Solving the Mystery of Consistent Negative/Low Net Promoter Score (NPS) in Cross-Cultural Marketing Research*

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This paper has identified some theoretical reasons and empirical evidence for negative scores that occur in Japan and Korea or unstable NPS scores that can be experienced. A psychological analysis of NPS results sheds light on the validity of the negative NPS scores that are often found in Japan and Korea. Usually customer experience surveys utilize a "single stimulus" such as the "company" or the "company's products / services." However, in the case of the "recommendation to friend" question of the NPS system there are two stimuli namely the "company product/service" and the influence of "friends." Hence, the survey outcomes from this question can be very different when compared with other single stimulus questions such as "overall satisfaction" or "repurchase." Japanese and Korean people may have a positive attitude towards the company but they will provide low NPS scores because they are reflecting that they would not run the risk of ruining their relationships with their friends by making a recommendation. As a result, in the NPS system these people will be labeled as "detractors" when in fact they are "ambivalent customers." Using several Japanese and Korean based marketing research industry examples and case studies, different strategies are proposed to address the issue of negative scores in the NPS system in Japan and Korea. The Customers Psyche appears to be the key determinant factors for both types of behavioural items (items with a single stimulus as well as items with two stimuli).

Key words: Negative/low Net Promoter Score, cross-cultural research, customer advocacy, customer satisfaction, cross-cultural branding

Ⅰ. Introduction

Every researcher, whether an academic or company researcher, has to deal with several challenges when conducting any cross-cultural study, such as translation, sample equivalency and reliability and validity of measures across cultural issues (Van De Vijver and Leung 1997). Furthermore, conducting empirical research or business in Asian countries poses some additional challenges (Yang and Choi 2013). Asia is comprised of two types of countries, i.e., developed countries such as Japan and Korea as well as developing countries such as China and India. Cultural differences between some Asian countries and Western countries can often lead to significantly different results. For example, Kim, Woo and Kang (2013) have documented Google's failure in Korea. This paper will review the issues related to the use of the Net Promoter Score (NPS) in cross-cultural research projects.

Several empirical studies have shown that a higher level of customer satisfaction and good customer experience will lead to better business performance and company growth (Hayes 2008). Consequently, an increasing number of companies are seeking better ways of measuring customers' satisfaction & experience levels and identifying key drivers of customer satisfaction.

In the early 2000's a number of marketing research agencies promoted the benefits of the use of their own proprietary models to measure customer opinions. However, in 2003, the Net Promoter Score (NPS) was introduced to the industry (Reichheld 2003). The NPS system has now been in use for almost a decade and is commonly used by businesses around the world. This system required that only one question be answered by customers instead of the use of a long survey with hundreds of questions. The NPS system was very appealing because it was economical to use, analysis was simple and it did not require any special analytical expertise. However, while simpler systems are to be applauded, it is essential that any simpler system is able to produce the correct information. This is not always true of the NPS system as has been identified by a number of researchers such as for example Grisaffe (2007), Keiningham et al. (2007), Pingitore et al. (2007), East, Hammond and Lomax (2008), Keiningham et al. (2008), East, Romanink and Lomax (2011), Schultz and Peltier (2013) and Kristensen and Eskildsen (2014). In addition to the problems with the NPS system that have been identified by these researchers, Dorell (2011) has noted that there may be cultural differences that can lead to further problems with the system and this aspect will be further investigated in this article.

In response to a question of "How likely is it that you will recommend the company to your friends," an NPS score will be calculated as shown below:

<Figure 1> Method for Calculating Net Promoter Scores
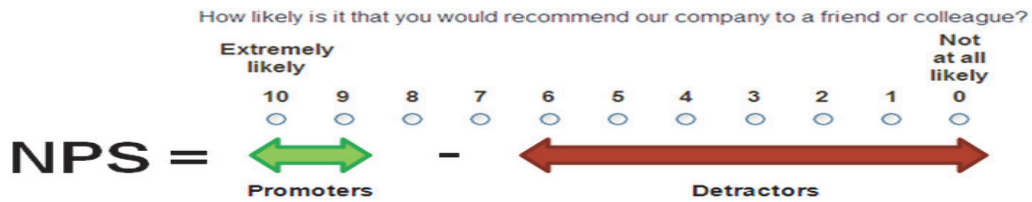
Any negative Net Promoter score in the NPS system reflects a high number of detractors. However such scores might not arise from true detractors but from ambivalent customers who for cultural or friendship reasons were not prepared to talk to their friends about the company and its products / services. This effect has been very evident in our research and is further supported by a more recent study of the top 100 brands by Freed (2013). The average NPS in several Japanese industries are consistently negative year by year. These scores were significantly lower than those found in other countries such as in Asia or in Australia.

The NPS system has now been in use for almost a decade and is commonly used by businesses around the world. Before investigating the issue of culturally based fluctuations and negative scores yielded by the NPS system, a historic contribution of the NPS system to the marketing research industry is discussed.

