

Erasmus School of Economics

## **Thesis**

To obtain the academic degree of

Master of Science in Economics & Business

(Major in Marketing)

# **Questioning ‘the Ultimate Question’**

**An Exploratory Study on the Predictive Power of Customer Metrics**

**applied to Consumer Behavior in the Dutch Soft-Drinks market**

**Author:** Yarco Hoddenbach

**E-mail address:** 375267yh@eur.nl

**Supervisor:** N.M. Camacho

**Study Program:** Business Economics

**Specialization:** Marketing

**Date:** July 16, 2013

## Abstract

This research studied the predictive ability of customer satisfaction and Net Promoter Score (NPS) on loyalty of Dutch soft-drinks consumers. Additionally, the relationship marketing variables trust, commitment, and attitudinal loyalty (Palmatier et al. 2006) have been added to see if the predictive power of the metrics could be improved.

In this thesis a distinction is made between attitudinal loyalty, behavioral loyalty *intentions* and *actual* behavioral loyalty. Behavioral intentions are measured by statements on the repurchasing likelihood and spending intention of the favorite soft-drink brand in the subsequent week, while attitudinal loyalty is measured by five statements on "*the consumer's identification with a particular goods provider and preference of a product over alternatives*" as Jones and Taylor (2007) define the construct. Actual behavioral loyalty is measured in a second survey where the respondents are asked to indicate how much they spend and bought of soft-drinks in the week after they filled in the first survey.

Correlations showed that the NPS has a strong significant relationship with behavioral loyalty. The same counts for customer satisfaction and the additional relationship marketing variables, which showed significant relations with behavioral loyalty intentions. For actual behavioral loyalty (spending behavior) the relational factors affective commitment and attitudinal loyalty showed an insignificant relationship.

When looking at the behavioral loyalty intentions (repurchasing and spending intention), it appeared that the NPS increased the explained variance when added to a model of standard demographic variables (gender, age, education and household size). Customer satisfaction and the relationship marketing variables even further increased the explained variance of the regression models.

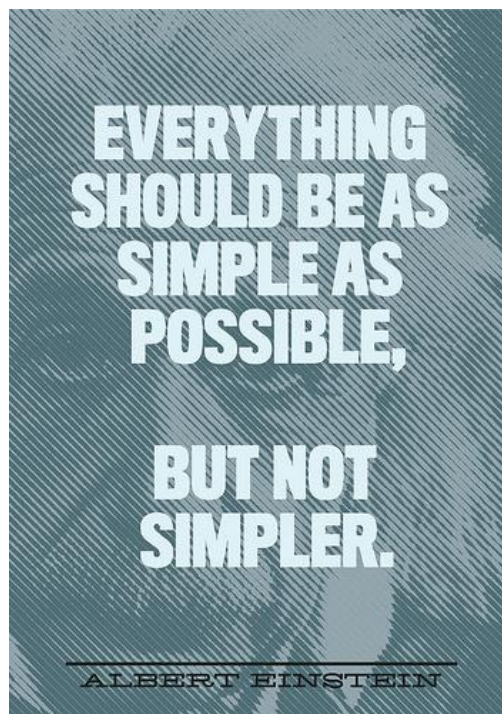
Based on actual spending behavior, the most interest finding is that customer satisfaction and relationship dimensions do not contribute to a higher predictive power of the NPS, while predictions on behavioral loyalty intentions were improved by adding satisfaction and relational variables.

We looked in our data to see if the NPS model on actual spending could be improved, and found that measures of behavioral intentions were far better predictors of actual spending behavior than the NPS, satisfaction and relationship variables.

Overall, NPS can be a good predictor of loyalty indicators. However, Reichheld's (2003) claim that the NPS is the ultimate question seems inappropriate. We show that, in the case of soft-drinks, for predicting behavioral intentions the NPS is not the best metric. For actual behavior, NPS outperforms customer satisfaction and relationship variables, but is outperformed by measures of repurchase intention.

## Acknowledgements

I would like to dedicate this page to all people who have helped me (directly and indirectly) in writing this thesis. First of all, a big thank you goes out to all participants in the survey, and a special thank you to the 110 who took the time to participate in the follow-up survey as well. Without you I could have never done this research and therefore you have made the biggest contribution to this thesis, for which I am very grateful. An honorable mention goes out to my supervisor, Nuno Camacho, who has spent a lot of time in guiding me. Thank you for your very useful ideas, inspiration and insights. In addition I would like to thank my girlfriend, all of my family and friends for supporting me, and helping where they could. You have all been wonderful during these stressful months and I appreciate the support, patience and kindness in this period. Another thank you goes out to all other teachers at the Erasmus University and the The Hague University for giving me the knowledge to produce this thesis. Now that I finally reached the end stage of my educational path, I can say that the last mile is the longest, but during this final Master year, I have also learned the most. This is not only from the courses that I took, but also in professional life, combining studying and working at a respectable company. I am glad and proud to present you this thesis, and before you start reading, I would like to provide you with one of the most important lessons I have learned, by quoting one of the greatest geniuses of all times:



**Table of Contents**

Abstract ..... I

Acknowledgements ..... III

List of Tables ..... VI

List of Figures ..... VI

1 Introduction ..... 1

    1.1 A Profile of the Soft-drinks Industry ..... 1

        1.1.1 Definition of Soft-drinks ..... 1

        1.1.2 History of Soft-drinks ..... 2

        1.1.3 Soft-drink Consumption Nowadays ..... 3

    1.2 Problem Statement and Research Objective ..... 7

        1.2.1 The Predictive Power of Customer Metrics ..... 7

        1.2.2 Questioning ‘the Ultimate Question’ ..... 7

        1.2.3 The Influence of Relationship Marketing Dimensions on Predictions ..... 7

        1.2.4 Sub-questions ..... 8

    1.3 Scientific and Managerial Relevance ..... 8

        1.3.1 Scientific Relevance ..... 8

        1.3.2 Managerial Relevance ..... 9

    1.4 Structure of the Thesis ..... 9

2 Literature Review ..... 10

    2.1 Customer Loyalty ..... 10

        2.1.1 Customer Loyalty and Firm Performance ..... 10

        2.1.2 Definitions of Customer Loyalty ..... 10

        2.1.3 Attitudinal Loyalty vs. Behavioral Loyalty ..... 11

        2.1.4 Attitudinal Loyalty as Antecedent of Behavioral Loyalty ..... 12

    2.2 The Net Promoter Score ..... 13

        2.2.1 The Development of the Net Promoter Score ..... 14

        2.2.2 Net Promoter Criticism ..... 15

    2.3 Customer Satisfaction ..... 18

        2.3.1 Definitions of Customer Satisfaction ..... 18

        2.3.2 The American Customer Satisfaction Index (ACSI) and firm growth ..... 18

        2.3.3 Linkage between Customer Satisfaction and Loyalty ..... 19

    2.4 Linkage between Relational Factors and Loyalty ..... 20

        2.4.1 Trust ..... 20

        2.4.2 Commitment ..... 21

    2.5 Customer Loyalty among Soft-drink Consumers ..... 22

    2.6 Conceptual Framework ..... 24

    2.8 Conclusion ..... 24

3 Research Methodology ..... 26

3.1 Research Design .....	26
3.2 Data Collection.....	26
3.3 Cleaning the Data .....	27
3.4 Representativeness and Sample Profile.....	28
3.5 Analyses Techniques .....	29
4 Data Analysis and Results .....	30
4.1 Reliability and Validity .....	30
4.1.1 Reliability: Cronbach’s Alpha.....	30
4.1.2 Validity.....	31
4.2 Descriptives.....	33
4.2.1 Sample descriptives.....	33
4.2.2 Soft-drink Purchasing Behavior .....	34
4.3 Correlation.....	35
4.3.1 Correlation between Satisfaction, Other Relational Variables and NPS .....	35
4.3.2 Correlation between the Predictor Variables and Behavioral Loyalty .....	36
4.4 Regression .....	37
4.4.1 Predicting Repurchasing Intention .....	38
4.4.2 Predicting Spending Intentions.....	42
4.4.3 Predicting Actual (Future) Spending .....	44
4.5 Conclusion.....	48
5 Conclusion.....	50
5.1 General Discussion.....	51
5.1.1 What Customer Metric Best Predicts Behavioral Loyalty?.....	51
5.1.2 Questioning ‘the Ultimate Question’ .....	52
5.1.3 The Influence of Relationship Marketing Dimensions.....	52
5.2 Academic Contribution .....	53
5.3 Managerial Implications.....	53
5.4 Limitations and Directions for Future Research.....	53
Appendix .....	55
A. Reference List.....	56
B. Questionnaire.....	61
C. Follow-up Questionnaire .....	69
E. Factor Analysis Output .....	72
F. Descriptives.....	73

## List of Tables

Table 1: Global Top 10 Soft-drink Companies in Firm Value.....	4
Table 2: Global Top 10 Soft-drink Companies in Off-trade Volume .....	4
Table 3: Sample Representativeness .....	28
Table 4: Reliability Statistics.....	30
Table 5: KMO and Bartlett's Test.....	31
Table 6: Rotated Component Matrix <sup>a</sup> .....	32
Table 7: Descriptive Statistics of Respondents .....	33
Table 8: Descriptive Statistics of Respondents' Soft-drink Purchasing Behavior.....	34
Table 9: Correlations Among Metrics .....	36
Table 10: Correlations Predictors-Behavior .....	37
Table 11: Regression Analyses RPI Models 1-4 .....	39
Table 12: Regression Analyses RPI Models 1, 3, 5 & 6 .....	40
Table 13: Regression Analyses RPI Models 1, 2 ex CSAT, 2 & 7 .....	41
Table 14: Regression Analyses Spending Intention Models 1-4.....	42
Table 15: Regression Analyses Spending Intention Models 1, 3, 5 & 6.....	43
Table 16: Regression Analyses Spending Intention Models 1, 2 ex CSAT, 2 & 7 .....	44
Table 17: Regression Analyses Actual Spending Model 1-4 .....	45
Table 18: Regression Analyses Actual Spending Models 1, 3, 5 & 6.....	46
Table 19: Regression Analyses Actual Spending Models 1, 8-10 .....	47
Table 20: Regression Analyses Actual Spending Models 1, 10-12 .....	48
Table 21: Model Description (Variables included and Adjusted R squares) .....	49
Table A1: Total Variance Explained.....	72
Table A2: Descriptive Statistics First Questionnaire .....	73
Table A3: Descriptive Statistics Follow-up Questionnaire .....	74

## List of Figures

Figure 1: Soft-drink consumption in the EU 2006-2011 .....	5
Figure 2: Soft-drink consumption in the Netherlands 2006-2011 .....	5
Figure 3: Forms of Loyalty by Dick & Basu, 1994.....	12
Figure 2: Conceptual Framework.....	24
Figure 5: Share of #1 most favorite brand among respondents .....	34
Figure 6: Share of #1 most purchased brand among respondents .....	35
Figure 7: Predictive Power on Behavioral Intention .....	50
Figure 8: Predictive power on Actual Spending.....	50
Figure 9: Predictive Power on Actual Spending /RPI .....	50
Figure 10: Predictive Power on Actual Spending / Intention.....	50
Figure A1: Scree Plot .....	72

## 1 Introduction

In the introduction of this thesis, the research questions and structure of the thesis are described. In paragraph 1.2 the problems that will be researched will be stated along with the research objective. The scientific and managerial relevance of this research are discussed in paragraph 1.3. In the final paragraph, 1.4, the structure of the thesis will be described. The introduction kicks off with a background description of the soft-drinks industry.

### 1.1 A Profile of the Soft-drinks Industry

#### 1.1.1 Definition of Soft-drinks

*“Soft drink’, refers to any of a class of nonalcoholic beverages, usually but not necessarily carbonated, containing a natural or artificial sweetening agent, edible acids, natural or artificial flavors, and sometimes juice”* (Bert, 2011). The term soft-drinks has been used to distinguish these drinks from ‘hard-drinks’, alcoholic beverages such as hard liquor and spirits (though soft-drinks allow an alcoholic percentage of less than 0.5%). Other generic terms for soft-drinks are soda, pop, coke, soda pop, fizzy drink, tonic, seltzer, mineral, sparkling water, or carbonated beverage.<sup>1</sup> Soft-drinks may also contain fruit juice, but if the drink contains over 25% fruit, it is considered a juice. There are several categories within soft-drinks, which distinguishes the different flavors of soft-drinks available. The Union of European Soft Drinks Associations (UNESDA) defines soft-drinks as follows:<sup>2</sup> *“A drink is referred to as ‘soft’ to distinguish it from a so-called ‘hard’ drink or hard liquor and a soft drink refers to a non-alcoholic drink. Historically, a ‘hard’ drink was one which had been distilled such as whisky or gin, unlike say, a wine, beer or cider. The criteria for what precisely constitutes a soft drink vary from country to country. Normally, soft drinks are drunk chilled or at room temperature. Iced teas, coffees and drinks made with fruit squashes or cordials are classified as soft drinks. The term excludes fruit juices and drinks made with milk or dairy products, such as milk shakes, or warm drinks such as hot chocolates, coffees, teas.”*

---

<sup>1</sup>[http://en.wikipedia.org/wiki/Soft\\_drink](http://en.wikipedia.org/wiki/Soft_drink)

<sup>2</sup><http://www.unesda.org/facts-figures>



The categories included in the definition of soft-drinks: carbonates, still drinks (<25% juice), iced tea, iced coffee, sports drinks and energy drinks. In this thesis soft-drinks are defined as carbonated, non-alcoholic beverages such as cola, lemon-lime, orange, lemonade, tonic, but also sports- and energy drinks.

### **1.1.2 History of Soft-drinks**

Soft-drinks have been around since the 17<sup>th</sup> century. Then, soft-drinks (non-carbonated) were made from water and lemon juice sweetened with honey. In 1676, the Compagnie de Limonadiers of Paris were granted a monopoly for the sale of lemonade soft drinks. During the 18<sup>th</sup> century, carbon dioxide was infused with water to create carbonated water, (also known as soda water), the major and defining component of most soft drinks. Pharmacists added herbs and chemicals to unflavored mineral water, and drinking either natural or artificial mineral water was considered a healthy practice. Flavors were added to bring taste to the artificial mineral waters.

During the 1880s, hundreds of new drinks came to the market claiming to have medicinal effects. In this decade, John Pemberton, was inventing a nonalcoholic beverage (similar to French Wine Coca) as a response to the Prohibition act. Pemberton claimed Coca-Cola cured many diseases, including morphine addiction, dyspepsia, neurasthenia, headache, and impotence. In 1887, another pharmacist and businessman, Asa Candler bought the formula for Coca-Cola from the inventor John Pemberton for \$2,300. By the late 1890s, Coca-Cola was one of America's most popular fountain drinks, largely due to Candler's aggressive marketing of the product.

In 1898, Pepsi was invented. By the year Pepsi was being sold, Coca Cola already sold about a million gallons (approximately 3.8 million liters). What followed is also known as 'the Cola Wars'. Pepsi has been declared bankrupt twice, once during the First World War, and again a decade later during the Depression. The Cola wars reached a peak in the 1980s when in 1979 Pepsi for the first time ever had beaten Coca-Cola sales in the supermarkets. This did not last long, however, and in the 1990s it seemed that Pepsi has lost the war, since they increased their focus on health and snacks. Nowadays, Pepsi has to deal with a third place, as the two favorite soft-drink brands are Coca-Cola and Diet Coke (Coca-Cola Light).

Coca-Cola was first introduced in the Netherlands during the Olympics of 1928 in Amsterdam as the first main sponsor of this major event. Fanta has been introduced in 1960. Sprite followed in 1966. The first diet version of Coca-Cola, known as Coca-Cola Light in Europe and Diet Coke in the U.S., followed in 1984 (Hemelrijk, L., 1996).

### 1.1.3 Soft-drink Consumption Nowadays

Global soft-drinks consumption is slightly increasing due to introduction and growth of soft-drink brands in emerging markets, such as Brazil, India, and China. Coca-Cola for example sells its soft-drinks in every country on the planet, except for Cuba, and North Korea, as the company opened a factory in Myanmar in June, 2013.<sup>3</sup>

Soft-drinks consumption in mature (most Western) markets is decreasing, and margins are getting smaller. However, the soft-drinks industry is highly innovative with some 40% of the products on sale today having been introduced in the past five years.<sup>4</sup> Energy and sports drinks contribute greatly to this fact. As soft-drink consumption in general is decreasing in Western markets, energy drinks are still growing strong. In fact, it is the fastest growing soft-drinks category, according to the latest Euromonitor report.<sup>5</sup>

In 2012, the world consumed 220 billion liters of soft-drinks. Cola is the most preferred drink with 57% of that volume. Americans still are the largest soft-drinks consumers with 165 liters per capita, followed by Mexico with 146 liters per capita (who are the world's leading cola consumers (108 liter per capita)).<sup>6</sup>

According to the latest Euromonitor report it is the third consecutive year of global value growth for the soft-drinks market.<sup>7</sup> The global growth is driven in large part by consumers in emerging nations. As the spending power of consumers continues to grow in these markets, many can now afford to move from unpackaged beverages such as water, lemonade or fresh juices to packaged

---

<sup>3</sup><http://www.coca-colacompany.com/press-center/press-releases/coca-cola-starts-local-production-in-myanmar>

<sup>4</sup><http://www.unesda.org/facts-figures>

<sup>5</sup><http://ladyofthecakes.wordpress.com/2013/03/19/who-consumes-the-most-energy-drinks-and-are-they-dangerous/>

<sup>6</sup><http://ladyofthecakes.wordpress.com/2013/04/09/which-countries-consume-the-most-soft-drinks/>

<sup>7</sup><http://blog.euromonitor.com/2013/01/soft-drinks-in-2013-growth-to-continue-as-demand-diversifies.html>

drinks. In the past, Coca-Cola or Pepsi were chosen as part of joining a global culture. Nowadays, consumers are starting to make their choices based more on regional taste instead of global identity. As an example, Chinese consumers are now able to choose from, not only Coca-Cola and Pepsi, but Hangzhou Wahaha’s Future Cola; or Master Kong’s Iced Tea; or Jiaduobao, which sold almost 1.4 billion liters in 2012 compared to 2.5 billion for Coca-Cola.<sup>8</sup>

According to Euromonitor, the world soft-drink industry in terms of value and volume is dominated by the following players:

**Table 1: Global Top 10 Soft-drink Companies in Firm Value**

Global Top 10 Soft Drinks Companies	
US\$	
Value Rank	Company
1	The Coca-Cola Company
2	PepsiCo Inc
3	Nestlé SA
4	Suntory Holdings Ltd
5	Groupe Danone
6	Dr Pepper Snapple Group Inc
7	Red Bull GmbH
8	Tingyi Holdings Corp
9	Asahi Breweries Ltd
10	Kirin Holdings Co Ltd

**Table 2: Global Top 10 Soft-drink Companies in Off-trade Volume**

Global Top 10 Soft Drinks Companies		
off-trade volume		
Volume Rank	Company	Primary Business Geography
1	The Coca-Cola Company	Global
2	PepsiCo Inc	Global
3	Groupe Danone	Global
4	Nestlé SA	Global
5	Tingyi Holdings Corp	China
6	Dr Pepper Snapple Group Inc	North America
7	Suntory Holdings Ltd	Asia
8	Hangzhou Wahaha Group	China
9	Uni-President Enterprises Corp	China
10	Aje Group	Latin America

Source: Euromonitor International (2012).

The list of largest companies (see tables 1 and 2 above) is likely to remain relatively stable due to the fact that the global players get most value from the developed markets, which are also the more matured markets. Companies that do business in developed markets are more likely to concentrate on niche development that offer added value but do not tend to generate incremental overall volume. It is unlikely that a new up-and-coming company will be able to enter this type of market.<sup>9</sup>

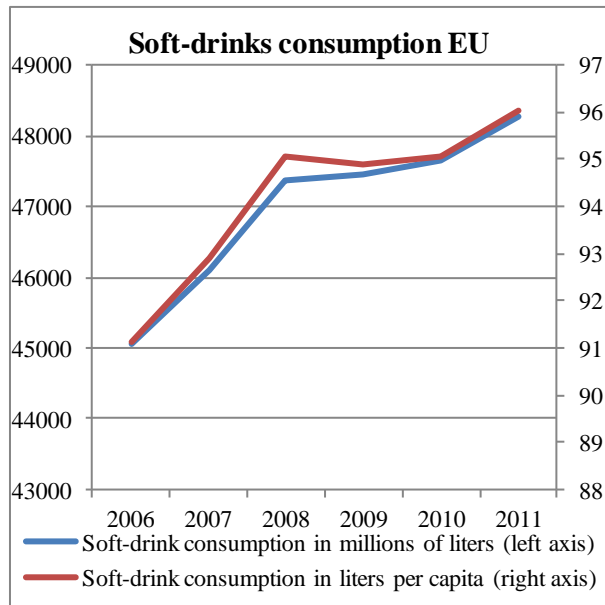
The story in developing, emerging markets is quite different. There is an extremely high potential for volume growth, driven by large populations and increasing wealth. In the near future it is likely that China Resources and Parle Bisleri get in to the global top 10 volume-based rank, but it will take longer for these players to get in the top 10 value-based rank.

