

Churn Analytics for B2B Client



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BUSINESS OBJECTIVE



- To analyze merchant behavior patterns affecting churn rate.

RESEARCH OBJECTIVES

1. To identify homogeneous groups within merchant accounts for determining similar pattern of transactions & churn behavior from past data.
2. To determine the median Survival rate at overall level & among top 5 business categories.
3. To identify Top 10 Thompson Category with respect to Churn count.
4. To identify Top 10 Counties with respect to Churn count.
5. To explore association between the Churn Status and Business Category.
6. To determine association between the Churn Status and Counties.

SOLUTION 1: *k*-MEANS CLUSTER ANALYSIS



	Clusters			
Status	Low Risk	Medium Risk	High Risk	Grand Total
Active	19	1936	27988	29943
Churn	3	118	10464	10585
Grand Total	22	2054	38452	40528

HIGH RISK CLUSTER ATTRIBUTES



1. This cluster consist of High risk members whose average Debit Sales of GBP 50,320, Debit transactions of 1,346, Credit sales of GBP 22,721 & Credit transactions of 319 respectively.
2. The Average Tenure in the system is about 21 months.
3. Churn is predominantly across postal codes E1, NW10, CR0, EC1V, HP13.
4. Top Thompson Categories churning are Take Away Food Shops, Public Houses, Bars & Inns, Restaurants – Other, Restaurants – Indian, Garage Services.
5. The top reasons contributing to churn are closed – customer cancel & FDMS collections, Fraud.

MEDIUM RISK CLUSTER ATTRIBUTES



1. Medium risk members signify merchants who have an average Debit Sales of GBP 550,534, Debit transactions of 12,630, Credit sales of GBP 295,993 & Credit transactions of 3,956 respectively.
2. The Average Tenure in the system is about 33 months.
3. Churn is predominantly across postal codes EC1V, HA8, CH3, EC1A, M3.
4. Thompson Categories churning are Public Houses, Bars & Inns, Restaurants – Other, Hotels, Convenience Stores, Restaurants – Indian are having maximum churn count.
5. The top reasons contributing to churn are closed – customer cancel & FDMS collections, FDMS cancel due to sponsor change.

