

# Does the NPS<sup>®</sup> reflect consumer sentiment? A qualitative examination of the NPS using a sentiment analysis approach

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## Abstract

The Net Promoter Score (NPS<sup>®</sup>) is extensively used as a key performance indicator in practice. Although the scale was initially considered to be a predictor of growth, the literature has disproved this assertion. Despite this, it is argued here that the NPS could be used as a measure of brand health if it provided an effective representation of consumer sentiment toward the brand. This research took a respondent perspective to examine if the NPS effectively captured the consumer's sentiment. Using a questionnaire design, participants were asked to provide a response on an NPS scale, followed by which they were asked to explain why they gave that score. Therein, a sentiment analysis approach was applied and the open-ended responses were coded based on the type and strength of the attitude. The results indicate that at an overall level, the NPS captures the sentiment participants feel toward a brand. However, caution should be used when classifying participants into detractors, passives, and promoters.

## Keywords

affect, appraisal approach, appreciation, consumer attitude, graduation, judgment, Net Promoter Score, sentiment analysis

## Introduction

The Net Promoter Score (NPS<sup>®</sup>) is used extensively in practice as a key performance indicator. Developed by Reichheld (2003), the NPS provides a single-metric measure to predict future growth, which is easy to implement, analyze, and communicate. This parsimony being a key contributor to its popularity (Klaus & Maklan, 2013). The score measures customer satisfaction based on the respondent's likelihood of recommending the brand (Reichheld, 2003). Respondents are asked how likely they are to recommend [brand x] to others and are provided with an 11-point scale

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ranging from 0 = *not at all likely* to 10 = *very likely*. Responses are classified into *Promoters* (9–10), *Passives* (7–8), and *Detractors* (0–6). The score is calculated by reducing the percentage of Detractors from Promoters. Lamrock (2014) explains the influence of the scale in practice noting “NPS® scores are more intrinsically linked to executive bonuses and salary performance than ever before.”

Literature has extensively questioned the application of the scale (see Keiningham, Cooil, Andreassen, & Aksoy, 2007) failing to find a relationship between the score and company growth. However, it is argued here that even if the scale does not predict future growth, it could provide an important summary measure of consumer’s sentiment toward a brand. The NPS measures word-of-mouth as a proxy for customer satisfaction (Reichheld, 2003). It is well accepted that word-of-mouth provides a means of unpaid advertising, and can influence brand image (Gremler & Brown, 1999). Confente (2015) found that as more and more brands clutter the market place, consumers become more reliant on word-of-mouth to make purchase decisions. At the same time, given that satisfaction influences the consumer’s disposition toward a brand (Hallowell, 1996), a scale that effectively captures the consumer’s sentiment can provide an essential measure of brand health in an environment where technology has increased buyer power.

Through a rigorous review of the literature, we have noted that limited attention has been paid to examining how consumers respond to the NPS—and specifically if it captures the consumer’s sentiment. This article takes the first step to addressing this gap using a sentiment analysis approach to test if a respondent’s attitudes align with their NPS score and corresponding classifications of being a Promoter, Passive, or a Detractor.

## Challenges with the NPS

For the NPS to represent a valid scale, it should be able to predict future company growth as it was purported to do (Reichheld, 2003). Empirical research has, however, questioned the relationship between a brand’s NPS and future growth (Keiningham, Aksoy, Cooil, Andreassen, & Williams, 2008). Attempts at replicating the findings have failed to produce the same outcome as Reichheld, and dual-metric or multi-metric models outperform single-metric predictors like the NPS (Keiningham et al., 2008). The impact of the score on the growth of the company was tested by Reichheld based on growth data for the same period over which the score was collected (Sharp, 2008), thus not providing a predictive measure. Variations in response to the NPS have also been noted based on the respondent’s demographic characteristics. The NPS was found to vary based on the age of the respondent. Market research (Medallia, 2016) and academic (Kasch, 2016; Situmorang, 2017) projects have found that Millennials tend to provide a lower score compared with Non-Millennials. Eskildsen and Kristensen (2011) found that gender also influenced how customers responded to the NPS question. They note that while there is no significant difference in the average value provided by both genders, there is a difference in the score obtained—with females more likely to be strong Promoters. Furthermore, variations in average scores were also noted based on how the survey was implemented—with text message NPS surveys yielding lower scores to computer-assisted telephone interview surveys (Van Der Heijden, 2017).