Ⅱ. The Major Contribution of NPS to the Marketing ResearcH Industry

One of the most significant contributions of the NPS system to the marketing research industry has been to offer an alternative to the measuring of customer engagement and experience previously mainly carried out by large international marketing research agencies. These aspects were often measured via 30-minute long questionnaires (Roberts 2013). In the late 1990s and early 2000's some of the major research agencies launched standardized global products to measure the impacts of global brands and companies on customers. Thus, from 2000 onwards the first author, while working successively as a senior measurement scientist for the Gallup Organization and Nielsen research, used their standardized products to measure customer experience or loyalty and other models including in other areas such as Branding or Employee Engagement.

The standardized products offered by many

large marketing research agencies often have fixed structures, which are justified only by explanatory logic or common sense rather than by statistical / psychometric rigor. The research agencies often create a story around these products, however, it is hard to find any empirical proof of the accuracy of the results in the academic literature. Often, no empirical evidence is provided to clients. This situation also prevailed prior to the NPS system being developed as a standalone measurement tool. Although the "recommendation to a friend" question has been used by the marketing research industry and academia for several decades along with several other questions such as "overall satisfaction" or "future purchase intention" it was analyzed in a similar fashion to other questions in a customer survey. A comprehensive list of structured outputs / models in the branding area, which were proprietary products of several international marketing research companies, have been detailed in an industry journal publication (Knowles 2005).

The global agencies told the senior executives of major companies that they had discovered something unique and could measure customers' or employees' or both views authentically due to their global experience or knowledge. Often companies bought services from one market research supplier or another based on this logic and depending upon the contact between the company senior executives and the supplier's business development people. Most research agencies claimed that their system depicted the true perceptions of the customers. At the same time, many client companies were constantly seeking ways of assessing the true feelings of their customers but their results often varied from one study to the next. As a result of this it was common practice for some of the large client companies to switch to and fro on an annual or biannual basis between different global market research agencies.

In 2003 the Harvard Business Review published an article indicating that only one number was needed for a company to understand its' customers, to grow, and to determine whether customers would recommend the company to their friends (Reichheld 2003). This was perfect timing, as most large companies had become disillusioned with the fixed structured models of the large agencies and had found that, in successive years, they were being provided with different answers to the same problem i.e., how to attract and retain their customers. Furthermore, due to the simplicity and easy accessibility of the NPS system, many companies around the world started to use it (Reichheld 2006). There was no need to have any special expertise to measure customers' views or any need for the marketing agencies' products or proprietary – black box based – outputs or diagrams. This led to a major growth in the use of the NPS system as many global companies started using it. This trend is continuing. However, when American NPS scores, on the same products / services, are compared with those

obtained in Asian countries, such as Japan and Korea, consistent negative differences are found. This raises the issue as to whether these negative Japanese and Korean NPS scores are valid or whether the NPS system is incorrectly reflecting a large number of detractors. The differences in NPS scores for the same product in different countries can be explained by the analysis of the "recommendation to friend" question.

## Ⅲ. An Analysis of the NPS Question – "Recommendation to Friends"

Many companies have now accumulated yearly data from their customers and have started to see unexpected patterns in the results from the NPS system. These strange patterns, which some companies are trying to understand, are for example that when their results are compared with US data, there are always negative scores in certain countries such as Japan or Korea. There are also often major fluctuations in the NPS scores so that in some cases scores have been found to change from a positive NPS score in one year to a negative NPS score in the next year. Also, when driver analyses have been carried out by using the "recommendation" question alone, the importance of items or questions have disappeared from one year to the next. NPS system users have therefore been faced with a problem of how to rationalize these effects, whether the data should be modified or adjusted in some way in order to achieve consistent and concordant results or whether the system should be discarded in favor of some other as yet identified more reliable system. An analysis of the NPS question of "recommendation to a friend" has highlighted the basic cause of this problem with the following types of questions.

Most of the questions that are used in any

〈Figure 2〉 Two Stimuli in NPS Question

Q1. How satisfied were you with your Customer Support experience of "company"?

Q2. How likely is it that you would recommend "company" to a "friend or colleague"?
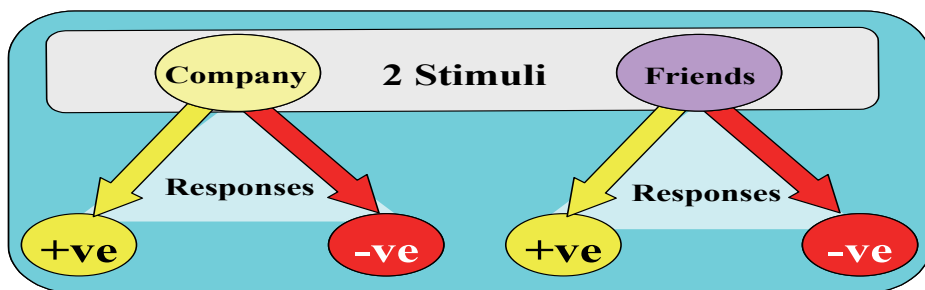
customer experience survey have only one "stimulus" i.e., the company, but in the case of the above NPS questions, there are two stimuli (as depicted in the above diagram), "customers" and "friends." Hence, in response to an NPS question, respondents might have two different responses "positive" towards the "company" but negative towards "friends" because they do not want to take the responsibility for their friends' consequences were they to experience problems as a result of such a recommendation and wish to avoid any risk of ruining the relationship with a friend. In this situation, the NPS question might reflect a low overall score and any change in the response to a single stimulus could change the overall score.