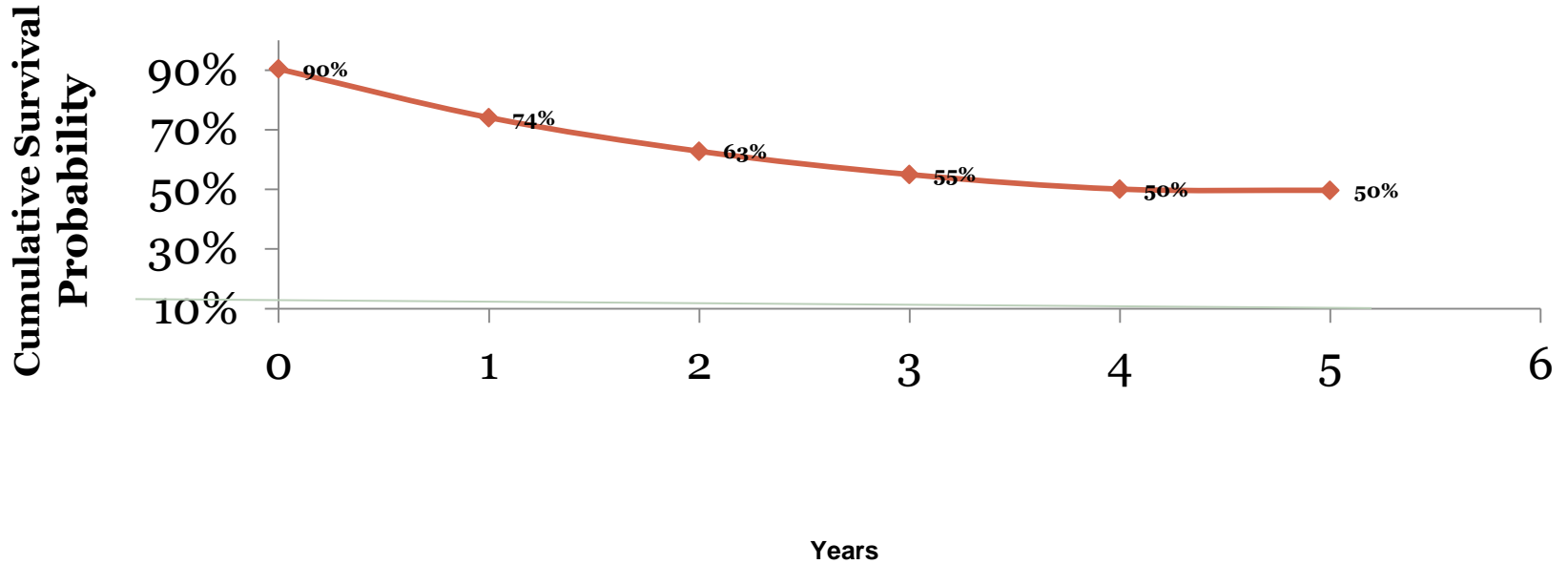
LOW RISK CLUSTER ATTRIBUTES



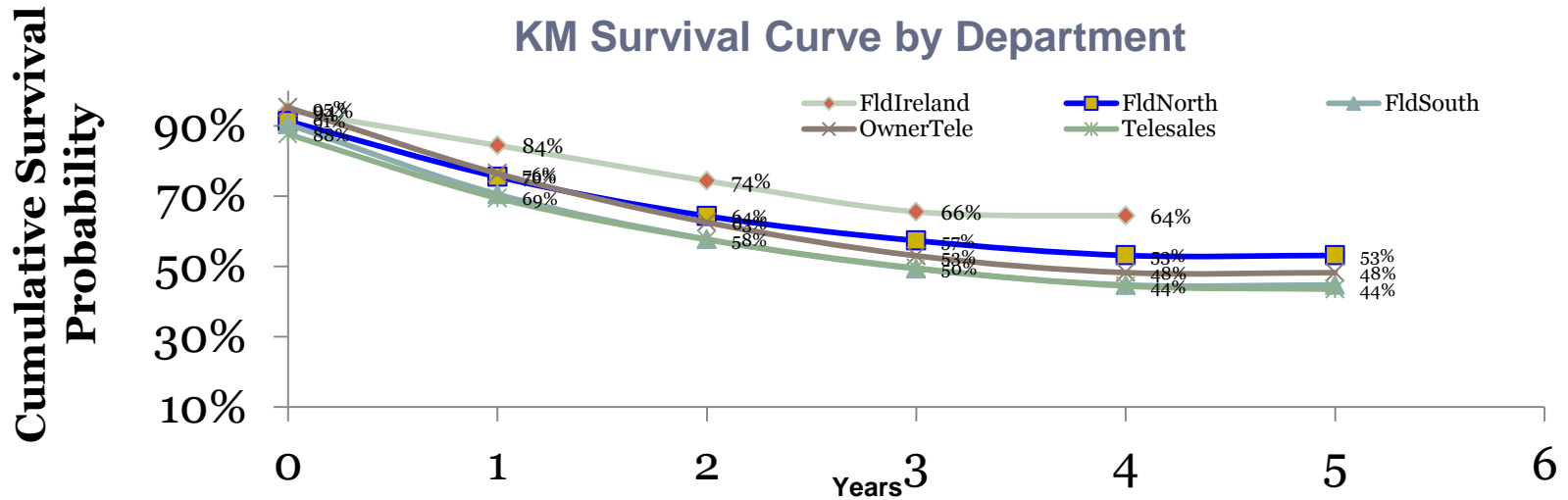
1. This cluster consist of low risk members which signify merchants who have an average Debit Sales of GBP 1,188,024, Debit transactions of 22,468, Credit sales of GBP 899,341 & Credit transactions of 8,674 respectively.
2. The Average Tenure in the system is about 29 months.
3. Churn is predominantly across postal codes - HA9, LS8 and WC2R.
4. Hotels are contributing towards high churn rate.
5. The top reason contributing to churn is closed – customer cancel.