<sup>8</sup><http://blog.euromonitor.com/2013/01/soft-drinks-in-2013-growth-to-continue-as-demand-diversifies.html>

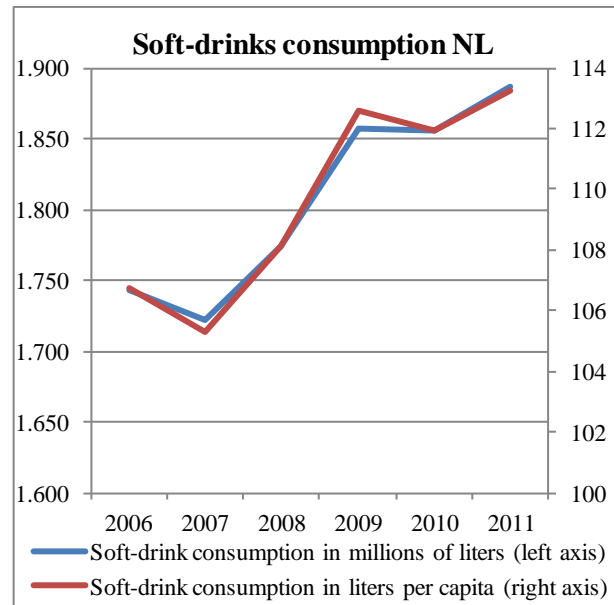
<sup>9</sup><http://blog.euromonitor.com/2013/01/soft-drinks-in-2013-growth-to-continue-as-demand-diversifies.html>

UNESDA has reported the following results of soft-drinks consumption in the EU and in the Netherlands over the years 2006-2011:

**Figure 1: Soft-drink consumption in the EU 2006-2011**



**Figure 2: Soft-drink consumption in the Netherlands 2006-2011**



Source: UNESDA, Canadean Wisdom 2012 Annual Cycle (2012).

Over 2011, the Netherlands consumed 1,886.4 million liters of soft-drinks, which comes down to 113.3 liters per capita. The European total soft-drinks consumption in 2011 was 48,256.4 liters, comprising 96 liters per capita. Thus, soft-drinks consumption in the Netherlands is well above the average in Europe. The Dutch are the fifth largest soft-drinks consumers of Europe. Germany (138), Czech Republic, Belgium and Austria consume more soft-drinks per capita.<sup>10</sup>

The Dutch branch organization for soft-drinks, waters and juices (FWS), investigated the drink consumption in the Netherlands from 2007-2010. The research shows that the average Dutch consumes 2.1 liters on a day. This 2.1 liters, consists of 33% coffee and tea, 27% water, and 15% soft-drinks. The average Dutch consumes slightly more than a glass of soft-drink per day (313ml). About a third are light soft-drink consumers. Of all soft-drink consumed, Cola is consumed most often (42%), followed by a fruit lemonade (25%) and orange soda (10%).<sup>11</sup>

<sup>10</sup><http://www.unesda.org/facts-figures>

<sup>11</sup><http://webwerk.b-en-t.nl/fws/12316-bladerbare-pdf-kerngegevens/>

As soft-drink consumption is leveling or declining in mature markets, (especially the U.S., where the consumption of soft-drinks per capita has reached the lowest level since 1987<sup>12</sup>), soft-drink producers are investing heavily to counter this trend. About 60% of Coca-Cola's turnover in the U.S. is derived from carbonated soft drinks, compared with about a quarter at PepsiCo. More than 70% of sales at Dr Pepper Snapple, the third largest player, are from soft-drinks and around 90% of its turnover is from the U.S.<sup>13</sup> Therefore, a lot is invested in growing markets, not only emerging countries (BRIC-countries), but also sports and energy beverage markets that are growing fast.<sup>14</sup> Moreover, producers have tried to find the solution to critics who claim soft-drinks contribute majorly to the epidemic of obesity, to find all-natural, low calorie alternatives for their products. The beverage giants have already seen this coming, and have taken measures by offering their own brands of water bottles as they saw a trend in the rising consumption of bottled water.<sup>15</sup> As the market volume is shrinking in the matured markets, soft-drink producers rely more than ever on the loyalty of their customers in these markets. This counts especially during these times of recession, according to Muhtar Kent, CEO of The Coca-Cola Company, who states: *"During difficult economic times, consumers gravitate toward the brands they know, the brands they love and trust."*<sup>16</sup>

Many researchers have studied the link between brand loyalty and firm performance, which is now generally accepted. *"Good managers understand that the road to growth runs through customers — not just attracting new customers, but holding on to the ones you have, motivating them to spend more and getting them to recommend your products and services to the people they know"*

(Keiningham, et al., 2008). Over the years, researchers have designed many metrics to explain the connections between customer behavior and growth. Consensus is that most companies still lack the knowhow of measuring and managing the customer relationship effectively. Therefore, it is essential to use the right customer metrics for assessing and monitoring how companies deliver for customers and determining customers' new and unmet needs (Keiningham, et al., 2008).

---

<sup>12</sup> <http://www.cnbc.com/id/100592919>

<sup>13</sup> <http://online.wsj.com/article/SB10001424127887323783704578245973076636056.html>

<sup>14</sup> <http://money.msn.com/now/post.aspx?post=d2bfc3cd-35b5-4e44-8434-bc9d442811c1>

<sup>15</sup> <http://www.brandchannel.com/home/post/2013/03/13/Water-Consumption-Soda-031313.aspx>

<sup>16</sup> <http://www.mcknightkurland.com/blog/brand-rejuvenation%E2%80%94the-rules-remain-valid>

## 1.2 Problem Statement and Research Objective

This thesis consists of exploratory research looking at three relevant major marketing issues.

### 1.2.1 The Predictive Power of Customer Metrics

First of all, research in this thesis investigates the differences in predictive power of alternative customer metrics, to see which metric has the highest predictive power for attitudinal loyalty and two types of behavioral loyalty: repurchasing intentions and actual spending behavior. The key metrics included in this research are Customer Satisfaction (Fornell, 1992, Cronin and Taylor, 1992) and the Net Promoter Score (Reichheld, 2003). These two metrics are compared in terms of their predictive power towards behavioral loyalty. Therefore, the research question can be defined as follows:

- What customer metric best predicts Behavioral Loyalty?

### 1.2.2 Questioning 'the Ultimate Question'

Second, as many managers rely on or would like to rely on only one metric, instead of a set of metrics to measure firm performance, researchers tried to find this 'silver' metric (Ambler, 2003). For example, Reichheld (2003) developed 'the Ultimate Question', as he named the Net Promoter Score, and claims it is the only question marketers need to rely on. However, there is a heated debate around this claim. Critics claim that this stand-alone measure is insufficient and additional measures are needed (Keiningham et al., 2007, 2008; Schneider et al., 2008; East et al., 2011; Wiesel et al., 2012). This research finds out who is right, in the context of fast moving consumer goods (FMCG), soft-drinks in this case. Therefore, as the previous research question should provide the predictive power of the NPS and Customer Satisfaction, to answer this research question the predictive powers of these metrics are compared with each other and multidimensional model with both metrics included, to see if the predictive power of the NPS can be improved. This leads to the following research question:

- Is the Net Promoter Score really 'the Ultimate Question'?

### 1.2.3 The Influence of Relationship Marketing Dimensions on Predictions

Third, since relationship marketing has become more and more important as a key part of any business strategy, we look at the influence of relational factors on the predictions, to see whether a

single question metric as the NPS or customer satisfaction can be improved. The question is if these relational factors increase the predictive power of metrics on behavioral loyalty.

- Do relational factors make better predictions?

#### **1.2.4 Sub-questions**

In addition to these research questions, sub-questions are defined to help answering these research questions.

- How loyal are consumers to soft-drink brands?
- Which factors are important for assessing consumer loyalty among soft-drink consumers?
- What is the impact of relational factors on consumer loyalty?
- What are the differences in predictive power among consumer metrics?
- What are the differences in predicting (re)purchase intentions in contrast with actual purchasing behavior?

### **1.3 Scientific and Managerial Relevance**

What makes this thesis both scientific and managerial relevant, is that this study brings empirical evidence to an ongoing and heated debate about which customer metrics are more effective in predicting customer behavior. It is crucial to inform the debate with facts, which is the goal of this thesis. The study is based on FMCG (soft-drinks), a very large and consumer-oriented industry, which makes the results also applicable to many other industries and context. This stands in sharp contrast with most existing research which has studied the effects of customer metrics on loyalty by looking at data from contractual settings, in service industries.

#### **1.3.1 Scientific Relevance**

This thesis builds on the study by Wiesel, Verhoef, and de Haan, posted on HBR Blog Network in July, 2012, which investigates the ability of some single-question customer metrics to predict and measure firm performance.<sup>17</sup> To see how, they looked at each measure if it predicted customer loyalty on an individual level as well as on the level of the company as a whole.

---

<sup>17</sup> [http://blogs.hbr.org/cs/2012/07/there\\_is\\_no\\_one\\_best\\_measure\\_o.html](http://blogs.hbr.org/cs/2012/07/there_is_no_one_best_measure_o.html)

Over the last decade, it has been the Marketing Science Institute's (MSI) top priority to investigate the accountability of marketing actions. Since 2002 *Accountability and ROI of Marketing Expenditures* has been among the top 10 of research priorities by MSI, it even was the top priority over 2008-2010. Following these researches, many claim to have found the one metric that businesses can rely on. Take Reichheld's Net Promoter Score for example. According to Reichheld (2003) it is the one number you need to grow in order to get a successful business. Critics say a single question customer metric is not sufficient. This study tries to find out who is right.

### **1.3.2 Managerial Relevance**

More results from research on this topic show that there is a lack of comprehension on this topic, however, it is of uttermost importance to marketing departments to show to the boardroom how their efforts influence firm value and performance. Another result by studies in the field is that for measuring the return on marketing investments (ROMI) there is not one best, or silver metric, therefore it is implied that dashboards need to consist of several metrics to successfully evaluate and predict marketing efforts' success (Ambler, 2003; Seggie et al. 2011; Wiesel, Verhoef, de Haan, 2012; Farris, Bendle, Pfeifer, Reibstein, 2010). This study makes a contribution by providing managers an answer on who is right and what to use for analyzing and predicting firm performance.

### **1.4 Structure of the Thesis**

This thesis is structured as follows. As this chapter gives an introduction to the topic and states the problem and relevance, in the next chapter, theories on the topics of research are being discussed and reviewed. Moreover, the hypotheses and conceptual framework of this particular study are being described. In the third chapter, the research methodology will be presented to show how the research has been designed and how data has been collected. In addition, the representativeness of the sample will be discussed and some analysis techniques that have been used are described. In the following chapter, analyses of the data will be discussed along with a presentation of the results. The final chapter discusses the managerial implications of the conclusions from the results to answer the main research questions as proposed in the introduction. Furthermore, limitations to this study are being described and recommendations for further research are given.



## 2 Literature Review

In order to get a clear view on the problem statement and existing literature on this topic, this chapter provides a review on findings from scientific literature. At first, the concept of customer loyalty will be discussed. Second, the link with customer satisfaction, net promoter score and the relational factors shall be a subject of discussion.

### 2.1 Customer Loyalty

#### 2.1.1 Customer Loyalty and Firm Performance

The aim of this research is to investigate the relationship between customer metrics and firm performance, to see if customer metrics have predictive value towards firm performance. Firm performance, however, cannot easily be assessed, because it can have a variety of meanings to different firms with different objectives. Ambler and Roberts (2005) describe a firm's performance in as achieving goals of which short-term survival and long-term growth are the most common. As customers are a company's most important assets (Gupta et al. 2006, Wiesel et al. 2012), firm performance is in both researches being described as levels of customer repurchase and levels of spending.

In this thesis, a firm's performance is also evaluated by the loyalty of its customers. In general, marketers have agreed that customer loyalty is one of the main drivers of firm performance, as it can generate positive returns such as increased sales, lower costs, and more predictable profit streams (Ostrowski et al., 1993, Terrill et al., 2000, Jones and Taylor, 2005). Customer loyalty has been found a key source to competitive advantage (Bharadwaj et al. 1993) and to firm survival and growth (Reichheld 1996).

#### 2.1.2 Definitions of Customer Loyalty

As customer loyalty is considered to drive firm performance, following the applications of several metrics to loyalty, different definitions have been found that define customer loyalty. Loyalty has been defined as *"a deeply held commitment to rebuy or re-patronize a preferred product / service consistently in the future, thereby causing repetitive same-brand or same brand set purchasing,*

*despite situational influences and marketing efforts having the potential to cause switching behavior”* (Oliver,1999).

Jones and Sasser (1995) define customer loyalty as *“a customer’s sense of belonging or identification with the employees, services or products of a company; these feelings have a direct impact on customer behavior”*.

Reichheld (2003) defines customer loyalty as *“the willingness of someone – a customer, an employee, or a friend – to make an investment or personal sacrifice in order to strengthen a relationship.”*

### **2.1.3 Attitudinal Loyalty vs. Behavioral Loyalty**

Dick and Basu (1994) suggest that loyalty has an attitudinal and behavioral dimension. In line with this suggestion, many studies have proven there are two kinds of loyalty: behavioral loyalty and attitudinal loyalty (Kumar and Shah, 2006; Lam et al., 2004; Fullerton, 2005). Attitudinal loyalty means having a positive attitude towards a product, brand or company. This type of loyalty refers to the individual’s cognitive degree of loyalty. Jones and Taylor (2007) define it as *“a consumer’s identification with a particular goods provider and preference of a product over alternatives”*.

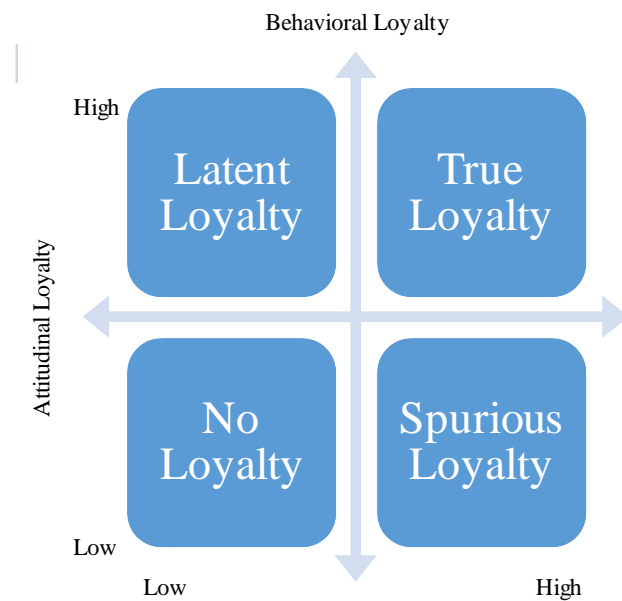
Behavioral loyalty has more often been considered as the quantity and frequency of purchases. *“From a behavioral view, customer loyalty is defined as repeat patronage, that is, the proportion of times a purchaser chooses the same product or service in a specific category compared to the total number of purchases made by the purchaser in that category”* (Neal, 1999). Behavioral loyalty focuses more on intentions to repurchase and actual repeat purchasing behavior. Roest and Hulsen (2008) suggest that someone is loyal when he/she purchases the same brand at least three times.

According to Dick and Basu (1994), the two loyalty dimensions lead to four levels of loyalty in a high-low matrix. The most ideal level of loyalty is called ‘true loyalty’, consisting of both high levels of behavioral and attitudinal loyalty. If attitudinal loyalty is high and behavioral loyalty is low latent loyalty. If attitudinal loyalty is low and behavioral loyalty is high, there is spurious loyalty. When both attitudinal and behavioral loyalty are low, the stage is called no loyalty, a stage which is unfavorable to firms (Dick and Basu, 1994).

A study by Jones and Taylor (2007)

**Figure 2: Forms of Loyalty by Dick & Basu, 1994**

on the multi-dimensionality of loyalty suggested that the two-dimensional structure of the construct – a behavioral element and a combined attitudinal/cognitive element – holds. Therefore, in this research loyalty is consistently measured as a two-dimensional construct consisting of attitudinal and behavioral constructs. Most of the loyalty literature supports this



simplified view of customer loyalty, suggesting that both attitudinal and behavioral aspects are necessary to define loyalty (Bandyopadhyay & Martell, 2007; Chaudhuri & Holbrook 2001; Dick & Basu, 1994; Zeithaml, Berry & Parasuraman, 1996).

**2.1.4 Attitudinal Loyalty as Antecedent of Behavioral Loyalty**

There have been many researches that treat attitudinal loyalty as an antecedent of behavioral loyalty (Bandyopadhyay, Martell, 2007; Jacoby, Kyner, 1973; Pritchard, Havitz, Howard, 1999; East, Gendall, Hammond, Lomax, 2005; Russell-Bennett, McColl-Kennedy, Coote, 2007; Reynolds and Arnold, 2000; Carpenter, 2008). Either way, both attitudinal and behavioral dimensions of loyalty are found to be equally critical (Kumar & Shah, 2006; Lam et al., 2004; Fullerton, 2005).

Chaudhuri and Holbrook (2001) use attitudinal and behavioral loyalty as causal impact on market share, they believe the relationship of attitudinal and behavioral loyalty is interrelated, not cause-effect. Cheng (2011) argues that while behavioral loyalty ensures that customer loyalty can be converted into actual purchase behavior, attitudinal loyalty can indirectly have an effect on firm performance by creating a positive image of a business through word-of-mouth.

Whereas in most behavioral sciences past behavior is seen as the best predictor of future behavior, most followers of behavioral loyalty consider past behavior also the best predictor of customer loyalty. In addition, Lee and Cunningham (2001) consider behavioral loyalty also to be

predicted on purchase intention. Zeithaml et al. (1996) developed the Behavioral-Intentions Battery to categorize loyalty in intentional and behavioral loyalty measurements. The loyalty dimensions consists of two items that relate to recommendation (behavior rather than intention) and two items that relate to repurchase intentions. The customers who intent to remain loyal are willing to pay higher prices, they intent to repurchase and are willing to recommend the product to others (Zeithaml et al., 1996; Chauduri and Holbrook, 2001). This research illustrates that repurchase intentions are decent indicators of future behavior (Zeithaml et. al, 1996).

Most customer loyalty studies integrate multi-dimensional concepts into a single construct comprising: “repurchase intention”, “recommendation intention”, “customer retention”, or “price tolerance”. Researchers record these components to integrate them into a single dependent variable that determine factors affecting loyalty (Cheng, 2011).

A study by Cheng (2011) uses behavioral loyalty (a substantial element) and attitudinal loyalty (a psychological construct) to make predictions of behavioral and attitudinal loyalties to identify the differences between the behavioral loyalty model and attitudinal loyalty model. The difference found between behavioral and attitudinal loyalty is that behavioral loyalty ensures that customer loyalty can be converted into actual purchase behaviors, while attitudinal loyalty will not ensure that customers will purchase the products themselves. However, through word-of-mouth, attitudinal loyalty will create a positive image of a firm. This may not directly bring profit, but will indirectly have positive effects on firm performance through brand equity (Cheng, 2011; Keller, 1993).

## **2.2 The Net Promoter Score**

There have been many researches where the willingness to recommend is used as a behavioral loyalty measurement item (Bloemer et al., 1999; Zeithaml et al., 1996; Wiesel et al., 2012). The Net Promoter Score (NPS) has been advocated by Reichheld (2003) as the ultimate question and the one metric managers can rely on for measuring performance. The NPS measures the willingness to recommend through a single question: *“How likely will you recommend the company/brand/product or service to a friend or a colleague?”* The higher the score, the more customers are delighted with the product or service experience and would recommend it to a friend or colleague (Keiningham et al.

2007). Often this question is measured on a 0–10 scale. Those scoring a 9 or 10 are ‘*promoters*’ of the brand, while those scoring a value between 0 and 6 are ‘*detractors*’, and those scoring a 7 or 8 are ‘*passives*’. The Net Promoter Score for the brand is then calculated by the percentage of promoters minus the percentage of detractors (Reichheld, 2003).

### 2.2.1 The Development of the Net Promoter Score

The Net Promoter has received the attention of some of the best journals, and has resulted in scientific publications in top outlets such as the *MIT Sloan Management Review* (Reichheld 2006a), but also a coverage press in the *Wall Street Journal* (2006) and a number-one best-selling business book, ‘*The Ultimate Question*’ (Reichheld 2006c). Additionally, various trade journal articles have published the Net Promoter (e.g., McGregor 2006; Morris 2006).

The developers of the NPS (Fred Reichheld, along with Satmetrix and Bain & Company) has made very strong claims about the advantage of the NPS over other loyalty metrics. Specifically, they have stated:

1. *The NPS is “the best predictor of growth,”*
2. *The NPS is “the single most reliable indicator of a company’s ability to grow”*
3. *“Satisfaction lacks a consistently demonstrable connection to ... growth”* (Reichheld, 2003).

Nowadays, the metric has been implemented by major companies like Microsoft, American Express, General Electric, Intuit, T-Mobile, Charles Schwab, and Enterprise, the metric is even being reported to investors (Keiningham et al., 2007). However, the NPS is at the center of a debate regarding its merits, which caused a rather heated discussion among professionals (Keiningham et al., 2007). Though Reichheld (2003) and co-authors claim that the NPS is the only number managers need to grow to measure customer behavior and boost firm performance, there have been many critics that disprove the robustness of the NPS as a customer metric (Keiningham et al., 2007; East, Romaniuk, and Lomax, 2011).

