



ANALYSIS REPORT

Ecommerce industry

Phat Nguyen

<https://www.linkedin.com/in/phat-nguyenvn/>

1. Introduction
2. Exploratory Data Analysis
3. Synthesis and Suggestion

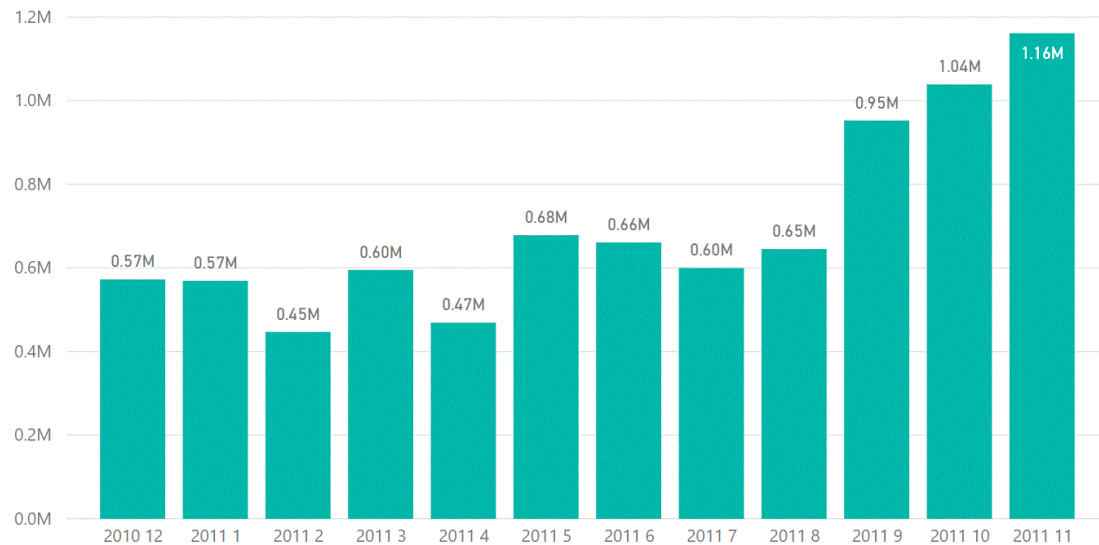
- Data Period: 01st DEC 2010 to 09th DEC 2011.

Note: The data of DEC, 2011 is updated until 09th of the month while the data of the other months were collected sufficiently. Therefore, the data of DEC 2011 will not be visualized in the graphs showed by time.

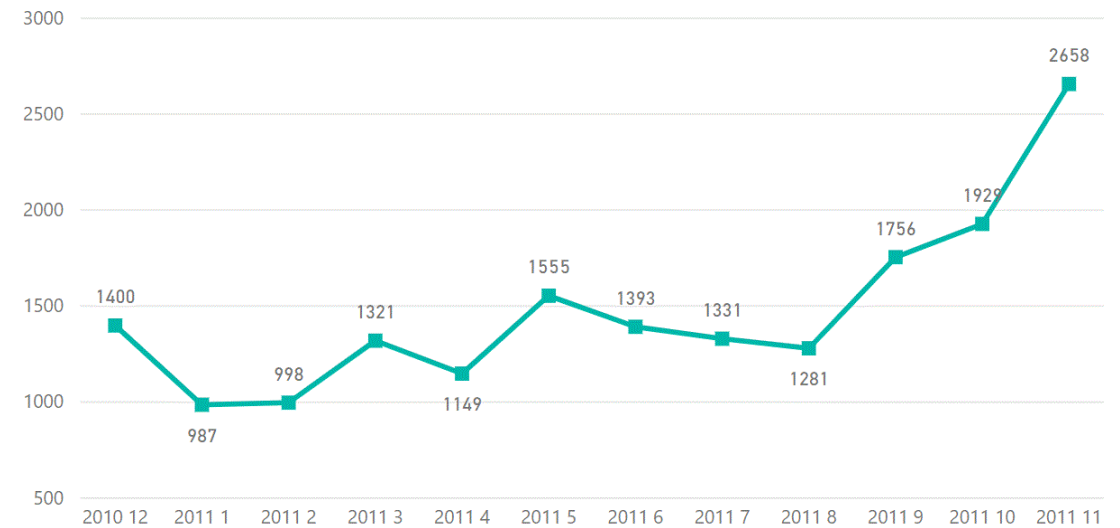
- Number of record: 397,924
- Number of unique invoice(order): 18,536
- Number of unique consumers: 4,339
- Number of unique country of consumer: 37
- Number of unique stock code: 3,665

