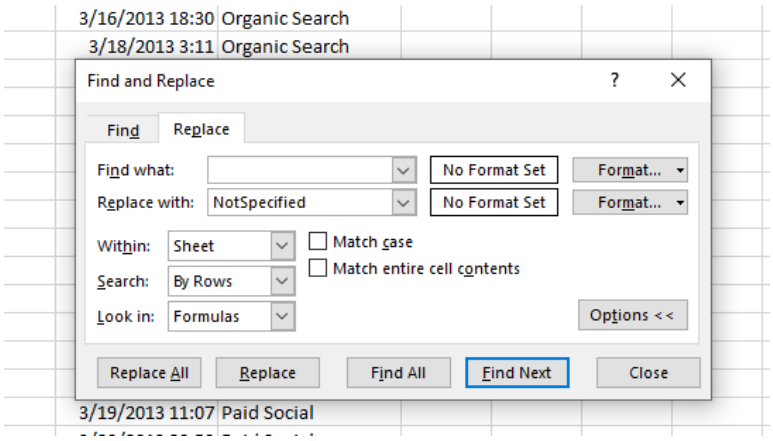
Ireland men's fashion retailer data analysis documentation

Description of sheets and analysis process

1- FormattedDemographics sheet

Demographic data contains null Titles, this might be a result of optional title selection or nonbinary genders. In order to keep the original data table, create a copy of the table into another sheet. To analyze the title, I replace the empty titles with NotSpecified. To do that, you choose the title column, click Ctrl+h. This will open replace popup, leave the first blank and type NotSpecified to the second. Finally click replace all. Result is written in Formatted Demographics sheet.

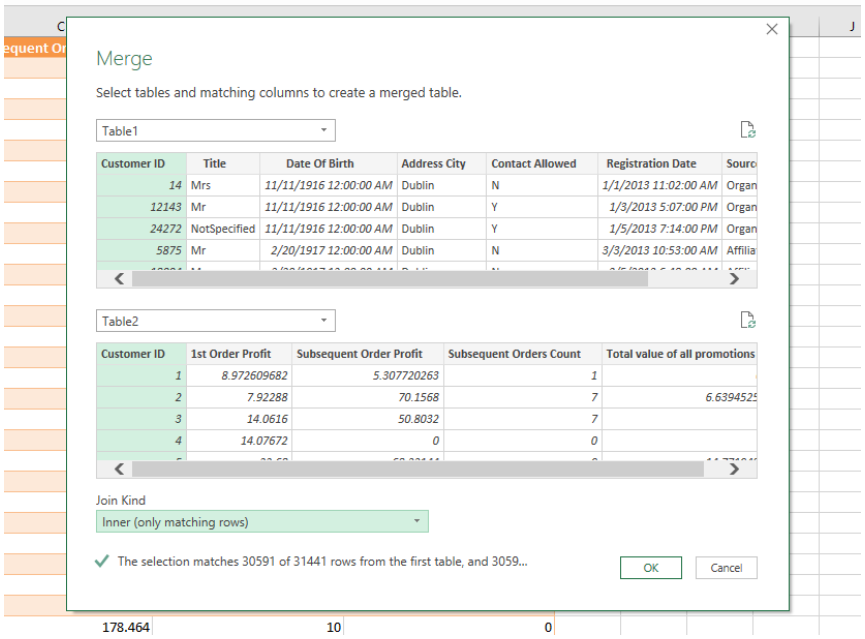


2- Merged and MergedByMonth sheets:

Value info and Demographic info sheets contain valuable information that provides good analysis ideas if they are combined. We use primary keys (columns that have distinct values throughout each row) that can be mapped into each other to merge tables. Here CustomerID exists in both tables and can be used as a primary key.

I selected whole Value Info table (you can do this by ctrl+a, after clicking one cell inside table) and go to Data tool, select From Table/Range. Then click Close&load at the top left on the opened screen. Do the same for demographic info sheet.

