The Discovery of Individuality in the Process of Personalization Recommendation

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Abstract. With the development of social media platforms and the emergence and popularity of portable and even wearable electronic products, more and more network platforms are concerned about the importance of personalization. Therefore, the focus on personalized recommendations of the network platform has realistic research value. In the process of generating personalized recommendation results, the understanding and definition of the individual gradually entered the researcher's field of vision. Both of the above studies considered the individual to be unstable, and the concept and characteristics are constantly changing related to the recommendation process. This paper will take the restaurant recommendation part of China's travel recommendation software 'Dianping' as an example of the related apps and generate and cultivate new accounts to form stereotyped user portraits in order to explore the concept of the individual in the process of generating personalized recommendation results. Therefore, in the process of personalized recommendation, the meaning of the individual and the relationship with the group need to be viewed dialectically, and the specific problems are analyzed in detail.

Keywords: media · personalization · network platform

1 Introduction

With the development of network technology and the popularity of smartphones, the competition between terminal applications has made each app gradually become a selling point for stabilizing the user base and expanding the user range. Especially in some applications with recommendations and consumption that are linked to physical merchants, the personalized recommendation is the inevitable choice for search results. Some applications are simple to use the location or manually set screening criteria, recommend nearby businesses through the terminal location or user-set locations, or refer to the user's simple additional conditions like price and rating to recommend the merchant. The most representative of this type of application is the travel app, such as booking focused on hotel reservations, more comprehensive 'Agoda', and the multi-functional Chinese application 'Ctrip'. Some applications, due to the complexity of their functions, the diversity of included merchants, the recommended order of the user's home page, and the presentation rules of search results under different keywords and different conditions are more complicated, not just filter relying on a single bottom line, but to carry

out two rounds of basic filtering and complex selection is the result of personalized recommendation under the support of complex algorithms. This category contains the rest of the marketing software, including 'Amazon', Chinese 'Taobao', and the 'Dianping' which will be emphatically researched in this article.

'Dianping' is a review app that is widely used in China, similar to the international travel review software 'TripAdvisor'. But unlike the latter, 'Dianping' is not limited to reviews of travel-related locations such as restaurants, hotels, and attractions, and it covers a comprehensive range of merchants with complex functions. Specifically, its main functions include two aspects. One is that the user reviews the merchant's 'score + text comment + photo' mode, can interact with the person viewing the review, and receive other people's likes and comments to enhance the enthusiasm and authenticity of the comments. Besides, users can purchase here. Firstly, the user can check out the merchant through the app and get some discounts at the same time. Secondly, users can purchase some of the most popular group purchase products on the software, 5 such as movie show tickets and restaurant packages. Finally, users can also book some travel products through the platform, such as attractions tickets, hotels, and airline tickets. As the platform continues to grow and develop, in addition to the two main functions, the application also includes some life service places within the scope of search and review. Therefore, people are gradually getting used to not only using the application in travel to unfamiliar places, but also relying on the platform in daily life to search for living service places such as shopping malls, supermarkets, and small laundry and printing shops. The more merchants settle in, the larger the user's foundation, the stronger the user's stickiness, and further stimulates the joining of more businesses, forming a virtuous circle. In 2016, the coverage of 'Dianping' mobile phones reached 33%, and the ratio is still growing rapidly in the past two years. It can be said that the platform is a representative comprehensive service consumer platform for life service. Its extensive user base, the strong business community, and comprehensive functional options provide a certain amount of research value.

2   Personalized Recommendation

Personalization, in simple terms, is something that is different from general popularity, adding unique elements above the universal, average standard to form a product with a distinctive label. CHELLAPPA and SIN define personalization as the ability to customize product and product buying experiences based on the user's personal and preferences information [1–3]. The concept of personalization applies to many fields. With the development of the economy and the improvement of living standards, the public not only pursues the price and quality of the purchased products but also the process of consumption, as well as personal preference and characteristics. One of the metrics. Adomavicius and Tuzhilin have proposed in their research that the direction of personalization is focused on the generation of personalized recommendation results, rather than individuals or groups with a strong sense of existence. With regard to the topic of personalized recommendation, with the popularity of networks and smart terminals, in recent years, more research has 7 focused on search engines and network platforms for product sales. Among them, the representative of the search engine is Feuz, Fuller, and

Stalder on the impact of user portrait modeling on the recommendation results [4, 5]. Most of the research on product sales platforms focuses on the sale of content products and physical goods represented by music and video. Prey has published the influence of personalized recommendation on the streaming music platform on the individual word [6]. The conclusion of the article emphasizes that the platform pays attention to the process of individualization in the process of generating personalized recommendation results. Rather than a single entity that actually exists. Simply put, the personalized features on the streaming media platform are constantly changing, and there are no fixed individual tags. In addition, Nick also discussed and argued in Lien's paper that Lien's idea is that 'people and products are not fixed groups, but mutual influence, constantly changing' The characteristics of liquidity.