At an operational level, the NPS does not provide strategic guidance on improvements that could be made, on competitor perceptions or actions, on negative word of mouth, and on how new customers may be acquired (East, Romaniuk, & Lomax, 2011; Fisher & Kordupleski, 2019). The scale relies on reported behavior, and given the nature of the question asked, it may also be limited in application to sectors where recommendations are relevant, and the customer can assess the experience (Hamilton et al., 2014). For instance, when applying it to a not-for-profit context,

Schulman and Sargeant (2013) found a greater proportion in the Detractor category because participants were reluctant to talk to others about their philanthropic behavior and therefore less likely to recommend the brand.

The scale also suffers from issues concerning its implementation. The asymmetry of information means respondents do not know if they are being classified as a Promoter, a Passive, or a Detractor. When considering Detractors, the scale does not differentiate between those who score a “0” and those who score a “6” treating both scores as equal (Schulman & Sargeant, 2013). Second, being an 11-point semantic-differential scale, it challenges participants to self-discriminate between scale points without adequate guidance on the difference between each point (Jacoby & Matell, 1971). And third, it does not provide participants with an opportunity to not respond through options such as “don’t know,” thus forcing a response and being susceptible to artificially low scores (Kristensen & Eskildsen, 2014). This third point being particularly relevant given the scale is often administered based on a single and/or trivial exposure to the brand, which may not be adequate to form an opinion or examine value; and consequently may not provide useful insight (Fisher & Kordupleski, 2019). These factors demonstrate that the individual’s interpretation of scale points can influence the response consumers provide—thus necessitating an examination of how they respond to the NPS. Accordingly, a linguistic approach is applied in this article to understand if it captures the attitude of the respondents.

## A sentiment perspective

Natural language data analysis has increasingly been used to determine people’s sentiment (Gopaldas, 2014). Although automated approaches that use keywords and phrases are useful on mass data, they do not identify the nuances associated with recommendations (Gopaldas, 2014). A more detailed understanding of language can be achieved by applying Appraisal analysis—which is a systemic functional linguistic approach (Martin, 2014). Appraisal analysis examines how someone expresses support or opposition to something or someone (Martin, 2014). As part of Appraisal analysis, the type and strength of attitudes expressed in natural language are examined to identify consumer’s sentiment.

Attitudes represent how people think and feel about something or someone, and are divided into three types (Martin, 2014)—*Affect*, which consider the emotions expressed in text, for example, happiness, sadness, satisfaction, and hope; *Judgment* relating to a person’s evaluation of morality, truthfulness, capacity, and dependability of something or someone; and *Appreciation* refers to how personally valuable someone or something is based on their performance or aesthetic qualities. In regard to the NPS, we would argue that the types of attitude expressed would differ based on the scale point the participant reports. Those who provide a lower NPS score would more likely express a Judgment as an indication of their dissatisfaction due to its transactional focus (Eggins, 2004). However, at higher scale-points, a greater sense of Appreciation would be noted because of the experiential and aesthetic nature of human interactions.

Graduation relates to the strength of the attitude expressed and is based on the force and the focus of conviction in a statement. Forceful language identifies the emotive elements of the text and includes words like “amazing” or “completely ridiculous” (Martin & White, 2003), while focus term (e.g., award-winning) identifies how language can elevate or diminish the position of the person or event in relation to others (Martin & White, 2003). Using graduation, statements may be sorted on a continuum from *Highly Negative* to *Highly Positive*. In view of the NPS, we would expect higher levels of conviction resulting in stronger language at the extreme scale points. Therefore, a person scoring a “0” would be more likely to provide a comment that is *Highly Negative* in graduation, compared with a person scoring a “10” who would be *Highly Positive*.

**Table 1.** Illustrative comments by attitude type and graduation.

– High	– Medium	– Low	Appraisal	+ Low	+ Medium	+ High
Completely disgusting	Very upsetting	Slightly upsetting	Affect	Happily go back	joyously fun	Ecstatically pleasing
Absolutely dishonest	Bad service	Was not the best service	Judgment	Competent service	Good service	Brilliant service, best in Australia
Wholly untidy	Not worth a visit	Boring	Appreciation	Attractive scenery	Beautiful scenery	Exquisite breathtaking landscape

Accordingly, it is hypothesized that there would be a strong positive correlation between the graduation of the comment and the NPS reported.