SOLUTION 2: SURVIVAL ANALYSIS

KM Survival Curve - Overall



KM Survival Curve by Department



SURVIVAL ANALYSIS INFERENCE

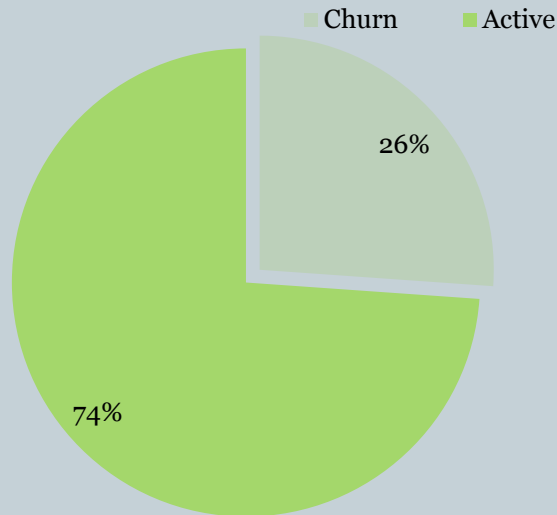


1. 50% of the merchants accounts on an average are surviving till 5 years.
2. After Year 2, the survival rate is falling below the median rate.
3. The average Survival rate varies across departments by 4 to 5 years.
4. The Churning pattern across top 5 business departments e.g. Fldreland, Fldnorth, FldSouth, ownertele & Telesales are similar.

SOLUTION 3: CHURN STATUS WITH RESPECT TO THOMPSON CATEGORY

There is a significant relationship b/w the Churn Status and categories (Chi-square value 800.3, p value <0.05).

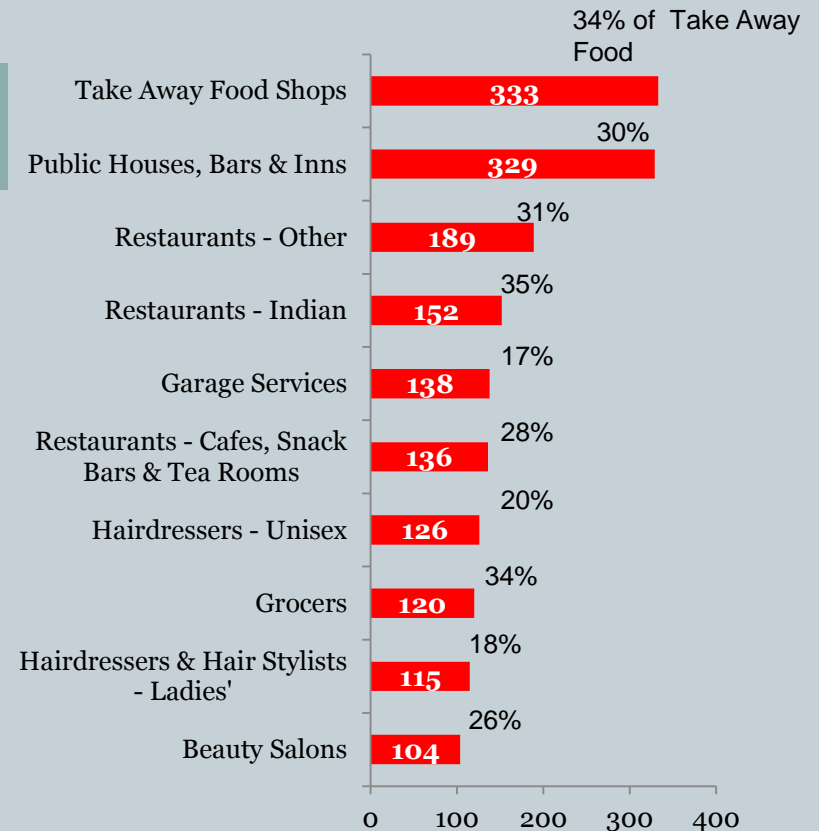
Overall
1



Total Merchant Accounts : 40528

These Categories are Contributing 16% of Churn.

