

FACEBOOK USAGE BY LOCAL RESTAURANTS: A LARGE SCALE SURVEY

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INTRODUCTION

Social media are rapidly becoming a viable way of service marketing and customer engagement in the hospitality industry. Facebook, for instance, allows restaurants to publish information, multimedia content and engage with their customers e.g., to answer questions or learn about their preferences. Being active on social media has become increasingly important as customers more frequently turn to social media and the Web for restaurant reviews before deciding to visit (Lewis and Chambers, 2000).

In this study we analyze a large dataset of Facebook activities of local restaurants in Amsterdam, Houston, London and New York. Doing so gives broad insights in their Facebook usage and the communication patterns between them and their costumers. The dataset is quite rich and the presented statistics are merely the tip of the iceberg.

RELATED WORK

Surprisingly, few empirical studies focus on the effectiveness of Facebook for service marketing and customer engagement within the hospitality sector and in particular the restaurant segment. Zhang et al. (2011) and Kwok and Yu (2013) found that restaurants mainly used Facebook as a tool for advertising and seldom to actively engage customers. Their results are based on content analysis of Facebook posts. Noticeable was that the sample groups were quite small and mainly consisted of well-known restaurants.

METHODOLOGY

We generated a list of restaurants in the selected cities by accessing TripAdvisor.com. This gave us a list of 23,723 restaurants along with information such as the location, cuisines and ratings. We then tried to match our initial list using the Facebook Graph API. Initially we searched for restaurant names but better results were obtained by searching for locations. We transformed the restaurant addresses into latitude and longitude (geolocation) using Yahoo! GeoPlanet. and queried the Graph API for "places" (physical locations with a Facebook page) that matched

the term “restaurant”. This generated a list of 59,133 candidate pages. Note that, by searching for places we also found restaurants that were not on the initial list. By excluding all automatically generated pages we narrowed this down to a list of 18,365 candidates.

We further pruned this list by only include pages for which the Graph API returned “restaurant/café” as main category. This unfortunately excludes restaurants that have for instance “local business” as their main category.

Finally, we excluded well-known restaurant chains. This resulted in a list consisting of 10,446 restaurant Facebook pages. Detailed information of these restaurants including posts, likes and comments were retrieved and stored into a database for further analysis.

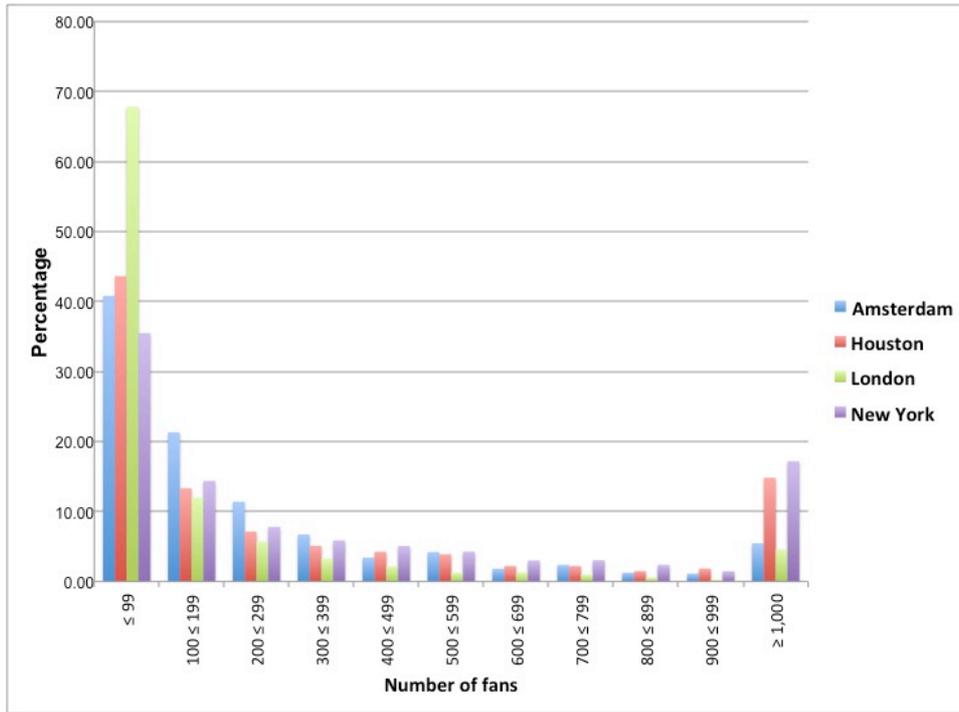
RESULTS

Table 1 shows the basic statistics of the 10,446 restaurants. In total, the restaurants have 4,799,765 likes, users “checked in” 4,451,463 times and mentioned that that they have been there 11,765,528 times. Figure 1 gives the distribution of fans per restaurant. The majority of restaurants have between 0 and 99 fans.