### 2.2.2 Net Promoter Criticism

Many researchers have compared the NPS with customer satisfaction measures like the American Customer Satisfaction Index (ACSI) (Fornell et al., 1992, see paragraph 2.3) to disprove Reichheld's claims. Reason for the criticism is that *"the evidence regarding the relationship between the Net Promoter metric and firm revenue growth (Reichheld, 2003, and Satmetrix, 2004) has not been subjected to rigorous scientific scrutiny and peer review"* (Keiningham et al., 2007).

Morgan and Rego (2006) looked at the longitudinal impact on business performance of various satisfaction and loyalty metrics. They found no predictive value in their evaluation of the NPS. However, their calculation and data used for the NPS differed completely with Reichheld's approach. Thus, their conclusions about NPS cannot be accurately relied on (Keiningham et al. 2007).

The research by Keiningham et al.(2007) is the first cross-industry, longitudinal examination of the association between Net Promoter and firm revenue growth, that attempted to replicate Reichheld's (2003, 2006c) and Satmetrix's (2004) methodology. Keiningham et al. (2007) found very strong evidence of research bias in the research by Reichheld (2003). In their replication of a subset of Reichheld 's data for his best case scenarios, Keiningham et al. (2007) found a 0.000 correlation to growth, suggesting that the NPS is not at all a good predictor of growth. Their findings clearly show that when using a replicate of Reichheld's own data, the NPS was not superior to the ACSI.<sup>18</sup>

Richard Evensen, one of the bloggers from Forrester Research, adds to the debate that the NPS is a useful question, but the method, i.e. the NPS formula, is too problematic. According to him, the biggest concern is *"... that there is not sufficient quantitative evidence to support a correlation between NPS and customer actions (renewals or even actual recommendations). Given its time in the field, SatMetrix should be able to show 100s if not 1000s of cases with high correlation coefficients (Pearson's  $r = 70\%+$ ). To date, they have only provided a totally unsupported position that findings support the link between Net Promoter and financials."*<sup>19</sup>

---

<sup>18</sup> [http://www.customerthink.com/blog/net\\_promoter\\_acsi\\_smackdown](http://www.customerthink.com/blog/net_promoter_acsi_smackdown)

<sup>19</sup> [http://blogs.forrester.com/richard\\_evensen/11-04-18-stop\\_using\\_nps\\_net\\_promoter\\_score\\_but\\_please\\_save\\_the\\_question](http://blogs.forrester.com/richard_evensen/11-04-18-stop_using_nps_net_promoter_score_but_please_save_the_question)

Besides the questionable correlation, the scale definitions are culturally insensitive. According to Reichheld, *Promoters* are captured by the percentage of customers who score a 9 or a 10. The blogger in this case gave a beautiful citation from one of his clients when asked for a rating: “10 is for God. 9 is for el Maestro. So, 8 is as good as you can get.”<sup>20</sup> Besides this example, there is a well-established literature in marketing and psychometrics, that show how different cultures use response scales differently (de Jong, Steenkamp, Fox and Baumgartner, 2008; de Jong, Steenkamp and Veldkamp, 2009). Moreover, *Detractors* are captured by the percentage of customers who score a value in the range from 0 to 6, while a 5 or a 6 says something different about a customer than one who scores a 0 or a 1 (Bird & Ehrenberg, 1967; 1968; Barnard, 1990; Bollen, 2008). Additionally, these authors state that the NPS is rather an attitudinal than a behavioral metric. It measures how many people *say* they would be likely to recommend, rather than how many *are* actually doing so. A large body of research indicates that claimed intention is a better reflection of present attitudes than future behavior (Bird & Ehrenberg, 1967; 1968; Barnard, 1990; Bollen, 2008).

Another critic states: *"The rule-of-thumb score classes proposed by Reichheld (promoters are those respondents who give a likelihood of recommendation of 9 or 10 while the detractors give 6 or less) are not supported statistically, mask important changes and potentially mislead management that there is negative NPS when this may not be the case."* -Ken Roberts, Forethought Research Australia.<sup>21</sup>

Further criticism is that the Net Promoter scale is unipolar (willingness to recommend), while Reichheld's analysis method treats the scale as bipolar (willingness to recommend vs. willingness to detract). Schneider, Berent, Thomas and Krosnick (2008) additionally demonstrate that the 11-point scale has the least predictive value of any of the scales tested. The authors propose to use an alternative 7-point scale with labeled ends and a midpoint for the NPS question but also recommend a bipolar scale for a reworded variant. The proposed 7-point scale should have the following labels:

1. Extremely likely to recommend against

---

<sup>20</sup> [http://blogs.forrester.com/richard\\_evensen/11-04-18-stop\\_using\\_nps\\_net\\_promoter\\_score\\_but\\_please\\_save\\_the\\_question](http://blogs.forrester.com/richard_evensen/11-04-18-stop_using_nps_net_promoter_score_but_please_save_the_question)

<sup>21</sup> [http://blogs.forrester.com/richard\\_evensen/11-04-18-stop\\_using\\_nps\\_net\\_promoter\\_score\\_but\\_please\\_save\\_the\\_question](http://blogs.forrester.com/richard_evensen/11-04-18-stop_using_nps_net_promoter_score_but_please_save_the_question)

2. Moderately likely to recommend against
3. Slightly likely to recommend against
4. Neither likely to recommend nor recommend against
5. Slightly likely to recommend
6. Moderately likely to recommend
7. Extremely likely to recommend

Furthermore, Schneider, et al. (2008) counter-intuitively demonstrate in their paper that "satisfaction" and "liking" are better at predicting actual recommendations than "likelihood to recommend".

Reichheld (2003) claims in the HBR article 'The One Number You Need to Grow', that since his tests showed propensity to recommend to be the single question that had the strongest statistical relationship to future company performance, there was no point asking any other questions in customer surveys. The authors of the book "*Customer Satisfaction: The customer experience through the customer's eyes*" (Hill, Roche & Allen, 2007) state that "*a single item question is much less reliable and more volatile than a composite index*" (p. 7), in favor of the ACSI measure. In addition, Keiningham et al. (2007) find that, "*contrary to Reichheld's assertions, recommend intention alone will not suffice as a single predictor of customers' future loyalty behaviors. Use of multiple indicators instead of a single predictor model performs significantly better in predicting customer recommendations and retention.*"

East et al. (2011) have not only criticized the NPS, but took the ACSI along, and stated that both measures have weaknesses that could be avoided with a new measure that has been developed by the researchers. Satisfied customers are more likely to remain loyal and express a positive word-of-mouth (WOM), which could lead to customer acquisition and sales. Therefore it is likely that these metrics may predict brand performance. East et al. (2011) show in their study that ex-users and never-users, who are not captured by the NPS, can give some positive WOM, but mostly generate negative WOM. Additionally, the study shows that the NPS' detractors, who according to Reichheld are responsible for generating negative WOM, actually are only responsible for a small amount of the negative WOM. The researchers prove that the NPS and the ACSI do not provide adequate measurement of NWOM and dissatisfaction respectively. Also, the NPS lacks a measurement of the impact of WOM. According to East et al. (2007) the total effect of WOM should be established by the



separate measurement of the volume and impact on purchase of PWOM and NWOM. Therefore, they have worked out the Net Effect of WOM with the following equation:

$$[(\text{volume} \times \text{impact})_{\text{PWOM}} + (\text{volume} \times \text{impact})_{\text{NWOM}}] / \text{market share}$$

In the study by Wiesel, Verhoef, and de Haan, (2012), the NPS is compared to the Customer Effort Score (CES) and Customer Satisfaction for their relation to repurchasing and increased spending. They find that the NPS is a good predictor of the individual customer's attitudes, but on the firm level is outperformed by the CES.

Richard Everson, from Forrester Research, states to stop using the NPS, or rather, start to use it more properly. Despite all the critics, the NPS remains a popular metric because of its simplicity. It is a well marketed, easy to understand tool and its model makes intuitive sense: every organization wants more promoters than detractors.

## **2.3 Customer Satisfaction**

### **2.3.1 Definitions of Customer Satisfaction**

Customer satisfaction can be defined as "*an overall evaluation based on the total purchase and consumption experience with a good or service over time*" (Anderson, 1994; Fornell, 1992).

Cronin and Taylor (1992) measured customer satisfaction as a one-item scale that asks for the customers' overall feeling towards an organization.

### **2.3.2 The American Customer Satisfaction Index (ACSI) and firm growth**

As many researches have proven the relationship between customer loyalty and customer satisfaction, some even go beyond and examine the direct relationship between customer satisfaction and firm growth. Anderson, Fornell, and Mazvancheryl (2004) have proven a positive relationship between the ACSI and the ratio of price to book value, equity prices, and Tobin's Q, which is the ratio of a firm's market value to the replacement cost of its assets (Tobin, 1969). Gruca and Rego (2005) have used ACSI and COMPUSTAT data and found that the satisfaction measure creates shareholder value by increasing future cash flow growth and reducing its variability.

Fornell et al. (2006) also proved there is a significant positive relationship between the ACSI and firm growth. They found that firms which perform better in the ACSI, also perform significantly in terms of market returns.

### **2.3.3 Linkage between Customer Satisfaction and Loyalty**

Many believe customer satisfaction to be a fundamental determinant of customer loyalty. There is plenty of research that justifies this declaration. Reynolds and Beatty (1999) have found that satisfaction affects behavioral loyalty directly. Fornell (1992) has done research in a variety of products and service categories, and found a strong positive effect on customer loyalty intentions. Ever since, many scholars studied this relationship and found a significantly positive correlation between customer satisfaction and customer loyalty (Dick and Basu, 1994; Zeithaml et al., 1996; Lai et al., 2009).

If a customer is satisfied, the likelihood of repeat patronage is great. According to Cheng (2011), attitudinal loyalty is created by satisfaction, whereby the customer recommends the product or service through word-of-mouth. Thus, customer satisfaction has a positive effect on attitudinal and behavioral loyalty. In addition, researchers have found that satisfaction helps brands to build long and profitable relationships with their customers (Eshghi et al., 2007).

Customer satisfaction has therefore long been used to predict behavioral intentions (Anderson, Fornell, and Lehmann 1994; Cronin and Taylor 1992; Zeithaml, Berry, and Parasuraman 1996). These studies assume transactional customer relationships in which the determinant of repeat purchasing is successful previous experience rather than the development of trust and commitment. Garbarino and Johnson (1999) used satisfaction as a mediator to represent the basic model in which overall satisfaction with previous encounters mediates future behavioral intentions, that has been used in most consumer (satisfaction) research.

However, some argue that satisfaction is a weak predictor of customer loyalty. Though it is true that loyal customers are often satisfied, not all satisfied customers are loyal. In addition, a customer who is merely satisfied might remain loyal. Jones and Sasser (1995) find that unless a customer is completely satisfied, there is always a chance that this customer will defect. "*Complete*

*satisfaction is key to secure customer loyalty and superior long-term financial performance.*" In their Harvard Business Review article, they claim that higher levels of customer satisfaction do not necessarily correspond with higher likelihood to repurchase a product or service.

In another, more recent, Harvard Business Review article, Verhoef, Wiesel and de Haan (2012) explore the predictive power of inter alia customer satisfaction on loyalty and repurchasing. In contrast with the Net Promoter Score and the Customer Effort Score, customer satisfaction was found to be a weak predictor. Therefore, these researchers emphasize how important it is to examine other – potentially – influential factors (Jones et al., 2002; Wiesel et al., 2012). Their implication is that it is dangerous to rely on a single customer metric and urge for a multi-dimensional approach to predict behavior loyalty.

## **2.4 Linkage between Relational Factors and Loyalty**

A study by Palmatier et al. (2006) suggests that several relational mediators (trust, commitment, satisfaction and quality) influence customer loyalty, word-of-mouth and expectation of continuity, but also seller-objective performance. Based on this research, these factors are consistently measured in this thesis to analyze the behavioral loyalty effects towards fast moving consumer goods.

### **2.4.1 Trust**

In retailing, Berry (1993) states that "trust is the basis for loyalty." Morgan and Hunt (1994) found that trust and commitment are key variables that mediate successful relationship marketing in the context of automobile tire relationships. Garbarino & Johnson (1999) define trust as "*customer confidence in the quality and reliability of the services or products offered by the organization*".

Commitment is defined as "*customer psychological attachment, loyalty, concern for future welfare, identification, and pride in being associated with the organization*". In accordance with the theory of trust and commitment as mediators (Morgan and Hunt 1994), trust is considered as a precursor of commitment. As commitment involves potential vulnerability and sacrifice, people are unlikely to be committed unless there is trust. In addition, this theory proposes trust and commitment as influential factors in the future intentions of an exchange partner (Garbarino & Johnson, 1999).

In another study, Chaudhuri and Holbrook (2001) examine the chain of effects from brand trust and brand affect to brand performance. They look at how brand trust and brand affect combine to determine purchase loyalty and attitudinal loyalty. They found that purchase loyalty leads to greater market share and attitudinal loyalty leads to a higher relative price for the brand, which in their turn are determined by trust in the brand and by feelings or affect elicited by the brand.

### 2.4.2 Commitment

Commitment is defined in marketing literature as: *“a desire to maintain a relationship”, “a pledge of continuity between parties”, “the sacrifice or potential for sacrifice if a relationship ends”, “the absence of competitive offerings”* (Moorman, Deshpand, and Zaltman 1993; Morgan and Hunt 1994; Gustafsson, Johnson, and Roos 2005). Many researchers have looked at the influence of - among others - commitment on customer loyalty. Assael (1987) even sees commitment as a crucial part of loyalty, as he defines brand loyalty as *“commitment to a certain brand”* arising from certain positive attitudes. Keller and Kotler (2009) consistently define brand loyalty as *“a commitment to rebuy or to repatronize a preferred product or service.”* An important conceptual difference between customer satisfaction and the commitment dimensions is that satisfaction is "backward looking", whereas the commitment dimensions are more "forward looking" (Gustafsson, Johnson, and Roos 2005).

Similar to trust, commitment is recognized as an essential ingredient for successful long-term relationships (Dwyer, Schurr, and Oh 1987; Morgan and Hunt 1994). Gundlach, Achrol, and Mentzer (1995) argue that commitment has three components: an instrumental component of some form of investment, an attitudinal component that may be described as affective commitment or psychological attachment, and a temporal dimension indicating that the relationship exists over time (Garbarino & Johnson, 1999).

In contrast with many researches on commitment, this thesis also takes into account the calculative commitment, whereas other only account for affective commitment. Calculative commitment is important because it captures the competitiveness of the firm's value proposition. Whereas customer satisfaction and affective commitment focus on perceptions of an offer per se,

calculative commitment reflects the viability of competitive offerings (Gustafsson, Johnson, and Roos 2005). This thesis has adapted the measurement items of affective and calculative commitment by Gustafsson et al. 2005 to apply for FMCG such as soft-drinks.

## 2.5 Customer Loyalty among Soft-drink Consumers

The idea that customer loyalty is great among soft-drink consumers, comes from the huge rivalry between the Coca-Cola Company and PepsiCo. The two major cola brands, Coca-Cola and Pepsi, are among the most popular brands in the world and the Cola wars already last since the brands existed, for more than a century.

*“Soft drinks have been a rite of passage among the youth cultures of modern societies for generations which legitimizes these categories for future generations. However, it is becoming less and less likely that these traditional points of entry will be the “guaranteed” new consumer pipelines that they have been. The Cola Wars of the 1980s assumed cola consumption and pitted brands against each other for share. In the near future, we will see brands battling for an ever-shrinking piece of the market if their offerings are not adjusted to reflect evolving preferences, and if consumer relationships are not successfully managed to encourage trial and discourage defection.”* (Interbrand Best Global Brands report, 2012).

According to Interbrand, Coca-Cola is even considered as the best global brand of 2012, meaning the brand has most value which is estimated at \$ 77,839 million.<sup>22</sup> Coca-Cola, a company of 126 years old, and with nearly 70 million fans on Facebook, 1.8 billion Coke products consumed daily and 3,500 beverages in its diverse portfolio. Pepsi follows on a twenty-second place in the top 100 best global brands with a brand value of \$ 16,594 million. Even a third soft-drink brand can be found in the top 100 of best global brands of 2012, which is Sprite at #66, with a brand value of \$ 5,709 million.

---

<sup>22</sup><http://www.interbrand.com/nl/best-global-brands/2012/Best-Global-Brands-2012.aspx>

A study by Atilgan, Aksoy, & Akinci (2005), verified the customer-based brand equity (CBBE) approach from Aaker (1991) applied to the beverages industry in Turkey. They found that brand loyalty is the most influential determinant of brand equity.

Another Turkish study by Ulas and Arslan (2006) investigated brand switching attitudes of cola consumers in Turkey, shortly after the introduction of a successful domestic cola brand. This domestic brand, Cola Turka, engaged in the Turkish cola wars with Pepsi and Coca-Cola. At the time of the study already pushed Pepsi of its second place in the market, claiming that Cola Turka owns over 20% of the market where Pepsi's share is decreasing to below 20% and Coca-Cola is leading the market with 60%.

A more recent paper by Abarajithan & Ragel (2011) studied customer switching behavior toward the carbonated soft-drink market in Sri Lanka. They showed what factors determine switching behavior among carbonated soft-drink consumers in Sri Lanka. The authors proposed that the marketing mix influenced the switching behavior. The marketing mix is considered to consist out of four P's. The four P's are product, price, place and promotion (Kotler, Armstrong; 2010). The study showed that of these dimensions, the marketer's product mix, promotional mix and distributional strategies have a high influence on the switching decision, whereas price strategy plays a moderate role.

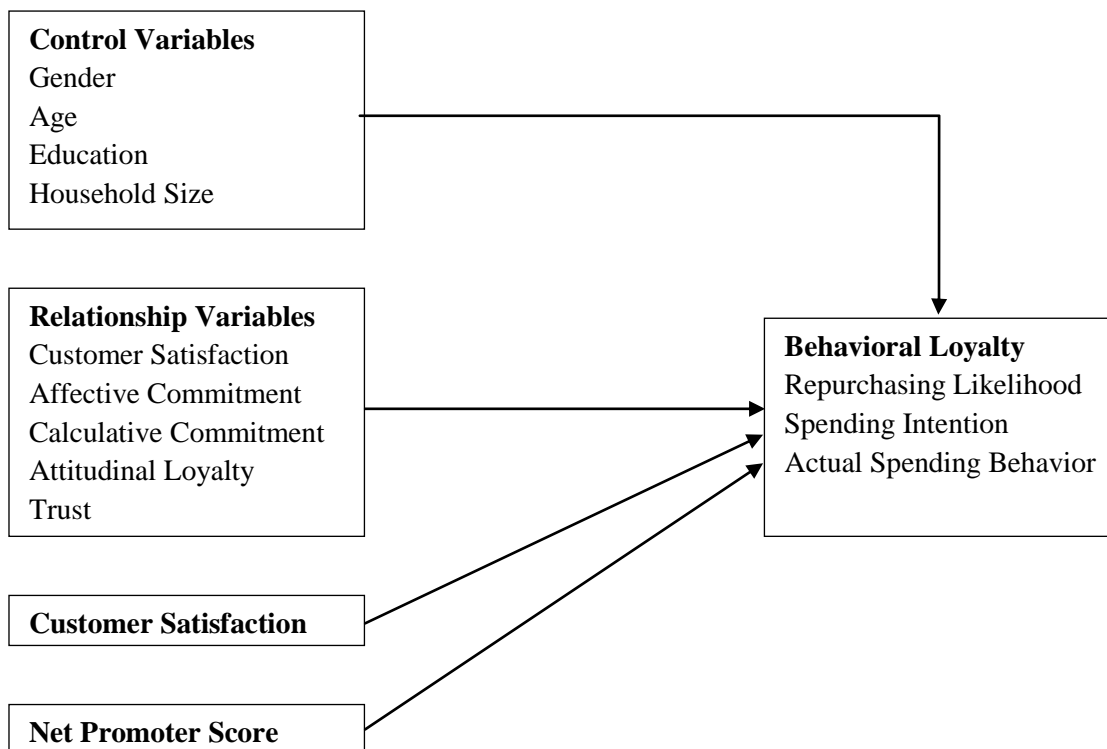
Another study compared the results of brand loyalty among soft-drink consumers in Kenya and India (Mise, Nair, Odera, Ogutu, 2013). The findings reveal that the majority of Indian soft-drink consumers were truly loyal and not brand switchers. The majority of Kenyan soft-drink consumers stated that they are not truly loyal, nor brand switchers. Therefore, Kenyan soft-drink consumers are indifferent buyers compared to Indian consumers who are mostly truly loyal.

Muniz & Hamer (2001) even studied 'oppositional brand loyalty' and the cola wars, by analyzing consumer messages posted to multiple online newsgroups. The study shows that consumers identify themselves by the brands they consume, but also the brands they do not consume. These consumers express their opposition to competitive brands by initiating and participating in playful rivalries (insulting and challenging) towards consumers loyal to competitor brands.

## 2.6 Conceptual Framework

This thesis aims to investigate the ability to predict repurchasing intentions and actual repurchasing behavior in convenience FMCG using customer metrics such as 'Customer Satisfaction' and the 'Net Promoter Score' (NPS). In addition Trust, Commitment and Attitudinal Loyalty are looked at to see the influence of these relationship dimensions. Therefore, soft-drinks have been used as an example of convenience FMCG to predict repurchasing behavior and intentions and the effects of the NPS, Customer Satisfaction, and set of relationship marketing dimensions. Besides these direct effects of these approaches on predicting behavioral loyalty, also indirect effects are being looked at, to see if the model of the NPS as predictor of behavioral loyalty can be further improved by adding customer satisfaction to the model, and an additional model with the complete set of relationship variables.