Top 10 Thompson
Category

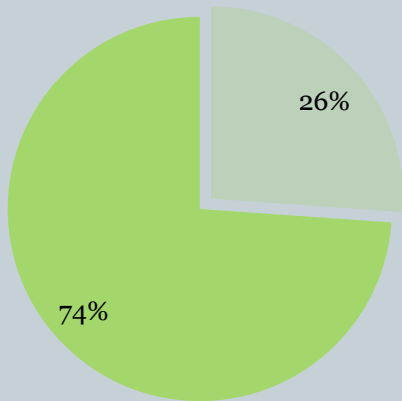


SOLUTION 4: CHURN STATUS WITH RESPECT TO COUNTY

There is a significant relationship b/w the Churn Status and Counties, Chi-square value 9346, p value <0.05.

Overall
1

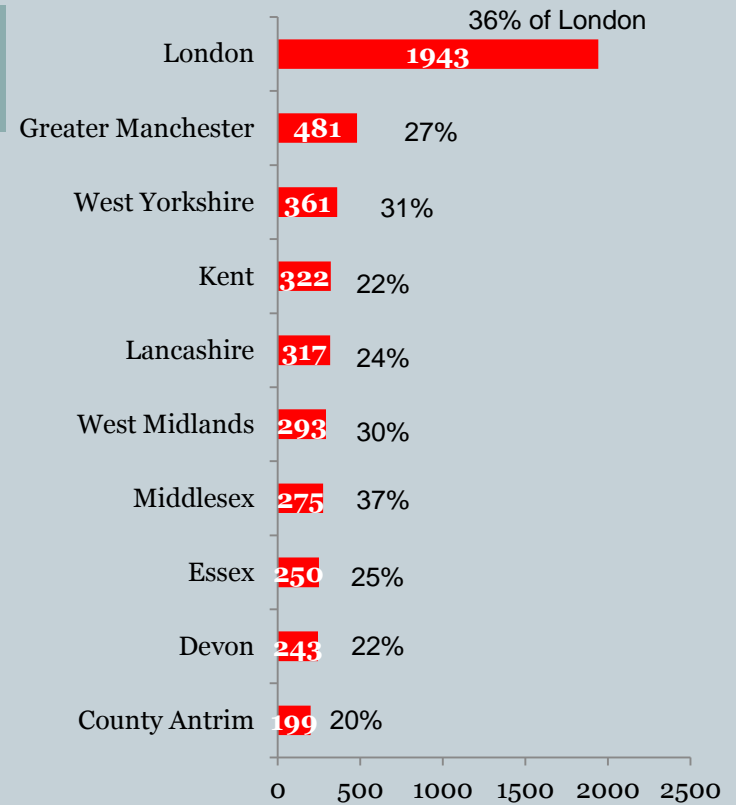
Churn Active



Total Merchant Accounts : 40528

These Counties are Contributing 44% of Churn.

Top 10 County impacting churn



VARIABLES FOR BETTER PREDICTION OF CHURN RATE



1. Socio Economic Class data – demographics of merchants profiles.
2. Percentage of commission earned by the client from Debit & Credit transactions basis merchant transactions.
3. Credit limit line allowed by the client to its merchants.
4. Data on any special privileges/allowances given to specific merchants category based on revenue earned.
5. If any complaints received from merchants regarding technical snaps.
6. Data on competitor's machine used at the merchant locations.
7. Classify the **Thompson Category** in to 4 groups (Small size, Lower mid-size, Upper mid- size, Large size)
8. Credit Score of merchant.
9. 30% of Thompson Category data are missing.

THANK YOU