Go to Data -> Get Data -> Combine Queries -> Merge. Select the tables you created by close&load, select primary keys that will be mapped (CustomerID for both table) and select Inner as JoinKind. This will create our Merged table.



Registration Date information is all in 2013 and in the months January, February and March. For ease of analysis I converted them to months under another column called Registration month by using =TEXT(F2,"mmmm") function.
The result is our MergedByMonth sheet.

3- **20-60 and above60 sheets**:

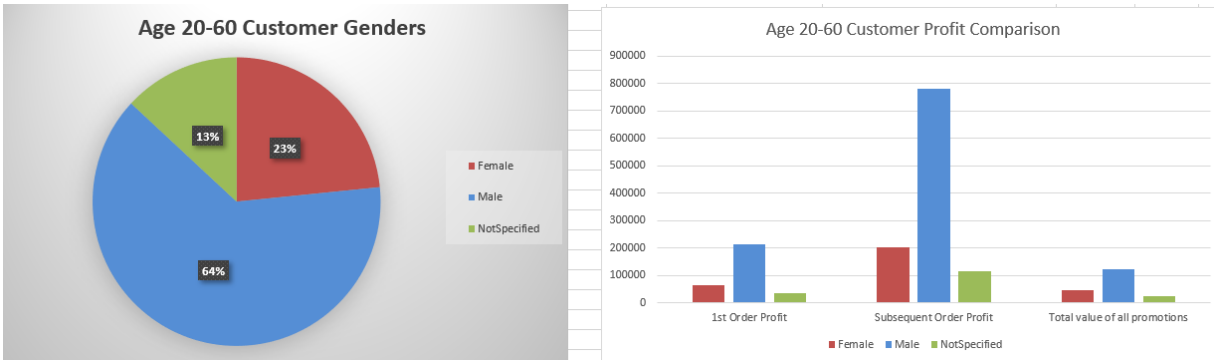
I sorted the MergedByMonth sheet by Date Of Birth. 60 Years old+ corresponds to be born on 1953 or older. Also the youngest member in the data is born on 1993 which is 20 years old at the year 2013. I partitioned the data into two different sheets called 20-60 and above60 sheets.

4- 20-60 pivot sheet

I created a pivot table from 20-60 data sheet. You can do this by selecting data table and then Insert->Pivot table, choose a new sheet. Select Title as row entries and Value Info columns as column values, also count of title as another column.

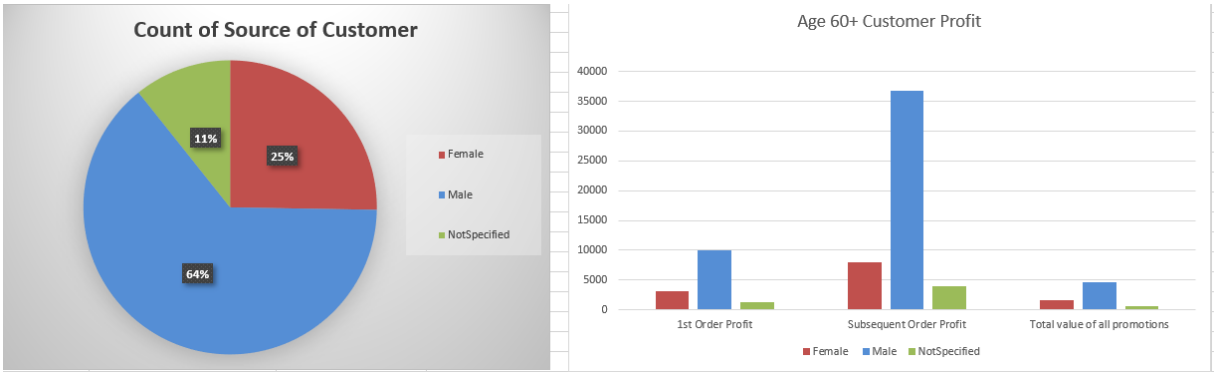
The result is title partitioned profit data. I combined Miss,Mrs and Ms titles under Female row and created another table underneath the pivot table.