**Figure 3: Conceptual Framework**



## 2.8 Conclusion

Consensus is that customer loyalty is one of the main drivers of firm performance, as it can generate positive returns such as increased sales, lower costs, and more predictable profit streams

(Ostrowski et al., 1993, Terrill et al., 2000, Jones and Taylor, 2005). Dick and Basu (1994) have conceptualized a multidimensional construct of loyalty, namely an attitudinal and behavioral dimension. The attitudinal dimension is more or less the attitude of a consumer towards a company, product or service, whereas the behavioral dimension is considered to be the frequency or quantity of purchases.

The Net Promoter Score has been argued to be the ultimate question for managers to use for assessing customer loyalty. However, critics argue that using just the NPS is insufficient. Therefore, in this thesis shall be looked at if customer satisfaction and relationship marketing variables increase the predictive power of the NPS.

In contrast to the NPS, there have been many researches that studied customer satisfaction as an antecedent of customer loyalty. As most researchers have found satisfaction to be a good indicator of customer loyalty, some have argued that just satisfaction is not enough. However, the positive relationship between satisfaction and loyalty is generally accepted.

In relationship marketing a set of variables has been used to determine customer loyalty. Besides customer satisfaction, also trust, commitment and attitudinal loyalty form antecedents of behavioral loyalty. Palmatier et al. (2006) has suggested that several relational mediators (trust, commitment, satisfaction and quality) influence customer loyalty, word-of-mouth and expectance of continuity.



### **3 Research Methodology**

In this chapter the methodology and research approach will be described. The research method is based on existing research. The methodology describes how quantitative research is developed, examined and analyzed.

#### **3.1 Research Design**

The research design of this study is a combination of several designs. Besides the literature review of existing research, this research uses primarily collected quantitative survey data to explain the relationships between several independent variables (customer metrics, relationship marketing dimensions) on dependent variables (behavioral loyalty; repurchasing likelihood, spending intention, actual spending behavior). Zikmund (1984) suggests that the degree of uncertainty about the research problem determines the research methodology. Since key dependent variables and relationships are defined, the main design of this study can be called explanatory. The motivation of this study comes from a research by Wiesel et al. (2012) that provided a theory on existing relations. The purpose of this study is to evaluate the relationships and theories, supported by primarily collected data.

#### **3.2 Data Collection**

For the research, data has been collected via two surveys which are spread throughout the internet; e-mail and social media. The surveys have been distributed via Qualtrics, a website with survey design possibilities and downloadable SPSS-output. A first survey has been sent out to measure the behavior and attitude of consumers towards soft-drink brands which they purchase in the supermarket. One week later a follow-up survey has been sent out to the e-mail address which the respondents had given in the first survey, to measure the actual purchase behavior of soft-drink brands in the supermarket in that week to control for predictions on future repurchasing behavior. The data collection process took place during the first two weeks of June 2013.

At first, a pretest was conducted with ten respondents to optimize the survey. The survey has been optimized after these first ten respondents have participated, editing some wording and readability. Afterwards, the link to fill in the survey has been spread throughout the use of social

media such as Facebook, LinkedIn and Twitter, and shared by participants to also reach their connections. Also e-mail connections are used. This led to a total of 449 participants in the first survey.

Once a respondent entered the website of the survey, an introduction had to be read before the survey started, which introduced clear definitions of soft-drinks and soft-drink brands. Examples were given on how to enter values to answer the open questions (e.g. what punctuation mark to use and how to write the brands), but also how to answer the scale questions. A full copy of the questionnaire (with the instructions) can be found in Appendix B. The survey started with the question on how often the respondent bought soft-drinks at the supermarket. Hereafter, the respondent was asked to provide up to five of his most often bought soft-drinks (in order), and up to five favorite soft-drink brands in order. This was followed by questions regarding the average purchasing behavior in volume (liters) and monetary (Euro's) of soft-drinks in general and his/her favorite soft-drink brand. An overview of the scales and the sources of measuring the variables customer satisfaction, NPS, attitudinal loyalty, behavioral loyalty intentions, trust, affective and calculative commitment can be found in the next chapter, along with the descriptives and reliability (i.e. Cronbach's alpha) of these constructs will be described. Further in this chapter, in paragraph 3.4, a description of the sample will be provided.

A week later I conducted a second wave of my survey, targeting the same respondents. This follow-up survey has been sent out a week after the respondent had completed the first survey. In total, 133 respondents have responded in this second wave. Thus, a response rate of 51.4% was the result. The full copy can be found in Appendix D. The survey consists of six questions that measure actual behavioral loyalty. These questions were the volume of soft-drinks purchased in that week in general, and the amount spent on soft-drinks in that week in general, and the volume purchased and amount spent per brand.

### **3.3 Cleaning the Data**

The survey has been filled in quite well. Some errors and inconsistencies were found. These cases had to be deleted from the dataset to avoid the analysis of this research to be influenced by invalid data. 5 respondents have provided values to their soft-drink purchases in general that are lower

than the value that they have entered for their favorite brand purchases. Obviously, it is impossible to buy more of your favorite soft-drink brand than soft-drinks in general. One case of extreme, unrealistic values and uncompleted cases have been deleted as well. In total, there were 449 cases, of which 49% was incomplete. After further cleaning 220 valid and complete cases were left. In the follow-up survey 133 participants responded in total. 85% (113 cases) completed the survey. Two cases seemed unrealistic, and have been deleted. By coincidence, exactly 50% (110) complete cases were left to be used for analysis.

### 3.4 Representativeness and Sample Profile

The table below shows some descriptives and frequencies from the sample profile versus the Dutch population. There is some variance between the sample and the Dutch population, which have been gathered by the Dutch Central Bureau for Statistics (CBS) as of April 2013.

**Table 3: Sample Representativeness**

Variable	Sample				Population*		
	Absolute	Relative		Cumulative Percent	Absolute (*1000)	Relative	
<b>Gender</b>							
Male	139	63,20%		63,20%	8306	49,50%	
Female	81	36,80%		100,00%	8472	50,50%	
Total	220	100,00%			16778	100,00%	
<b>Level of Education</b>							
Primary school	1	0,50%		0,50%	923	8,40%	
Secondary school	7	3,20%		3,60%	3694	33,60%	
Intermediate vocational ed. (MBO)	18	8,20%		11,80%	3452	31,40%	
Higher professional ed. (HBO)	114	51,80%		63,60%	2001	18,20%	
University (WO)	80	36,70%		100,00%	923	8,40%	
Total	220	100,00%			10994	100,00%	
<b>Household Size</b>							
1	60	27,30%	27,50%	27,30%	2762	36,80%	1
2	71	32,30%		59,90%			
3	31	14,10%		73,60%			
4	39	17,70%	72,50%	91,40%	4751	63,20%	3,4
5 or more	19	8,60%		100,00%			
Total	220	100,00%	100,00%		7513	100,00%	2,2
<b>Age</b>							
	<b>Range</b>	<b>Male Average</b>	<b>Female Average</b>	<b>Total Average</b>	<b>Male Average</b>	<b>Female Average</b>	<b>Total Average</b>
Age	18-69	29	29,2	29,1	39,9	41,7	40,8

\*CBS 5 April 2013

Major differences between the sample and Dutch population can be found in all demographic aspects. Males, the higher professional educated and multiple person household are overrepresented. This high variance will lead to some difficulties in generalizing towards the Dutch population, therefore, this has to be interpreted with caution.

### **3.5 Analyses Techniques**

The data will be analyzed through the statistical software program SPSS. Descriptive statistics and frequency tables will show basic analyses on the dataset. A factor analysis will summarize construct-items in the dataset and allow me to check the validity of the measures for the different constructs (by checking if the factors obtained conform with the theoretical predictions). Cronbach's alpha will allow me to test whether the measures are reliable. In addition, KMO and Bartlett's test will show sample adequacy and validity. Cronbach's alpha should also indicate if the data is reliable.

Recall that the goal is to measure the predictive power of the different metrics and relation factors on behavioral loyalty, intentions and actual spending on soft-drinks. The predictive power will be analyzed by checking the correlations and their significance between the measures and the outcome variables (an approach akin to the one used by Wiesel, Verhoef, de Haan, 2012). In addition a linear regression model will be applied to see how models can be improved by adding or deleting variables in the model.

## 4 Data Analysis and Results

This chapter provides the results of the data analysis. The first paragraph presents the validity and reliability of the data by Cronbach's alpha, KMO and Bartlett's test of sphericity, and a factor analysis to reduce the number of measures into several dimensions. Descriptives of the dataset will be given in paragraph 4.2. Paragraph 4.3 shows the relationships among variables through correlations. Hereafter, several models are tested through linear regression. The chapter will finish with a conclusion.

### 4.1 Reliability and Validity

#### 4.1.1 Reliability: Cronbach's Alpha

To control the data for reliability, a reliability analysis was executed on the multi-item constructs to measure Behavioral Loyalty, Repurchase Intentions, Attitudinal Loyalty, Trust, Affective and Calculative Commitment. Customer Satisfaction and the Net Promoter Score have been measured as single-item constructs. Table 4 (below) shows the Cronbach's alpha value of these constructs (if a multiple item construct), and the source of which the constructs have been adopted. All of the constructs' Cronbach's alpha value are above the threshold of 0.6. Hence, we can proceed with the use of these constructs, because the data among the 220 respondents is reliable. Unused measures from the questionnaire which are not included in further analysis, have not been taken into the reliability analysis and are therefore not shown in the table below.

**Table 4: Reliability Statistics**

Construct	N of Items	Cronbach's alpha	Source
Trust	3	,847	Garbarino & Johnson, 1999; Morgan & Hunt, 1994
Affective Commitment	3	,639	Gustafsson, Johnson, and Roos, 2005
Calculative Commitment	2	,662	Gustafsson, Johnson, and Roos, 2005
Attitudinal Loyalty	5	,839	Harris and Goode, 2004
Customer Satisfaction	1	-	Cronin and Taylor, 1992
Net Promoter Score	1	-	Reichheld, 2003
Repurchase Intentions	4	,842	Morgan and Rego, 2006
Behavioral Loyalty	2	,926	Warshaw, 1980

**4.1.2 Validity**

*KMO and Bartlett's Test*

To check the data for dimensions and validity, of the 21 items, the single-item measures Customer Satisfaction and Net Promoter Score were excluded and a Factor Analysis on the multi-item constructs Attitudinal Loyalty, Trust, Affective and Calculative Commitment has been executed, and, since the behavioral loyalty measures are more indications of repurchasing likelihood, we excluded these items from the factor analysis as well.

A KMO and Bartlett's Test of Sphericity has been executed as part of the factor analysis. The Kaiser-Meyer-Olkin Measure indicates that the sample is adequate ( $KMO > 0,6$ ) and Bartlett's Test of Sphericity shows the dataset is significant and responses used are valid and suitable for this study (see table below). N.B. including Customer Satisfaction, the Net Promoter Score and the Behavioral Loyalty items do not change these results, but are excluded from the Factor Analysis to not disrupt the dimension composition.

**Table 5: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,832
Bartlett's Test of Sphericity	Approx. Chi-Square	1175,714
	df	91
	Sig.	,000

*Factor Analysis*

The factor analysis was executed using Principal Component Analysis and rotated Varimax with Kaiser Normalization. The Varimax rotation maximizes the variance of the squared loadings of a factor on all the variables included, so that for each factor, high loadings will result for a few variables; the rest will be near zero. The results of the Factor Analysis can be found in the table on top of the next page. The results show that the items which tend to belong together, according to this rotated component matrix also do belong together. Thus, this factor analysis proves the validity of the multi-item constructs. Additionally, table A1 in Appendix E shows the total variance explained by the four components (66%) that have an Eigen value  $> 1$ . The scree plot (figure A1 in Appendix E) also indicates four factors.

**Table 6: Rotated Component Matrix<sup>a</sup>**

	Component			
	1	2	3	4
My favorite soft-drinks brand always meets expectations	,206	,822	,067	,010
My favorite soft-drinks brand can be counted on to provide good quality	,285	,840	,090	-,026
My favorite soft-drinks brand is reliable	,116	,854	,171	-,030
I am happy to be a customer of my favorite soft-drinks brand	,231	,331	,560	,105
My favorite soft-drinks brand is the soft-drinks brand that takes the best care of its customers	,081	-,010	,823	,128
I have feelings of trust toward the company	,187	,140	,737	,139
It pays off economically to be a customer of my favorite soft-drinks brand	-,067	-,092	,162	,829
I would suffer economically if the relationship were broken with my favorite soft-drinks brand	,048	-,064	,176	,760
I believe that my favorite soft-drinks brand is preferable to any other soft-drinks brand	,716	,222	,184	,040
I believe that my favorite soft-drinks brand has the best offer	,366	,191	-,009	,589
I prefer the quality of my favorite soft-drinks brand to the quality of competitors	,750	,289	,090	-,074
I have repeatedly found my favorite soft-drinks brand better than others	,822	,146	,038	,016
I am a loyal customer of my favorite soft-drinks brand	,744	,096	,249	,222
I consider my favorite soft-drinks brand my first choice for soft-drinks purchases	,800	,088	,130	,110

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 6 iterations.

- Component 1 (yellow) consists of all *attitudinal loyalty* items.
- Component 2 (blue) consists of all items related to measure *trust*.
- Component 3 (red) consists of all items related to the *affective commitment* measures.
- Component 4 (green) consists of the two *calculative commitment* items.

One exception is the attitudinal loyalty item “*I believe that my favorite soft-drinks brand has the best offer*” actually has a higher factor loading on calculative commitment than attitudinal loyalty, which does make sense, since this item is price-related.

After the factor analysis has been executed, the mean scores have been calculated for each respondents in each construct as a weighted average of all items measuring the corresponding construct, with weights being the factor loadings of each item in the corresponding factor.

That is, as discussed in the equation below,  $\bar{x}_{ij}$  is the score of respondent  $i$  in construct  $j$ ,  $n$  is the number of items used to measure construct  $j$ ,  $i$  is the individual respondent,  $\lambda$  is the factor loading score of item  $k$  in factor  $j$  for individual  $i$  and  $x_{ijk}$  is the response of respondent  $i$  to item  $k$  which is part of the multi-item construct  $j$ .

$$\bar{x}_{ij} = \frac{\sum_{k=1}^n \lambda_{ijk} x_{ijk}}{\sum_{k=1}^n \lambda_{ijk}}$$

By using this equation, items with a high weight contribute more to the component score than the low weighted items. The use of this summated scale is considered a valuable addition to any multivariate analysis because it reduces measurement error and represents multiple facets of a concept (Hair, Black, Babin, and Tatham, 2006).

## 4.2 Descriptives

### 4.2.1 Sample descriptives

The data has first been analyzed through the descriptive statistics. The complete descriptive output of the two surveys can be found in the appendix. The table below provides the descriptives of the variables used in the further analysis. This table also includes the descriptives about the computed component scores for the multi-item constructs attitudinal loyalty, trust, affective and calculative commitment.

**Table 7: Descriptive Statistics of Respondents**

	N	Min	Max	Mean	Std. Dev.
Gender	220	0	1	0,37	,483
Age	220	18	69	29,10	10,551
Education	220	1	5	4,20	,758
Household size	220	1	5	2,48	1,294
Affective Commitment	220	1,98	5,00	4,0767	,60151
Calculative Commitment	220	1,26	5,00	3,4128	,62381
Attitudinal Loyalty	220	1,00	5,00	2,3555	,86649
Trust	220	1,81	5,00	3,7394	,67320
Customer Satisfaction	220	1	5	4,09	,713
Net Promoter Score	220	1	5	3,54	1,132
RPI Favorite	220	1	5	3,51	1,237
RPI Spending	220	0,00	35,00	4,0419	4,91780
Actual Spending	110	0,00	26,00	3,5119	4,15764
Valid N (listwise)	110				

What can be derived from this table is that among the sample, Customer Satisfaction and Affective Commitment are high towards the favorite soft-drink brand of the consumers (mean above 4). The Net Promoter Score, Trust and Calculative Commitment are moderately high (mean above 3). The mean for Attitudinal Loyalty is actually quite low (2.36).



**4.2.2 Soft-drink Purchasing Behavior**

The table below provides a descriptive summary of the average weekly soft-drink purchasing behavior from the 220 respondents that have been questioned.

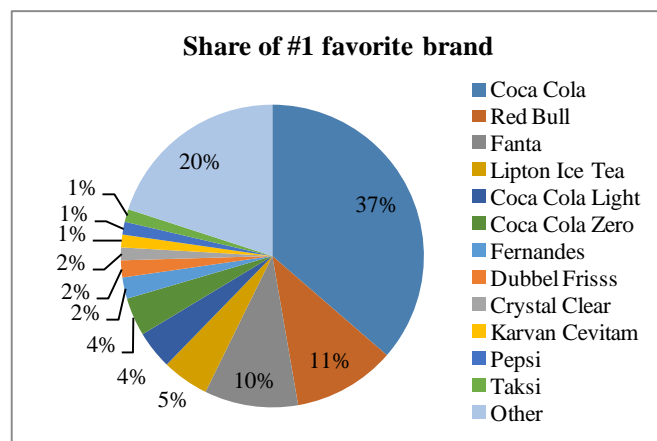
**Table 8: Descriptive Statistics of Respondents' Soft-drink Purchasing Behavior**

	N	Min	Max	Mean	Std. Dev.
How often do you buy soft-drinks* in the supermarket?	220	1	7	4,25	1,560
Please estimate how much you buy soft-drinks in general in liters*** on average in the supermarket per week	220	0,00	18,00	2,4930	2,78884
Please estimate how much you spend on soft-drinks in general in €uro's on average in the supermarket per week	220	0,00	35,00	4,6730	4,92900
Please estimate how much you buy from your #1 favorite soft-drink brand in liters*** on average in the supermarket per week	220	0,00	12,00	1,6133	1,86350
Please estimate how much you spend on your #1 favorite soft-drink brand in €uro's on average in the supermarket per week	220	0,00	16,00	2,8373	3,22702
Valid N (listwise)	220				

When looking at the average weekly purchasing behavior estimated by the respondents, the sample buys nearly 2.5 liters of soft-drinks per week for approximately € 4.65. The sample buys nearly 1.6 liters of soft-drinks from their favorite brand for € 2.85. The total volume bought by the sample comes down to nearly 550 liters of soft-drinks. In total, the sample has spent more than a thousand euro's.

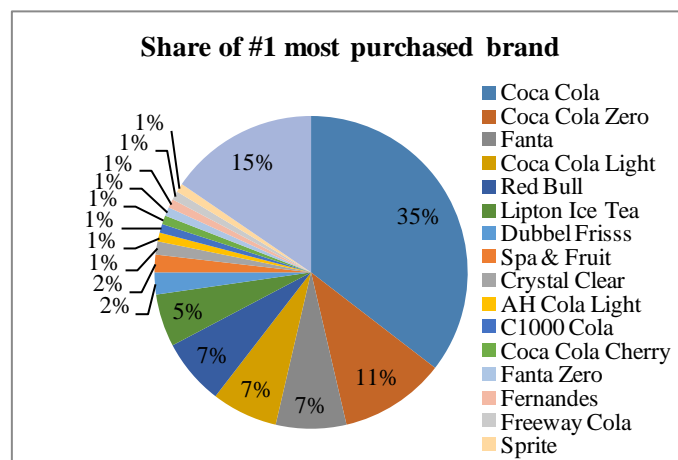
In figure 5 below, the share of the sample's favorite brands is visualized. Similar to figure 6 on the next page, the slices of the pie are arranged, in a clockwise manner, according to the ranking by market shares in the sample and that the legend is organized likewise. It seems that Coca-Cola is by far the most popular brand. 80 of the 220 respondents reported Coca-Cola as their #1 favorite brand. Surprisingly, not Pepsi or another Coca-Cola brand is on the second place, but Red Bull. Third is Fanta. In the graph all brands with less than 1% share in favorite brand are put together under 'Other'.

**Figure 5: Share of #1 most favorite brand among respondents**



Looking at figure 6, which shows what brand is purchased most by the respondents, Coca-Cola is for 35% of the sample the first choice. In addition, the diet versions Coca-Cola Zero and Coca-Cola Light make it to the top 5 of #1 most purchased brands, as number two and four respectively. Fanta, which is also a brand owned by The Coca-Cola Company, is the most purchased brand by 7.3% of the sample, and therefore is ranked third. Red Bull closes the top 5 of most purchased brands. One other thing to notice is that among the #1 most purchased brands, in contrast with the #1 favorite brands, private label brands are listed (AH Cola Light, C1000 Cola, and Freeway Cola).

**Figure 6: Share of #1 most purchased brand among respondents**



### 4.3 Correlation

#### 4.3.1 Correlation between Satisfaction, Other Relational Variables and NPS

The correlations between the relational factors of Palmatier (2006) should indicate if his suggestion can also be applied to the dataset of this study. The correlation matrix shows mostly significant correlations. Attitudinal loyalty shows some insignificance with affective commitment and customer satisfaction. However, since calculative commitment and trust show a strongly significant relationship with attitudinal loyalty, a positive relationship hold among most of these relational factors.