- Monthly sales revenue and number of orders shared the similar pattern. Both of them fluctuate, but not too much. Last months of the year is the peak season
- In average, repeat customer rate(the percent of customers make multiple orders) is 23% per month.
- Frequency of ordering is around 5 times/ year(18,536 as total annual number of order/ 3,665 total of unique customer in a year). That means consumers order every 2.4 months
- Around 9% of total items make 60% contribution to total annual revenue
- United Kingdom is the main market with 80% annual revenue and 90% of total number of order, however, the average order value and customer lifetime value metrics of United Kingdom is much lower than the other countries.

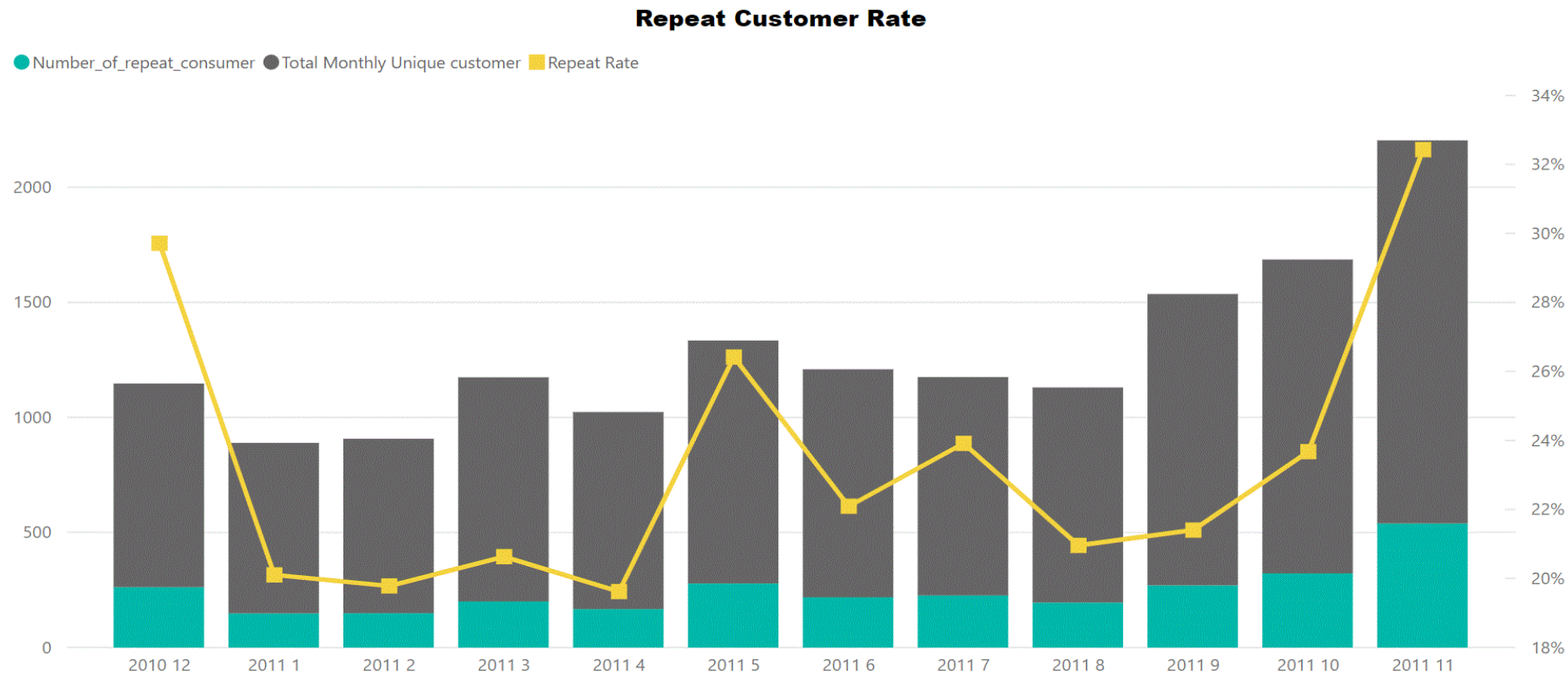
Monthly_revenue



Monthly Number of order

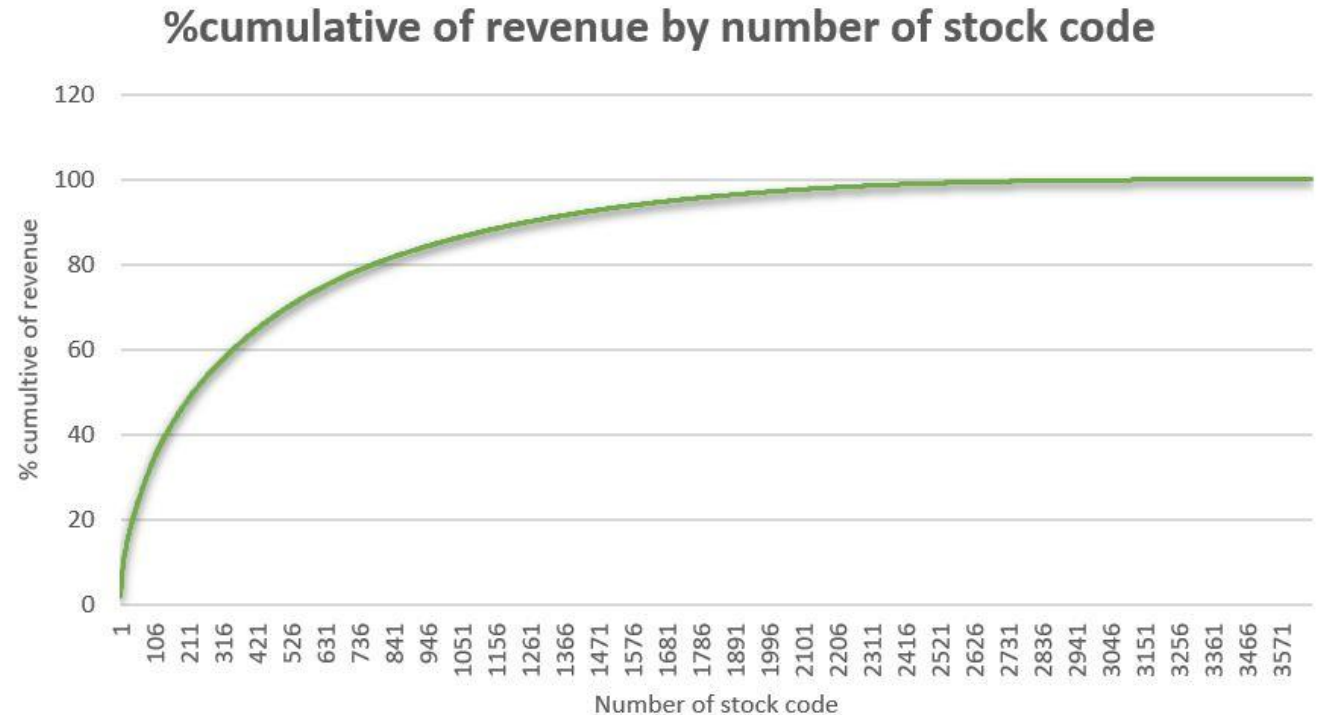


- Both revenue and number of orders fluctuated slightly in the first eight months of the year before increasing considerably in the rest of year.
 - Hypothese for this trend: Consumers are mostly in European countries, the last months of the years could be peak season for shopping for holiday seasons, like Christmas or new year.