From this table, I created a pie chart representing Gender distribution of customers of age between 20-60 and a bar graph representing total profit from different genders until June 30th 13. You can create these visualizations by selecting the table then Insert-> Charts area.



5- Above60 Pivot sheet

Same instructions with **20-60 pivot sheet.**



6- Source sheet

I created a pivot table from MergedByMonth data. Rows are representing source of customer and columns representing their registration months.

I created another table representing the percentage change of numbers coming from different sources between months.

Using this table, I created a chart graph to visualize source change with respect to previous month over time. It will help us making comparisons if the costs on these areas were beneficial.

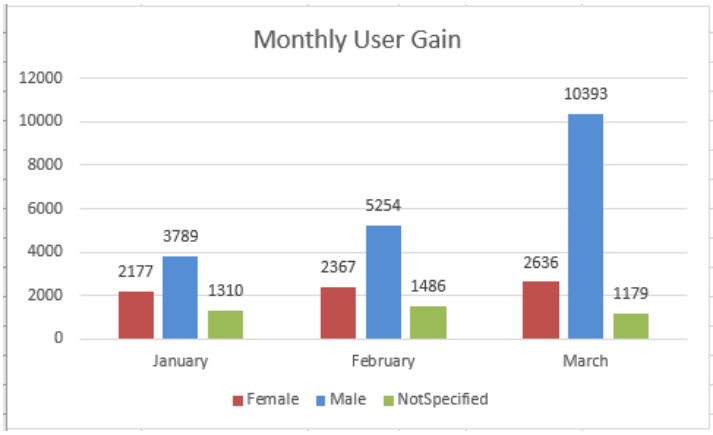
7- Location sheet

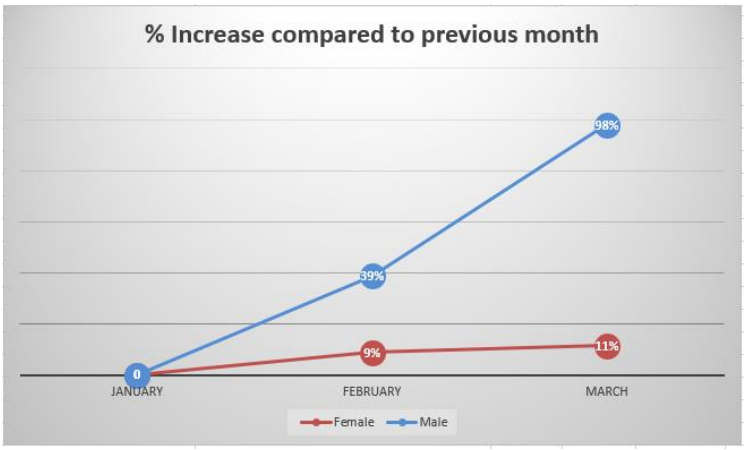
Same process with Source sheet. This time I use address city as rows.

I also created number of customer changes by percentage over months in the sheet. I used them to create interactive map visualizations through Tableau software.

8- MonthlyUserGain sheet

Same process with Source sheet. This time I use titles as rows. I also created number of customer changes by percentage over months by title in the sheet. Then I used these tables to create a bar graph representing monthly user gain over months of different genders and a chart graph representing % increase compared to previous month.