Looking at the NPS, the metric has also significant correlations with other relational variables and customer satisfaction. According to the data, trust and calculative commitment correlate the most with the NPS. Apparently, the correlation between NPS and attitudinal loyalty is relatively low. However, we are more interested in the correlations with behavioral loyalty.

**Table 9: Correlations Among Metrics**

		Affective Commitment	Calculative Commitment	Attitudinal Loyalty	Trust	Customer Satisfaction	NPS
Affective Commitment	Pearson Correlation	1	,323**	-,063	,441**	,482**	,348**
	Sig. (2-tailed)		,000	,353	,000	,000	,000
	N	220	220	220	220	220	220
Calculative Commitment	Pearson Correlation	,323**	1	,290**	,414**	,386**	,405**
	Sig. (2-tailed)	,000		,000	,000	,000	,000
	N	220	220	220	220	220	220
Attitudinal Loyalty	Pearson Correlation	-,063	,290**	1	,137*	,046	,216**
	Sig. (2-tailed)	,353	,000		,042	,502	,001
	N	220	220	220	220	220	220
Trust	Pearson Correlation	,441**	,414**	,137*	1	,404**	,432**
	Sig. (2-tailed)	,000	,000	,042		,000	,000
	N	220	220	220	220	220	220
Customer Satisfaction	Pearson Correlation	,482**	,386**	,046	,404**	1	,230**
	Sig. (2-tailed)	,000	,000	,502	,000		,001
	N	220	220	220	220	220	220
NPS	Pearson Correlation	,348**	,405**	,216**	,432**	,230**	1
	Sig. (2-tailed)	,000	,000	,001	,000	,001	
	N	220	220	220	220	220	220

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

### 4.3.2 Correlation between the Predictor Variables and Behavioral Loyalty

To see whether a positive relationship exists among NPS, customer satisfaction, relational factors and behavioral loyalty, the correlation is checked between the metrics and the loyalty indicators. In the Correlations matrix which can be found next page, all significant correlations are marked green for ease of interpretability. What can be concluded from this matrix is that the independent variables all have strongly significant correlations with behavioral loyalty intention (repurchasing likelihood of favorite brand and spending intentions on favorite brand), as these coefficients are significant at the 0.01 level (indicated by \*\*).

Furthermore, the relationship between the relationships can be derived from the value of the correlation coefficient. It appears from the data that Trust has by far the largest influence (0.435) on repurchase intentions, followed by NPS (0.293). Customer satisfaction and calculative commitment have an equal effect (0.270). Affective commitment (0.189) and attitudinal loyalty (0.217) have a relatively low effect on repurchasing intention of a favorite soft-drink brand.

**Table 10: Correlations Predictors-Behavior**

		Affective Commitment	Calculative Commitment	Attitudinal Loyalty	Trust	Customer Satisfaction	NPS
RPI Likelihood - Favorite	Pearson Correlation	,189**	,270**	,217**	,435**	,270**	,293**
	Sig. (2-tailed)	,005	,000	,001	,000	,000	,000
	N	220	220	220	220	220	220
Spending Intention - Favorite	Pearson Correlation	,232**	,287**	,204**	,327**	,256**	,170*
	Sig. (2-tailed)	,001	,000	,002	,000	,000	,012
	N	220	220	220	220	220	220
Actual Spending	Pearson Correlation	,088	,207*	,128	,274**	,091	,248**
	Sig. (2-tailed)	,360	,030	,182	,004	,344	,009
	N	110	110	110	110	110	110

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Looking at Spending Intention, all correlation coefficients seem to be strongly significant (at 0.01 level) as well. Again, Trust has the largest influence, followed by calculative commitment, customer satisfaction, affective commitment and the relatively low influence of attitudinal loyalty and NPS. Most of the independent variables – except for attitudinal loyalty and affective commitment – have a significant relationship with the actual purchasing behavior in the subsequent week. Trust and NPS are strongly significant at the 0.01 level, calculative commitment is significant at the 0.05 level. These three predictors also have a quite a large effect. Customer satisfaction, affective commitment and attitudinal loyalty don’t seem to have a significant relationship with the actual spending behavior at all. The correlation coefficients are also very low. It is quite a surprise that the relationship between actual spending behavior and customer satisfaction is insignificant, since many claim satisfaction to be a major determinant of behavioral loyalty.

In general we may conclude that Trust appears to have the largest effect on behavioral loyalty, followed by calculative commitment. Relatively, the relationship marketing variables have great predictive power on behavioral intentions, but to a lesser extent on actual behavioral loyalty. The Net Promoter Score is overall a good predictor on behavioral loyalty.

#### 4.4 Regression

Multiple regression models are used to estimate the relationship between dependent and multiple independent variables, known as predictors. In this thesis we have three dependent variables to measure customer (behavioral) loyalty. These dependent variables are measured as repurchasing

likelihood of a customer's favorite brand, spending intention on a customer's favorite brand and the actual spending behavior recorded in the subsequent week. We have set up several regression models with different predictors to see the influence of Customer Satisfaction, the Net Promoter Score (NPS), and the relationship marketing dimensions (Customer Satisfaction, Trust, Attitudinal Loyalty, Affective and Calculative Commitment) on the different dependent variables.

We start off by looking at the effects on predicting repurchase intentions, while in the second section we look at predicting spending intention, and in the final section we study the effects on predicting actual spending behavior. To do so, several regression models have been set-up. In the first model, we only look at the demographic variables (gender, age, education level and household size) as predictors. In the second model we add the relational factors, to see if this model has better predictive value. In the third model, we add the NPS to the first model to see if this stand-alone measure can improve the predictive power. This model is compared to a model including all predictor variables, to see if the predictive power of the NPS will be improved, or if the NPS as a stand-alone measure will be a sufficient predictor. Additionally, we compare the predictive power of Customer Satisfaction with that of the NPS, and a model that integrates both metrics. Finally, we propose a method to improve the NPS based on our findings.

#### **4.4.1 Predicting Repurchasing Intention**

##### *Comparing Relationship Marketing Dimensions and NPS*

In table 11 on the next page, the regression coefficients can be found of the different models on predicting the repurchasing likelihood of the respondent's favorite soft drink brand. All four models appear to be significant, however, the extended models (2, 3 and 4) improve the significance in contrast with the first model. The R square and the adjusted R square indicate how much of the variance is explained by the model. This determination coefficient shows that the models 2, 3 and 4 significantly explain more variance than model 1. Model 4 seems to explain most of the variance, but the R square does not improve much on model 2. Looking at the adjusted R square, which includes a penalty for additional parameters, the model still improves. Model 3 shows that the NPS is a significant predictor on repurchasing likelihood, however, as a stand-alone measure it explains less

than when relational factors and customer satisfaction are included in the model. The results are also graphically shown at the end of this chapter in figures 10 and 10.

**Table 11: Regression Analyses RPI Models 1-4**

Y1	RPI Likelihood Favorite	Model 1			Model 2			Model 3			Model 4		
X		β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.
	R square	0,044			0,278			0,143			0,290		
	Adjusted R square	0,026			0,248			0,123			0,256		
	F-value	2,487			9,004			7,131			8,528		
	Sig. F	0,044			0,000			0,000			0,000		
X0	(Constant)	4,687		,000	1,102		,197	3,466		,000	1,245		,144
X1	Gender	,037	,015	,829	,072	,028	,633	,017	,007	,918	,054	,021	,719
X2	Age	-,002	-,014	,839	-,003	-,028	,651	,006	,048	,481	-,001	-,006	,918
X3	Education	-,324	-,198	,005	-,378	-,231	,000	-,354	-,217	,001	-,390	-,239	,000
X4	Household Size	,074	,078	,249	,029	,031	,612	,042	,044	,494	,023	,024	,688
X5	Affective Commitment	-	-	-	-,065	-,032	,663	-	-	-	-,113	-,055	,456
X6	Calculative Commitment	-	-	-	,041	,021	,772	-	-	-	-,015	-,008	,916
X7	Attitudinal Loyalty	-	-	-	,185	,130	,040	-	-	-	,158	,111	,082
X8	Trust	-	-	-	,704	,383	,000	-	-	-	,643	,350	,000
X9	Customer Satisfaction	-	-	-	,241	,139	,053	-	-	-	,253	,146	,041
X10	Net Promoter Score	-	-	-	-	-	-	,353	,323	,000	,142	,130	,069

In model 1, only the level of education seems to be a significant predictor ( $p = 0.005$ ). The negative value of this variable shows a negative relationship, meaning the higher the educational level of the respondent, the lower the repurchasing likelihood of his/her favorite brand. All other demographic variables are insignificant.

In the second model, besides the demographic variables, relational factors are included, improving the significance of the model to  $p = 0.000$  and the adjusted  $R^2$  to 24.8%. Education, attitudinal loyalty and trust have significant regression coefficients, with a p-value of 0.000, 0.040, and 0.000 respectively. According to the high value of the unstandardized regression coefficient of trust, this appears to have a relatively large effect.

In the third model we see that the ultimate question (Reichheld, 2003) is a significant predictor on repurchasing likelihood. The model is strongly significant ( $p = 0.000$ ), but the adjusted  $R^2$  (12.3%) is almost half of model 2, therefore performs much worse. Education and the NPS are the only significant parameters with p-values of (0.001 and 0.000 respectively).

In the fourth model all predictors are included. The adjusted R<sup>2</sup> is highest of all four models, this model explains approximately 25.6% of the variance in repurchasing likelihood. The model is strongly significant as the p-value = 0.000. It appears that by adding the Net Promoter Score and the relation factors in the model, customer satisfaction becomes a significant predictor, while attitudinal loyalty and the NPS itself become insignificant.

*Comparing NPS and Customer Satisfaction*

In three more models, we compare model 1 to the NPS (model 3), to customer satisfaction (model 5) and a combination of these models with both the NPS and customer satisfaction integrated (model 6). The results of these regression models can be found in the table below.

**Table 12: Regression Analyses RPI Models 1, 3, 5 & 6**

Y1	RPI Likelihood Favorite	Model 1			Model 3			Model 5			Model 6		
	R square	0,044			0,143			0,127			0,192		
	Adjusted R square	0,026			0,123			0,107			0,169		
	F-value	2,487			7,131			6,238			8,442		
	Sig. F	0,044			0,000			0,000			0,000		
X		β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.
X0	(Constant)	4,687		,000	3,466		,000	2,850		,000	2,215		,003
X1	Gender	,037	,015	,829	,017	,007	,918	,060	,023	,716	,038	,015	,811
X2	Age	-,002	-,014	,839	,006	,048	,481	-,003	-,021	,748	,004	,032	,632
X3	Education	-,324	-,198	,005	-,354	-,217	,001	-,371	-,227	,001	-,386	-,237	,000
X4	Household Size	,074	,078	,249	,042	,044	,494	,064	,067	,302	,039	,041	,515
X5	Affective Commitment	-	-	-	-	-	-	-	-	-	-	-	-
X6	Calculative Commitment	-	-	-	-	-	-	-	-	-	-	-	-
X7	Attitudinal Loyalty	-	-	-	-	-	-	-	-	-	-	-	-
X8	Trust	-	-	-	-	-	-	-	-	-	-	-	-
X9	Customer Satisfaction	-	-	-	-	-	-	,503	,290	,000	,398	,230	,000
X10	Net Promoter Score	-	-	-	,353	,323	,000	-	-	-	,294	,269	,000

All these regression models appear to be strongly significant (p-value = 0,000). Looking at the determination coefficient (adjusted R square), the NPS (model 3) explains more variance (12.3%) than customer satisfaction (10.7%). When both metrics are integrated in, 16.9% of the variance is explained. These models are also included in figures 7 and 9 at the end of this chapter.

Additionally, we want to see how much of the added explained variance is contributed by the relational dimensions in comparison with customer satisfaction and the NPS. Therefore, we run another regression analysis of model 2, excluding customer satisfaction. This is compared to model 2,

and a new model that includes the NPS instead of customer satisfaction (model 7). Again, the models without customer satisfaction or NPS instead of satisfaction are strongly significant. The results can be seen in table 13 below.

**Table 13: Regression Analyses RPI Models 1, 2 ex CSAT, 2 & 7**

Y1	RPI Likelihood Favorite	Model 1			Model 2 ex CSAT			Model 2			Model 7		
	R square	0,044			0,265			0,278			0,275		
	Adjusted R square	0,026			0,238			0,248			0,244		
	F-value	2,487			9,528			9,004			8,869		
	Sig. F	0,044			0,000			0,000			0,000		
X		β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.
X0	(Constant)	4,687		,000	1,289		,116	1,102		,197	1,412		,085
X1	Gender	,037	,015	,829	,078	,030	,611	,072	,028	,633	,061	,024	,688
X2	Age	-,002	-,014	,839	-,002	-,017	,781	-,003	-,028	,651	,000	,003	,956
X3	Education	-,324	-,198	,005	-,358	-,220	,000	-,378	-,231	,000	-,369	-,226	,000
X4	Household Size	,074	,078	,249	,028	,029	,632	,029	,031	,612	,022	,023	,705
X5	Affective Commitment	-	-	-	,033	,016	,814	-,065	-,032	,663	-,006	-,003	,964
X6	Calculative Commitment	-	-	-	,101	,051	,464	,041	,021	,772	,052	,026	,713
X7	Attitudinal Loyalty	-	-	-	,182	,128	,045	,185	,130	,040	,157	,110	,088
X8	Trust	-	-	-	,744	,405	,000	,704	,383	,000	,689	,375	,000
X9	Customer Satisfaction	-	-	-	-	-	-	,241	,139	,053	-	-	-
X10	Net Promoter Score	-	-	-	-	-	-	-	-	-	,133	,122	,090

From this table we can conclude that the relational factors without customer satisfaction contribute greatly to the explained variance, increasing the adjusted R square from model 1 with more than 21%. Comparing model 2 with the edited model 2, it seems that customer satisfaction only contributes for 1% in the explained variance according to the adjusted R squares from the models. The regression coefficient of customer satisfaction is insignificant at the 0.05 level. When looking at model 7, where the NPS is added to the relationship marketing variables to replace customer satisfaction, it seems that the NPS adds less to the explained variance than customer satisfaction.

From this data, it appears that the repurchasing likelihood can best be predicted by an overall model that integrates the relational factors and the NPS, as it explains most variance. Comparing the NPS with customer satisfaction shows that NPS outperforms the satisfaction metric. However, comparing the regression coefficient, it seems that based upon this data, customer satisfaction does have a larger influence on repurchasing likelihood of one’s favorite soft-drink brand. This is also shown in table 13, where customer satisfaction was replaced by the NPS, but performed less. In this



table we also found that of the three predictors, relational factors performed best on predicting the intention to repurchase.

#### 4.4.2 Predicting Spending Intentions

##### *Comparing Relationship Marketing Dimensions and NPS*

The correlations from paragraph 4.3.2 show a significant relationship between the independent variables and the spending intention on a respondent’s favorite soft-drink brand. To further analyze this relationship and estimate the effects of the independent variables on pending intention, a regression analysis was executed with spending intention as dependent variable. The results can be found in the table below and figures 7 and 10 at the end of this chapter.

**Table 14: Regression Analyses Spending Intention Models 1-4**

Y2	Spending Intention Favorite	Model 1			Model 2			Model 3			Model 4		
	R square	0,083			0,250			0,122			0,250		
	Adjusted R square	0,066			0,218			0,101			0,215		
	F-value	4,887			7,795			5,936			6,985		
	Sig. F	0,001			0,000			0,000			0,000		
X		β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.
	(Constant)	9,374		,000	-0,766		,748	7,279		,000	-0,799		,739
X1	Gender	-1,185	-,169	,011	-1,065	-,152	,013	-1,220	-,174	,008	-1,060	-,151	,014
X2	Age	-,013	-,040	,554	-,013	-,040	,526	-,001	-,002	,978	-,014	-,042	,516
X3	Education	-1,128	-,252	,000	-1,209	-,270	,000	-1,181	-,264	,000	-1,206	-,269	,000
X4	Household Size	,018	,007	,917	-,081	-,031	,616	-,037	-,014	,827	-,079	-,030	,624
X5	Affective Commitment	-	-	-	,334	,059	,426	-	-	-	,345	,061	,419
X6	Calculative Commitment	-	-	-	,421	,077	,285	-	-	-	,434	,080	,283
X7	Attitudinal Loyalty	-	-	-	,520	,133	,040	-	-	-	,527	,134	,040
X8	Trust	-	-	-	1,101	,218	,003	-	-	-	1,115	,221	,003
X9	Customer Satisfaction	-	-	-	,592	,124	,088	-	-	-	,589	,124	,091
X10	Net Promoter Score	-	-	-	-	-	-	,605	,202	,002	-,033	-,011	,879

All the regression models are significant, model 2, 3 and 4 improve the significance of the variance and explanation power of the variance in contrast from model 1. One difference is that of these four models, model 2 seems to be most explaining variance when we look at the adjusted R<sup>2</sup>. Therefore, we can already say that the relational marketing factors do increase the explained variance of spending intention in contrast with the NPS. Model 1 is a significant model with two significant regression coefficients, gender and education. The model explains just 6.6% of the variance. Model 2 improves the first model by adding relational factors. The adjusted R<sup>2</sup> increases to 24.8% explained

variance on spending intention. Besides gender and education, also attitudinal loyalty and trust are significant predictors (p-values are 0.013, 0.000, 0.040 and 0.003 respectively). The NPS explains far less variance (10.1%) on spending intention than the relation factors in the previous model. However, the model is strongly significant (p = 0.000), and in addition to gender and education, the NPS proves to be a significant predictor on spending intention. Model 4 does not differ that much from model 2. The NPS is included, along with the relational and demographic variables, but this does not increase the explained variance. In fact, the adjusted R square decreases with 0.3%. The NPS itself is not a significant predictor.

*Comparing NPS and Customer Satisfaction*

Three more models are compared to see differences in predictive power of the NPS to customer satisfaction and a combination of the NPS and customer satisfaction. The results of these regression models can be found in table below. The models are all strongly significant with p-values of 0.000. Again, we find that model 6, which integrates both the NPS and customer satisfaction, explains most variance (15.4%). However, one major difference between predicting spending intention and repurchasing likelihood, is that for spending intention, customer satisfaction appears to be a better predictor than the NPS as model 5 explains 13.9% of the variance and model 3 only 10.1%.

**Table 15: Regression Analyses Spending Intention Models 1, 3, 5 & 6**

Y2	Spending Intention Favorite	Model 1			Model 3			Model 5			Model 6		
		$\beta$	St. $\beta$	Sig.	$\beta$	St. $\beta$	Sig.	$\beta$	St. $\beta$	Sig.	$\beta$	St. $\beta$	Sig.
	R square	0,083			0,122			0,159			0,177		
	Adjusted R square	0,066			0,101			0,139			0,154		
	F-value	4,887			5,936			8,070			7,655		
	Sig. F	0,001			0,000			0,000			0,000		
X		$\beta$	St. $\beta$	Sig.	$\beta$	St. $\beta$	Sig.	$\beta$	St. $\beta$	Sig.	$\beta$	St. $\beta$	Sig.
	(Constant)	9,374		,000	7,279		,000	4,570		,026	3,632		,080
X1	Gender	-1,185	-,169	,011	-1,220	-,174	,008	-1,126	-,160	,012	-1,158	-,165	,009
X2	Age	-,013	-,040	,554	-,001	-,002	,978	-,015	-,047	,471	-,006	-,019	,775
X3	Education	-1,128	-,252	,000	-1,181	-,264	,000	-1,251	-,279	,000	-1,275	-,284	,000
X4	Household Size	,018	,007	,917	-,037	-,014	,827	-,010	-,004	,953	-,046	-,018	,780
X5	Affective Commitment	-	-	-	-	-	-	-	-	-	-	-	-
X6	Calculative Commitment	-	-	-	-	-	-	-	-	-	-	-	-
X7	Attitudinal Loyalty	-	-	-	-	-	-	-	-	-	-	-	-
X8	Trust	-	-	-	-	-	-	-	-	-	-	-	-
X9	Customer Satisfaction	-	-	-	-	-	-	1,315	,276	,000	1,161	,244	,000
X10	Net Promoter Score	-	-	-	,605	,202	,002	-	-	-	,434	,145	,029

Here too, we want to compare the effects of relationship marketing variables with and without customer satisfaction to a model integrating the relational variables with NPS instead of satisfaction.

**Table 16: Regression Analyses Spending Intention Models 1, 2 ex CSAT, 2 & 7**

Spending Intention Y2 Favorite	Model 1			Model 2 ex CSAT			Model 2			Model 7		
R square	0,083			0,240			0,250			0,240		
Adjusted R square	0,066			0,211			0,218			0,208		
F-value	4,887			8,326			7,795			7,375		
Sig. F	0,001			0,000			0,000			0,000		
X	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.
X0 (Constant)	9,374		,000	-1,549		,497	-0,766		,748	-1,599		,486
X1 Gender	-1,185	-,169	,011	-1,051	-,150	,014	-1,065	-,152	,013	-1,045	-,149	,015
X2 Age	-,013	-,040	,554	-,010	-,031	,630	-,013	-,040	,526	-,011	-,034	,604
X3 Education	-1,128	-,252	,000	-1,161	-,259	,000	-1,209	-,270	,000	-1,157	-,258	,000
X4 Household Size	,018	,007	,917	-,084	-,032	,602	-,081	-,031	,616	-,082	-,031	,614
X5 Affective Commitment	-	-	-	,576	,102	,147	,334	,059	,426	,593	,105	,142
X6 Calculative Commitment	-	-	-	,569	,105	,140	,421	,077	,285	,589	,108	,136
X7 Attitudinal Loyalty	-	-	-	,513	,131	,043	,520	,133	,040	,523	,133	,043
X8 Trust	-	-	-	1,200	,238	,001	1,101	,218	,003	1,223	,242	,001
X9 Customer Satisfaction	-	-	-	-	-	-	,592	,124	,088	-	-	-
X10 Net Promoter Score	-	-	-	-	-	-	-	-	-	-,054	-,018	,807

We can draw similar conclusions to previous paragraph, stating that relational factors contribute most to the explained variance. Without customer satisfaction, the relational factors explain 14.5% more than the base model. Satisfaction increases the explained variance with less than 1%, while the NPS even decreases the explained variance. Therefore, we can state that the indicators of behavioral loyalty intentions can best be predicted by a model that integrates the relationship marketing variables with the NPS and customer satisfaction. Of these three it appeared that the relational marketing dimension are the best predictors on behavioral intentions.