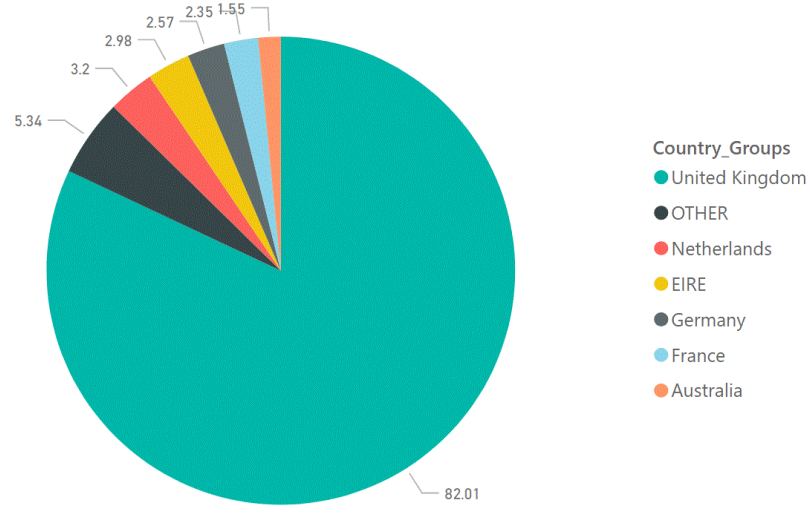


- Number of customers and repeat customers shared the stable patterns in the first eight months before rising in the last four months of the year.
- The rate of customers having multiples orders compared to total number of unique customers in a month witnessed the significant increase in 2011 even it fluctuated at some points.
- In average the repeat customer rate was around 23% around during the period

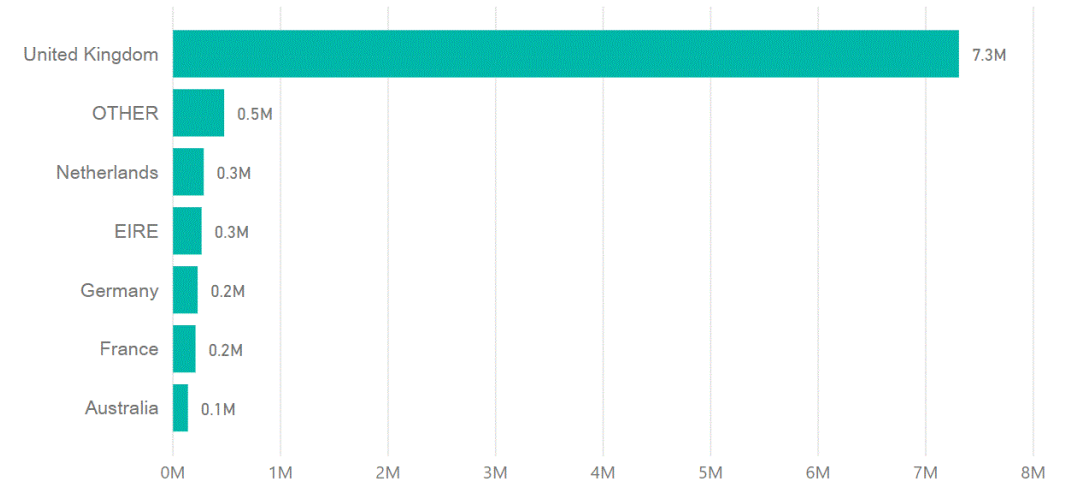
- The revenue of each product is sorted descendingly and visualized in this graph.
- Based on that, we can categorise the stock codes into different basket, which help the company to allocate the resource in demand forecasting management. Thus
 - The first 316 unique stock code (9% of total number of items) contribute to 60% of annual revenue
 - The next 945 items (25% of total number of items) account for 30% of annual sales
 - The rest 2404 products (66% of total) just makes up only 10% of revenue annually



