

# Choice-Lab Marketing Case

## Context

Choice-Lab<sup>1</sup> is a European company which has specialized in collecting and processing data on national businesses. The company sells data solutions and operates in a business to business market. Choice-Lab offers to its clients several products providing information on financial, demographic and ownership data on businesses. As clients needs vary, Choice-Lab provides its clients with a selection of products which will help them make the right decision in connection with credit rating, customer segmentation and sales management. The client portfolio is very vast and range from banks, to normal businesses and consulting companies.

The management team would like to investigate if there is a possibility to understand what are the factors characterizing customer retention. However the company does not dispose a survey and in the immediate they would like to see if it is possible to learn something from the available data.

Our company DCM-Europe, which is specialized in application of discrete choice models, has been offered the possibility to undertake the task. At our disposal is the company's internal database which includes financial information about its customers, the type of product they purchased and an indicator if the client has left the company. The management meeting is again next week and they expect us to deliver a report and present the result of our analysis.

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<sup>1</sup>By using this dataset the student agrees to use it only for academic purposes related to this course. The user is responsible in keeping the data on a computer with secure access. The data must not be transferred or distributed to third parties. The name Choice-Lab is fictitious.

## Data

The Choice-Lab customer database includes an unbalanced panel of data from 2000 until 2002. For each row of data we observe customer ID, year of observation, some financial and economic indicators and the type of products that the customer has purchased. The dependent variable indicates a binary choice. It is equal to one when the customer decides to defect and zero when decides to stay with the company. (There is no more data on a client once it has defected.)

Note that out of 286 data rows there is one observed choice that equals zero (the customer is still with the company) but no of the products has been purchased. We believe that this is probably an error from the data provider; this observation should therefore be excluded for the model estimations.

## Variables and Descriptive Statistics

Choice-Lab has 10 different products which are described below.

- **Product 1: Industry Analysis Report (IndAnalysis)**  
The industry analysis reports from Choice-Lab provide specialized financial, accounting data, and key figures to the business sector. With the industry analysis reports Choice-Lab's clients can check their customers' financial position and quickly determine if their credit should be tightened. Industry analysis reports will also provide an opportunity to compare competitors in a given industry.
- **Product 2: Credit Information Report (CreditInfo)**  
Choice-Lab helps the client if it is about to grant credit to either a domestic or foreign based customer. The credit report contains an overview of the company's management, history, account figures, growth rates, group relation and much more. Credit information reports are available at single transaction prices or at a subscription price.

- **Product 3: Accounts**

This product allows clients to retrieve copies of annual accounts on companies via the Choice-Lab web site. The charge is per copy. The accounts will be sent via email mailbox 1 or 2 minutes after the receipt of the order.

- **Product 4: Monitoring (Monitor)**

Choice-Lab monitors up to 37 different areas (i.e. financial information, ownership change) of a list of companies of the client choice. If changes occur within these areas, the new status will be communicated to the client. The companies are being checked every day.

- **Product 5: Web**

WEB is an Internet based program with real-time data. WEB allows to perform company searches and market selections. The professional version allows to check complete accounting figures and credit ratings on all limited and private limited companies.

- **Product 6: CD**

CD is Europe's most popular commercial database in the form of a CD which is being updated quarterly. CD allows to analyze selected target groups, and cross check with current customer database to avoid hitting the same target group over and over again.

- **Product 7: CRM**

CRM is a user-friendly Internet based customer relations management system. It is a professional tool to help to control and plan all activities directed towards customers, prospects and suppliers. It allows to update a database automatically if one of the customers or prospects contained in the database changes address.

- **Product 8: Internet**

An Internet subscription will give access to credit information on both domestic and foreign companies. The credit information will provide with a detailed overview of the company's credit limits, credit rating, management, history, key account figures, growth rates, business group relations and much more.

- **Product 9: Open Data Base (OpenDB)**

Real-time access to Choice-Lab database. The data are viewed and processed in the ERP or CRM system currently used by the client company. This feature ensures that the client has access to the latest company data. In practice this system technology facilitates many of the work routines. With a single click on the mouse one can make sure that new customers, suppliers and partners are registered legally correct and with fully updated data.

- **Product 10: Other Solutions (Other)**

This product includes other solutions like:

*Municipal Trade Analysis* Describes what is going on in the local area/municipality.

*Interviews* If the client requires identification of potential customers, want in-depth knowledge of competitors' market shares, want to qualify prospects for add-on sales or want to investigate customer behavior or buying preferences. Then the company can carry in-depth interview for its customer.

In table 1 we summarize the variables of the dataset and in table 2 we summarize the descriptive statistics.

Variable	Description
Choice	Equals 1 if customer drops next year; 0 otherwise
ID	Company ID
IndAnalysis	Product 1: Branch/Industry analysis
CreditInfo	Product 2: Company report and credit rating
Accounts	Product 3: Company accounting / web based
Monitor	Product 4: Client and supplier monitoring
Web	Product 5: Web direct
CD	Product 6: CD direct
CRM	Product 7: CRM direct
Internet	Product 8: Internet credit information domestic and foreign companies
OpenDB	Product 9: Open Data Base access
Other	Product 10: Other (i.e. Municipality analysis)
Age	Years client has existed
Rating	Client credit rating 100 represent the best and 0 the worst (this is a proxy for the current financial condition of the client)
Year	Year of observation
NegProfit	Equals 1 if profit $< 0$ and 0 otherwise
NegEquity	Equals 1 if equity $< 0$ and 0 otherwise
LRSC	Equals 1 if company is a limited responsibility stock owned company and 0 otherwise
LRC	Equals 1 if a company is an limited responsibility company, and 0 otherwise
NbEmpl	Total number of employees
LnNbEmpl	Natural log of the number of employees
LnAge	Natural log of the age of the company

Table 1: Description of the variables in the dataset

Variable	Obs	Mean	Std. Dev.	Min	Max
Choice	16220	0.18798	0.39071	0	1
ID	16220	253164	259852	830	1091364
IndAnalysis	16220	0.27361	0.44583	0	1
CreditInfo	16220	0.3463	0.47581	0	1
Accounts	16220	0.29494	0.45603	0	1
Monitor	16220	0.02078	0.14264	0	1
Web	16220	0.132	0.3385	0	1
CD	16220	0.3394	0.47352	0	1
CRM	16220	0.00308	0.05544	0	1
Internet	16220	0.05888	0.2354	0	1
OpenDB	16220	0.00154	0.03923	0	1
Other	16220	0.5193	0.49964	0	1
Age	16220	29.939	27.2702	1	380
Rating	16220	55.9603	18.6595	0	100
Year	16220	2000.98	0.81612	2000	2002
NegProfit	16220	0.24476	0.42996	0	1
NegEquity	16220	0.03588	0.186	0	1
LRSC	16220	0.76566	0.4236	0	1
LRC	16220	0.20099	0.40075	0	1
Empl	16220	52.7551	106.526	1	989
LnEmpl	16220	2.8272	1.58457	0	6.89669
LnAge	16220	3.10092	0.76006	0	5.94017

Table 2: Descriptive statistics