**4.4.3 Predicting Actual (Future) Spending**

The actual spending in the subsequent week of 110 respondents from the first survey have been recorded in a follow-up survey. As derived from the correlation matrix in paragraph 4.3.2, the independent variables customer satisfaction, calculative commitment, trust and the NPS have a significant relationship with the actual purchasing behavior. We executed regression models to estimate this relationship and see the influence of the predictors on actual spending. The results are summarized in table 17 on the next page.

*Comparing Relationship Marketing Dimensions and NPS*

What can be derived from this table is that none of these regression models are actually significant at the 0.05 level. Perhaps this is due to the relatively low sample size in the follow-up survey. Therefore, when a significance level of  $p < 0.10$  is accepted, we can conclude that by adding the NPS, model 3 is significant, as the p-value is 0.057.

In addition, we find that model 1, has a negative adjusted R square. This indicates that the model has some useless regressors in the model. Models 2 and 4 are largely insignificant, but also explain very little variance, since the adjusted R squares are less than 5%. The model with NPS explains 5.3% of the variance on actual spending according to the adjusted R square. The models have also been captured in figures 8-10.

**Table 17: Regression Analyses Actual Spending Model 1-4**

Y3	Actual Spending	Model 1			Model 2			Model 3			Model 4		
	R square	0,021			0,109			0,097			0,130		
	Adjusted R square	-0,016			0,028			0,053			0,042		
	F-value	0,574			1,353			2,226			1,479		
	Sig. F	0,682			0,220			0,057			0,158		
X		β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.
	(Constant)	3,541		,368	-2,981		,575	-0,593		,883	-2,704		,609
X1	Gender	-,436	-,049	,619	-,420	-,048	,627	-,390	-,044	,645	-,402	-,046	,640
X2	Age	,038	,105	,313	,040	,110	,294	,058	,158	,123	,050	,138	,193
X3	Education	-,231	-,037	,727	-,264	-,042	,688	-,228	-,037	,721	-,263	-,042	,687
X4	Household Size	,167	,055	,576	,078	,026	,791	,156	,051	,588	,095	,031	,748
X5	Affective Commitment	-	-	-	-,087	-,013	,912	-	-	-	-,335	-,051	,674
X6	Calculative Commitment	-	-	-	,706	,103	,359	-	-	-	,550	,080	,475
X7	Attitudinal Loyalty	-	-	-	,139	,030	,772	-	-	-	,053	,011	,912
X8	Trust	-	-	-	1,428	,245	,040	-	-	-	1,063	,182	,143
X9	Customer Satisfaction	-	-	-	-,212	-,033	,777	-	-	-	-,164	-,026	,825
X10	Net Promoter Score	-	-	-	-	-	-	,999	,279	,004	,644	,180	,122

The NPS has a very large significant effect in model 3, as the unstandardized Beta coefficient is nearly 1 and the p-value is 0.004. Apparently, for actual spending as outcome variable, the relational factors as predictors are irrelevant and NPS appears to be a far better predictor of actual spending.

*Comparing NPS and Customer Satisfaction*

The NPS is compared to two more regression models that integrate customer satisfaction and a combination of the NPS and customer satisfaction to predict actual spending behavior. The results of

these regression models can be found in table 18 below. Again, none of these models are significant at the 0.05 level. It even appears that model with only customer satisfaction is insignificant at 0.10 level. The negative value of the adjusted R square indicates that model 5 contains terms that do not help to predict the response.

**Table 18: Regression Analyses Actual Spending Models 1, 3, 5 & 6**

Y3	Actual Spending	Model 1			Model 3			Model 5			Model 6		
	R square	0,021			0,097			0,031			0,097		
	Adjusted R square	-0,016			0,053			-0,016			0,045		
	F-value	0,574			2,226			0,655			1,850		
	Sig. F	0,682			0,057			0,659			0,097		
X		β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.
	(Constant)	3,541		,368	-0,593		,883	0,726		,881	-1,258		,792
X1	Gender	-,436	-,049	,619	-,390	-,044	,645	-,466	-,053	,596	-,400	-,045	,639
X2	Age	,038	,105	,313	,058	,158	,123	,040	,111	,290	,058	,158	,125
X3	Education	-,231	-,037	,727	-,228	-,037	,721	-,180	-,029	,786	-,215	-,034	,739
X4	Household Size	,167	,055	,576	,156	,051	,588	,168	,055	,573	,157	,052	,588
X5	Affective Commitment	-	-	-	-	-	-	-	-	-	-	-	-
X6	Calculative Commitment	-	-	-	-	-	-	-	-	-	-	-	-
X7	Attitudinal Loyalty	-	-	-	-	-	-	-	-	-	-	-	-
X8	Trust	-	-	-	-	-	-	-	-	-	-	-	-
X9	Customer Satisfaction	-	-	-	-	-	-	,616	,096	,325	,168	,026	,789
X10	Net Promoter Score	-	-	-	,999	,279	,004	-	-	-	,974	,272	,007

Comparing the adjusted R squares from model 3 and 6, it seems that customer satisfaction does not add any explained variance of the NPS. The significance of model 6 does just slightly fall into the 0.10 level, but is much lower than the p-value of model 3. Looking at the regression coefficients, it seems that the only significant predictor is the Net Promoter Score in model 3 and 6. An interest finding from this analysis is that, in the case of soft-drinks, customer satisfaction and relationship marketing dimensions do not contribute to a higher predictive value than the NPS. In contrast with the behavioral intentions measures repurchasing likelihood and spending intentions, actual spending behavior can best be predicted by the NPS. Obviously, managers will find it far more relevant to predict actual spending behavior than predicting intentions.

*Improving the predictive power of the NPS on actual spending*

Since actual spending seems to have such low significance and determination coefficients, there must be a way to improve the relationship. In order to better predict actual spending, five more

regression models have been set-up. These regression models consist of model 3 (demographics and NPS), and additionally the Repurchase Intention (RPI) of a favorite brand (model 8), the Spending intention on a favorite brand (model 9), both RPI and spending intention (model 10) are added respectively.

**Table 19: Regression Analyses Actual Spending Models 1, 8-10**

Y3	Actual Spending	Model 1			Model 8			Model 9			Model 10		
	R square	0,021			0,315			0,263			0,353		
	Adjusted R square	-0,016			0,276			0,220			0,308		
	F-value	0,574			7,909			6,138			7,942		
	Sig. F	0,682			0,000			0,000			0,000		
X		β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.
	(Constant)	3,541		,368	-2,943		,409	-2,289		,535	-3,292		,345
X1	Gender	-,436	-,049	,619	-,971	-,110	,195	-,115	-,013	,881	-,673	-,076	,365
X2	Age	,038	,105	,313	,028	,076	,402	,046	,126	,177	,029	,079	,374
X3	Education	-,231	-,037	,727	-,002	,000	,997	,182	,029	,755	,168	,027	,760
X4	Household Size	,167	,055	,576	,159	,052	,529	,136	,045	,603	,147	,048	,551
X5	Affective Commitment	-	-	-	-	-	-	-	-	-	-	-	-
X6	Calculative Commitment	-	-	-	-	-	-	-	-	-	-	-	-
X7	Attitudinal Loyalty	-	-	-	-	-	-	-	-	-	-	-	-
X8	Trust	-	-	-	-	-	-	-	-	-	-	-	-
X9	Customer Satisfaction	-	-	-	-	-	-	-	-	-	-	-	-
X10	Net Promoter Score	-	-	-	,191	,053	,563	,636	,178	,047	,193	,054	,549
X11	RPI Favorite	-	-	-	1,705	,526	,000	-	-	-	,305	,237	,017
X12	RPI Spending Favorite	-	-	-	-	-	-	,550	,427	,000	1,276	,393	,000

First thing to notice is that by including at least one type of repurchase intention, either repurchasing likelihood (model 7) or spending intention (model 8), increases the significance of the regression models dramatically. For all five regression models, the p-value is 0.000. Looking at the determination coefficient, the adjusted R square, it seems that the repurchasing likelihood (31.5%) explains more variance than spending intention (26.3%). When both behavioral intention measures are included in the model (model 9), the explained variance rises to 35.3%.

Furthermore, we tried to optimize this last model by also including customer satisfaction (model 11), and the other relationship marketing dimensions (model 12), to see if this also increased the explained variance and could make better prediction. The results are as follow (see table 20 on the next page):

**Table 20: Regression Analyses Actual Spending Models 1, 10-12**

Y3	Actual Spending	Model 1			Model 10			Model 11			Model 12		
	R square	0,021			0,353			0,367			0,390		
	Adjusted R square	-0,016			0,308			0,316			0,315		
	F-value	0,574			7,942			7,308			5,176		
	Sig. F	0,682			0,000			0,000			0,000		
X		β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.	β	St. β	Sig.
	(Constant)	3,541		,368	-3,292		,345	-0,212		,958	0,703		,877
X1	Gender	-,436	-,049	,619	-,673	-,076	,365	-,626	-,071	,396	-,640	-,073	,389
X2	Age	,038	,105	,313	,029	,079	,374	,027	,074	,403	,033	,091	,311
X3	Education	-,231	-,037	,727	,168	,027	,760	,133	,021	,808	,279	,045	,618
X4	Household Size	,167	,055	,576	,147	,048	,551	,142	,047	,561	,097	,032	,698
X5	Affective Commitment	-	-	-	-	-	-	-	-	-	-,392	-,059	,565
X6	Calculative Commitment	-	-	-	-	-	-	-	-	-	,399	,058	,541
X7	Attitudinal Loyalty	-	-	-	-	-	-	-	-	-	-,807	-,172	,062
X8	Trust	-	-	-	-	-	-	-	-	-	-,054	-,009	,932
X9	Customer Satisfaction	-	-	-	-	-	-	-,821	-,128	,140	-,845	-,132	,188
X10	Net Promoter Score	-	-	-	,193	,054	,549	,267	,075	,410	,354	,099	,330
X11	RPI Favorite	-	-	-	,305	,237	,017	1,325	,408	,000	1,429	,440	,000
X12	RPI Spending Favorite	-	-	-	1,276	,393	,000	,340	,264	,009	,391	,303	,004

When customer satisfaction and the other relationship marketing dimensions are added to model 10, the explained variance increases to 36.7% and 39% respectively. This is also captured in figure 8, that graphically shows models 10-12 predict best. From these models we find actual spending behavior can best be predicted by behavioral intentions. A measure of the repurchasing likelihood outperforms all other predictors. When the behavioral intentions measures are included in a model with customer satisfaction and the NPS, this will increase the explained variance from actual spending.

#### 4.5 Conclusion

In this chapter the findings from analysis of the data have been presented. The results showed significant correlations between the predictors (customer satisfaction, affective and calculative commitment, trust, attitudinal loyalty, the net promoter score) and the predicted (repurchase intentions, spending intention and actual spending). However, for actual spending the affective commitment and attitudinal loyalty did not have significant correlations. In general, we can conclude that these items can predict the outcome variables. Regression analyses showed that in the case of repurchase intention and spending intention, customer satisfaction alone and in combination with other relational factors increase the explained variance of the models with Net Promoter Score.

For the actual spending as an outcome variable, none of the regression models are significant at the 0.05 level. However, if we look at the 0.10 level, the regression model which includes only the Net Promoter Score in addition to the demographic variables, is significant ( $p = 0.057$ ). Interestingly, this model shows that for actual spending, the conclusions are different than for repurchase and spending intentions, as NPS alone can be a sufficient indicator, and neither customer satisfaction nor relational marketing variables improve the model, where for the repurchasing and spending intentions, the relational marketing variables did improve the model. The NPS regression model on actual spending can be improved by including measures of behavioral intent.

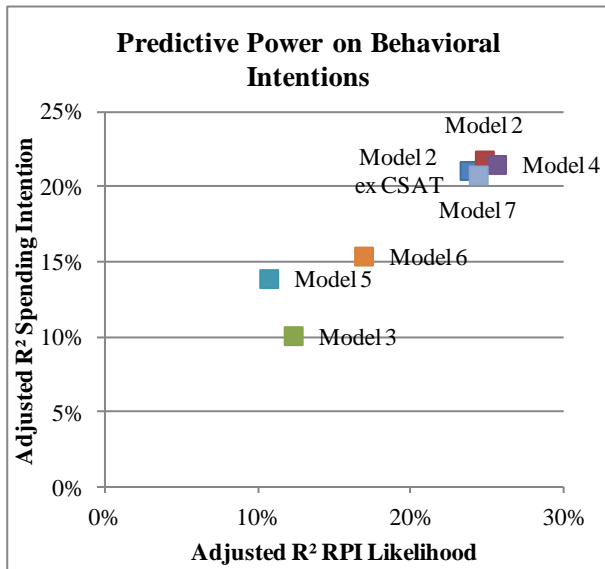
In the table below an overview of the models and included predictor variables, plus their adjusted R squares on the dependent variables can be found, to be used as a legend for the figures on the next page. On the next page the results of the several models are visualized, based on the determination coefficient, the adjusted R square.

**Table 21: Model Description (Variables included and Adjusted R squares)**

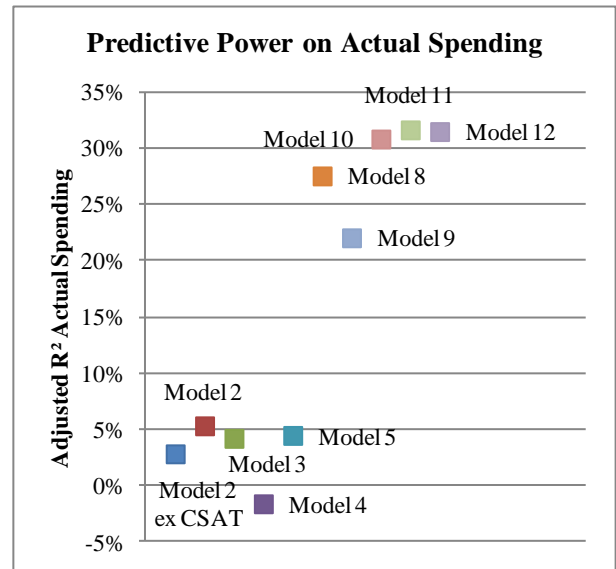
	NPS	CSAT	Other RM	RPI	SPI	RPI	SPI	ACTUAL
Model 2 ex CSAT			✓			24%	21%	
Model 2		✓	✓			25%	22%	3%
Model 3	✓					12%	10%	5%
Model 4	✓	✓	✓			26%	22%	4%
Model 5		✓				11%	14%	-2%
Model 6	✓	✓				17%	15%	5%
Model 7	✓		✓			24%	21%	
Model 8	✓			✓				28%
Model 9	✓				✓			22%
Model 10	✓			✓	✓			31%
Model 11	✓	✓		✓	✓			32%
Model 12	✓	✓	✓	✓	✓			32%



**Figure 7: Predictive Power on Behavioral Intention**

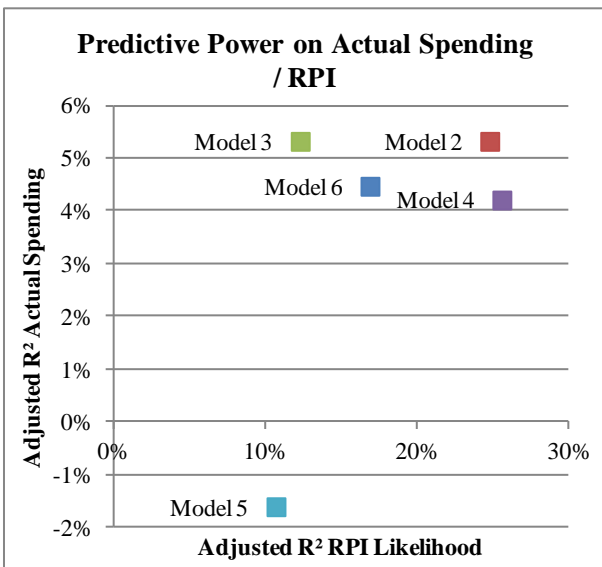


**Figure 8: Predictive power on Actual Spending**

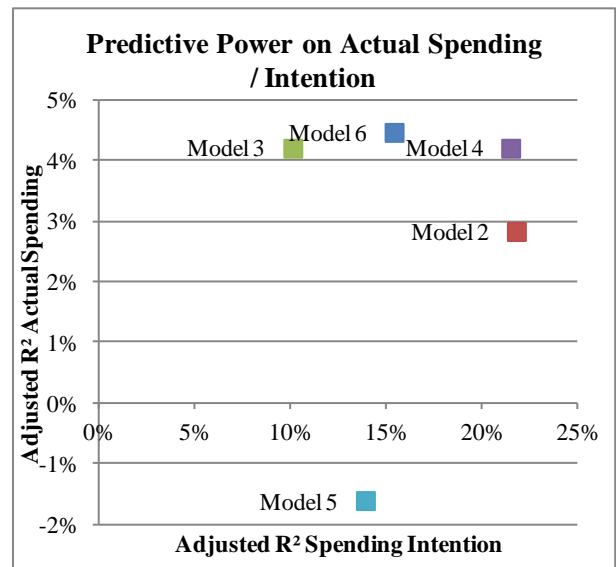


\* Note: The models appear in order of appearance on the X-axis, because there is no x-value for this scatter plot.

**Figure 9: Predictive Power on Actual Spending / RPI**



**Figure 10: Predictive Power on Actual Spending / Intention**



## **5 Conclusion**

This final chapter consists of conclusions drawn from the research, which will be discussed in paragraph 5.1 to answer the research questions defined in the introduction of this thesis. In paragraph 5.2 the academic contribution of this thesis will be discussed. The managerial implications of the findings from this research will be discussed in paragraph 5.3. In the final paragraph, 5.4, the limitations encountered in this research will be discussed along with directions for future research on this topic.

### **5.1 General Discussion**

Following from the results of the analysis of the data, several conclusions can be drawn.

#### **5.1.1 What Customer Metric Best Predicts Behavioral Loyalty?**

At first, correlations showed that Reichheld's (2003) Net Promoter Score (NPS) has a strong significant relationship with behavioral loyalty. The same can be said for customer satisfaction and the additional relationship marketing variables, trust, commitment, attitudinal loyalty (Palmatier et al. 2006), which showed a strong significant relation with behavioral loyalty intentions. For actual behavioral loyalty (spending behavior) the relational factors affective commitment and attitudinal loyalty showed these did not have a significant relationship.

To estimate the relationships between these predictors and behavioral loyalty through the different outcome variables (repurchasing likelihood, spending intention and actual spending), multiple regression analyses were executed and showed some interesting results.

When looking at the behavioral loyalty intentions (repurchasing likelihood and spending intention), it appeared that the NPS increased the explained variance when it was added to a model of standard demographic variables (gender, age, education and household size). Customer satisfaction, and Palmatier's (2006) relationship marketing variables even further increased the explained variance of the regression models.

However, when looking at the actual behavioral loyalty indicator (the recorded amount spent on soft-drinks in the subsequent week), the results are in contrast with the regression results on behavioral

intentions. Based on the actual spending behavior, results show that the NPS is a good predictor, but customer satisfaction and the relationship marketing variables do not at all predict well. An interesting finding from this last analysis is that, in the case of soft-drinks, customer satisfaction and relationship marketing dimensions do not contribute to a higher predictive value than the NPS. In contrast with repurchase and spending intentions, actual spending behavior can best be predicted by the NPS.

### **5.1.2 Questioning 'the Ultimate Question'**

From analysis of the data we have seen that the ultimate question, the Net Promoter Score, overall is a good indicator of behavioral loyalty, which is also found by Wiesel et al. (2012). Something that is very interesting, is that from the analysis appeared that the NPS is the best indicator of actual behavioral loyalty, while behavioral intentions were better predicted by improved models that also included relationship marketing variables. However, due to the very low significance value and determination coefficient, we looked in our data to see if we could improve the NPS model, and found that measures of behavioral intentions were far better predictors of actual spending behavior than the NPS, satisfaction and relationship marketing variables. This is in consistency with findings from De Cannière, De Pelsmacker, and Geusens (2010), who find that purchase intentions significantly predicted actual buying behavior.

### **5.1.3 The Influence of Relationship Marketing Dimensions**

As the correlation and regression analyses have pointed out, the relationship marketing dimensions by Palmatier et al. (2006), consisting of trust, commitment, attitudinal loyalty and customer satisfaction, do have a certain influence in predicting behavioral intentions. The regression analyses showed that when predicting behavioral intentions (the repurchasing likelihood of a favorite soft-drink brand and the spending intention towards a favorite soft-drink brand) were best predicted by regression models which included the relationship marketing variables. However, when predicting actual spending behavior, the data suggested that the relational factors did not increase the predictive power of the NPS.

