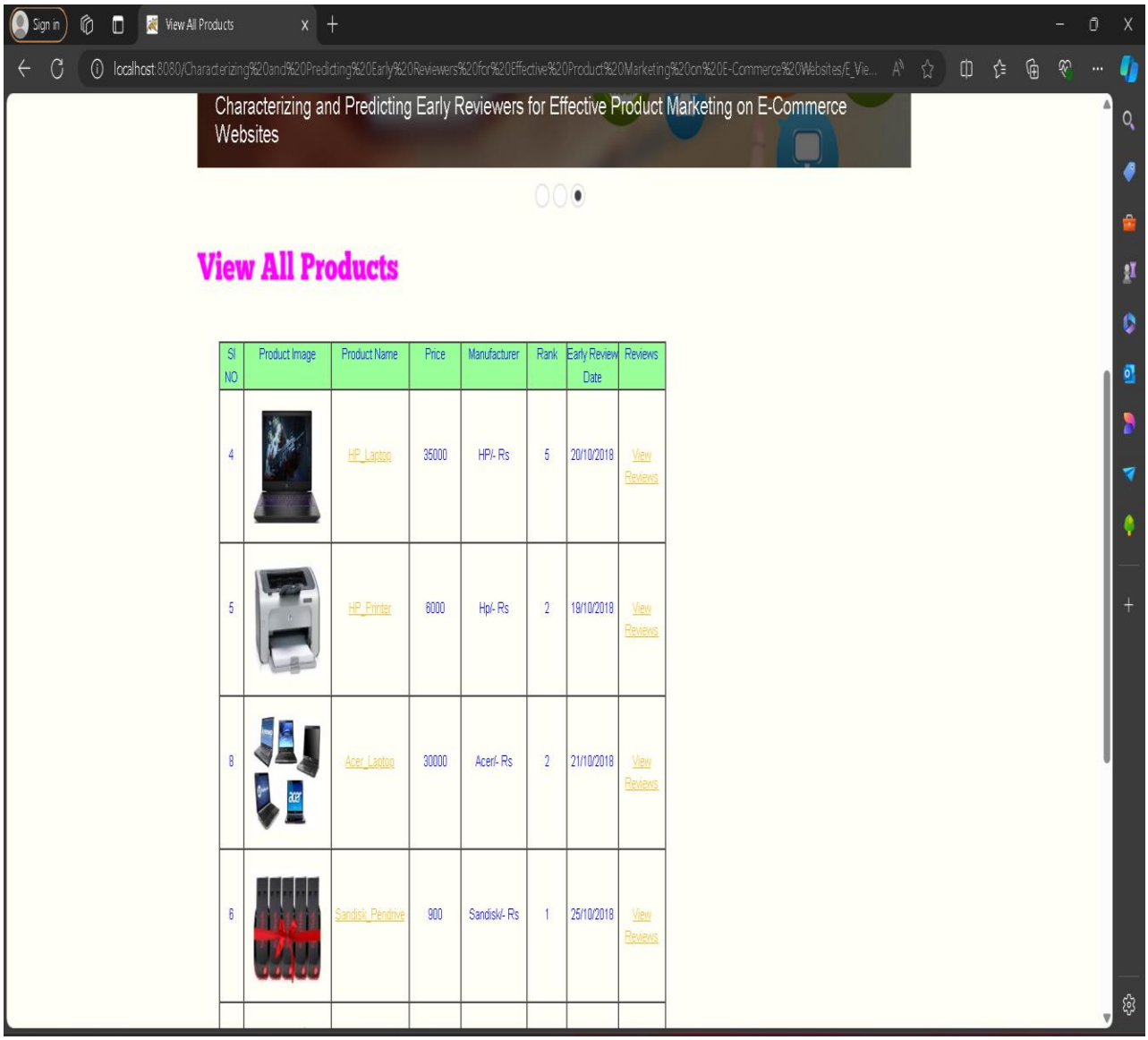

Fig: 5.3

AUTHORIZED USERS:

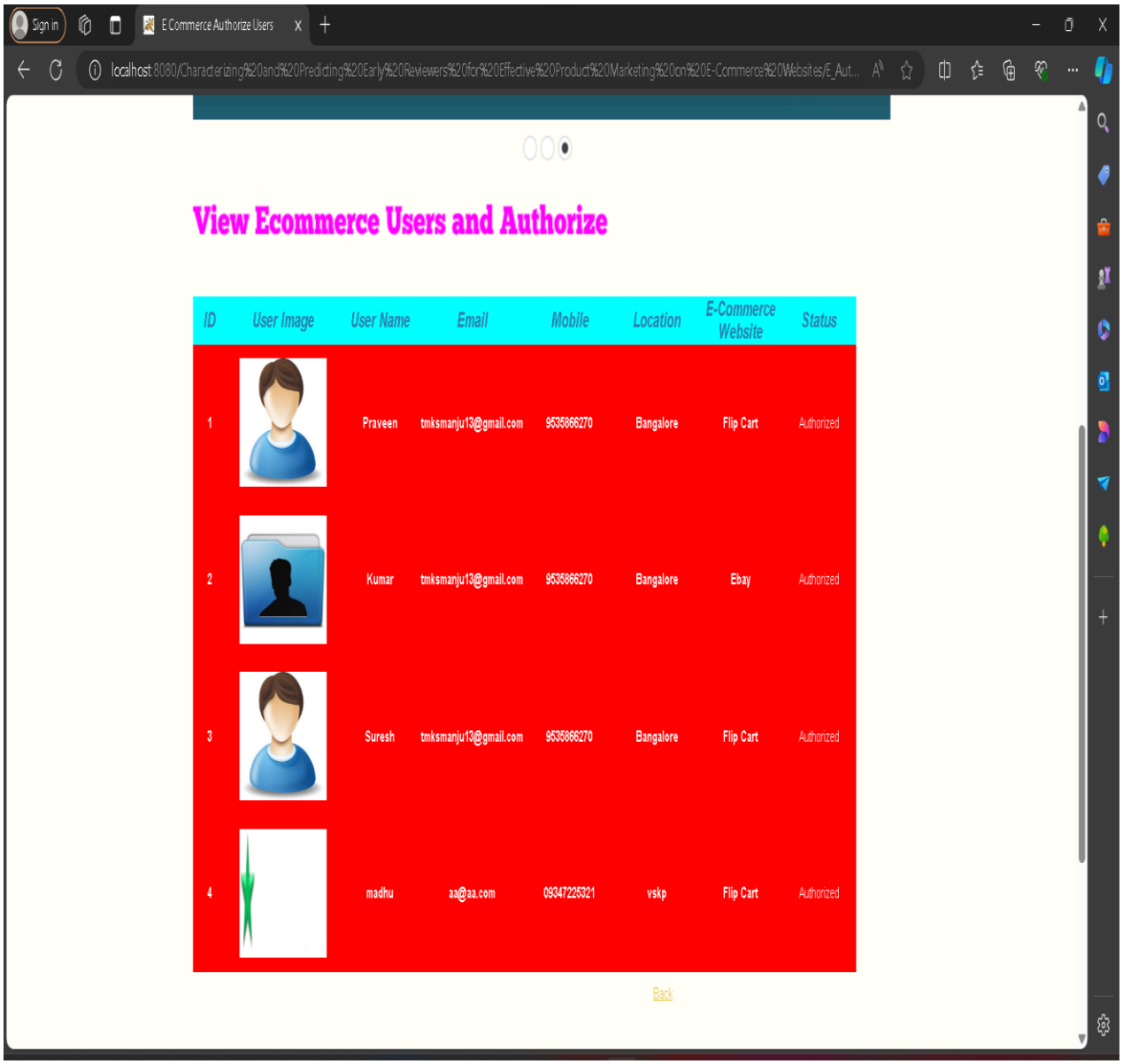

Fig: 5.4

USERS DATA AT ADMIN VIEW:

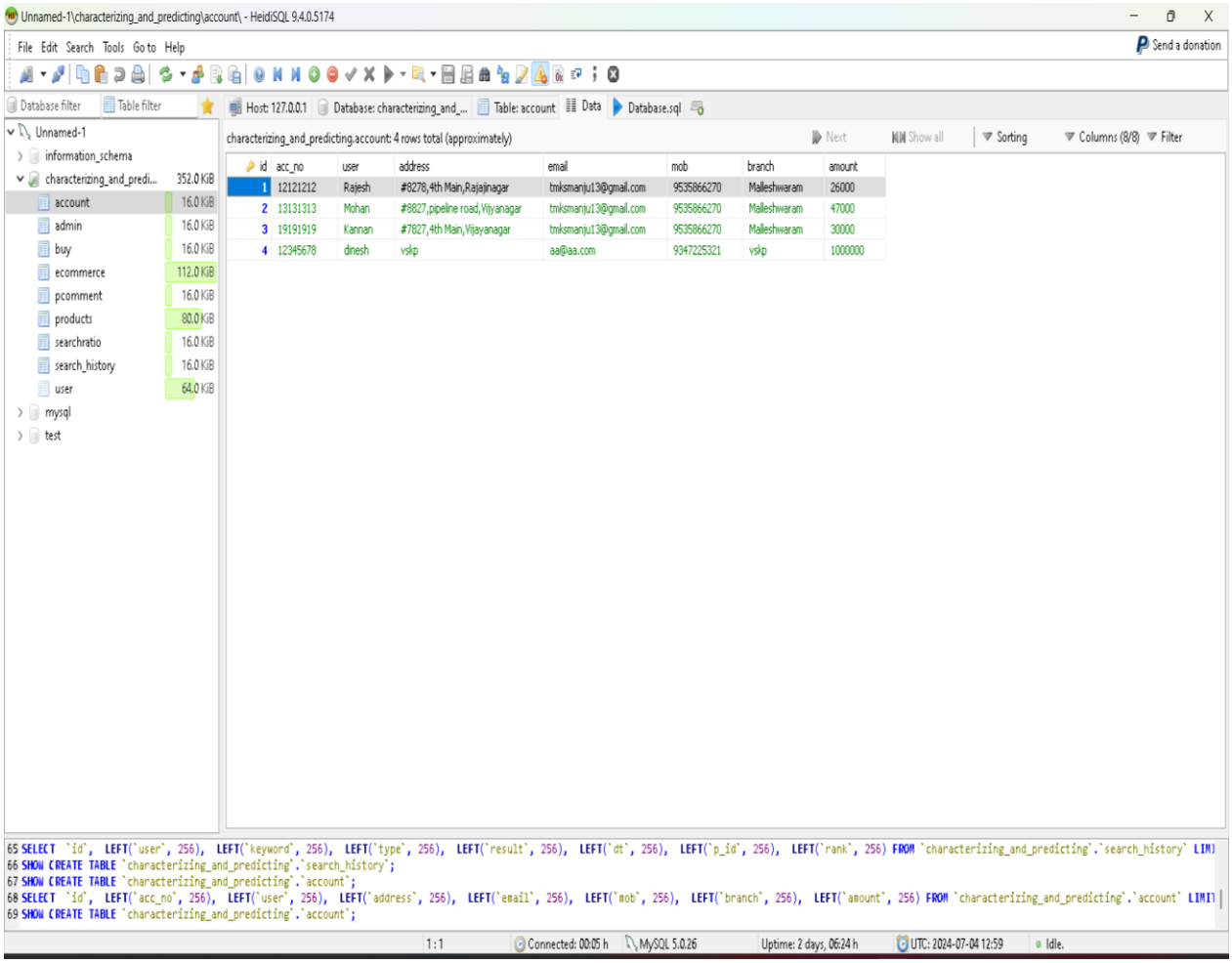

Fig: 5.5

SEARCH RATIO:

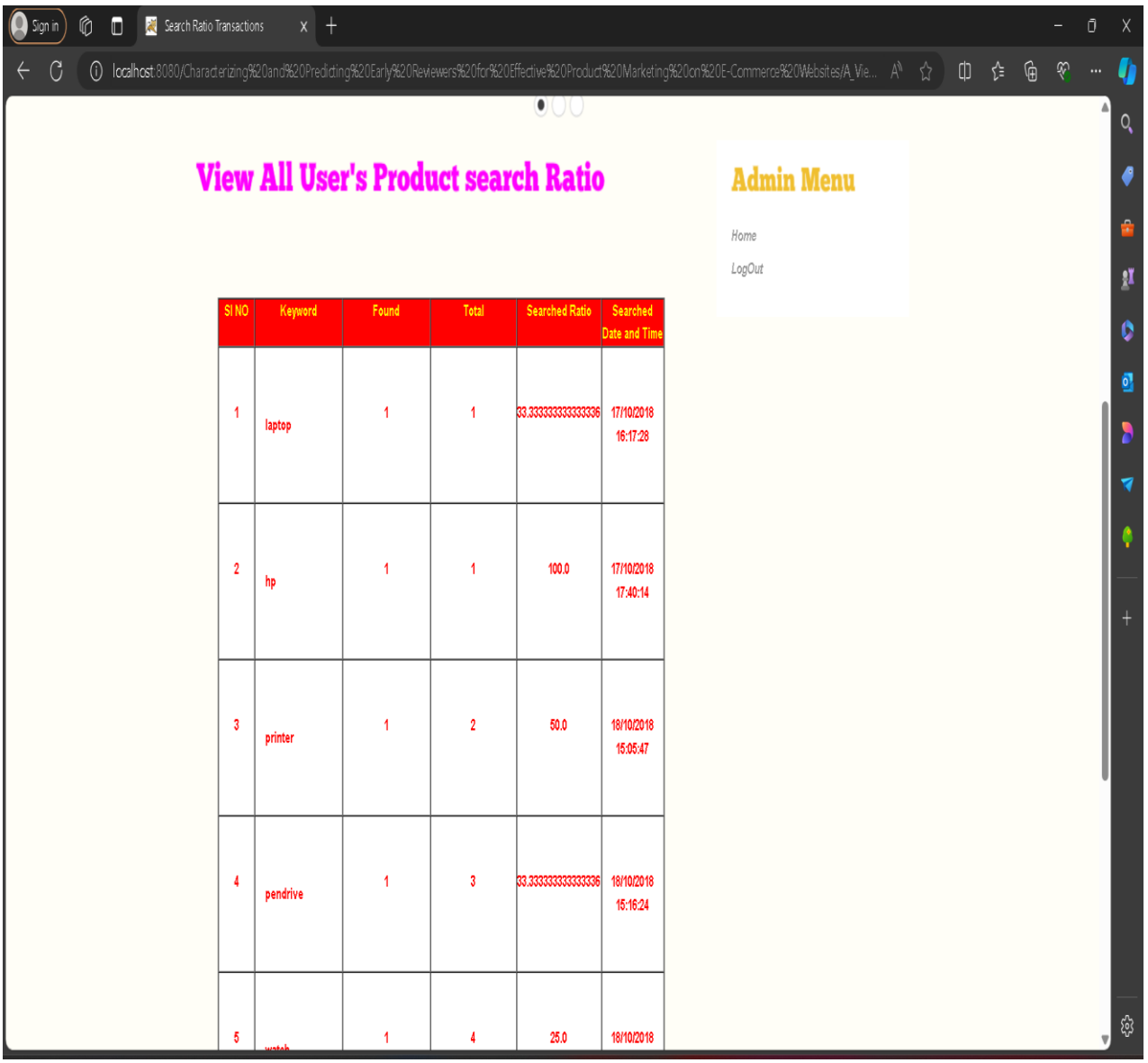

Fig: 5.6

REGISTRATION PAGE:

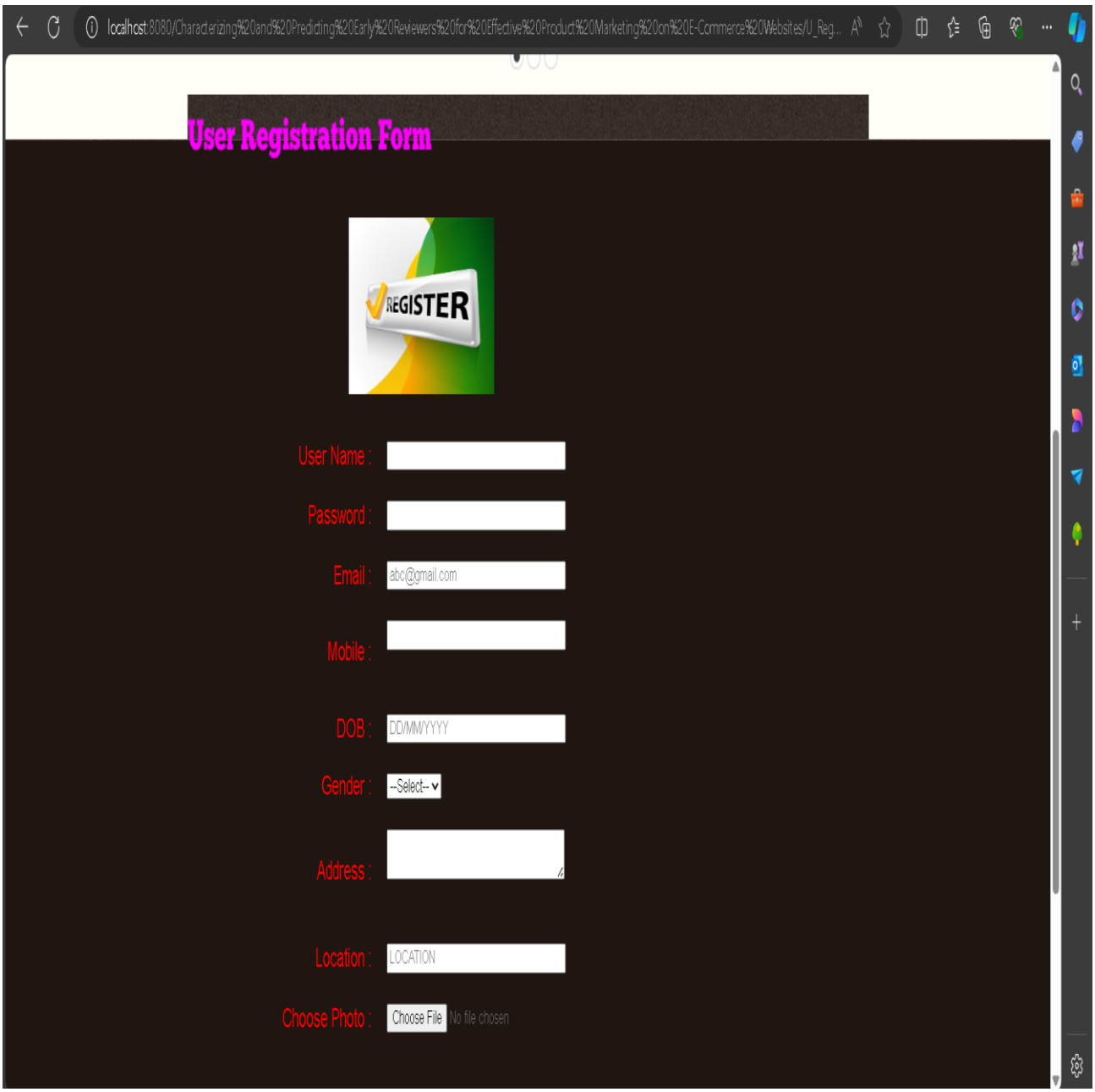

Fig: 5.7

6. CONCLUSION AND FUTURE WORK

CONCLUSION

In this paper, we have studied the novel task of early reviewer characterization and prediction on two real-world online review datasets. Our empirical analysis strengthens a series of theoretical conclusions from sociology and economics.

- We found that (1) an early reviewer tends to assign a higher average rating score; and (2) an early reviewer tends to post more helpful reviews. Our experiments also indicate that early reviewers' ratings and their received helpfulness scores are likely to influence product popularity at a later stage.

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