Event Recommendation System and Its usage in Digital Marketing

Shourya Mehrotra,Nageshwara Rao

Abstract— Recommendation system filters information, which consumes users interest and habits in accordance with their inputs and behaviours, and then predict the ranking or preferences for a given product. This impacts how businesses exchange information and improve the user interface between the user and service provider. With a huge set of events or products published all the time in event-based social networks, it becomes scalable and difficult for users to find relevant events that best match their preferences. Recommender systems appear as a natural solution to this problem . However, the event recommendation scenario is pretty different from standard recommendation categories such as movies, as there happens to be an intrinsic new item problem involved which is events can not be "consumed" before they occur and scarce all the collaborative information. Though some some pieces of works have appeared in this spectrum, there is still lacking in the theory and extensive analysis of the different characteristics of the event-based social networks data that can affect the design and implementation of event recommenders. We thus can understand the topic of unseen item or the one that has not appeared in recommendation through a sample user study like of academic talk recommendation, where we aim to correctly estimate a ranking function for each member , estimating which talks would be of most interest to them.

Index Terms—Consumer Behaviour,Customer Buying Patterns, Digital Marketing, Marketing, Recommendation System,Matrix,Co-concurrence Matrix,Algorithms.

1 INTRODUCTION

A Recommendation system can help users find convincing content froma large set of data. For example, any Play Store provides billions of apps, while a video streaming app provides millions of videos. More content is added every single day. One can use organic search to view and use content. Howsoever, a recommendation engine can show items that users might not have anticipated through search on their own. Recommendation engines have been in use for some time and there have been some learnings and key points to understand and gain information:

- Actions of users are the best indicator of their intention. Review and rankings happen to be very biased and less in number.
- Past deeds and actions and purchases lead to new purchases and the overlap with other people's purchases and actions is an amazing predictor.

Such analysis in which the inputs are behavioural which usually are because through survey reports and through feedback people usually do not intent to give the right opinion or verdict however through search or clicks one can interpret how well a user likes a thing or the kind of events or products he or she is interested in and the kind of categories that catch their eye.

Whenever a user does some activity to any portal, website or application data can be recorded and stored either through a websites' own analytical and processing system or through external softwares which work in establishing digital marketing as one of the key ways to grow businesses by estimating what exactly a user would want and who are the users which want that specific product.

And this can give rise to an idea of event marketing –

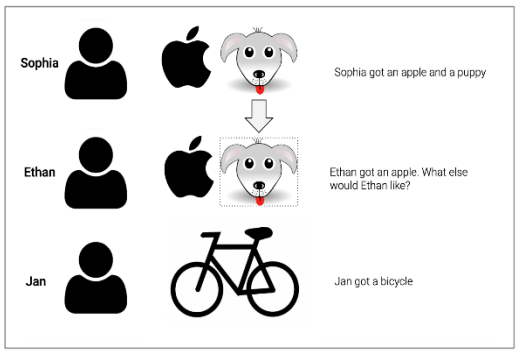
Event marketing can be defined by the tools, techniques and channels you use to promote an event to an audience, generally with the intent of getting them make deals, buy products or services or attend an event.

Event marketing begins with launching the idea of the event,persuading attendees to invite their family, friends or colleagues and creating a pipeline of leads through mediums such as email marketing, blogging and advertising.

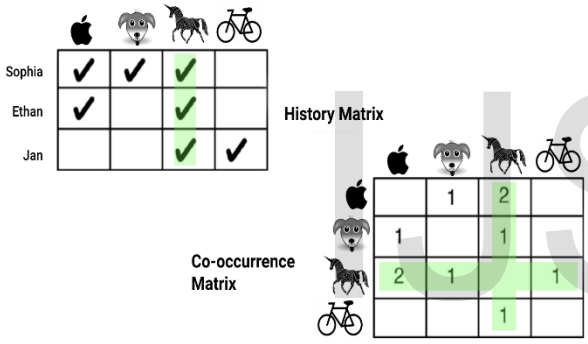
B2B (business to business) event marketing is the sale of events to other companies in order to get them to attend the event or sponsor it or exhibit their products in it. The ways of advertising may be similar like through social media, email marketing etc. However the tone of voice and the USPs may differ. For instance at a customer centric event, the sales techniques will be lead towards personal choices and preferences, whereas in a business centric event the techniques be more tangible such as ensuring a business to increase revenue, generate leads or gain a competitive benefit.

2 EXPERIMENTAL SETUP

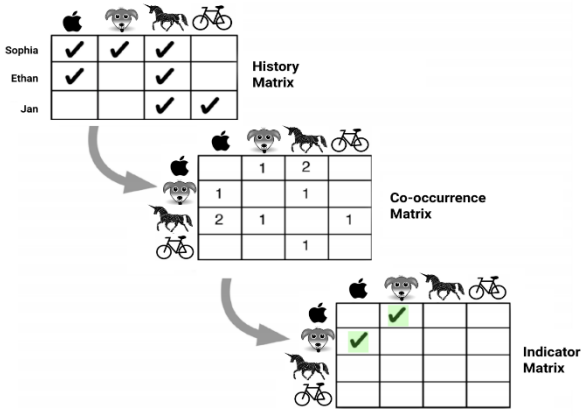
Recommendation systems usually look for intersection or co-occurrence to create a recommendation.Like in the following example recommendation has been made to Ethan of a puppy based on an intersection between Ethan and Sophia's purchases:



- In reality, a recommendation engine prepares co-occurrence matrix from a valid history matrix generated of events and purchases made. And this is simple enough however there are challenges to overcome in more worldly scenarios and cases.For example if everyone wants a unicorn.In that case the high co-occurrence of unicorns in the following diagram make a good recommendation.



Once the recommendation system has produced the co-occurrence matrix then statistics is applied to filter out the well enough anomalous signals to be offered as an interesting recommendation.



3 OBSERVATION

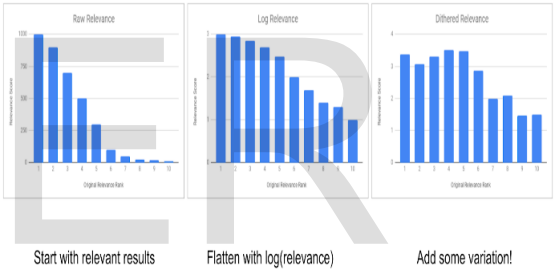
Still, there are a certain more challenges a good recommendation system has to overcome. Recommending the same products or services over and again is boring. What's more worse is , recommending the same products produces bad data and causes content fatigue.

Two easy and intuitive strategies to improve the quality of recommendations are

- Anti-Flood: Here you have to penalise the second and third recommendations if they offer same similarity scores to the highest recommendation.
- Dithering:Adding any new wildcard recommendation to create interesting new data points for the recommendation system to continue the process of learning about other content.

4 CONCLUSION

These steps ensure an interesting user experience and new data on alternative recommenations.



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- *Shourya Mehrotra is currently pursuing bachelors degree program in computer science engineering in Galgotias University, INDIA, PH-+919999649278. E-mail: shourya.mehrotra@gmail.com*

- *Nageshwara Rao is currently Associate Professor in Galgotias University, INDIA, PH-+918281647891. E-mail nageswara.rao@galgotiasuniversity.edu.in*