Suppose in year one, every category of response has a rating of 25% as shown in the table below due to the possibility of having opposing responses for two stimuli, i.e., "company" and "friends." There will be 25% promoters, 50% neutral due to either negative views on company or friends and the rest of the 25% will be

detractors since they will have negative views for both of the stimuli. Hence the NPS score would be zero (promoter-detractors = 25-25 =0).

However, assume that in year two, some people who had a negative image of the company (b) also decided not to talk / recommend to their friends (switched from c to d). Now there will be 50% detractors and the NPS score will become –25%. This could simply be the result of the influence of a culture or of a past experience but their opinion of the company or the company's product would have remained the same (negative). However they would have previously been misclassified as being neutral. The change to a new NPS score of 25% could mislead executives and give the false impression that something had gone wrong with the company.

When the data for a product of one company in a particular country is compared with the same product in another country, the influence of the second stimulus "friend" (as has been previously explained) could be very different in the two countries. For example, in such cases a

〈Table 1〉 Impact of Possible Interactions between Two Stimuli

	+Company	-Company	+Friends	-Friends	
	a=+ve	b=-ve	c=+ve	d=-ve	
	Promoter	Neutral	Neutral	Detractors	
Year 1	√	O	O	X	**NPS = 0**
	=a,c=(25%)	= b,c = (25%)	=a,d= (25%)	=b,d = (25%)	(25%-25%)
	Promoter	-Friends	Neutral	Detractors	
Year 2	√	X	O	X	**NPS = -25%**
	=a,c=(25%)		=a,d= (25%)	=b,d = (50%)	(25%-50%)

negative NPS score in Asian countries might be misleading. This is further discussed in the next section.

The analysis above clearly shows that the NPS system cannot necessarily identify the true "detractors" of a company. The NPS system simply assumes that anybody, who does not recommend the company to their friends, is going to discourage their friends from doing business with the company. This need not be correct. However, this assumption will create fluctuating patterns in cumulative NPS system data. This issue could be empirically resolved in several ways.

Ⅳ. Why are there Consistently Low (-ve) Scores in Some Countries Against High (+ve) Scores in the US for the Same Company / Products?

Hofstede, (1994) has defined culture as "the collective programming of the mind which distinguishes the members of one group or category of people from those of another." As a result of such cultural differences there will always be some countries where the NPS system will produce lower scores. This is evident from the cumulative global brand data collected over several years. According to the culture of a country, the sense of private space and public space, will be different as shown for Culture A and B in the diagram below (Hall 1959). In those countries, where "private space" tends to be smaller than "public space," (as depicted in the diagram below in Figure 3 as 'Culture B') NPS scores will always be negative or will exhibit lower values when compared to scores for the same products or services obtained in the US. It takes years to be friends in countries such as Japan and Korea. As a result, in general, people will tend to avoid unnecessary risks of ruining a relationship. Hence they will prefer not to recommend things to friends in order to not lose face if something goes wrong with the recommended company or product / service.

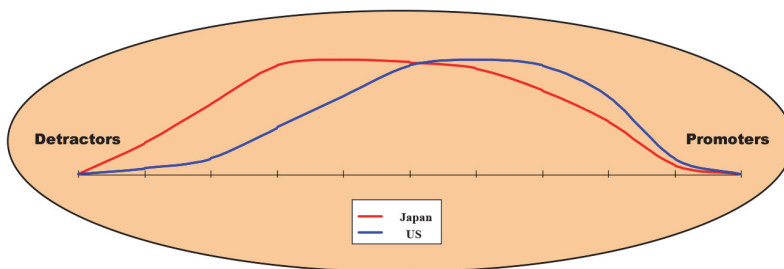〈Figure 3〉 Private Self & Public Self in Two Cultures
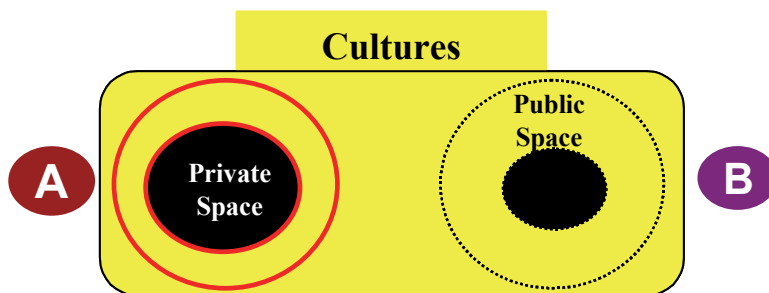
For example, when a graph of the data for "recommendation" is drawn for two countries namely Japan and the US, two very different distributions emerge (see Figure 4). Based on several international studies (Hrdlick et al. 2006) it can be concluded that there will always be high numbers of Japanese customers with low scores, who might be called "detractors" in the NPS system when compared with American or Australian customers for the same product or service (as shown in the Table 2). As explained earlier, this is primarily due to cultural differences (definition & treatment of friends is different in the two countries) and has nothing to do with the quality of the products or services. Hence comparing NPS based scores might give a completely incorrect picture.