When personalization is applied to product sales and branding in the field of marketing, it can also be called customization, that is, providing products (individuals or groups) with individual characteristics or products with personalized labels. Eirinaki and Vazirgiannis focus on the personalization of the website, which is defined as the content and structure of the website based on the user's navigation behavior to meet the user's personal preferences [7]. At the same time, it is proposed that website personalization can be divided into five modules, namely User profiling, Log analysis and Web usage mining, Content Management, Web site publishing, Information acquisition, and searching. Kramer, Noronha, and Vergo have specifically listed the individual characteristics in the article, "from simple display of the end-users name on a Web page, to complex catalo navigation and product customization based on deep models of users" needs and behaviors. And inferred from the use of databases, cookies, and dynamic page generation, to esoteric pattern matching and machine-learning algorithms, rule-based inferencing, and Data Mining.

3   Methodological Considerations

The problem setting and methodology of this study were based on the consideration of the personalized recommendation results of the search engine Google by Feuz, Fuller, and Stalder. In their research, Feuz has suggested that search engines can be seen as an infrastructure in the Internet domain, which not only has an abstract expression but also contains data and information with academic and real-world research value [8–10]. Similarly, travel recommendation software with search and recommendation functions can be understood to some extent as a search engine with a personalized recommendation function, and the items contained therein are the information of the merchant and the user, that is, the consumer's information and data. It is the object that the platform can provide or can be considered researchable. It not only has commercial value to generate income for the merchant but also can be a medium for exploring the social culture.

At the same time, the research also puts forward the necessity of SEO in the field of information technology and its significance in practice and proposes a methodology including its digital cultural aesthetics, namely, the field of software art and the field of digital computing. Background, from different angles, demonstrates the necessity of studying the relationship between the personalized recommendation technology of search engines and users. The relationship between the user and the platform of the platform should be mutually infiltrated. The platform will read the user's basic information

and browse the records to provide users with search results that meet the requirements. At the same time, the user provides valuable data information for the platform to be optimized for the upgrade of it. However, due to the considerable degree of uncertainty in this impact, this provided a good breakthrough for this study. For example, if the same IP address is logged in with a different account, the same account is logged in in different regions, and so on. The subtle operational differences may have a new impact on the search results. This change may be beneficial and harmful. Or it does not produce any 11 actual influences, which are all possible factors. That is to say, the presentation of search results and their impact are the same as the research value in the field of data analysis and social culture.

The core of the e-commerce platform's personalized recommendation system is the user interest model. Therefore, how establishing the user interest model is the core step to studying personalized recommendations. The input data representation form of the e-commerce recommendation system includes hidden browsing input, that is, data generated by the user's browsing behavior, which is not actively contributed by the user; the explicit browsing input, that is, the evaluation and personal preference given by the user, is the user. Active contribution data; keyword and item attribute input, that is, the range of search results that the user wants to see; user purchase history; user rating input, that is, the rating that the user once gave to the product, can indicate to some extent that the user is for a product The degree of preference; user text evaluation input, that is, the user's text evaluation of the product, and the evaluation of others is also a more important indicator for the user to measure the product. Although most of the time when the user uses the restaurant recommendation function of the dianping application is simply searching and browsing to find the ideal restaurant evaluation and related introduction information, the purchase behavior occurs, for example, purchasing Restaurant coupons on the platform or the chances of checking out directly with the merchant through the platform are small, but the application can still be compared to the e-commerce platform, that is, the reference indicators mentioned above are still applicable in the research for the platform. Therefore, based on the article by Feuz, Fuller, and Stalder, etc., when studying the personalized recommendation results of "dianping", the focus is on the relationship between the presentation of search results and user portraits, and Based on the basis, it proposes to explore the relationship between individual subjectivity and personalized recommendation.

4   Research Findings

The statistics and presentation of the data from the two studies mentioned above will be carried out here, and a brief analysis at the phenomena level will also be carried out. For the first experiment, the research direction of this paper is whether the accounts with completely different user images will present different personalized recommendation results in the face of the same search content. During the one-month training account process, the restaurant category selected by user 1 is hot pot, barbecue, and buffet, while the restaurant category selected by user 2 is Beijing cuisine, private kitchen, and local Jiangsu and Zhejiang cuisine. Finally, when entering the recommended interface of the restaurant at the same time, there is a distinct difference in the restaurant recommendation of the two accounts without any search behavior. First of all, among the top 10

