Introduction to Marketing Analytics

# Assignment Instructions

**MANM317 Assignment Brief**

**Individual research project (3500 words) Deadline: May 25, 2021, 4 pm**

Introduction

The project will seek to demonstrate the students’ capability of marketing analytics. Students will be expected to work individually to analyse a given data set.

Learning Objectives

The main objectives of the assessment are:

* make "informed" or data-driven decisions in marketing,
* learn how marketing analytics is used in the business world, and
* use how R Studio for data science and decision-making.

Task Overview and Approach

The research topic of this year is related to “Drivers of Customer Profitability”. Students will take over the role as a junior data scientist in a large retail bank. In a new project called “Customer Management” students were asked to analyse if the current customer satisfaction programme effectively retains customers from defection. The final submission will be a written marketing research report (max. 3,500 words).

Submission and Word Limit

Individual reports should be submitted via SurreyLearn no later than May 25, 2021, 4pm. Penalties are given for late submissions. Students MUST use the assignment cover sheet. The Word limit of 3,500 words **includes** executive summary, table of contents and references but **excludes** appendices. The report should be submitted electronically in pdf format only. The cover sheet must be the first page and the R script should be submitted as separate file.

Layout & Style

The report should follow the suggested format guidelines: Font Arial 11pt, 1.5 line spacing, page numbers, numbered headings, numbered and labelled figures and tables. Provide references in Harvard referencing style:

<https://www.surrey.ac.uk/library/documents/learning/Harvard%20Referencing%20Guide%202017.pdf>

Suggested Structure and Conventional Elements of a Research

**Cover Page**

**Table of Content**

**Executive Summary** (approx. 200 words)

An executive summary should include a summary of the research problem, methodology, findings and recommendations.

**Introduction and Business Issue/Problem and Opportunity** (approx. 300 – 500 Words)

Research proposals generally begin with an introductory section that describes the research problem/business issue, establishes its significance, opportunity for a business, and answers question like why do we need this study?

**Review of Literature** (approx. 500 – 800 Words)

The research problem or objective needs to be situated within a context of theory in the area(s). The literature review presents a discussion of the most important research and theoretical work relating to the research problem/objective. Please find at least 10 scientific journal articles from the ABS list of journals (available on SurreyLearn).

**Methodology & Sample Description** (approx. 300 – 500 Words)

This section should briefly discuss the data set including demographic variables of the respondents. The results of analysing the measurement properties of the attitudinal variable(s) should be included here as well.

**Findings** (approx. 1500 Words)

This section should be divided into descriptive results including charts and hypothesis testing (regression analysis, mediation and moderation test).

**Recommendations and Conclusions (**500 Words**)**

Based on the above report provide at least two managerial implications and a short research outlook.

**References**

**Appendix**

Marking Criteria

|  |  |
| --- | --- |
| **Basis of Assessment**  |  **Weighting** **(%)**  |
| Presentation and Style  | 15 |
| Problem definition  | 10  |
| Contextual and theoretical background  | 15  |
| Methodology & Analysis  | 45  |
| Discussion & Recommendations  | 15  |

Research Brief - Introduction

Imagine that you work in the Marketing Analytics Department of a large Retail Bank. You are responsible for a project called Customer Management. **The aim of this project is i) to understand the drivers of customer profitability and ii) to assess if the current customer satisfaction programme retains customers from switching.** For this project, you got information about individual customer profitability (CLV). Additionally, you conducted a survey and asked the questions presented in Table 1.

After collecting the data, you have to develop various research model explaining/predicting individual customer profitability and explain the effects of customer satisfaction. You are asked to give a theoretical rational for these hypotheses and test the hypotheses using R/Studio. Linear regression should be applied for the main analysis. You are also encouraged to try multiple independent variables and least one mediator and one moderator analysis. Do not forget to check for any assumption violations before you report the results. Please compare at least 5 different models and use charts for visualisation.

Write up all your steps in your analysis and come up with some meaningful conclusions. You must have a small theoretical part (regarding the hypotheses development) but focal point of the assignment is the technical part. The dataset does include missing values. “Odd” values are imputed values.

**Please post any questions in the anonymous discussion forum to make sure that other students can learn as well.**

Analysis

Specifically, you are asked to do the following analyses:

* Your dependent variable must be CLV (customer lifetime value). The aim is to explain the drivers of
* Descriptive analysis of your focal variables including graphs.
* You should compare at least 5 different regression models.
* At least one model should include a mediator.
* At least one mode should include a moderation variable.
* At least one model should include at least one attitudinal variable (satisfaction, value or attitudinal loyalty).
* Assess the measurement properties of your attitudinal variables by running an explorative factor analysis and reliability analysis (Cronbach’s Alpha).
* Assess the fit of your regression models.
* Test the assumptions of your regression models.

Please include all outputs in the appendix and put only “necessary” analysis output in the text. Your R code should be submitted as a separate file. Seminars are dedicated to work on the assignment.

## Variable Scales

* Loyalty: 1-7 (1 strongly disagree, 7 strongly agree)
* Value: 1-10 (1 strongly disagree, 10 strongly agree)
* Satisfaction: 1-10 (1 strongly disagree, 10 strongly agree)
* Gender: 1 male, 2 female
* Profession: 1 self-employed, 2 part-time employment, 3 full-time employment
* Education: 1 secondary school, 2 College Degree, 3 BSc, 4 MSc, 5 PhD
* Income: 1 0-£5,000, 2 £5,001-£15,000 3 £15,001-£25,000 4 £25,001-£35,000, 5 More than £35,000
* Customer-Lifetime-Value (calculated as net profit): numeric

Variable List

A copy of the questionnaire is available as pdf-file on SurreyLearn.

|  |  |  |
| --- | --- | --- |
| **#**  | **Variable**  | **Question**  |
| **1**  | resp\_no  | Response Number  |
| **2**  | branch  | Branch Number  |
| **3**  | profess  | Profession  |
| **4**  | gender  | Gender  |
| **5**  | educatio  | Education  |
| **6**  | loy1\_1  | Loyalty item 1  |
| **7**  | loy2\_1  | Loyalty item 2  |
| **8**  | loy3\_1  | Loyalty item 3  |
| **9**  | loy4\_1  | Loyalty item 4  |
| **10**  | loy5\_1  | Loyalty item 5  |
| **11**  | loy6\_1  | Loyalty item 6  |
| **12**  | val1\_1  | Value item 1  |
| **13**  | val2\_1  | Value item 2  |
| **14**  | val3\_1  | Value item 3  |
| **15**  | sat1\_1  | Satisfaction item 1  |
| **16**  | sat2\_1  | Satisfaction item 2  |
| **17**  | sat3\_1  | Satisfaction item 3  |
| **18**  | sav\_1  | % of savings held at this bank  |
| **19**  | loans\_1  | % of loans held at this bank  |
| **20**  | long\_1  | Relationship duration in months  |
| **21**  | age\_1  | Age of customer  |
| **22**  | income\_1  | Income class  |
| **23**  | CLV  | Customer Lifetime Value  |