MEASURING CUSTOMER SATISFACTION: A LITERATURE REVIEW

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MEASURING CUSTOMER SATISFACTION: A LITERATURE REVIEW

Vu Minh Ngo

Abstract

Customer satisfaction (CS) has attracted serious research attention in the recent past. This paper reviews the research on how to measure the level of CS, and classify research articles according to their approaches and methodologies. This paper also tries to supply some insights about the state of measuring CS in Vietnam. The main objective is to provide a conceptual basic to understand existing methodologies used for measuring CS. A total of 103 articles from more than 50 journals and international conferences are reviewed. A number of important methodologies used for measuring CS are defined and classified into two different approaches based on their nature. Another important contribution of this study is to suggest some criteria which should be considered to make CS measurement as a leading indicator of the financial performance. This paper can be helpful for managers to gain basic conceptual ideas of the methodologies used for measuring CS and also the criteria which make CS measurements more likely as a driver of financial performance when they are satisfied.

Keywords: Customer satisfaction, Measure customer satisfaction, Customer satisfaction index/ measurements, SERVQUAL, National Customer satisfaction index

JEL Classification: C10, M30

1 INTRODUCTION

In today market-oriented business environment, it can be said arguably that the question how to satisfy customers becomes the ultimate concern of most of the companies in any kind of business. Therefore, understanding customer satisfaction (CS) dimensions, measuring it and taking advantage from these measurements become the urgent need for managers and establish the mainstream in academic literature about CS in the recent past. CS is important to measure because of its significant impacts on firms' long-term performance and also customer purchasing behaviors. In the academics, consistently providing high CS is well acknowledged to be associated with higher customer loyalty and enhanced reputation (Fornell, 1992; Anderson & Sullivan, 1993; Wangnheim & Bayon, 2004). Customer loyalty is considered as the outcome of a process beginning with customer satisfaction (Oliver, 1999). There exist definitely other factors other than customer satisfaction that form the customer loyalty and retention such as personal determinism and social factors. But satisfaction is a necessary step in loyalty formation (Oliver, 1999). CS can also supply a higher barrier against switching to other competitors. Loss cost and move-in cost were positively significant related to the CS (Kim, Park & Jeong 2004). Exploring the relationship between CS and the economic return is also one of the most interesting topics. Anderson, Fornell and Lehmann (1994) attempted to explore the relationship between CS and financial returns using a national customer satisfaction index (NCSI) and ROI (return on investment). They found the significantly positive association between ROI and CS but not immediately realized. Ittner and Larcker (1998) found that CS is a leading indicator of customer purchasing behavior, growth in the number of customers, and accounting performance. Banker, Potter and Srinivasan (2000) used operating profits per available room to measure financial performance and verified its lead-lag relation with CS for 18 hotels managed by a hotel corporation. However, there were also quite

a few of studies found no positive relationship between CS and economic returns. Yu (2007) found that "higher CS leads to higher customer revenue and higher customer costs at the same time, and thus customer profits remain unaffected". There is obviously a tradeoff and lead to the question of probability. Thus, in order to achieve more practical implications, CS measurements do not only need to respond to the evaluation of current situation but also being a leading indicator for financial performance. The main objective of this study is to review and provide the conceptual basics to understand the methodologies used for measuring CS. Also, the article suggests ideas for making CS measurements to be leading indicators of financial performance by undertaking a review of the literature in CS research. In addition, it makes an attempt to get some insights about the state of measuring CS in the practice of Vietnam market in particular.

The remainder of this paper is organized as follows. Section 2 discusses the methodology used for reviewing in this paper. Section 3 is about the statistical and citation analysis of selected articles. Section 4 provides the conceptual basic ideas about methodologies used for measuring CS. Section 5 is about discussion, suggestion of criteria to make CS measurements being leading indicators of financial performance and some insights about measuring CS in Vietnam. Section 6 is conclusion.