## Methodology

### Data collection

The data for this article were collected as part of a research project focusing on travel behaviors. Participants were asked to identify the destinations they had visited recently. Thereon, they were asked the NPS question focusing on a place they had visited. The question was worded “How likely are you to recommend [place visited] as a place to holiday?” Following this, an open-ended question was asked to ascertain why visitors provided that score and establish their attitude toward the destination. A response to the open-ended question was optional.

The sample was sourced from an online panel provider in Australia. Well maintained online panels have been found to have representative samples (Dolnicar, Laesser, & Matus, 2009) and have been used previously in tourism research (Ring et al., 2016). The panel used in this research is ISO certified and a member of local market research associations—indicating their compliance with relevant codes of practice. The use of an online survey and public sample lists is consistent with the approach used by Reichheld (2003) when developing the NPS.

A total sample size of 3,446 visitors was achieved. Once collected, data were cleaned to exclude missing and false responses—based on the sincerity of their response to the open-ended question. This resulted in a usable sample of  $n = 1,481$  who had answered both the NPS and the open-ended questions.

### Data analysis

A mixed-analysis approach was applied. First, the open-ended data were qualitatively analyzed to identify the sentiment of the comment. As part of this process, the data were coded in line with Martin’s (2014) instruction on Appraisal analysis. Statements were classified into “Affect,” “Judgment,” and “Appreciation” to denote the type of attitude, and were also assigned a code based on the strength of their conviction using “low negative,” “medium negative,” “high negative,” “low positive,” “medium positive,” and “high positive.” In the interest of brevity, Table 1 illustrates comments for each type of attitude and graduation.

As a pre-defined list of codes was used in this research, following Morse (1997), multiple coders were used to analyze the comments. Specifically, a team coding approach (Saldaña, 2015) was applied. Following this process, each comment was discussed by the authors of this work and codes were agreed upon in a team environment. Saldaña (2015) notes that such an approach can

**Table 2.** Sample profile.

Attribute	Total sample, <i>n</i> = 1,481
Gender	
Male	52%
Female	48%
Age	
18–20	4%
21–30	26%
31–40	19%
41–50	12%
51–60	16%
61–70	17%
71+	6%
Average	44.1

**Table 3.** Distribution of sample across NPS® scale points.

	0	1	2	3	4	5	6	7	8	9	10
	Detractor						Passive		Promoter		
Sample <i>n</i>	10	3	13	12	27	69	79	196	315	235	522
Sample %	0.79	0.16	0.95	0.82	1.93	5.12	5.72	13.68	21.07	15.26	34.52

**Table 4.** Distribution by NPS® classification.

Column %	Detractor	Passive	Promoter
Affect	13.8%	0.2%	0.4%
Appreciation	47.4%	90.5%	89.1%
Judgment	38.8%	9.3%	10.5%

increase consistency in coding and allows the research to generate richer insights. Following the qualitative stage, the codes were assigned a numeric value to enable statistical examination and were imported into SPSS v.25 for analysis. This analysis focused on understanding the distribution of attitudes and convictions across the NPS scale points.

## Results

Before discussing the results, the key characteristics of the sample are presented in Table 2.

Table 3 presents the distribution of results across the NPS scale points.

### Attitude expressed

We proposed that the type of attitude would affect the NPS score the participant provided. Table 4 summarizes the distribution of different attitudes.

**Table 5.** Graduation as a percentage of total responses.

	0	1	2	3	4	5	6	7	8	9	10
High negative	–	–	–	–	–	–	–	–	–	–	–
Medium negative	0.3%	0.1%	0.3%	0.3%	0.4%	0.3%	0.6%	0.6%	0.2%	0.1%	0.1%
Low negative	0.4%	–	0.5%	0.5%	0.8%	1.5%	0.5%	0.6%	0.6%	0.3%	0.1%
Low positive	–	0.1%	0.1%	–	0.4%	1.7%	2.6%	5.9%	6.5%	4.1%	3.7%
Medium positive	–	–	–	0.1%	0.2%	0.9%	1.6%	5.3%	12.2%	6.8%	17.4%
High positive	–	–	–	–	–	–	0.1%	0.8%	1.8%	4.6%	14.1%

An analysis of variance was conducted to determine if attitude differed based on the NPS score provided. The findings indicated that there was a significant difference in the NPS score based on the attitude of the participants  $F(2, 1478) = 281.42, p < .05$ . All three attitude groups reported different NPS scores: Affect ( $m = 4.97$ —Detractor), Appreciation ( $m = 8.75$ —Promoter), and Judgment ( $m = 6.78$ —Detractor). As expected, those who passed Judgment about the destination reported an average NPS score within the Detractor range, while those who reported a higher NPS score were more likely to demonstrate Appreciation. Interestingly, those classified as Passive and Promoter reported a similar level of Appreciation, suggesting they demonstrate a similar attitude based on the value and aesthetics of the destination.

