Geographical Expansion Options for Coffee Shop Owners in Marlow

An investigation into local geographical expansion options for a coffee shop business in Marlow

Introduction

Background

Marlow is a thriving market town in Buckinghamshire. The main high street has a large number of coffee shops that service the town's population as well as weekend visitors.

Problem

Coffee shops that are well established in the town tend to be very busy to the extent that they have reached saturation point. Many are either unable to expand their premises because of planning constraints, unable to move to a larger property in Marlow due to a lack of supply or are unwilling to expand on the basis that it will damage the ambience of their coffee, which is often an important qualifying factor for clientele.

This leaves expansion into local towns and villages as a viable avenue for exploration.

Interest

When approached, a number of the town's independent coffee shop owners were interested in an analysis exploring local towns to assess the viability of investing in an additional coffee shop there. The analysis would include the population of the candidate location together with the number of existing coffee shops to service that town to assess the depth of competition in place.

Data

Our data gathering process will use the following sources:
- Folium - We will select the nearest ten towns and villages to Marlow using the Folium library.
- FourSquare - For each of the selected locations, we will collect the number of coffee shops currently trading within a specific radius of the town centre.
- The Geographist website - We will retrieve population data for the selected towns from the Geographist. These population data were collated from the Office for National Statistics 2017 population estimates.
- GeoPy library's wrapper around the Nominatim geocoding API to retrieve the latitude and longitude of each of the candidate towns.

Methodology

Selecting Candidates

Our first task was to identify some suitable candidates for geographical expansion. These needed to be within a reasonable distance of the existing businesses within Marlow. We used Folium, plotting a circle with a 10-mile radius around the centre of Marlow:
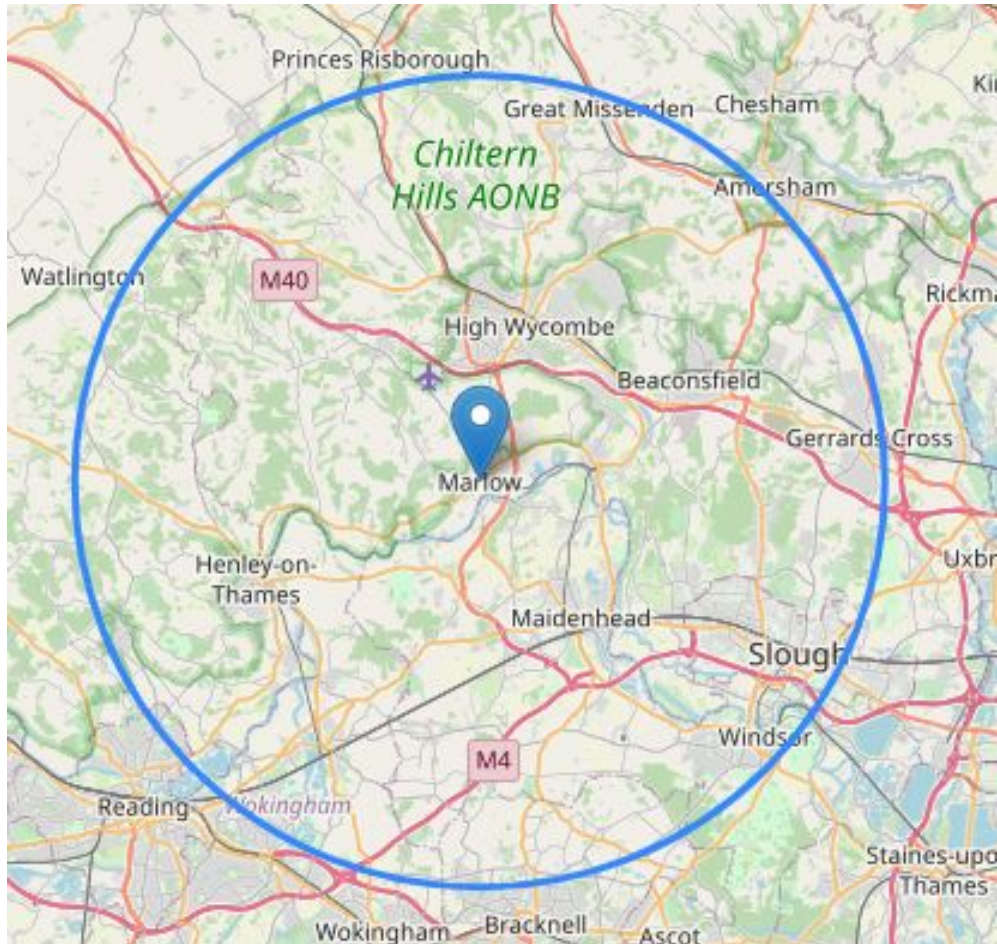