Table 1: Basic statistics

	Amsterdam	Houston	London	New York
Restaurants	877	1,666	4,649	3,254
Fans	278,890	1,045,647	1,154,572	2,320,656
Checked-ins	246,968	1,288,976	727,567	2,187,952
Mentions of visit	757,977	3,054,102	2,160,991	5,792,458

Figure 1: Distribution of fans per restaurants

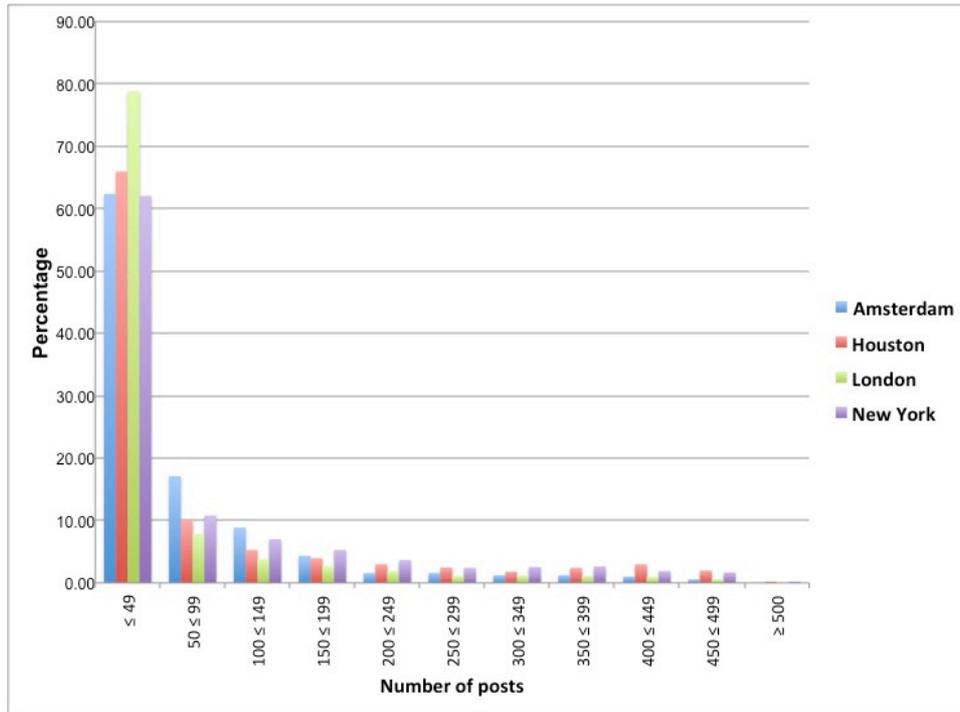


In total, the restaurants posted 655,260 updates on their page (Table 2). The majority of restaurants posted between 1 and 100 times over the lifetime of their Facebook account (see Figure 2). In total, these posts received 3,613,598 “likes” and 438,252 comments from users. Around 40% of the posted content receives zero likes or comments.

Table 2: Posts by restaurants and their interactions

	Amsterdam	Houston	London	New York
Posts	55,058	131,844	201,492	266,826
Likes	209,833	941,152	769,318	1,693,295
Comments	36,651	115,370	114,847	171,384
Posts with zero response	39.7%	35.9%	44%	38.3%
Posts with ≥ 1 like	58.3%	62.3%	54.2%	60.3%
Posts with ≥ 1 comment	23.8%	23.5%	19%	21.2%

Figure 2: Distribution of posts per restaurants



A total of 1,291,255 unique users actively interacted with restaurants and other users by liking, commenting or by posting messages on the restaurants wall (see Table 3). The like functionality is most popular by far. A small number of users both “liked” and “commented” on posts. Users added a total of 135,241 posts to pages of restaurants. Note that the vast majority of these posts did not get a reaction from the restaurants (see Table 4). Of the 10,446 restaurants only 2,737 interacted with user posts by either liking or commenting

Table 3: Facebook users that interacted with restaurants

	Amsterdam	Houston	London	New York
Total users	77,783	303,808	281,802	627,862
Liked ≥ 1 post	87%	91.1%	87.9%	91.2%
Commented on ≥ 1 post	21.9%	16.4%	18.4%	13.6%
Liked ≥ 1 & commented ≥ 1	4.5%	3.1%	3.7%	2.6%
Posted ≥ 1 message on	8.9%	5.9%	8.3%	6%

restaurant wall Number of posts added by users on restaurant wall	10,272	28,772	34,148	62,049
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Table 4: Interaction with user posts by restaurants

	Amsterdam	Houston	London	New York
Likes	14,263	36,584	31,363	78,705
Comments	5,774	14,501	18,544	23,086
Likes by restaurants	2.3%	3.1%	19.7%	7.7%
Comments by restaurants	1.4%	3.6%	24%	9.6%
Restaurants liked \geq 1 post	6.3%	3.6%	21.4%	37.6%
Restaurants that commented on \geq 1 post	5%	3.8%	20.4%	36.1%

CONCLUSIONS

We collected data of 10,446 restaurant and 1.3 million unique users who interacted with these restaurants on Facebook. 45.4% of the analysed restaurants have between 0 and 99 fans. And 70.2% has less than 50 posts.

In total, 655,260 posts were added by restaurants, which received 3,613,598 “likes” and 438,252 comments from users. Of these users, 90.2% gives a “like”, 15.8% comments and 6.7% posts messages on the wall of the restaurant. In total 135,241 posts were added by 85,858 users. Of these user posts, 8.5% were liked and 11.7% received a comment by restaurants. In total, only 2,737 restaurants interacted with user posts by either liking or commenting.

While Facebook usage by restaurants is fairly common, only few restaurants interact with their users.

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