## Graduation

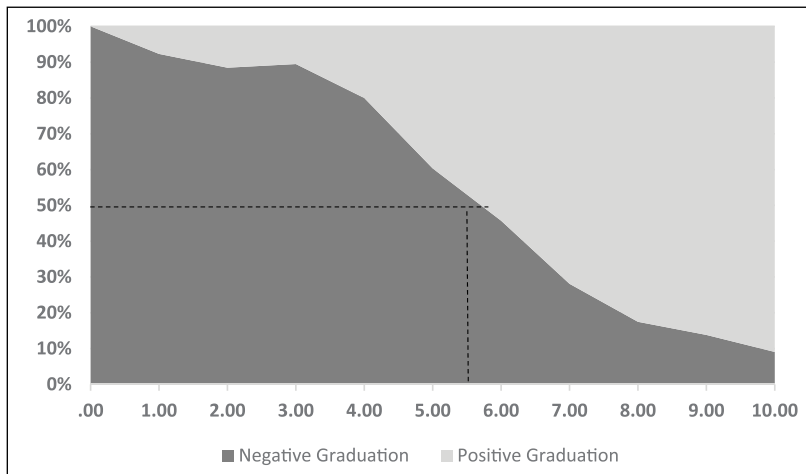
If the NPS measures satisfaction with a brand, we would expect they would be a strong positive correlation between the graduation of the comment and the NPS they report. To test this, a Pearson Correlation was conducted. A significant relationship between graduation and NPS scores was observed,  $r(1476) = .611, p < .05$ . Although this suggests that there is a correlation between NPS scores and the graduation of respondent's attitudes, this relationship appears to be relatively lower than what would be expected of a scale purported to capture customer satisfaction. This suggests that a higher NPS score does not necessarily mean a more positive attitude.

Table 5 provides the graduation for each scale point. The data indicate that Detractors did not demonstrate strong negative graduation as would have been expected. On the contrary, although Promoters expressed a strong positive sentiment, some held a negative attitude toward the brand.

The results indicate that a greater proportion of those currently classified as Passive also demonstrate a positive attitude toward the brand thus supporting Fisher and Kordupleski's (2019) notion that they are not indifferent as their label would imply. Figure 1 illustrates the overall graduation (negative or positive) of the comments across the various NPS points using the cumulative frequency for each. The tipping point at which the total number of positive comments is equal to the total number of negative comments appears between points 5 and 6. Liu (2012) defines this as the point where the customers express a neutral sentiment toward the brand. This is consistent with the recommendations made by Dobronte (2012) who suggested a re-classification of points 5 and 6 as Passives and points 7–10 as Promoters when studying how Dutch participants responded to the NPS.

## Conclusion

This research took a respondent perspective to understand if the NPS effectively captured the consumer's sentiment. Participants provided a response on an NPS scale, followed by which they were



**Figure 1.** Cumulative percentage based on overall graduation.

asked to explain why they gave that score. Using an Appraisal approach, the open-ended responses were coded based on the type and strength of the attitude. The results indicate that at an overall level, the NPS captures the sentiment participants feel toward a brand. As expected, those who provide a higher score demonstrated a sense of Appreciation for the brand and expressed a highly positive attitude.

The findings provide insight into the attitudes of the NPS classification groups (Passives, Detractors, and Promoters), and raise questions about their boundaries. Passives, in particular, were found to demonstrate a similar type of attitude—Appreciation—to Promoters. A greater proportion of them also expressed a positive attitude toward the brand. This indicates that participants providing a score of 7 or 8 are not indifferent, and ignoring those scale points could result in understating a brand's NPS. The results provide support for reclassifying Passives to those who provide a score of 5 and 6 as that is where an equal number of positive and negative comments are observed.

This article takes the first step in qualitative examining the NPS from a consumer perspective. The findings presented here are limited by the context of tourism, and future research could apply more in-depth qualitative approaches, or replicate the approach used in this article across contexts. Different scale boundaries could be tested to sharpen the classification of Passives and Promoters with reference to future growth. Finally, a longitudinal consumer-centric design could also be adopted to identify if there is a relationship between NPS and purchase.


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