Figure 1. Ten mile radius around Marlow to identify candidate towns

The following locations were selected:

- Cookham
- Maidenhead
- Henley
- Twyford
- High Wycombe
- Beaconsfield
- Amersham
- Bourne End
- Gerrards Cross
- Slough

- Windsor

Adding Population Data

The above list was joined with cross referenced with population data from the Geographist website as discussed above. That data listed populations for the 1000 most populous towns and cities in the UK.

Two of the locations, Twyford and Bourne End, were not in those top 1000 towns, either because they were too small or because they were considered part of a nearby town. On the basis that they were too small to be candidates and were excluded from the analysis, leaving the following locations:

Location	Ceremonial county	Region	Population
Slough	Berkshire	South East	164046.0
High Wycombe	Buckinghamshire	South East	124073.0
Maidenhead	Berkshire	South East	67441.0
Windsor	Berkshire	South East	32207.0
Amersham	Buckinghamshire	South East	24485.0
Gerrards Cross	Buckinghamshire	South East	21004.0
Marlow	Buckinghamshire	South East	14839.0
Beaconsfield	Buckinghamshire	South East	14650.0
Henley-on-Thames	Oxfordshire	South East	11633.0

Figure 2. Candidate towns and their respective populations.

On inspection it was clear to see that there was quite a variance in populations, illustrated by the following bar chart.
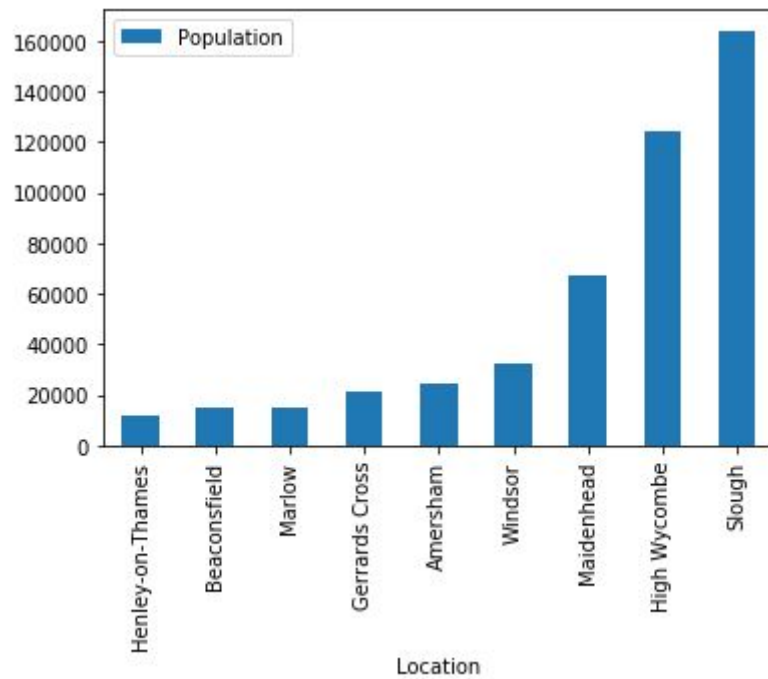
Figure 3. Bar chart of town populations.

There appear to be two categories: small towns with populations less than 35000 and large towns with populations over 65000. The larger towns (Maidenhead, High Wycombe and Slough) may well have suburban areas with their own coffee shops that aren't getting picked up in this analysis as we're restricting the search radius for venues in FourSquare.

For the purposes of this report, we will focus on those smaller towns with a similar population to Marlow so will exclude Maidenhead, High Wycombe and Slough.

Adding Coffee Shop Data

Before retrieving the number and type of coffee shop for each town, we used the Nominatim API (via the GeoPy library) to retrieve the geocoded locations of each of the candidate towns:

Location	Ceremonial county	Region	Population	Longitude	Latitude
Henley-on-Thames	Oxfordshire	South East	11633.0	-0.905029	51.537579
Beaconsfield	Buckinghamshire	South East	14650.0	-0.657123	51.608288
Amersham	Buckinghamshire	South East	24485.0	-0.607364	51.674087
Gerrards Cross	Buckinghamshire	South East	21004.0	-0.561640	51.585218
Windsor	Berkshire	South East	32207.0	-0.604140	51.483798
Marlow	Buckinghamshire	South East	14839.0	-0.776950	51.571867

Figure 4. Geocoded locations.