Hrdlick et al., (2006) who were employees of Bain & Company, the original proponents of the NPS system, have published a paper where they have shown that the average NPS scores in several Japanese and Korean industries were consistently ne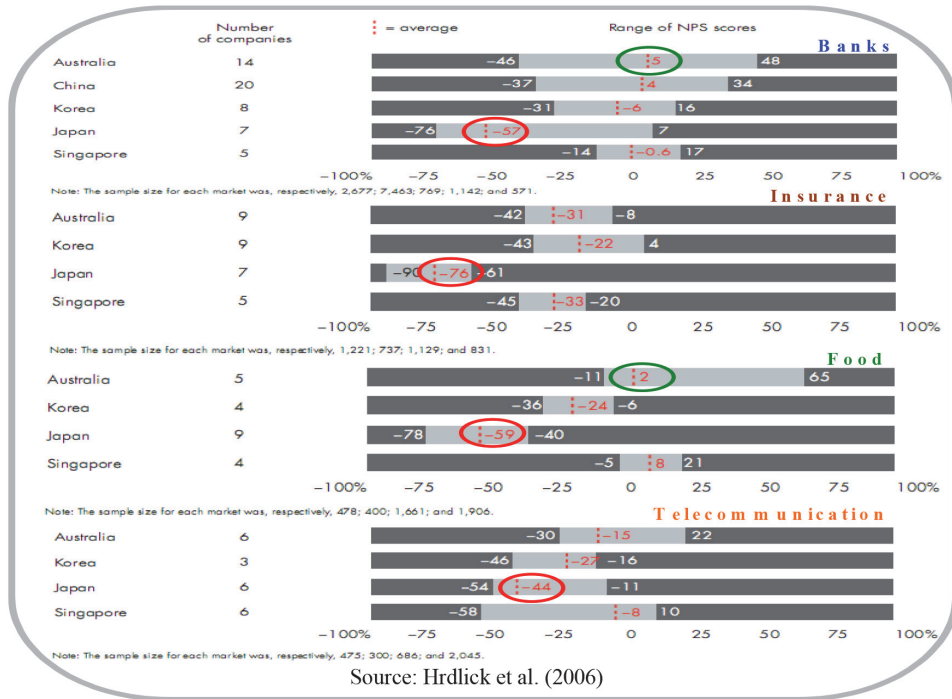gative year by year. These scores were significantly lower than those found in other countries such as in Asia or in Australia.

To illustrate their findings and show the degree of negative scores that Japanese companies have been receiving, the average score of some countries for four industries are given below. The following table shows the data collected when more than three countries data was available. The Japanese NPS score in all six industries was significantly lower when compared to the closest minimum score of another country. The Australian NPS scores were positive in the case of two industries namely Bank and Food. These findings further support the idea that the Japanese culture produces significantly lower negative scores when compared with scores obtained in other countries (Hrdlick et al. 2006). Japan and Korea were the only two countries that had negative NPS scores in all four industries whereas Australia, China and Singapore had positive NPS scores in some industries as shown in the Table 2.

〈Figure 4〉 Frequency Distribution Differences in Two

<Table 2> Japanese and Korean Negative NPS for Various Industries

	Number of companies		
			Banks
Australia	14	−46	5 · 48
China	20	−37	4 · 34
Korea	8	−31	−6 · 16
Japan	7	−76	−57 · 7
Singapore	5		−14 · −0.6 · 17

Note: The sample size for each market was, respectively, 2,677; 7,463; 769; 1,142; and 571.

			Insurance
Australia	9	−42	−31 · −8
Korea	9	−43	−22 · 4
Japan	7	−90	−76 · −61
Singapore	5	−45	−33 · −20

Note: The sample size for each market was, respectively, 1,221; 737; 1,129; and 831.

			Food
Australia	5	−11	2 · 65
Korea	4	−36	−24 · −6
Japan	9	−78	−59 · −40
Singapore	4		−5 · 8 · 21

Note: The sample size for each market was, respectively, 478; 400; 1,661; and 1,906.

			Telecommunication
Australia	6	−30	−15 · 22
Korea	3	−46	−27 · −16
Japan	6	−54	−44 · −11
Singapore	6	−58	−8 · 10

Note: The sample size for each market was, respectively, 473; 300; 686; and 2,045.