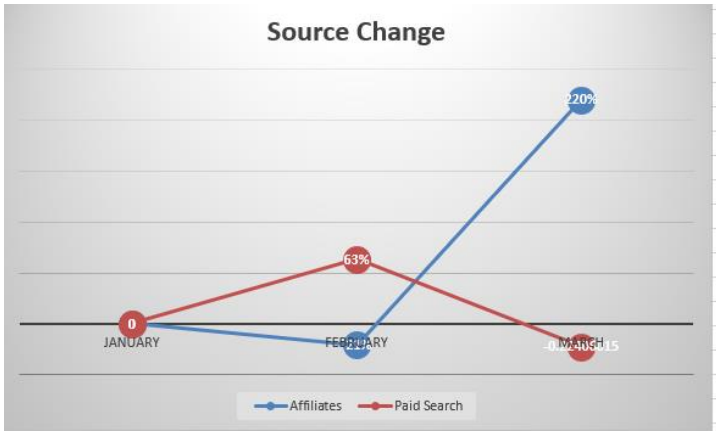
9- User Gain vs Cost sheet

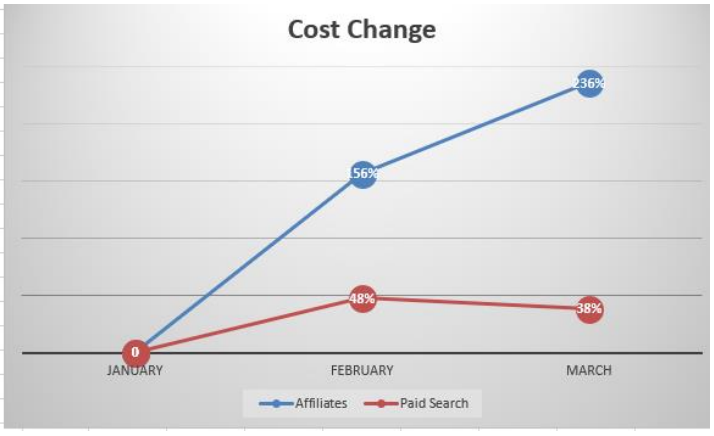
The original cost sheet I am provided contains the costs for paid search and affiliates sources to attract new customers over months.

I created a new table underneath representing cost change over months compared to previous months for these sources.

Then I combined this table with source sheet's percentage change table and created User Gain vs Cost sheet.

Here I am focus attention whether the cost changes in different sources which we can call investments are profitable by comparing it with customer change. For this purpose, I created two chart graphs from these data.





10- Monthly Profit Sheet:

I created a pivot table from MergedByMonth data, titles as rows and profits over months as columns.

Then I created a table representing percentage change of different profits over months from different genders.

1st Order Profit Increase	January	February	March
Female	0	22%	19%
Male	0	59%	111%
NotSpecified	0	30%	-16%
Subsequent Order Profit Inc	January	February	March
Female	0	22%	15%
Male	0	58%	101%
NotSpecified	0	14%	-10%
Subsequent Order Count In	January	February	March
Female	0	22%	20%
Male	0	57%	109%
NotSpecified	0	12%	-11%

11- Value of promotions sheet

I created a pivot table from MergedByMonth data, titles as rows and total promotion value over months as values.

I grouped the genders and get two tables for analysis. One of them shows how total promotion value changes relative to previous months.

Then I created a chart graph representing this change.

Analysis Results and Suggestions

Promotions

For male users, total promotion spending compared to previous month by percentage showed an increase 50% in February and 108% in March. On the other hand, male users increased in number by 39% in February and 98% in March. This shows a clear and close correlation between new male users tend to buy promotion products.

For female users, total promotion spending compared to previous month by percentage showed an increase 19% in February and 12% in March. On the other hand, female users increased in number by 9% in February and 11% in March. This shows a clear and close correlation between new female users tend to buy promotion products.

Comparing two genders' correlation with promotion change percentages It is clear that both genders are closely attracted by promotional products with close correlation numbers. Hence, **there is not specific gender to target on promotions, though, promotions certainly attract new users.**