Using that information, we accessed the FourSquare API to retrieve any coffee-related venues (coffee shops, cafes and restaurants that serve coffee) within 1500m of each of the locations. Having retrieved that, we were able to plot the venues on a map using Folium. The following example shows Amersham's coffee shops:
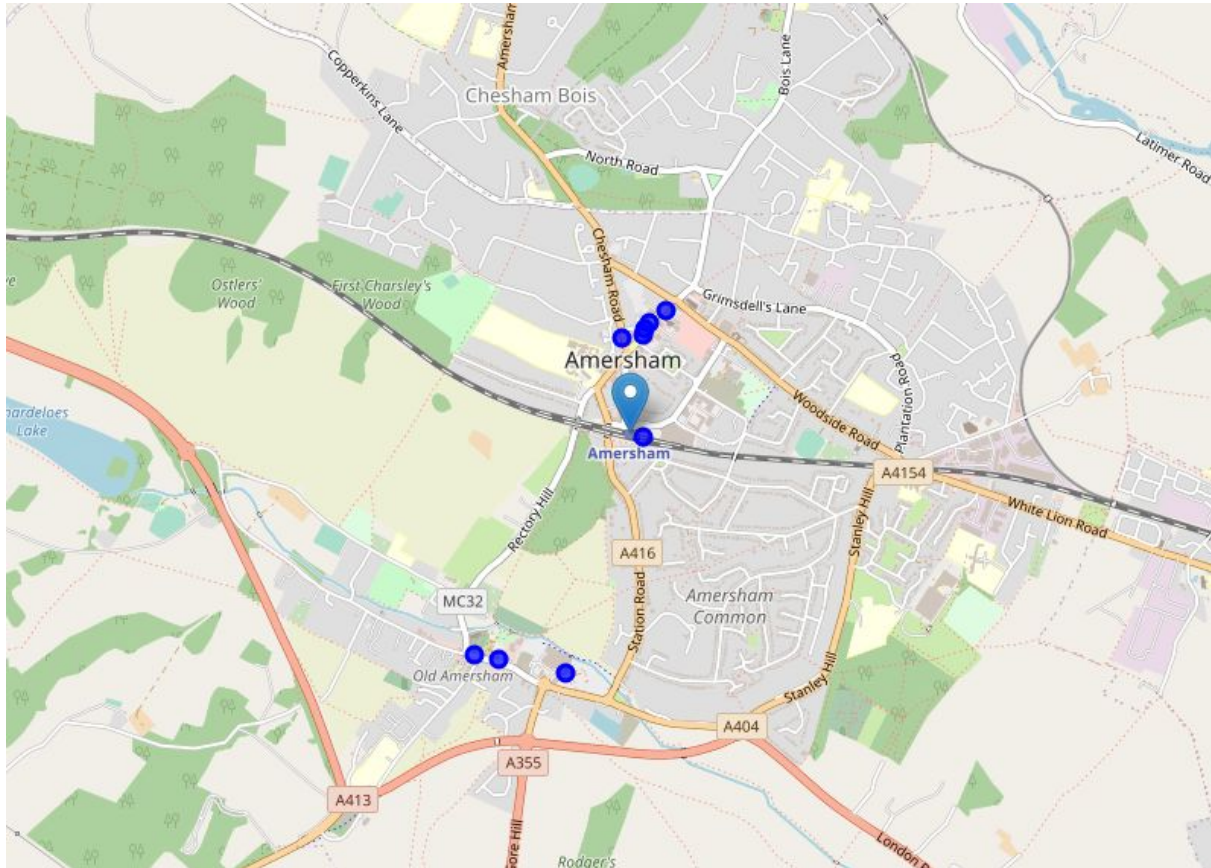

Figure 5. Coffee venues in Amerham.

