

2016 Q-Step Internship: Postcode Analysis of Pantomime Customers for Oldham Coliseum Theatre

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Oldham Coliseum Theatre has had an objective to understand more of their customer behaviours and preferences and to optimise marketing

strategies through statistics. As a Data Analyst intern, my contribution mainly lies in carrying out data analysis and secondary research to make data-based recommendations for the theatre to retain and expand customer groups.

Objectives

This analysis report mainly aims at identifying the regional customer pattern for pantomime sales at Oldham Coliseum Theatre from 2013 to 2015 (3 years).

Based on the raw data (all postcode based) exported from the CRM System PatronBase, quantitative methods are mainly applied to conduct the evidence-based research in order to produce an overall picture of the customer distribution for the three annual pantomimes.

Along with the data analysis results, in order to develop more optimised marketing strategies, it is also useful to understand the data in tandem with an external understanding of various factors like economic climate, industry variation, consumer price index, employment rate, and housing markets, in order to retain existing customers and develop potential or high-value customers.

Method

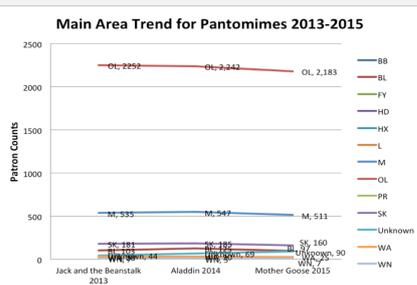
To analyse the postcode distribution of the Coliseum's pantomime customers, raw data of patron counts are selected in use for the purpose of knowing the pattern of the patrons' origins each year between 2013 and 2015.

The first step is to collate the raw data of patron counts coming from different areas over the 3 years into new tables so the data is handier in use for both generating approachable graphs and doing further analysis. However, since the database is too large for Excel to produce graphs, patron counts under 10, 10, and 50 are eliminated through filtering, and it won't affect the main goal of analysing the overall trend.

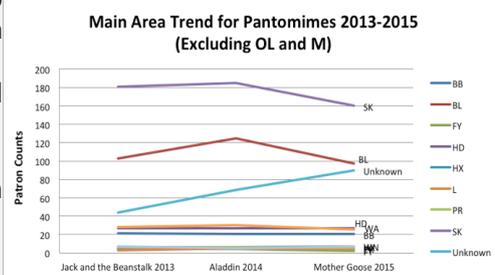
Finally, after setting up tables with the filtered data in Excel, line graphs can be created accordingly, with graph manipulation techniques to design the preference of the graph contents, like selecting the data range so that trends are more visible rather than having all the lines clustering together.

Key Findings

From the line graph with the area distinctions in ticket purchasing within the Greater Manchester region, we could see the Oldham area (with the postcode of OL) predominated the ticket sales of Oldham Coliseum Theatre from 2013 to 2015, followed by Manchester (M) with the significant and finally areas like Stockport (SK), Bolton (BL), Warrington (WA), and areas which we believe them to be VIP guests invited by the Coliseum.



Excluding OL and M, Stockport (SK) and BL (Bolton) both show a rise from 2013 to 2014, and declining between 2014 and 2015, which results from competitions Manchester House & Theatre), (Stockport Plaza, Stockport Garrick Theatre and Forum Theatre) and Bolton (The Octagon Theatre and Bolton Little Theatre). By contrast, a positive linear regression represents the unknown areas with a 125% jump, which is a marvellous growth. Thus, it's essential to get the post-code record of those regions so as to understand the customer structure with a more holistic view..



Conclusion

- However, since there was a promotion of the ticket type "Early Bird Offer" for schools in 2014 (especially for the local schools), this greatly affects the 2014 result of the analysis, so only focusing on the trend from 2013 to 2015 directly is not very ideal. Furthermore, the CRM system with the previous customer data has been changed since 2013, so it is difficult to examine customer behavioural change in longer periods, say, 5 years or 10 years.

Recommendation

- In order to retain customers from these 2 areas, it is worth analysing the local economic landscape, like the consumer price index, the employment rate, and the structural change in industries and sectors, and the arts and entertainment industry growth in the local areas, and then target postcodes with relevant and tailored marketing discounts and offers.