Sources

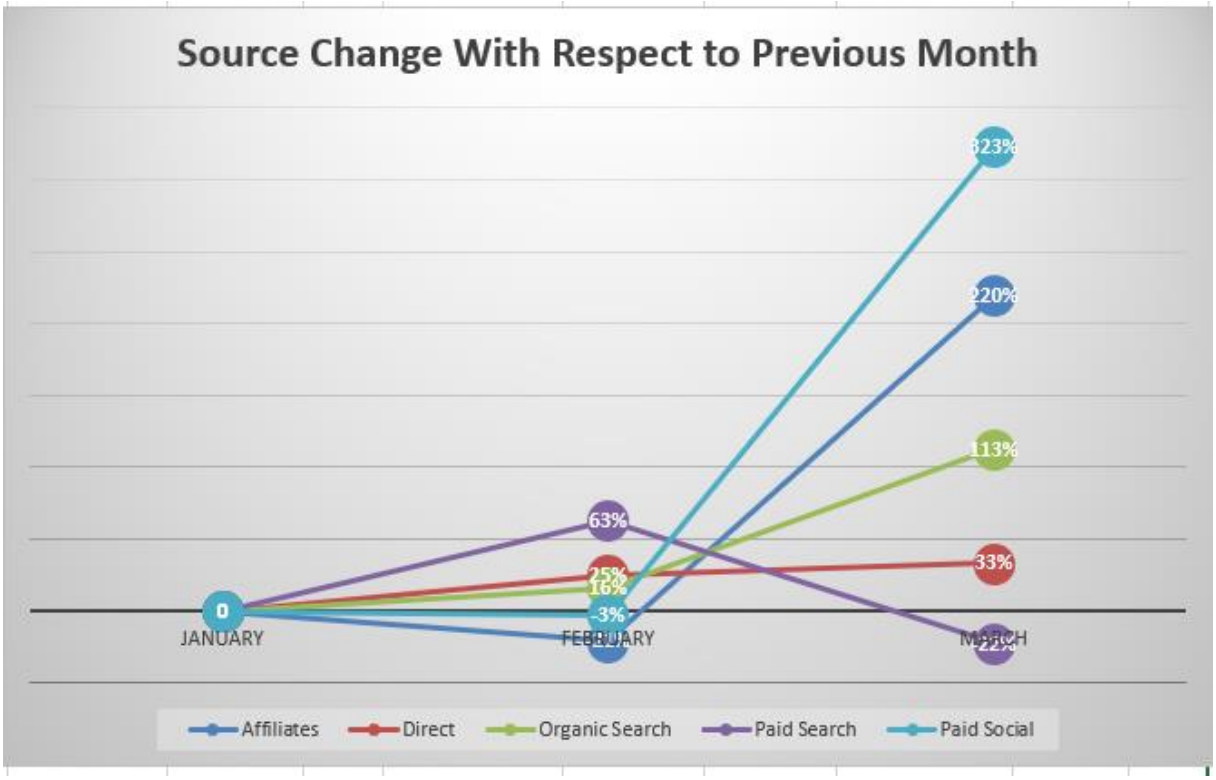
Percentage of new users coming from paid social sources vastly increased from February to march by 320% , this is followed by affiliates by 220%.

Even though these are the sources that attracted least number of customer so far, they are showing huge potential to attract customers. **Hence investments on Paid social and affiliates sources are highly recommended.**

Organic search is 2nd best customer attracting source and made the 3rd most increase between February and march. This shows **investments in organic search should continue** as it is since it reflects the most consistent numbers among all the other sources.