Source: Hrdlick et al. (2006)

V. Findings: Solutions to Deal with the Challenges of NPS Negative Scores or Score Fluctuations

Recently, when making marketing decisions, increasing numbers of companies have encountered problems related to fluctuations in NPS scores in consecutive years' of survey data. Key driver analyses based solely on a "recommendation to friends" question have also produced different results in consecutive years. As a result many executives are not sure, which year's results they should use in their decision-making. Broadly, dependent on the number of customers and available resources, companies could use three different strategies to deal with this NPS system problem.

5.1 Interviewing all "Detractors" to identify the causes of the problem

Some companies follow the suggestion of using an open-ended question after asking the "recommendation" question to probe further for their choice, however, rarely do companies analyze the text of such types of open-ended questions or create codes to quantify them.

In order to understand why some customers

are not interested in recommending a company product / service to their friend the most logical approach would be to ask all those people who said this. This approach could be feasible when the sample size is not very large i.e., in the 100s. The following case study of an investment will show that all those customers, who fell into the bottom2box (detractors in the case of the NPS system) were not discouraging their friends from conducting their business with an investment bank.

5.1.1 A Case Study of an Investment Bank

5.1.1.1 Problem

An investment bank received very high scores on several key questions in their customer survey, such as "overall satisfaction," "product performance satisfaction," and "repurchase." But they noticed that there were very low scores on "recommendation to a friend" (as shown in the Figure 5 below). The top2box scores of all questions are also shown in the graph below. In the case of the "intend to recommend to friend" question, the top2box reflects the "promoters" in the NPS system. The percentages shown in the graph below are top2boxes (4s, 5s) of two consecutive studies (i.e., 1st wave and 2nd wave). Here one should be aware that the NPS question also had the same response format as other questions in the survey i.e., 1 to 5. While reviewing the data the CEO of this company asked why when 84%-86% of customers intended to use the company again, they did not want to recommend it to their friend, since the response to this question indicated that only 21%-31% would do so.
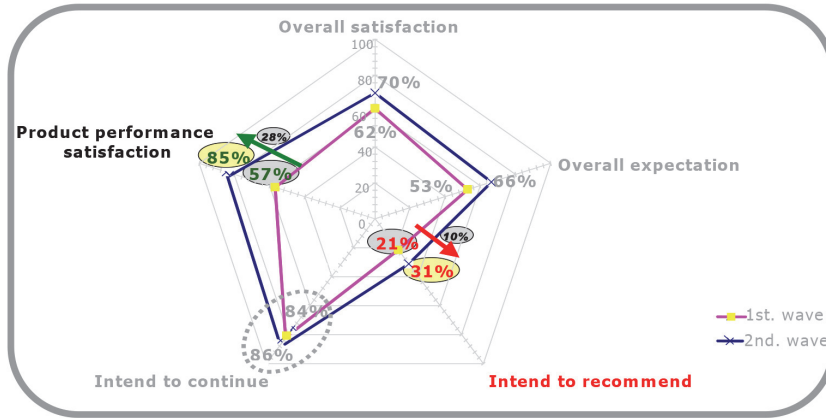
5.1.1.2 Strategies and Recommendations

In order to identify the reason for this discrepancy all of the people, who gave a low score for the "recommendation question", were interviewed telephonically. They were asked for the reasons for them not recommending the company to their friend. The final results provided an insightful picture.

When all of the open-ended answers were coded and tabulated, it was found that almost 70% of the people did not want to recommend the company because of some personal reasons, despite having had a very positive experience and a good return on their investment. Most did not want to talk about money with friends. They thought that if something were to go wrong or if their friends were to lose money, when investing with the company, they might feel responsible for their losses so they wanted to avoid any risk.

This finding suggested that all the people, who give a low score on the "recommendation to the friend" questions, are not necessarily detractors as assumed in the currently used NPS measurement system. In other words, they are "ambivalent customers" since they can exhibit

<Figure 5> Top2Box Scores of Various Questions

very high levels of loyalty and satisfaction. Thus, they should not be classified as "detractors" just because they did not score the recommendation question highly.
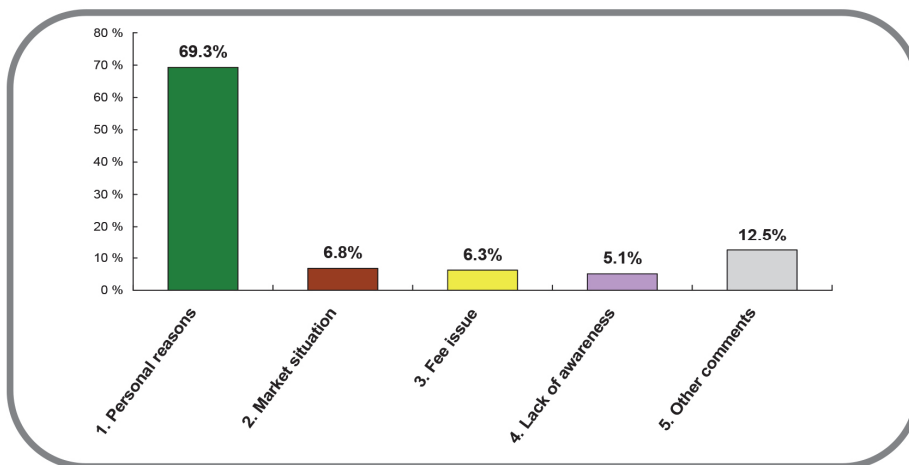
These customers do not discourage their friends from doing business with the company. However, in the case of the NPS system, customer-rating scores of 0-6 would be wrongfully categorized as "detractors." This will influence the NPS score negatively.