Percentage Revenue By Country

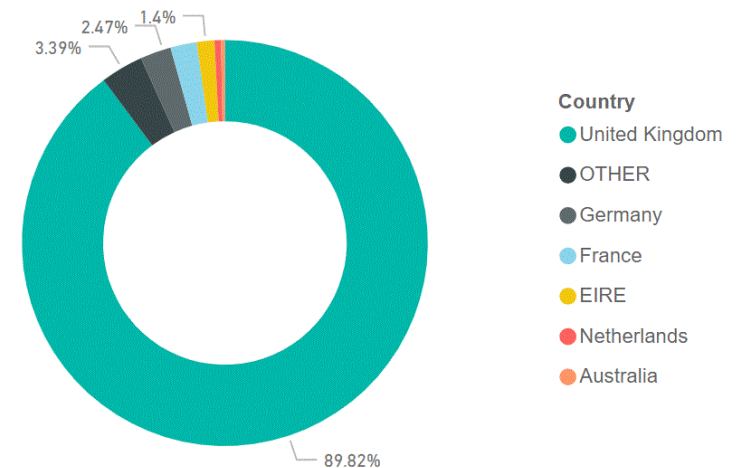


Revenue by Country



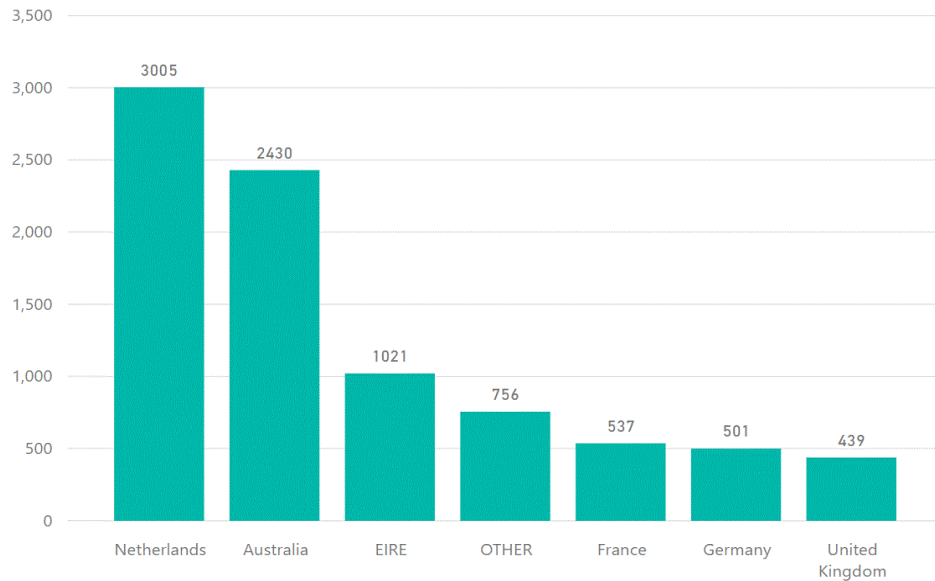
- United Kingdom occupied the majority of revenue with 82.01%, which is equivalent to 7.3 million USD and nearly 90% of total number of orders in a year
- The sales revenue from Other includes 31 countries is about 0.5 million USD, which occupied only 5.34% of total revenue and 2.47% of number of orders
- Each of rest 5 countries account for about 2% of total revenue, which is 0,2 – 0.3 million USD