recommendations of Account One, the restaurants belonging to the hot pot, barbecue, and buffet categories accounted for 8 of the top 10 recommendations, 15 of the top 20, and 28 of the top 50. Among them, there were 6 stores, 13, and 20 stores. However, there are only 0 restaurants, 0 homes, and 3 restaurants belonging to Beijing cuisine, private kitchens and local Jiangsu and Zhejiang cuisine categories. On the contrary, among the recommendation results of account two, Beijing cuisine, private kitchen and local jiangzhe cuisine accounted for 5, 10 and 25 in the top 10, top 20 and top 50 recommendation results respectively. Among them, there have been 5, 8 and 20 stores. The restaurants belonging to the hot pot, barbecue and buffet categories occupy 2, 5 and 10 respectively. In addition, the average number of per capita consumptions in the top 10, top 20 and top 50 results of account number 1 is about 93,105,88, respectively, while the average per capita consumption of account number 2 is about 298,354 respectively. 279. Through the comparison of the two, the preliminary conclusions that can be drawn as follow: First, the user's browsing record will have a large or even subversive effect on the personalized recommendation, and the 'Dianping' application are personalized in the restaurant. During the process, the recommendation results are filtered based on the category of the restaurant that the user has viewed. Second, the restaurant recommendation results on 'Dianping' will not block the stores that the user has visited, and the stores will continue to appear 16 repeatedly on the homepage of the recommendation results, even occupying a large proportion. Third, the presentation of the personalized recommendation results of the restaurant will reflect the difference in economic level and consumption level of different users to a certain extent. The difference is related to the category of the restaurant, but it does not depend entirely on the category of the restaurant. However, the reason behind this phenomenon is rather vague, and the basic information of the user's portrait cannot be explained and the restaurant category in the browsing record is interpreted, which is largely a result of a joint effect.

For the results of experiment 2, firstly, in the case of keeping the IP and the search record consistent, there is almost no difference between the login account and the personalized recommendation result of not logging in to the account, especially the three categories of Cantonese cuisine, fast food and coffee shop belonging to the browsing record. The restaurant is completely consistent in the presentation results. Among the top 10, 20 and 50 of the recommended results, the number of restaurants with differences is only 0, 1 and 6. To a certain extent, it can be concluded that the basic information of the user has little influence on the description of the user's portrait and the algorithm of personalized recommendation, and the generation of the personalized recommendation result mainly depends on the browsing record of the user. In addition, since the above is set to only browse businesses with a score of 4.5 or more, the average scores of the top 10, 20 and 50 shop ratings of the recommended results are about 4.7, 4.6, 4.4, respectively, and the results are presented. The arrangement is almost in accordance with the number of viewing and the rankings are ranked from high to low.

In summary, combined with the conclusions and conclusions of the above two studies, it is possible to summarize the presentation of the personalized recommendation results of the restaurant on the application of 'Dianping'. First of all, the main result of affecting the personalized recommendation is the user's browsing history and the category of the store in the browsing record. The basic information of the user has no obvious

influence on the shaping of the user's portrait and the personalized presentation of the recommendation 17 results. Secondly, the results of personalized recommendations will continue to present duplicate content. Even the more views, the more likely it is to appear in the next recommendation. The platform does not replace and block duplicate content. Third, the user's economic level and consumption level will affect the presentation of the recommendation results to a certain extent, but this also includes the category of the user's preference for the restaurant. However, when the per-capita consumption difference of the restaurant category itself is not obvious, the impact of differences in economic levels represented by user images will be reflected. In addition, the platform will capture the key points in the user's browsing history to classify the user and match the corresponding merchant. The range of information that the user can obtain is constantly receiving the limitation of the platform, and there is a certain degree of personality loss. Finally, a personal guess, the platform, and the restaurant reached an agreement, trying to use the constant recommendation of a fixed restaurant, so that it constantly appears on the user's home page, in an attempt to cultivate the net red restaurant. Specifically, no matter how you change the category and price range of the search, individual merchants will always appear in the personalized leg home results and occupy a higher position.

5   Conclusion

In general, this article selects the restaurant recommendation function of dianping, a travel recommendation platform, as a case. By cultivating and researching different user models, the results of personalized recommendations of the application in different situations are compared and analyzed to find the difference and connection, as well as the marketing and social and cultural significance behind it. On this basis, this paper also explores the understanding of individual personality and the relationship between individuals and groups in the process of personalized recommendation. In addition, the last part of the article refers to the theory of user interface design, briefly analyses the impact of dianping user interface design on the presentation of personalized recommendation results of restaurants, and proposes the optimization direction of the interface. First of all, the first part of the article summarizes the research direction and research significance of this paper, as well as the rationality of selecting dianping software as a case. The personalized recommendation is one of the more popular research directions in the era of individualized marketing and experience economy. Many previous studies have focused on search engines and personalized recommendations or personalized merchandising. This article links the search results of the web platform with personalized merchandising through the application of dianping while paying attention to the economical and sociological meaning of personalized recommendations behind. Then, the article summarizes the past research on personalized recommendation and pays attention to the theoretical basis and methodological analysis of related research. Based on this, the experimental method of this research is formulated, and its rationality is proved. Finally, the 30 experimental results are summarized with a brief analysis. 'Dianping' is an atypical travel recommendation application that can be compared with the e-commerce platform. The personalized result of the restaurant recommendation part is mainly based on the user's browsing record to generate the user's portrait and match the label of the restaurant to complete the results screening of personalized recommendation.

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