5.2 An Empirical Assessment of Customers' Categorization of the NPS System: NPS⁺

The NPS system uses a 0-10 point scale, where scores of 0-6 are used to label "Detractors," and scores of 7-8 are used to label "Neutral"

<Figure 6> Percentage Distribution of Various Reasons for Not Recommending Financial

and customers with scores of 9-10 are treated as "Promoters." In other words, it has 11 points in the scale (i.e., 0-10).

Miller (1956) did some experiments to test "how accurately people can assign numbers to the magnitudes of various aspects of a stimulus." The findings of his experiment (non-survey / without questionnaire) suggested that, when assessing any stimulus, most people could only identify differences on a 7-point scale (plus and minus 2). Based on these findings in the psychology literature the 0-10 (an 11-point) scale in the NPS should be re-assessed using empirical data to see if its use is justified. This poses a practical issue about what kind of scale might be better for calculating NPS. It might be better to create a more realistic categorization of detractors, neutral and promoters based on some empirical justifications rather than the currently used arbitrary categorizations. A practical solution to overwhelmingly biased negative NPS scores is also discussed.
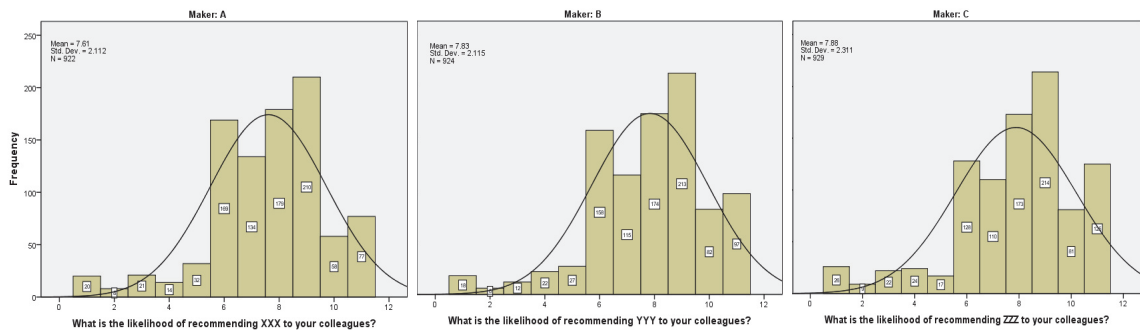
5.2.1 Solution Based on a New NPS⁺ Scoring System

As has been documented (for example Keiningham et al., 2007 and 2008) the NPS system as presently used seems to produce incorrect negative scores for businesses, since businesses are often found to be growing and making profits even when the NPS system produces such negative scores.

The following comparison is of three companies based on our research, where a 1-11 point scale has been used instead of the NPS scoring system of 0-10. Frequency distribution graphs of three pharmaceutical companies are illustrated in Figure 7. If one scans these graphs it can be seen from the imposed normal distribution curve that very few people have used scores from 1 to 5 and that the frequency of use of the numbers 7 and 8 fall in the middle of the curve.

When reviewing the percentage distributions of the scores provided by respondents from the companies it is evident that a majority of re-

〈Figure 7〉 Frequency Distributions of NPS Question for Three Companies

spondents, (approximately 70%) used 6, 7, 8 and 9 as their responses (i.e., in the NPS scoring system this would have been scores of 5, 6, 7 and 8). The response percentages of these numbers are depicted in Table 3 below.

By reviewing the table it can be seen that no cell has fewer than 6% of the responses and none have more than 23% however, the first category (I) encompasses five response scores and thus the response percentage for at least some of the individual scores in this category must have been fewer than 6%. As has been identified, Miller (1956) indicated that the use of a 7-point scale was preferable to a 10-point scale (and hence preferable to the 11-point scale used in NPS system) and that such a scoring system would produce more accurate results. It would appear from the table that many respondents are confining their responses to a range of around 7 points.

The mean scores for the "recommendation" question were from 7.6 to 7.9 and median was

8 for all companies. Under these facts, it makes more sense to use 7 and 8 as neutral points instead of the biased scores in the NPS system of 8 and 9. After reviewing the distribution of the scores for the three pharmaceutical companies, it is suggested that Detractors should be labeled from 1-6, Neutral from 7 to 8 and Promoters from 9 to 11.