Percentage of order by country

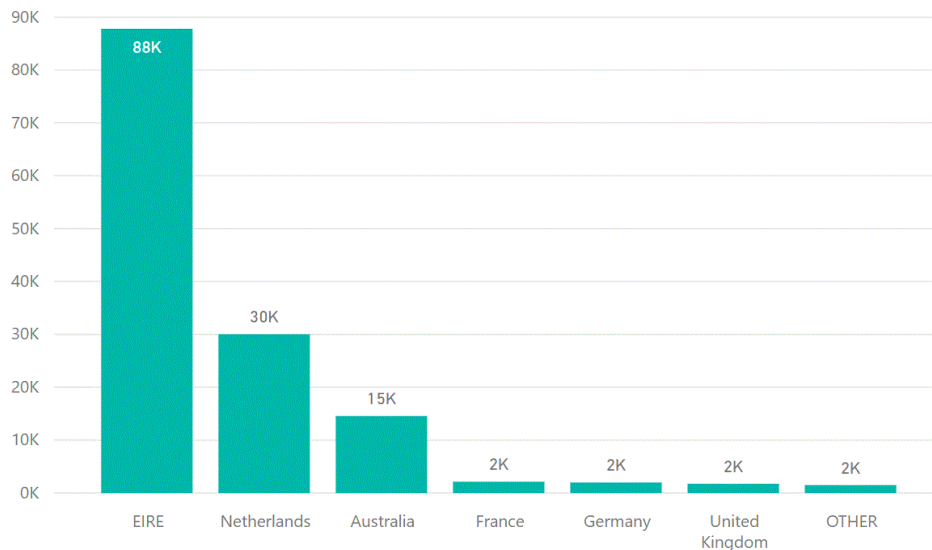


2. AVERAGE ORDER VALUE(AOV) AND CUSTOMER LIFETIME VALUE (CLV)

Average Order Value by country

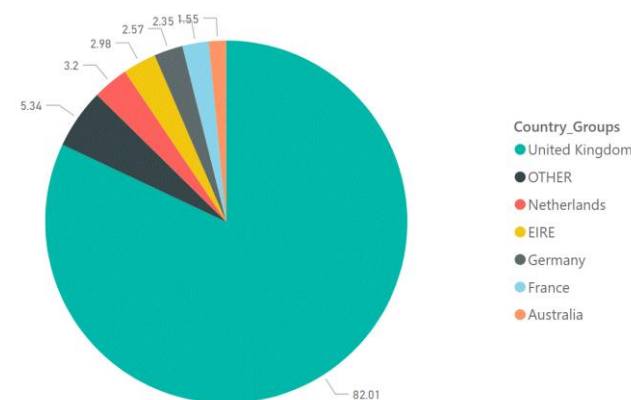


Customer lifetime value by country



- Countries with minor percentage of total revenue have much higher AOV compared to UK (7 times, 5 times, 2 times higher in Netherlands, Australia, and EIRE respectively)
 - Hypothese: the baskets of items of customers in Netherlands, Australia and EIRE include more high-end products than in UK.
- Through CLV metrics, it can be seen that the revenue that the company gains from each customer in a year in EIRE, Netherlands, and Australia is significantly higher than in UK (44 times, 15 times and 7 times respectively)

Percentage Revenue By Country



1. The average repeat customer rate of the company is still low

Normally, most of ecommerce businesses have 25% to 30% returning customer rate (Geckoboard)

Suggestion:

- Actively focus on one-time customer to incentivize repeat purchase
- Enhance customer experience by making shopping process seamless
- Offering coupons and discount

2. Relation between number of stockcode and revenue

9% of total number of stockcode accounts for 60% of total revenue. This group of items is really important. Company should allocate more resource in forecasting, inventory management and transportation to ensure the order fulfillment process.

3. Market development

- United Kingdom: AOV and CLV are low.

Suggestion: Through analysing abandoned items in the baskets, company can have a list of high-end items. For certain items, company can offer reasonable discount or campaign to push the demand of these items. Thus the AOV and CLV would be increased

- Netherlands, Australia, and EIRE: Percentage of revenue and number of orders are small. However, these markets are really potential when the AOV and CLV are tremendously higher than those in UK.

Suggestion:

- Running more marketing campaign to acquire more customers
- Offering discount and coupon could reduce the AOV, however, it would motivate customers to buy more, which is one of ways to increase CLV



THANK YOU