

In today's fast-changing business world, comprehending and quantifying popularity are strategic decision-making points. This paper introduces a new suite of measures geared towards measuring business popularity. The whole concept revolves around check-ins, tips by users, and average star ratings. We hope that by combining these metrics, we can offer a comprehensive view of the inclination of each enterprise as well as its customer involvement.

Metrics Description:

1. Average Star Rating:

This metric shows the average star rating given by clients revealing the general satisfaction level and experiences for clients. Those establishments that have better ratings tend to be more preferred since happy customers often go back there again. For example, A business with an average star rating of 4.5 out of 5 suggests that the majority of its customers are highly satisfied with their experiences, potentially leading to repeat business and positive recommendations to others.

2. Total Check-in Volume:

This measure indicates the total number of check-ins carried out in every establishment serving as an estimate for customer footfall and activity. Higher check-in volumes signify higher popularity among businesses which could suggest large numbers of customers. For example, A café that averages 200 check-ins per day indicates significant foot traffic and suggests that it is a popular destination for locals and visitors alike, contributing to its overall success and visibility in the market.

3. Tips Count:

This measure gives the total count of tips associated with each establishment to indicate how much customers are engaged or interacting with their favorite brands. More tips mean highly involved customers commonly found in famous establishments. For example, A restaurant with 500 tips on a review platform showcases a high level of customer engagement and indicates that

patrons are eager to share their dining experiences, contributing to the restaurant's reputation and attracting new customers.

The proposed metrics provide a complete way of evaluating business popularity. Analysis of check-ins, tips, and average star ratings can give stakeholders valuable insights into customer engagement and satisfaction levels. This allows for integration of these metrics in one scoring system making it possible to effectively compare the businesses and rank them according to their relative popularities. Through this holistic approach, stakeholders can get a complete picture of how well a business is performing. For example, a company with a low average rating but many people checking in may still be doing well since it has a significant presence and regular customer base. On the other hand, a firm that gets high ratings but few people checking in needs to improve its visibility and attract more customers despite having positive feedback from its clients.

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SELECT Business_id, Name, Address, City, State, Total_checkin, Num_review,  
Business_rating,  
      (Business_rating + (Total_checkin * 0.3) + (Num_review * 0.2)) AS Popularity_Score  
FROM Business  
ORDER By Popularity_Score DESC;
```

Here we calculate the popularity score using a weighted combination of metrics. In this example, we assign 30% weight to the Total_checkin metric, 20% weight to the Num_review metric, and the remaining 50% weight to the Business_rating metric. Finally, we order the results by the calculated popularity score in descending order to display the most popular businesses first.