Hence it is suggested to combine all scores of 1‐5 with a score of 6 to create a new category of "Detractors," to combine the percentages of 7 and 8 into a category of "Neutral" and to combine the rest of the scores of 9, 10 and 11 into a new category of "Promoters." This new categorization might show a more realistic number of Detractors and Promoters and a better calculation of an NPS^+ score.

$$NPS^+ = \text{Promoters (\% of 9-11)} - \text{Detractors(\% of -6)}$$

As discussed above, the use of an 11-point

<Table 3> Differences in Frequency Distributions of NPS and NPS^+

Psychometric		Detractors (25-28%)		Neutral (31-33%)		Promoters (36-45%)			NPS (Adjusted)	NPS^+ (New Method)
Practically used categories		I	II	III	IV	V	VI	VII	(VI+VII)-(I+II)	(V+VI+VII)-(I+II)
Survey	(1-11)	1-5	6	7	8	9	10	11	New Distribution	New Distribution
NPS	(0-10)	0-4	5	6	7	8	9	10	Adjusted	Added V
Company A	($\bar{x}$=7.6)	10%	18%	14%	19%	22%	6%	8%	-14	8
Company B	($\bar{x}$=7.8)	9%	17%	12%	19%	23%	9%	10%	-07	16
Company C	($\bar{x}$=7.9)	11%	14%	12%	19%	23%	9%	13%	-03	20

scale in the NPS system is not justifiable based on both past research (Miller 1956) and the distribution of 11-point responses (as shown in the three earlier graphs). Insignificant numbers of people used responses from 1 to 5. An NPS[+] scoring system could help to overcome the negative bias associated with the use of the NPS system in some countries.

According to a blog by Adam (http://customergauge.com/2011/03/net-promoter-is-there-a-dutch-effect/), there is some evidence, that where the top3box scores are used to calculate an NPS[+] score (as proposed and shown in this section), this will produce a more accurate proportion of promoters' scores for Europe based customers than will result from the use of only the top2box scores (Dorell 2011).
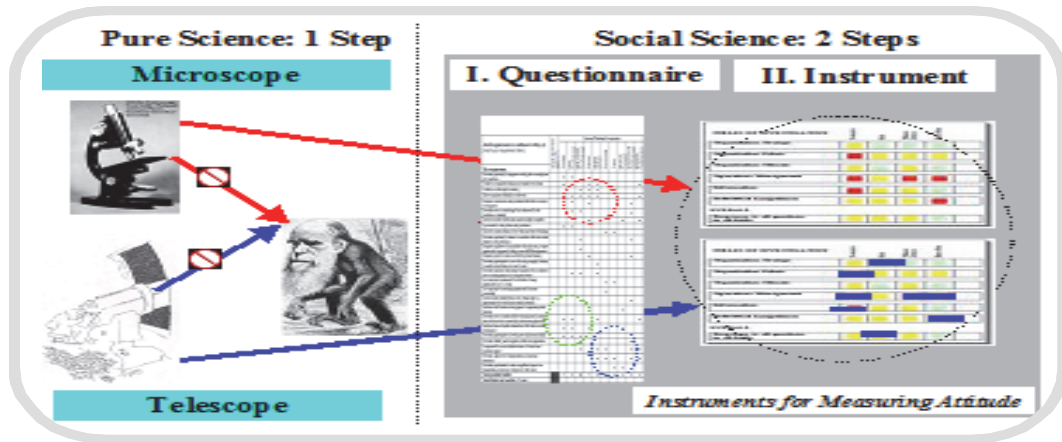
5.3 Using Psychometrics Based Modeling to Identify Stable Patterns

The NPS system uses the counting of responses, i.e. the number of people who provided scores between 1 and 6 are classified as detractors. Those with scores of 7 or 8 are classified as neutral and those who score 9 or 10 are classed as promoters. Counting responses in these categories derives the percentages of detractors and promoters. If we were going to gather factual data, the use of a percentage-based system could be a valid approach, as for example the calculation of the market share of a product. However, if the intention is to capture a men-

tal picture of customer perceptions of a product or of their experience with a product, one must use a pattern based measurement method, as is the case with psychometrically validated and reliable measures (Nunnally and Bernstein 1994, Raykov and Marcoulides 2011). This is discussed using an example of a practical case in the Japanese pharmaceutical industry.

There are many measurement scales that are used in the pure sciences such as physics, chemistry etc. but in the social sciences there are no standardized scales for measuring perceptions, feelings or emotions, it is the researcher's responsibility to first develop a valid and reliable instrument to measure whatever he or she is trying to measure before using it in their research. Psychometric theory identifies how the social scientist can develop such instruments and measure the intelligence, personality and attitudes of respondents (Borsboom, 2005). It also provides guidance to several techniques for developing models rather than simply developing key driver analyses based on multiple regression and similar associative methods. In psychometrics based projects the instruments or scales are developed first by the testing of their validity and reliability in order to ensure the accuracy of the instrument. Such validity and reliability tests are seldom carried out in marketing research studies or referred to in agency-based reports. The consequence of not using an instrument that has been checked for validity and reliability can be fluctuations in scores and in the results.