## **5.2 Academic Contribution**

While most research has studied the effects of customer metrics based on loyalty in service industries, such as banking, cellular phone, insurance, credit cards etc., this study is one of few based on FMCG making a contribution to the cross-industry analysis of this topic.

As described in the literature review, there has been many controversy over the Net Promoter Score. The single-item measure has been subject of a rather heated debate among professionals and academics. Because of its simplicity, the metric has become very popular and adopted by many prominent firms in various industries. However, as many critics disprove the relationship between the NPS and firm growth, or the statements made by Reichheld that NPS predicts better than Customer Satisfaction and other loyalty measures, this thesis has provided additional evidence based on the soft-drink industry. The findings in this thesis suggest that the NPS does outperform customer satisfaction when predicting actual sales data. On contrary to Reichheld's statements (see paragraph 2.4), the NPS model can be improved by adding behavioral intentions measures such as repurchasing likelihood in a prediction model.

## **5.3 Managerial Implications**

As many managers have already adopted the NPS to measure their firm's performance and many academics criticize, this thesis provides an end to the uncertainty of using the NPS for this assessment. Many researchers have already claimed it is unwise to use only a single-item measure to assess firm performance, as this is clearly an unreliable indicator. The managerial implication of this thesis is that we showed that based on the behavioral intentions, NPS is not the best predictor, while based on actual behavior, NPS performs much better than customer satisfaction and additional relational factors. However, we have shown that the NPS as a predictor still can be improved by including behavioral intention measures to predict actual behavior.

## **5.4 Limitations and Directions for Future Research**

Some limitations were encountered during this research. Further research could improve or disprove these findings if the data is cross-industry, cross-cultural and longitudinal. The time scope of the

research was limited. Respondents were asked to report their actual spending on soft-drinks one week after they finished the first survey. To get more reliable and valid data, and to lessen the bias in this dataset, the respondents should be followed for some longer time to truly measure loyalty. As for example, Keiningham et al. (2007) used cross-industry longitudinal data which has been collected from a panel for over two years.

In addition, only 50% of the respondents who participated in the first survey, reported their actual purchasing behavior in the follow-up survey in the consecutive week. This could be a reason why the correlation and regression analyses on actual spending turned out to be not significant at the 0.05 level. However, further research could confirm or disprove this reasoning.

Another limitation is that the actual purchase behavior was measured only by customer's own estimates, which could potentially create some bias. To reduce this bias the research could be optimized by using actual panel scanner data.

For going deeper into the discussion of ACSI vs. NPS future research should include the three measurement constructs of the American Customer Satisfaction Index (Fornell, 1992), while in this research a single-item construct obtaining overall customer satisfaction is used, similar to Cronin and Taylor's research (1992).

Another point for further research is to analyze the differences for the respondents who show low and high loyalty. De Cannière, De Pelsmacker, and Geusens (2010), studied the moderating role of relationship strength on the link between perceived relationship quality, purchase intention and behavior, and found differences between strong loyal customers and weak loyal customers.

Specifically, a better relationship quality leads to stronger repurchase intention for customers with weaker relations with the retailer, whereas a stronger intention led to more purchase behavior for customers with a stronger relation with the retailer (De Cannière, De Pelsmacker, and Geusens, 2010).

## Appendix

A. Reference List.....	56
B. Questionnaire.....	61
C. Follow-up Questionnaire .....	69
E. Factor Analysis Output .....	72
F. Descriptives.....	73

## A. Reference List

- Aaker, D. A., & Keller, K. L. (1990). Consumer evaluations of brand extensions. *The Journal of Marketing*, 27-41.
- Aaker, D. A. (1992). The value of brand equity. *Journal of business strategy*, 13(4), 27-32.
- Abarajithan, W., & Ragel, V. (2011). The Study of Customer Switching Behaviour Toward Carbonated Soft Drink Market. Available at SSRN 1951780.
- Ambler, T. (2003). *Marketing and the Bottom Line: The Marketing Metrics that Will Pump Up Cash Flow*. Pearson Education.
- Ambler, T., & Roberts, J. (2006). Beware the silver metric: Marketing performance measurement has to be multidimensional. *Marketing*.
- Ambler, T., & Roberts, J. H. (2008). Assessing marketing performance: don't settle for a silver metric. *Journal of Marketing Management*, 24(7-8), 733-750.
- Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer satisfaction, market share, and profitability: findings from Sweden. *The Journal of Marketing*, 53-66.
- Anderson, E. W., Fornell, C., & Mazvancheryl, S. K. (2004). Customer satisfaction and shareholder value. *Journal of Marketing*, 172-185.
- Assael, H. (1987). *Consumer behavior and marketing action* (Vol. 3). Boston;: Kent Publishing Company.
- Atilgan, E., Aksoy, S., & Akinci, S. (2005). Determinants of the brand equity: a verification approach in the beverage industry in Turkey. *Marketing intelligence & planning*, 23(3), 237-248.
- Bandyopadhyay, S., & Martell, M. (2007). Does attitudinal loyalty influence behavioral loyalty? A theoretical and empirical study. *Journal of Retailing and Consumer Services*, 14(1), 35-44.
- Barnard, N. R., & Ehrenberg, A. S. (1990). Robust measures of consumer brand beliefs. *Journal of Marketing Research*, 477-484.
- Barwise, P., & Farley, J. U. (2004). Marketing Metrics:: Status of Six Metrics in Five Countries. *European Management Journal*, 22(3), 257-262.
- Berry, L. L. (1993). Playing fair in retailing. *Arthur Anderson Retailing Issues Newsletter*, 5(2).
- Bert, V. (2011) "105 what is your generic term for a weetened carbonated beverage?" *Harvard Dialect Survey*, Retrieved 6/3/2013.
- Bharadwaj, S. G., Varadarajan, P. R., & Fahy, J. (1993). Sustainable competitive advantage in service industries: a conceptual model and research propositions. *The Journal of Marketing*, 83-99.
- Bird, M., & Ehrenberg, A. S. (1966). Intentions-to-buy and claimed brand usage. *OR*, 27-46.
- Bloemer, J., De Ruyter, K. O., & Wetzels, M. (1999). Linking perceived service quality and service loyalty: a multi-dimensional perspective. *European Journal of Marketing*, 33(11/12), 1082-1106.
- Cannière, M. H., De, Pelsmacker, P., De & Geuens, M. (2009). Relationship quality and the theory of planned behavior models of behavioral intentions and purchase behavior. *Journal of Business Research*, 62(1), 82-92.
- Cannière, M. H., De, Pelsmacker, P., De & Geuens, M. (2010). Relationship quality and purchase intention and behavior: the moderating impact of relationship strength. *Journal of Business and Psychology*, 25(1), 87-98.

- Carpenter, J. M. (2008). Consumer shopping value, satisfaction and loyalty in discount retailing. *Journal of Retailing and Consumer Services*, 15(5), 358-363.
- CBS - Cijfers. (2013, April 5). Retrieved June 28, 2013, from <http://www.cbs.nl/nl-NL/menu/cijfers/default.htm>
- Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *The Journal of Marketing*, 81-93.
- Chaudhuri, A., & Holbrook, M. B. (2002). Product-class effects on brand commitment and brand outcomes: The role of brand trust and brand affect. *The Journal of Brand Management*, 10(1), 33-58.
- Cheng, S. I. (2011). Comparisons of competing models between attitudinal loyalty and behavioral loyalty. *International Journal of Business and Social Science*, 2(10), 149-166.
- Cronin Jr, J. J., & Taylor, S. A. (1992). Measuring service quality: a reexamination and extension. *The journal of marketing*, 55-68.
- Dick, A. S., & Basu, K. (1994). Customer loyalty: toward an integrated conceptual framework. *Journal of the academy of marketing science*, 22(2), 99-113.
- Dwyer, F. R., Schurr, P. H., & Oh, S. (1987). Developing buyer-seller relationships. *The Journal of marketing*, 11-27.
- East, R., Gendall, P., Hammond, K., & Lomax, W. (2005). Consumer loyalty: singular, additive or interactive?. *Australasian Marketing Journal (AMJ)*, 13(2), 10-26.
- Ehrenberg, A. S. C. (1968). The elements of lawlike relationships. *Journal of the Royal Statistical Society. Series A (General)*, 280-302.
- Eshghi, A., Haughton, D., & Topi, H. (2007). Determinants of customer loyalty in the wireless telecommunications industry. *Telecommunications policy*, 31(2), 93-106.
- Farris, P. W., Bendle, N. T., Pfeifer, P. E., & Reibstein, D. J. (2010). *Marketing metrics: The definitive guide to measuring marketing performance*. Pearson Education.
- Fornell, C. (1992). A national customer satisfaction barometer: the Swedish experience. *the Journal of Marketing*, 6-21.
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American customer satisfaction index: nature, purpose, and findings. *The Journal of Marketing*, 7-18.
- Fornell, C., Mithas, S., Morgeson III, F. V., & Krishnan, M. S. (2006). Customer satisfaction and stock prices: high returns, low risk. *Journal of marketing*, 3-14.
- Fullerton, G. (2005). How commitment both enables and undermines marketing relationships. *European Journal of Marketing*, 39(11/12), 1372-1388.
- Ganesh, J., Arnold, M. J., & Reynolds, K. E. (2000). Understanding the customer base of service providers: an examination of the differences between switchers and stayers. *The Journal of Marketing*, 65-87.
- Garbarino, E., & Johnson, M. S. (1999). The different roles of satisfaction, trust, and commitment in customer relationships. *the Journal of Marketing*, 70-87.
- Gruca, T. S., & Rego, L. L. (2005). Customer satisfaction, cash flow, and shareholder value. *Journal of Marketing*, 115-130.
- Gundlach, G. T., Achrol, R. S., & Mentzer, J. T. (1995). The structure of commitment in exchange. *The Journal of Marketing*, 78-92.
- Gupta, S., Lehmann, D., & Ames Stuart, J. (2004). Valuing customers. *Journal of marketing research*, 7-18.



- Gupta, S., & Lehmann, D. R. (2006). Customer lifetime value and firm valuation. *Journal of Relationship Marketing*, 5(2-3), 87-110.
- Gupta, S. (2009). Customer-based valuation. *Journal of Interactive Marketing*, 23(2), 169-178.
- Gustafsson, A., Johnson, M. D., & Roos, I. (2005). The effects of customer satisfaction, relationship commitment dimensions, and triggers on customer retention. *Journal of marketing*, 210-218.
- Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. E., 2009. Multivariate data analysis.
- Hayes, B. E., & Intuit, T. (2008). Customer loyalty 2.0. *Quirk's Marketing Research Review*, 57.
- Hemelrijk, L., & Het geheim van Coca-cola, GRONIEK JAARGANG 30 (1996-1997).
- Hill, N., Roche, G., & Allen, R. (2007). *Customer satisfaction: The customer experience through the customer's eyes*. The Leadership Factor.
- Interbrand (2012). *Best Global Brands 2012*. Retrieved June 26, 2013 from <http://www.interbrand.com/en/best-global-brands/2012/Best-Global-Brands-2012-Brand-View.aspx>.
- Jacoby, J., & Kyner, D. B. (1973). Brand loyalty vs. repeat purchasing behavior. *Journal of Marketing research*, 1-9.
- Jones, T. O., & Sasser, W. E. (1995). Why satisfied customers defect. *Harvard business review*, 73(6), 88.
- Jones, T., & Taylor, S. F. (2007). The conceptual domain of service loyalty: how many dimensions?. *Journal of Services Marketing*, 21(1), 36-51.
- Keiningham, T. L., Cooil, B., Aksoy, L., Andreassen, T. W., & Weiner, J. (2007). The value of different customer satisfaction and loyalty metrics in predicting customer retention, recommendation, and share-of-wallet. *Managing Service Quality*, 17(4), 361-384.
- Keiningham, T. L., Cooil, B., Andreassen, T. W., & Aksoy, L. (2007). A longitudinal examination of net promoter and firm revenue growth. *Journal of Marketing*, 39-51.
- Keiningham, T. L., Aksoy, L., Cooil, B., & Andreassen, T. W. (2012). Linking customer loyalty to growth. *Obtenido el, 1*.
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *The Journal of Marketing*, 1-22.
- Kotler, P., & Keller, K. (1956). L. 2009. *Marketing management*, 13.
- Kotler, P. J., & Armstrong, G. M. (2010). *Principles of marketing*. Pearson Education.
- Kumar, V., Shah, D., & Venkatesan, R. (2006). Managing retailer profitability—one customer at a time!. *Journal of Retailing*, 82(4), 277-294.
- Lai, F., Griffin, M., & Babin, B. J. (2009). How quality, value, image, and satisfaction create loyalty at a Chinese telecom. *Journal of Business Research*, 62(10), 980-986.
- Lam, S. Y., Shankar, V., Erramilli, M. K., & Murthy, B. (2004). Customer value, satisfaction, loyalty, and switching costs: an illustration from a business-to-business service context. *Journal of the Academy of Marketing Science*, 32(3), 293-311.
- Lee, M., & Cunningham, L. F. (2001). A cost/benefit approach to understanding service loyalty. *Journal of services Marketing*, 15(2), 113-130.
- Louis, J. C., & Yazijian, H. (1980). *The cola wars*. Everest House.
- McGregor, J. (2006). Would you recommend us?. *Business Week*, 30, 94.

- Mise, J. K., Nair, C., Odhiambo Odera, P., & Ogutu, M. (2013). Comparative Study on Brand Loyalty in Kenya and India Consumer Softdrinks Markets. *Global Journal of Management And Business Research*, 13(3).
- Moorman, C., Deshpande, R., & Zaltman, G. (1993). Factors affecting trust in market research relationships. *The Journal of Marketing*, 81-101.
- Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *the journal of marketing*, 20-38.0
- Morgan, N. A., & Rego, L. L. (2006). The value of different customer satisfaction and loyalty metrics in predicting business performance. *Marketing Science*, 25(5), 426-439.
- Muniz, A. M., & Hamer, L. O. (2001). Us versus them: Oppositional brand loyalty and the cola wars. *Advances in consumer research*, 28, 355-361.
- Neal, W. D. (1999). Satisfaction is Nice, But Value Drives Loyalty: The most satisfied customer may not necessarily be the most loyal. *Marketing research*, 11, 21-24.
- Oliver, R. L. (1999). Whence consumer loyalty?. *the Journal of Marketing*, 33-44.
- Ostrowski, P. L., O'Brien, T. V., & Gordon, G. L. (1993). Service quality and customer loyalty in the commercial airline industry. *Journal of Travel Research*, 32(2), 16-24.
- Palmatier, R. W., Dant, R. P., Grewal, D., & Evans, K. R. (2006). Factors influencing the effectiveness of relationship marketing: a meta-analysis. *Journal of marketing*, 136-153.
- Pauwels, K., Ambler, T., Clark, B. H., LaPointe, P., Reibstein, D., Skiera, B., & Wiesel, T. (2009). Dashboards as a Service Why, What, How, and What Research Is Needed?. *Journal of Service Research*, 12(2), 175-189.
- Pritchard, M. P., Havitz, M. E., & Howard, D. R. (1999). Analyzing the commitment-loyalty link in service contexts. *Journal of the Academy of Marketing Science*, 27(3), 333-348.
- Reichheld, F. F. (1996). Learning from customer defections. *Harvard Business Review*, 74(2), 56.
- Reichheld, F. F. (2003). The one number you need to grow. *Harvard business review*, 81(12), 46-55.
- Reichheld, F. F. (2006). *The Ultimate Question: For Unlocking the Door to Good Profits and True Growth*. Harvard Business School Press.
- Reichheld, F.F. (2006). *The ultimate question*. Harvard Business School Press, Boston, MA.
- Reichheld, F. (2006). The microeconomics of customer relationships. *MIT Sloan Management Review*, 47(2), 73.
- Reynolds, K. E., & Beatty, S. E. (1999). Customer benefits and company consequences of customer-salesperson relationships in retailing. *Journal of Retailing*, 75(1), 11-32.
- Rizley, R. (n.d.). 2008–2010 Guide to MSI Research Programs and Procedures. *MSI Research Priorities*. Retrieved from <http://www.msi.org/research/index.cfm?id=43>
- Roest, H. C. A., & Hulsen, M. (2008). Loyale klanten: Hebben is hebben maar houden de kunst. *Jaarboek MarktOnderzoekAssociate 2008: Ontwikkelingen in het Marktonderzoek*, 129-150.
- Russell-Bennett, R., McColl-Kennedy, J. R., & Coote, L. V. (2007). Involvement, satisfaction, and brand loyalty in a small business services setting. *Journal of Business Research*, 60(12), 1253-1260.
- Schneider, D., Berent, M., Thomas, R., Interactive, H., & Krosnick, J. (2008). Measuring Customer Satisfaction and Loyalty: Improving the 'Net-Promoter' Score.

Seggie, S. H., Cavusgil, E., & Phelan, S. E. (2007). Measurement of return on marketing investment: a conceptual framework and the future of marketing metrics. *Industrial Marketing Management*, 36(6), 834-841.

Szymanski, D. M., Bharadwaj, S. G., & Varadarajan, P. R. (1993). An analysis of the market share-profitability relationship. *The Journal of Marketing*, 1-18.

Terrill, C., Middlebrooks, A., & American Marketing Association. (2000). *Market leadership strategies for service companies: creating growth, profits, and customer loyalty*. NTC Business Books.

Thurm, S. (2006). One Question, and Plenty of Debate. *Wall Street Journal*.

Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of money, credit and banking*, 1(1), 15-29.

Ulas, D., & Arslan, H. B. (2006). An empirical investigation of Turkish cola market. *British Food Journal*, 108(3), 156-168.

Wiesel, T., Verhoef, P. C., & Haan, de, E. (2012, July 11). There Is No Single Best Measure of Your Customers - *Harvard Business Review* [Web log post]. Retrieved March 11, 2013 from [http://blogs.hbr.org/cs/2012/07/there\\_is\\_no\\_one\\_best\\_measure\\_o.html](http://blogs.hbr.org/cs/2012/07/there_is_no_one_best_measure_o.html)

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *The Journal of Marketing*, 31-46.

Zikmund William, G. (1984). *Business research methods*. Thomson Learning.

## B. Questionnaire

Consumer Behavior in the Soft-Drink market

Dear visitor,

Thank you for your interest in my survey. I am a Master student at the Erasmus University Rotterdam and I am conducting research on consumer behavior in the soft-drinks category at the supermarket. Please read the instructions carefully before entering the survey.

I will start by asking you some questions regarding your attitude towards your favorite soft-drink brand and about soft-drink purchasing behavior. Next, I ask you some general questions about yourself. Most questions are based on rating scales with 5 possible answers. Please read the questions and answers options carefully and choose the option that best describes your answer.

Once you complete this survey – which will take you approximately 10 minutes - you have answered 95% of all questions. I would like to ask you to please answer the remaining 5% after a week (the second survey will take you no more than 1-2 minutes). Therefore I ask you to please provide me with your correct e-mail address at the end of this survey so that I can send you an invitation for the follow-up survey.

I appreciate and thank you very much for answering the questions in this survey honestly and to the best of your ability. The information collected will be kept strictly confidential and will not be printed or published in any form that would identify any individual. If you have any questions or comments regarding this survey, feel free to send me an e-mail: 375267yh@eur.nl

Kind regards,

Yarco Hoddenbach

Get started and continue to the next page by clicking >>If you want to change answers, you can go back to the previous page by clicking <<

Q1 How often do you buy soft-drinks\* in the supermarket?

Note:\*Soft-drinks are defined as carbonated, non-alcoholic beverages such as cola, lemon-lime, orange, lemonade, tonic, but also sports- and energy drinks.

- Never (1)
- Less than Once a Month (2)
- Once a Month (3)
- 2-3 Times a Month (4)
- Once a Week (5)
- 2-3 Times a Week (6)
- Daily (7)

Q2 Which soft-drink brands\*\* do you buy more often in the supermarket?

Note: Please indicate your most frequently purchased soft-drinks brand starting from 1. You can indicate up to 5 brands. If you buy less than 5 brands, you can leave the additional items empty, if you buy more than 5 brands, just rank your top 5.

\*\* The most popular brands are Coca Cola, Fanta, Sprite, Pepsi, Sisi, 7up, Red Bull, but also the Light and Zero versions are considered to be distinctive brands. Please write down the full brand name, for example Coca Cola Light. If you consider private label brands as your favorite, please write down the full brand name represented on the bottle, for example: AH Cola Light.

\_\_\_\_\_ #1 most frequently purchased brand: (1)

\_\_\_\_\_ #2 most frequently purchased brand: (2)

\_\_\_\_\_ #3 most frequently purchased brand: (3)

\_\_\_\_\_ #4 most frequently purchased brand: (4)

\_\_\_\_\_ #5 most frequently purchased brand: (5)

Q3 What are your favorite soft-drink brands? Note: Please indicate your favorite brands in order with your most favorite at 1. You can indicate up to 5 brands. If you have less than 5 favorites, you can leave the additional items empty, if you have more than 5 favorites, just rank your top 5. Please write down the full brand name with extension.