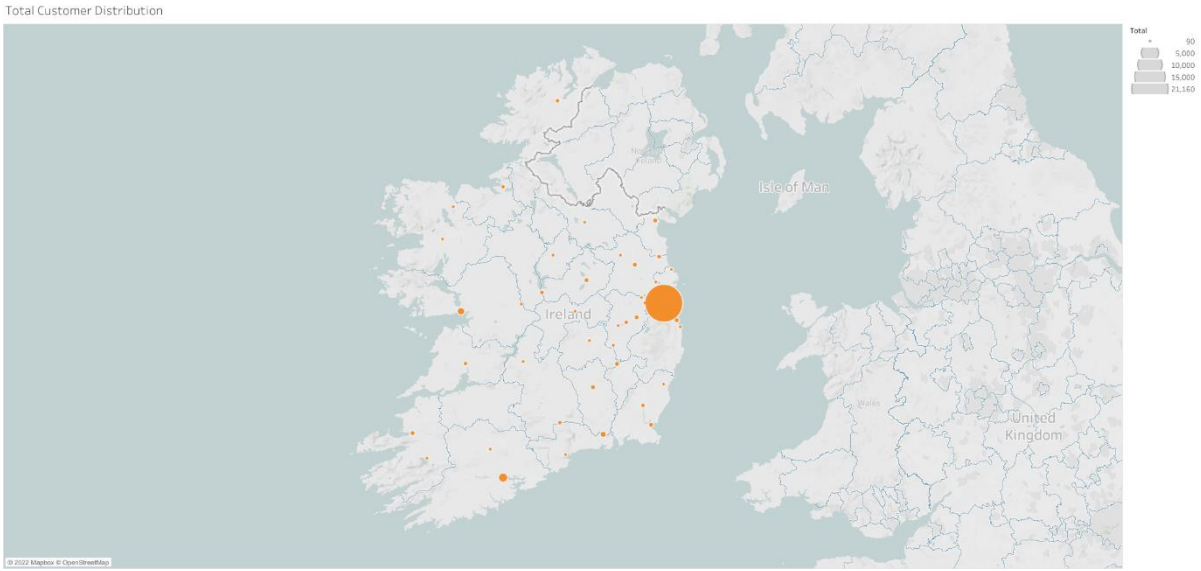
Direct source is the best customer attracting source by number but increase in customer attraction is getting steady compared to others. **This might be an indicator of direct source becoming an old-fashioned source and company needs to re-evaluate its investment in this area.**

Paid search is the only source that attracted less customer compared to previous month in march even though there is monthly increase in costs for this source. **Company needs to re-evaluate its investment in this area.**



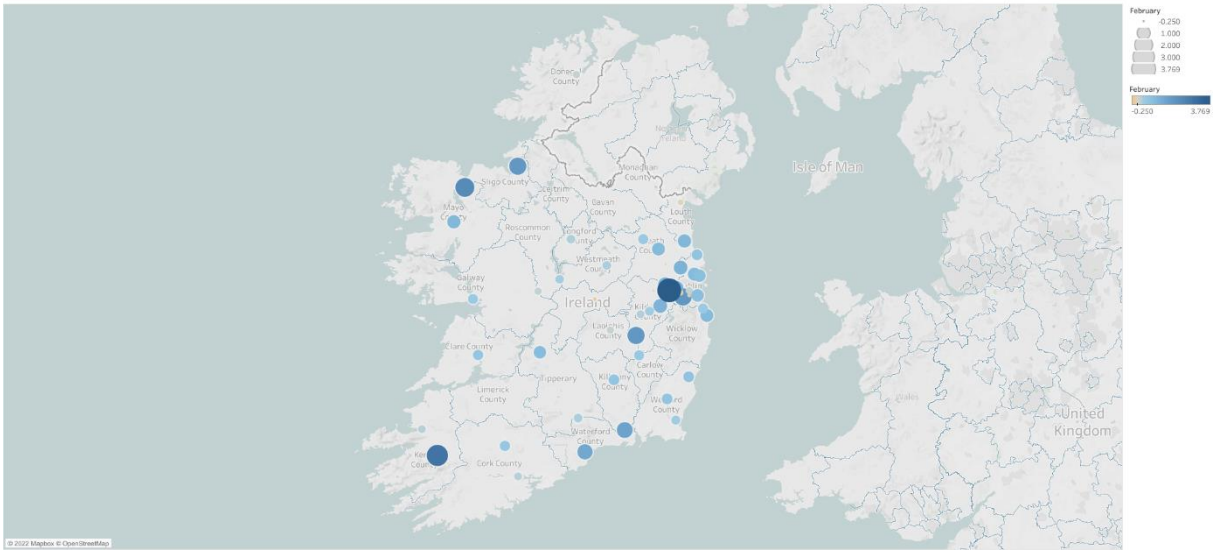
Location

%69 Percent of all customers are from Dublin area and it is followed by 3.4% with Cork. This can be easily seen in the below visualization of Total Customer Distribution in Ireland. **It clearly shows that the company should focus and continue its investments on Dublin area.**