2 METHODOLOGY

2.1 Research agenda

The research agenda is about the methodology used for measuring customer satisfaction. The search key for finding articles, books, and documents related to the research agenda are: "measure/develop customer satisfaction", "customer satisfaction measurements", "technique for measuring customer satisfaction", "customer satisfaction", and "customer satisfaction proxy/index/scale". The main aim of the research is to define the most popular methodologies which are used to measure CS which are proposed and applied in the practice. These key works help to identify the articles which are most likely to studies about measuring CS.

2.2 Literature search criteria

In search of relevant articles, the search will consist of journal articles with peer reviewed, books, government publication, conference proceedings and other relevant work. The search of literature will be conducted by using major multi-purpose databases such as Web of Science (Thomson Reuters), ProQuest, Emerald, Science Direct and EBSCO. A search for more articles using the same search key words will be conducted on the Internet using Google Scholar in order to increase the coverage of the literature search. The search criterion for the publication period is up to December 2014.

2.3 Literature search procedure

The initial searches revealed that a total 265 articles were found from various sources included academic and professional journals, books and other publications. Then these articles' content would be analyzed for the relevance of method or proxy used for measuring CS. When the articles were found to be relevant to the study agenda, they would be assessed in more detail of its purposes, methodologies and findings. The citation criteria were applied to get the articles which are most valuable to the research topic. Except the very recent articles and books, the articles published more than 2 years and received less than 2 citations were eliminated. After the analysis, 103 relevant articles and books were chosen.

3   STATISTICAL ANALYSIS OF SELECTED ARTICLES

The literature searches from various sources produced 103 articles and books whose contents substantially related to the topic of how to measure CS. The coverage of the selected articles can be classified based on the methodology used for measuring CS. There are also some articles cover related topics to CS included such as Halo effects, statistical techniques, etc. Table 1 shows the numbers of articles writing about each methodology.

Tab.1 – Number of articles for each methodology. Source: Own research

Methodologies	Number of articles
National Customer satisfaction index (NCSI)	20
Service quality (SERVQUAL)	21
MUSA method	9
Probit/Logit model	4
DEA method	4
Important Performance Analysis (IPA)	8
Cluster Analysis	5
Conceptual papers	10
Other methods	14
Other issues related to CS	8

These selected articles are from a wide spread of journals with more than 50 journals. The journals with the high volume of selected articles as to measuring CS are Total Quality Management, The Journal of Services Marketing, The Journal of Marketing, Expert Systems with Applications, European Journal of Operational Research, International Journal of Bank Marketing, and Managing Service Quality.

Except for newly published articles and books, all other articles were adequately cited, the lowest being 2 citations as like the citation criteria. Table 2 shows the number of articles for each interval of citation from the articles.

Tab. 2 – Number of articles for each interval of citation. Source: Own research

Citation	Number of articles
> 100	9
50 -100	15
30-49	17
29 - 10	31
<10	31

4   METHODOLOGIES FOR MEASURING CS

After undertaking a literature review, the most popular methodologies in measuring CS are defined. The objective of this section is to provide the basic conceptual ideas about the most popular methodologies.

4.1 National Customer Satisfaction Index (NCSI)

Sweden has become the first country to establish a national economic indicator reflecting customer satisfaction. Clases Fornell (1992) in the articles "A national Customer Satisfaction Barometer: The Swedish Experience" proposed a method for measuring CS in more than 30 industries and for more than 100 corporations. After the first national customer satisfaction was developed in Sweden, a number of both national and international customer satisfaction barometers and indices have been introduced such as the American Customer Satisfaction Index (ACSI) (Fornell, Johnson, Anderson, Cha & Bryant, 1996), European Customer Satisfaction Index (ECSI), Norwegian Customer Satisfaction Barometers (NCSB) (Andreassen & Lindestad, 1998), etc. The implementation of national customer satisfaction indices seems to be suitable for a sustainable evaluation of the performance of companies in an international context. (Grund & Bruhn, 2000)