〈Figure 8〉 Measurement Differences between Pure Sciences and Social Sciences

Unlike in the pure sciences, in the social sciences, instrument creation is a two-step process as shown in the Figure 8.

5.3.1 A Case Study of the Pharmaceutical Industry

5.3.1.1 Problem

A pharmaceutical company had been collecting data from doctors for two years but found that the NPS scores had changed in the second year. The results of a key driver's analysis based on the "recommendation" (NPS) question also differed between the two years. The attributes that were measured, as being very important to be acted upon, in the first year, disappeared in the second year. Under these circumstances the company was not sure which year's results they should trust and what should be done to avoid any further fluctuations in the third year of the study. The question was whether or not these categorization should be used to run different driver analyses based on "recommendation" in order to understand what makes people / customers Detractors or / and Promoters.

5.3.1.2 A Psychometrics Based Modeling Solution

Psychometrics based modeling focuses on the idea of sampling the properly developed questions or items, which are aimed to identify patterns in the data and to be presented in the form of a model. Whereas in statistical analysis the main emphasis has been on the correct sample size or sampling of people (i.e. representative samples). In psychometrics based modeling the emphasis is not only on identifying the appropriate respondents for the research but also on identifying the correct items or questions to be used in determining a model.

Any driver analysis should not be done for different types of customers such as Detractors or Promoters where the "recommendation to friend" question is a dependent variable in multivariate analyses. Since the categories of "Detractors" or 'Promoters" are divided on the "recommendation" question it would not be possible to deduce the associations between variables or questions when "recommendation" is also used to conduct a driver analysis. A more prudent strategy would be to use several other important items or questions such as "repeat use" and /or "overall evaluation or satisfaction" etc.

Firstly, a multi-item composite scale was created to measure the behavioral component of the attitude building process. Two items / questions were used including the "NPS" question of "recommendation to friend" that had a response scale of 0 to 10. Other items such as "future use" had a response scale of 1 to 5. In psychometrics based modeling one can use items with different interval response scales. In most multivariate analysis, the data related to variables are standardized before proceeding to analyzing any association or difference.

Secondly, the Customer's Psyche was the key determinant factor for behavior (including the NPS question of "recommendation to a colleague"). These findings also revealed empirical evidence of the impact of Kansei Engineering (Nagamachi 2011) that Japanese companies normally carry out during the product design and development phases. The actual results are proprietary and cannot be reproduced however the psychometrics based modeling process produced a very stable model. The data presented in this case study showed the same structure in both years' and were also consistent in the case of two sources of data i.e., online and postal mail.

Since the psychometrics based model was stable and the structure was also consistent across different therapeutic areas and demographic categories, it was possible to identify the most effective way of increasing sales to boost the recommendations by doctors. For example, it was found that female doctors had different preferences from their male colleagues in terms of the sales approach of medical representatives. The company was therefore able to tailor its approaches for doctors of different genders.

5.3.2 Significant Business Advantages of Using a Psychometrics Based Modeling Approach

• It tests causal relationships between questions / variables and provides guidelines for getting improvements in recommendations from current customers.

• It provides an independent validation. When the final fitted psychometrics based model was run with a group of Promoters, it did not fit the data. This indicated that there were no distinguishable movements in

scores that could be used to identify any noticeable association amongst all of the variables, used simultaneously in the final model.

- The psychometrics based modeling approach allows for keeping intact the "recommendation to friend" question with its currently used format of a 0-10 response scale. As a result companies will still be able to report their NPS scores to the stakeholders.

- All variables or questions that are identified in the fitted final model have been found to remain important in consecutive years unlike the fluctuating results from traditional driver's analysis of the 'recommendation" question.

- Finally, the outputs will tell the complete story about the mind-sets of customers. For example, the final fitted psychometrics based model would not only highlight which issues should be used for attracting non-customers but also provide information on how the company could boost engagement with current loyal customers.

VI. Conclusions & Recommendations

Several detailed case studies were presented in relation to how to solve a problem posed by the use of the NPS system in cross-cultural marketing research especially in Japan and Korea, concerning the conceptual as well as empirical reasons for successive studies with always-negative scores in Japan and Korea and un-stable NPS scores. There is much evidence from many independent sources and projects of the overstatement of the number of detractors that are identified by the NPS system. It is therefore counterproductive to keep using only NPS scores to make marketing decisions in cross-cultural studies and projects. Senior executives and researchers are advised to use at least one additional question to some detectors in their surveys, namely why they do not want to make recommendations to their friends that they should do business with the company. Further, the NPS$^+$ provides a better measure of the number of promoters than the NPS. However, neither of these systems will be able to identify how to fix the problem or to show one how to improve business performance or to increase the customer base. These indexes simply indicate the number of people who would like to recommend the company to their friends. An anonymous reviewer has suggested that the findings in this paper could also apply to other countries where people are trained to be nice and friendly irrespective of their true attitudes and this represents an area for future research.

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