We were able to calculate the number of such venues for each town. Furthermore, we were able to identify those that were part of a national or global chain as these might not be considered direct competition on the basis that many independent coffee shop clientele prefer the independent experience. Those classified as such were Costa, Starbucks and Caffe Nerro. This yielded the following data:

Town	Population	Longitude	Latitude	Venue Count	Chain
Henley-on-Thames	11633.0	-0.905029	51.537579	8	3
Beaconsfield	14650.0	-0.657123	51.608288	6	2
Amersham	24485.0	-0.607364	51.674087	9	3
Gerrards Cross	21004.0	-0.561640	51.585218	6	2
Windsor	32207.0	-0.604140	51.483798	28	7
Marlow	14839.0	-0.776950	51.571867	7	2

Figure 6. Venue counts by town as well as those in a chain.

With those data in place we can look at the relationship between population and number of coffee venues and, furthermore, the relationship between population and independent coffee venues.

Results

The key metrics that we want to see are the number of people per coffee shop and the number of people per independent coffee shop. Those with a higher number of people per coffee venue than Marlow make them more favourable towns and could be recommended to the current coffee shop owners in Marlow.
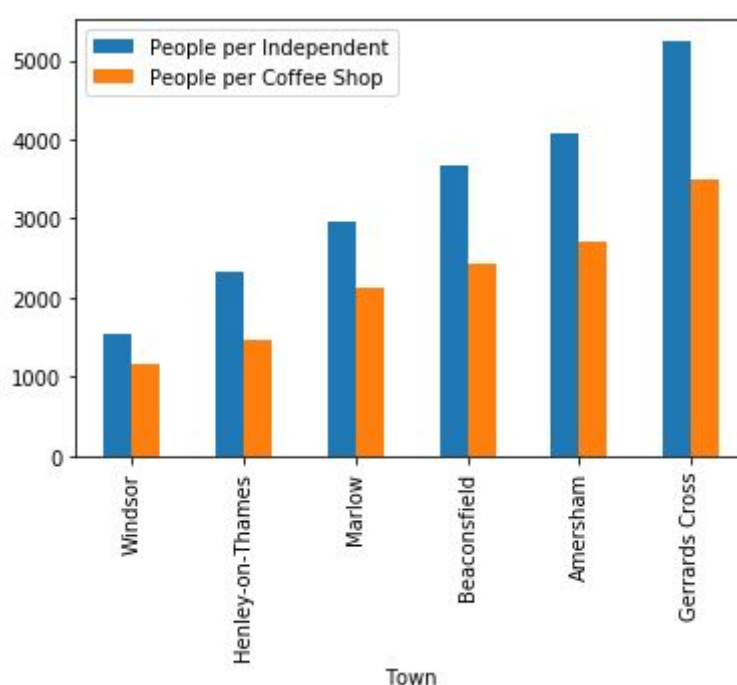
The following bar chart shows those metrics:

Figure 7. People per coffee venue (overall and independent).

Looking at the chart, Beaconsfield, Amersham and Gerrards Cross are similarly-sized towns and have more people per coffee shop than Marlow. This appears to hold true for independent coffee shops as well as all coffee shops. On the basis of those metrics alone, my recommendation would be to consider, in descending order of preference, Gerrards Cross, Amersham and Beaconsfield as viable towns for geographical expansion.

Discussion

Whilst the above is informative, there are further important considerations that are important, discussed below:

Planning and Availability

As with Marlow, the candidate towns may have planning constraints and a lack of availability that would disqualify them as candidates.

Ratings

A further feature to investigate would be the ratings of the coffee venues in the candidate towns. It may be the case that whilst Beaconsfield has the most potential demand, the supply that already exists may be of a much higher quality than the other candidate towns, which could influence its attractiveness.

Larger Towns

The larger towns were disqualified on the basis of their size; however, there may be pockets of those towns that are underserved by independent coffee venues. This would be difficult to identify as population data is most readily available at town level.

Demographics

It has been assumed that all of the candidate towns have a similar demographic composition. However, if that is not the case there could be variety in demand as a result of those

Conclusion

The report suggests three candidates for geographical expansion; however, as discussed above, there are further considerations to be made before moving forward.

The first recommendation would be to retrieve ratings information for the independent venues of each of the candidate towns as well as for Marlow. This will shed light on the quality as well as the quantity of competition. Following that, visits to each of the three locations and the main coffee venues would put meat on the bones of this report and allow the prospective investors to get a feel for the town and its competition.

If it is felt that there are no suitable candidates from those three, a further investigation into the viability of the larger towns that were excluded should be conducted, as well as casting the net wider for further candidates for investigation.