In this methodology, Customer Satisfaction Index (CSI) represents its served market's - its customers'- overall evaluation of total purchase and consumption experience, both actual and anticipated (Fornell, 1992; Johnson & Fornell, 1991). Each version of NCSI can include some modifications. But all of them are based on two fundamental properties. First, the methodology must recognize that CSI is a customer evaluation that cannot be measured directly. Second, as an overall measure of CS, CSI must be measured in a way that not only accounts for consumption experience, but is also forward-looking (Anderson & Fornell, 2000). Therefore, it includes not just antecedents but also the consequences of overall CS. The antecedents of CS is based on the expectation and disconfirmation paradigm which suggest that the dispersal between expectation of performance and perceived performance can determine customer satisfaction (Yi, 1990). These antecedents are usually performance expectation of a product or service, the perceived performance and perceived value. The consequences of overall customer satisfaction are the customer behaviors such as loyalty and complaint (Fornell, 1992; Fornell, Johnson, Anderson, Cha & Bryant, 1996; Grund & Bruhn, 2000; Johnson, Gustafsson, Andreassen, Lervik & Cha, 2001; Anderson & Fornell, 2000). These antecedents and consequences are latent variables which can be measured through other manifest variable which related to them. Structural Equation Modelling (SEM) is usually the technique for finding the CS level and validating the causal relationship between CS and antecedents, consequences in this methodology. One of the most important advantages of SEM is its capacity to study the relationships among latent constructs that are indicated by multiple measures (Lei & Wu, 2007). In addition, SEM can provide separated estimates of relations among latent constructs and their manifest variables (the measurement model) and of the relations among constructs (the structural model) (Tomarke & Niels, 2005). The goal of SEM is to determine whether a hypothesized theoretical model is consistent with the data collected to reflect this theory.

4.2 Service quality (SERVQUAL)

The SERVQUAL method was suggested to evaluate CS by Parasuraman, Zeithaml, and Berry (1988). Consequently, there have been several follow-up articles and studies about the SERVQUAL method and its application. Research in service quality has also been conducted within the framework of the expectation and disconfirmation paradigm. The central idea in this model is that service quality is primarily a function of the difference scores or gaps between expectations and perceptions (Jamali, 2007). The service quality research has been dominated by the SERVQUAL instrument which is usually cluster in five group quality determinants: Reliability, Responsiveness, Assurance, Empathy and Tangible (Parasuraman, Zeithaml & Berry, 1985; Ghobadian, Speller & Jones, 1994; Curry & Herbert, 1998; Wisniewski, 2001).

However, there has been controversy in the service quality literature about the sequential order of the two constructs: CS and service quality. While authors such as Dabholkar, Shepherd and Thorpe (2000); Cronin, Brady and Hult (2000) regard perceived quality as an antecedent to satisfaction, other authors (e.g. Parasuraman et al., 1988; Bitner, 1990), however, consider CS as an antecedent to service quality. The majority of recent publications (e.g. Yavas, Benkenstein, & Stuhldreier, 2004; Carrillat, Jaramillo, & Mulki, 2007; Jamali, 2007) consider service quality as an antecedent to CS. Thus, SERVQUAL can be used as a methodology used for measuring CS. The objective of SERVQUAL methodology is usually to develop the best instrument for measuring CS. The best instrument can be defined as the best service quality constructs for predicting CS for a specific firm. Structural Modelling Equation, Factor Analysis or Multiple Regression analysis are usually used for choosing and validating the best service quality constructs among the proposed ones.