\_\_\_\_\_ #1 favorite brand: (1)

\_\_\_\_\_ #2 favorite brand: (2)

\_\_\_\_\_ #3 favorite brand: (3)

\_\_\_\_\_ #4 favorite brand: (4)

\_\_\_\_\_ #5 favorite brand: (5)

Q4 For how many years has your #1 favorite brand been your favorite?

Note: Please give your answer in numbers in whole years.

Q5 Please estimate how much you buy soft-drinks in general in liters\*\*\* on average in the supermarket per week:

Note: If you do not buy any soft-drinks, please enter 0 below. If you buy less than 1 liter per week, please indicate the adequate proportion considering that a month has 4 weeks (e.g. if you buy 1 liter per month, you should indicate 0.25 liters per week).

\*\*\* Recall that a 'regular' soft-drink bottle at the supermarket usually contains 1,5 liters, and a can contains 0,33 liters (so a 6-pack contains approximately 2 liters).

Q6 Please estimate how much you spend on soft-drinks in general in Euro's on average in the supermarket per week:

Note: If you do not buy any soft-drinks, please enter 0 below. If you spend less than 1 Euro per week, please indicate the adequate proportion considering that a month has 4 weeks (e.g. if you spend 1 Euro per month, you should indicate 0.25 Euro per week).

Q7 Please estimate how much you buy from your #1 favorite soft-drink brand in liters\*\*\* on average in the supermarket per week:

Q8 Please estimate how much you spend on your #1 favorite soft-drink brand in Euro's on average in the supermarket per week:

Q9 When was the last time you bought the following items in the supermarket?

	Less than a week ago (1)	More than a week, less than 2 weeks ago (2)	More than 2 weeks, less than 3 weeks ago (3)	More than 3 weeks, less than a month ago (4)	More than a month ago (5)	Never (6)
Soft-drinks in general (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your #1 favorite brand (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your #2 favorite brand (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soft-drinks from a private label (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soft-drinks from a non-favorite, non-private label brand (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 Out of the 10 last purchases of soft-drinks in the supermarket, please estimate how much you have bought from your #1 and #2 favorite brand, private label brand, and other brands.

Note: Please assign an estimated percentage to the brands, so that the total sums 100%.

\_\_\_\_\_ Your #1 favorite brand (1)

\_\_\_\_\_ Your #2 favorite brand (2)

\_\_\_\_\_ Soft-drinks from a private label (3)

\_\_\_\_\_ Soft-drinks from a non-favorite, non-private label brand (4)

Q11 To what extent do you agree with the following statement?

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
Overall I am completely satisfied with my favorite soft-drinks brand (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12 Please answer the following question by indicating the likelihood according to the 5-point scale

	Very Unlikely (1)	Unlikely (2)	Undecided (3)	Likely (4)	Very Likely (5)
How likely is it that you will recommend your most favorite soft-drink brand to a friend or a colleague? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13 To what extent do you agree with the following statements?

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
My favorite soft-drinks brand always meets expectations (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My favorite soft-drinks brand can be counted on to provide good quality (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My favorite soft-drinks brand is reliable (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 To what extent do you agree with the following statements?

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
I am happy to be a customer of my favorite soft-drinks brand (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My favorite soft-drinks brand is the soft-drinks brand that takes the best care of its customers (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have feelings of trust toward the company (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It pays off economically to be a customer of my favorite soft-drinks brand (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would suffer economically if the relationship were broken with my favorite soft-drinks brand (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
I believe that my favorite soft-drinks brand is preferable to any other soft-drinks brand (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that my favorite soft-drinks brand has the best offer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer the quality of my favorite soft-drinks brand to the quality of competitors (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have repeatedly found my favorite soft-drinks brand better than others (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a loyal customer of my favorite soft-drinks brand (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider my favorite soft-drinks brand my first choice for soft-drinks purchases (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16 Please answer the following questions by indicating the likelihood according to the 5-point scale



	Very Unlikely (1)	Unlikely (2)	Undecided (3)	Likely (4)	Very Likely (5)
How likely is it that you will buy soft-drinks from your most favorite brand in the supermarket in the coming week? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How likely is it that you will buy soft-drinks from another brand than your most favorite in the supermarket in the coming week (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How likely is it that you will, in total, purchase only one brand of soft-drinks rather than several brands in the supermarket in the coming week? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How likely is it that you will make purchases of additional soft-drinks brands in the supermarket in the coming week (more than one)? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q17 How much soft-drinks do you expect to buy in liters\*\*\* in the supermarket in the coming week?

Note: If you do not expect to buy any soft-drinks, please enter 0 below. If you expect to buy less than 1 liter in the coming week, please indicate the adequate proportion considering that a month has 4 weeks (e.g. if you expect to buy 1 liter in the next month, you should indicate 0.25 liters in the coming week).

\*\*\* Recall that a 'regular' soft-drink bottle at the supermarket usually contains 1,5 liters, and a can contains 0,33 liters (so a 6-pack contains approximately 2 liters).

Q18 How much do you expect to spend on soft-drinks in Euro's in the supermarket in the coming week?

Note: If you do not expect to buy any soft-drinks, please enter 0 below. If you expect to spend less than 1 Euro in the coming week, please indicate the adequate proportion considering that a month has 4 weeks (e.g. if you expect to spend 1 Euro in the coming month, you should indicate 0.25 Euro in the coming week).

Q19 How much of your favorite soft-drink brand do you expect to buy in liters in the supermarket in the coming week?

Q20 How much do you expect to spend on your favorite soft-drink brand in Euro's in the supermarket in the coming week?

Q21 Assuming you will purchase only one brand of soft-drinks in the supermarket in the coming week, what is the probability that it will be one of the following?

Note: Please assign an estimated percentage to the brands, so that the total sums 100%.

\_\_\_\_\_ Your #1 favorite brand (1)

\_\_\_\_\_ Your #2 favorite brand (2)

\_\_\_\_\_ Soft-drinks from a private label (3)

\_\_\_\_\_ Soft-drinks from a non-favorite, non-private label brand (4)

You're almost done with the survey. The following are five simple questions about yourself to complete this questionnaire.

Q22 Please indicate your gender

- Male (1)
- Female (2)

Q23 Please indicate your age

Q24 Please indicate your level of education

- Primary school (1)
- Secondary school (2)
- Intermediate vocational education (MBO) (3)
- Higher professional education (HBO) (4)
- University (WO) (5)

Q24 Please indicate your household size

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 or more (5)

Q25 Please indicate your e-mail address



## C. Follow-up Questionnaire

### Follow-up Survey Soft-drinks

Dear visitor,

Welcome back and thank you for taking the time to complete your participation via this follow-up survey. It has been about a week since you filled in the last survey. This follow-up survey is really short and consists of only a few questions to measure how much soft-drinks you have actually purchased in the last week.

For your information: soft-drinks are defined as carbonated, non-alcoholic beverages such as cola, lemon-lime, orange, lemonade, tonic, but also sports- and energy drinks. The most popular brands are Coca Cola, Fanta, Sprite, Pepsi, Sisi, 7up, Red Bull, but also the Light and Zero versions are considered to be distinctive brands. So keep in mind, if asked, to write down the full brand name, for example Coca Cola Light. If you buy private label brands, or consider this as your favorite, please write down the name represented on the bottle, for example: AH Cola Light.

Your participation is very much appreciated. Any questions or comments regarding this survey, feel free to contact me via e-mail: [375267yh@eur.nl](mailto:375267yh@eur.nl)

Kind regards,

Yarco Hoddenbach

Q1 What are your favorite soft-drink brands? Please indicate your favorite brands in order with your most favorite at 1.

You can indicate up to 5 brands. If you have less than 5 favorites, you can leave the additional items empty, if you have more than 5 favorites, just rank your top 5.

Please write down the full brand name with extension.

\_\_\_\_\_ #1 favorite brand: (1)

\_\_\_\_\_ #2 favorite brand: (2)

\_\_\_\_\_ #3 favorite brand: (3)

\_\_\_\_\_ #4 favorite brand: (4)

\_\_\_\_\_ #5 favorite brand: (5)

Q2 Which soft-drinks brands did you buy most often at the supermarket in the last week?

Please indicate your most frequently purchased soft-drinks brand of the last week starting from 1. You can indicate up to 5 brands. If you have bought less than 5 brands, you can leave the additional items empty, if you have bought more than 5 brands, just rank your top 5. Please write down the full brand name with extension.

\_\_\_\_\_ #1 most purchased brand: (1)

\_\_\_\_\_ #2 most purchased brand: (2)

\_\_\_\_\_ #3 most purchased brand: (3)

\_\_\_\_\_ #4 most purchased brand: (4)

\_\_\_\_\_ #5 most purchased brand: (5)

Q3 Consider one 'regular' soft-drink bottle at the supermarket contains 1,5 liters, and a can contains 0,33 liters (so a 6-pack contains approximately 2 liters).

Please estimate how much soft-drinks in general you have bought in liters in the supermarket last week:

If you did not buy any soft-drinks, please enter 0 below.

Q4 Please estimate how much you have spent on soft-drinks in general in Euro's in the supermarket last week:

If you did not buy any soft-drinks, please enter 0 below.

Q5 Consider one 'regular' soft-drink bottle at the supermarket contains 1,5 liters, and a can contains 0,33 liters (so a 6-pack contains approximately 2 liters).

Please estimate how much you have bought from your favorite soft-drink brand in liters in the supermarket last week:

If you did not buy any soft-drinks, please enter 0 below.

Q6 Please estimate how much you have spent on your favorite soft-drink brand in general in Euro's in the supermarket last week:

If you did not buy any soft-drinks, please enter 0 below.

Q7 Of all your purchases of soft-drinks in the last week, how much did you buy of the following items?

Please give your estimates to the brands in %, so that the total sums up to 100%.

\_\_\_\_\_ Your #1 favorite brand (1)

\_\_\_\_\_ Your #2 favorite brand (2)

\_\_\_\_\_ Soft-drinks from a private label (3)

\_\_\_\_\_ Soft-drinks from a non-favorite, non-private label brand (4)

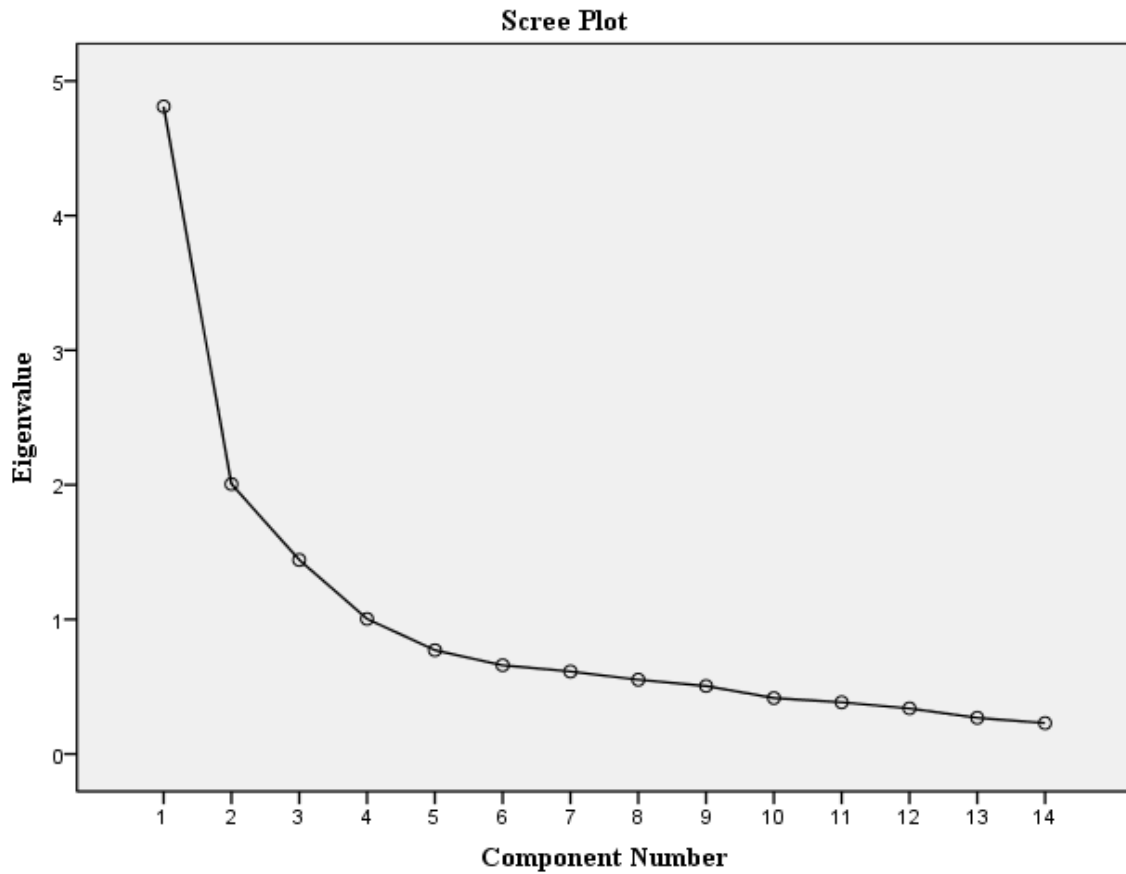
**E. Factor Analysis Output**

**Table A1: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,811	34,362	34,362	4,811	34,362	34,362	3,317	23,690	23,690
2	2,005	14,323	48,685	2,005	14,323	48,685	2,460	17,571	41,261
3	1,442	10,301	58,986	1,442	10,301	58,986	1,756	12,544	53,805
4	1,004	7,170	66,156	1,004	7,170	66,156	1,729	12,352	66,156
5	,772	5,513	71,669						
6	,659	4,707	76,376						
7	,613	4,378	80,755						
8	,552	3,943	84,697						
9	,505	3,607	88,305						
10	,416	2,970	91,275						
11	,384	2,742	94,017						
12	,339	2,420	96,437						
13	,269	1,920	98,357						
14	,230	1,643	100,000						

Extraction Method: Principal Component Analysis.

**Figure A1: Scree Plot**



**F. Descriptives**

**Table A2: Descriptive Statistics First Questionnaire**

	N	Min	Max	Mean	Std. Dev
How often do you buy soft-drinks* in the supermarket?	220	1	7	4,25	1,560
For how many years has your #1 favorite brand been your favorite?	220	0	60	9,96	9,133
Please estimate how much you buy soft-drinks in general in liters*** on average in the supermarket per week	220	0,00	18,00	2,4930	2,78884
Please estimate how much you spend on soft-drinks in general in Euro's on average in the supermarket per week	220	0,00	35,00	4,6730	4,92900
Please estimate how much you buy from your #1 favorite soft-drink brand in liters*** on average in the supermarket per week	220	0,00	12,00	1,6133	1,86350
Please estimate how much you spend on your #1 favorite soft-drink brand in in Euro's on average in the supermarket per week	220	0,00	16,00	2,8373	3,22702
When was the last time you bought the following items in the supermarket?--Soft-drinks in general	220	1	6	1,95	1,448
When was the last time you bought the following items in the supermarket?--Your #1 favorite brand	220	1	6	2,25	1,568
When was the last time you bought the following items in the supermarket?--Your #2 favorite brand	220	1	6	3,02	1,742
When was the last time you bought the following items in the supermarket?--Soft-drinks from a private label	220	1	6	3,90	1,832
When was the last time you bought the following items in the supermarket?--Soft-drinks from a non-favorite, non-private label brand	220	1	6	4,51	1,615
Out of the 10 last purchases of soft-drinks in the supermarket, please estimate how much you have bought of - Your #1 favorite brand	220	0,00	100,00	56,9318	27,24202
Out of the 10 last purchases of soft-drinks in the supermarket, please estimate how much you have bought of - Your #2 favorite brand	220	0,00	100,00	25,1409	19,32191
Out of the 10 last purchases of soft-drinks in the supermarket, please estimate how much you have bought of - Soft-drinks from a private label	220	0,00	100,00	9,8182	15,56291
Out of the 10 last purchases of soft-drinks in the supermarket, please estimate how much you have bought of - Soft-drinks from a non-favorite, non-private label brand	220	0,00	100,00	7,2909	17,94657
Overall I am completely satisfied with my favorite soft-drinks brand	220	1	5	4,09	,713
How likely is it that you will recommend your most favorite soft-drink brand to a friend or a colleague?	220	1	5	3,54	1,132
My favorite soft-drinks brand always meets expectations	220	2	5	4,09	,639
My favorite soft-drinks brand can be counted on to provide good quality	220	1	5	4,16	,660
My favorite soft-drinks brand is reliable	220	1	5	3,99	,755
I am happy to be a customer of my favorite soft-drinks brand	220	1	5	3,75	,799
My favorite soft-drinks brand is the soft-drinks brand that takes the best care of its customers	220	1	5	3,22	,763
I have feelings of trust toward the company	220	1	5	3,38	,875
It pays off economically to be a customer of my favorite soft-drinks brand	220	1	5	2,63	1,001
I would suffer economically if the relationship were broken with my favorite soft-drinks brand	220	1	5	2,06	1,003
I believe that my favorite soft-drinks brand is preferable to any other soft-drinks brand	220	1	5	3,70	,872
I believe that my favorite soft-drinks brand has the best offer	220	1	5	3,19	,930
I prefer the quality of my favorite soft-drinks brand to the quality of competitors	220	1	5	3,90	,818
I have repeatedly found my favorite soft-drinks brand better than others	220	2	5	3,92	,784
I am a loyal customer of my favorite soft-drinks brand	220	1	5	3,60	1,017
I consider my favorite soft-drinks brand my first choice for soft-drinks purchases	220	1	5	3,83	,869
How likely is it that you will buy soft-drinks from your most favorite brand in the supermarket in the coming week?	220	1	5	3,51	1,237
How likely is it that you will buy soft-drinks from another brand than your most favorite in the supermarket in the coming week	220	1	5	2,60	1,188
How likely is it that you will, in total, purchase only one brand of soft-drinks rather than several brands in the supermarket in the coming week?	220	1	5	3,00	1,190
How likely is it that you will make purchases of additional soft-drinks brands in the supermarket in the coming week (more than one)?	220	1	5	2,62	1,118
How much soft-drinks do you expect to buy in liters*** in the supermarket in the coming week?	220	0,00	18,00	2,3149	2,81244
How much do you expect to spend on soft-drinks in Euro's in the supermarket in the coming week?	220	0,00	35,00	4,0419	4,91780
How much of your favorite soft-drink brand do you expect to buy in liters in the supermarket in the coming week?	220	0,00	50,00	1,8035	3,82717



How much do you expect to spend on your favorite soft-drink brand in Euro's in the supermarket in the coming week?	220	0,00	25,00	2,6741	3,39618
Assuming you will purchase only one brand of soft-drinks in the supermarket in the coming week, what is the probability that it will be -Your #1 favorite brand	220	0,00	100,00	67,9455	31,54553
Assuming you will purchase only one brand of soft-drinks in the supermarket in the coming week, what is the probability that it will be -Your #2 favorite brand	220	0,00	100,00	19,6000	23,21655
Assuming you will purchase only one brand of soft-drinks in the supermarket in the coming week, what is the probability that it will be -Soft-drinks from a private label	220	0,00	100,00	6,9318	15,90755
Assuming you will purchase only one brand of soft-drinks in the supermarket in the coming week, what is the probability that it will be -Soft-drinks from a non-favorite, non-private label brand	220	0,00	100,00	5,5227	18,51334
Please indicate your gender	220	1	2	1,37	,483
Please indicate your age	220	18	69	29,10	10,551
Please indicate your level of education	220	1	5	4,20	,758
Please indicate your household size	220	1	5	2,48	1,294
Valid N (listwise)	220				

**Table A3: Descriptive Statistics Follow-up Questionnaire**

	N	Min	Max	Mean	Std. Dev
How much soft-drinks did you buy in general at the supermarket in the last week?	110	0,00	16,00	2,5891	3,16719
How much did you spend on soft-drinks in general at the supermarket in the last week?	110	0,00	70,00	4,2237	7,70379
How much did you buy of each of the previously mentioned brands** at the supermarket in the last week-#1 most purchased brand	110	0,00	25,00	2,1380	3,39909
How much did you buy of each of the previously mentioned brands** at the supermarket in the last week-#2 most purchased brand	36	0,00	15,00	1,7128	2,40302
How much did you buy of each of the previously mentioned brands** at the supermarket in the last week-#3 most purchased brand	27	0,00	2,00	,9652	,59786
How much did you buy of each of the previously mentioned brands** at the supermarket in the last week-#4 most purchased brand	11	0,00	1,50	,7955	,57899
How much did you buy of each of the previously mentioned brands** at the supermarket in the last week-#5 most purchased brand	6	0,00	1,50	,3883	,58380
How much did you spend on each of the previously mentioned brands** at the supermarket in the last week-#1 most purchased brand	110	0,00	35,00	2,7499	4,47393
How much did you spend on each of the previously mentioned brands** at the supermarket in the last week-#2 most purchased brand	39	0,00	15,00	1,9782	2,37420
How much did you spend on each of the previously mentioned brands** at the supermarket in the last week-#3 most purchased brand	27	0,00	6,00	1,3389	1,11099
How much did you spend on each of the previously mentioned brands** at the supermarket in the last week-#4 most purchased brand	12	0,00	2,00	,8283	,73688
How much did you spend on each of the previously mentioned brands** at the supermarket in the last week-#5 most purchased brand	5	0,00	1,50	,8000	,75829
Valid N (listwise)	5				