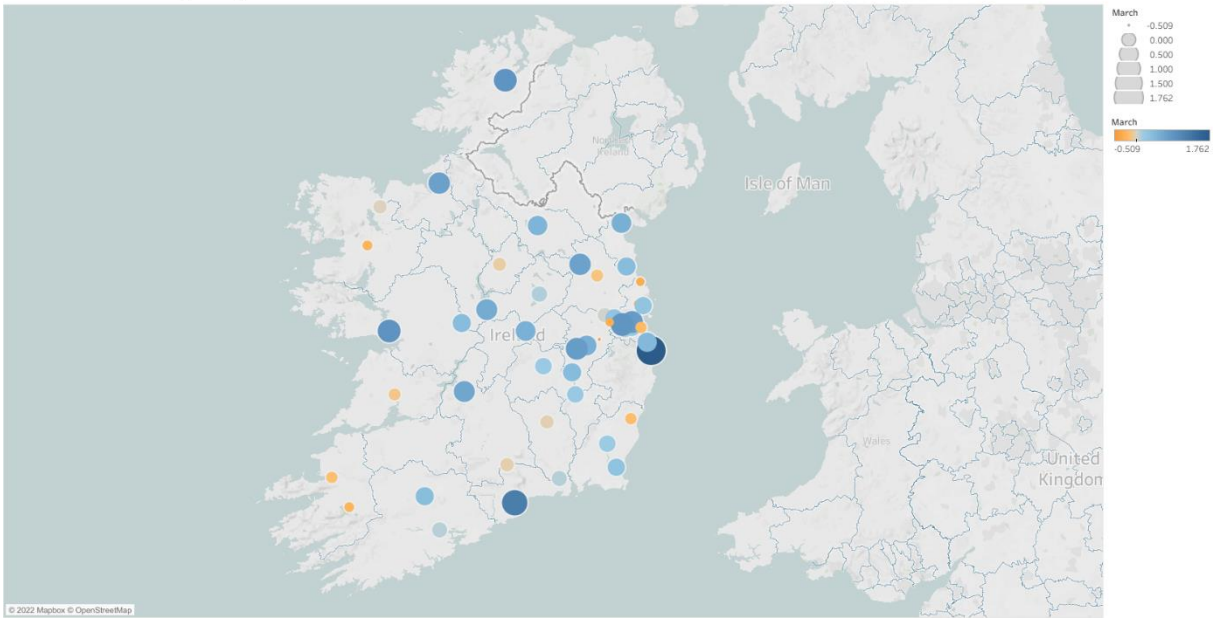
On the other hand, the highest customer increase by percentage in February is observed in Celbridge with 377% increase and it is followed with 292% in Killarney and 225% in Ballina. **This is a promising opportunity for the company to focus on its investments on Celbridge, Killarney and Ballina** to attract even more number of customers to increase its profits.

February Customer Percentage Change



In March overall new customer increase by percentage is reduced. The highest customer increase by percentage in March is observed in Greystones with 176% increase, followed by Dungarvan with 124% increase. Dungarvan is also the most consistent customer attracting area with a high percentage by its 138% increase score in February and 124% increase score in March. **Hence, Greystone and Dungarvan is a promising and reliable locations to focus.**

March Customer Percentage Change



Demographics

According to data of users of age 60+, 64 percent of the new users are male and 25 percent of them are female.

According to data of users of age 20-60, 64 percent of the new users are male and 23 percent of them are female.

In total of 3 months, approximately 64% of the new users are male and 23% are female. This shows **there is not a notable change in genders' percentage between different age groups.**

Profits

On total profit, male users account for approximately 71% of total profit in 3 months where female users accounts for 19% of it.

Users of 60+ age, male users contribute 75% of subsequent order profits and female users contribute 16% of total.

Users of 20-60 age, male users contribute 71% of subsequent order profits where female users contribute 19% of total.

This comparison shows even though the new users' genders in different ages doesn't change much in percentages, **focusing more on females in 20-60 age group can increase profit.**