Various scholars however pointed out that SERVQUAL is not a generic measure that could be applied to any service and that it needs to be customized to the specific service under consideration (Carman, 1990; Babakus & Boller, 1992). Li, Riley, Lin and Qi (2006) proposed five quality dimensions for comparing overall CS between two largest US parcel delivery companies, the UPS and FedEx. They are availability, responsiveness, reliability, completeness, and professionalism of service. Jamali (2007) proposed a conceptual model which included not just basic service quality dimension but also others antecedents of CS such as: Equity, Attributions, Cost/benefit analysis, Emotion,etc. Chadee and Mattsson (1996) investigated the best attributes influence on the overall satisfaction of a quality dimension during tourist encounters. The quality dimensions in the article were eating out, hotel accommodation, renting a car and going on a sightseeing tour. Andaleeb and Conway (2006) used factor analysis and regression model to find the impact of service quality determinants on CS in the restaurant industry.

4.3 MUlticriteria Satisfaction Analysis (MUSA)

The MUSA method was first introduced by Grigoroudis and Siskos (2002). The main objectives of MUSA method are: (1) supply the evaluation of customers' satisfaction level, both globally and partially for each of the characteristics of the provided service; (2) The supply of a complete set of results that analyze in depth customers' preferences and expectations, and explain their satisfaction level; (3) The development of a decision tool with emphasis on the understanding and the applicability of the provided results (Grigoroudis & Siskos, 2002). The proposed MUSA method defines CS as the aggregation of individual judgments into a collective value function assuming that client's global satisfaction depends on a set of n criteria or variables representing service characteristic dimensions. The required data for the MUSA method is collected through a questionnaire through which the customers are asked about their perception about the overall satisfaction (Y) and their satisfaction about the set of pre-defined criteria (X_i). The MUSA method follows the principles of ordinal regression analysis under constrains (Grigoroudis & Siskos, 2002):

$$Y^* = \sum_{i=1}^{n} b_i X_i^* ; \qquad \sum_{i=1}^{n} b_i = 1;$$

where, Y^* and X_i^*, respectively, given customers' judgments Y and X_i ; b_i is the weight of the i-th criterion and the value functions Y^* and X_i^*.

The main objective of the method is to achieve the maximum consistency between the value function Y^* and the customers' judgments Y. The result of MUSA method provide us the weighting b_i for each criteria, the value y^{*m} for each m-th overall satisfaction level and the value x_i^{*k} for k-th satisfaction level of criteria i. The main advantage of the MUSA method is that it fully considers the qualitative form of customers' judgments and preferences, as they

are expressed in a CS survey. The MUSA method avoids the arbitrary quantification of the collected information, because the coding of the qualitative scale is a result, not an input to the proposed methodology. This does not occur in a simple linear regression analysis (Grigoroudis & Siskos, 2002). Moreover, the MUSA method result also offer complete information set more than just only focused on the descriptive analysis of CS.

Arabatzis and Grigoroudis (2010) has been using MUSA method and related software for identifying the factors affecting visitors' satisfaction level, as well as the critical points that the management authority of the National Park must concentrate its improvement actions. Ipsilandis, Samaras and Mplanas (2008) in their paper used MUSA method for analyzing the satisfaction of project managers with respect to satisfaction criteria associated with four dimensions: the project's results, the operations of the programme organization, the support of the project organization and the performance of the project team. Manolitzas, Grigoroudis and Matsatsinis (2014) used multicriteria decision analysis to evaluate patient satisfaction in a hospital emergency department through the application of MUSA method. They find that the average level of complete satisfaction is low (73.4) indicating that the citizens are somehow satisfied regarding the emergency department.

4.4 Ordered Probit and Ordered Logit model

Probit and Logit model are widely used in marketing and other fields such as artificial neural networks, biology, medicine, economics, mathematical psychology (Grigoroudis & Siskos, 2010). The most advantage of Probit and Logit model is that they take the qualitative ordinal characteristics of collected data into considers. In Probit and Logit model, the customers' satisfaction levels are assumed to be dependent on set of independent variables which can be illustrated as:

$$y_j^* = x_i'\beta + \varepsilon_i$$

Where ε_i are assumed independent and identically distributed random variables as usual, x_i' is the matrix of explanatory variables, β is the vector of coefficients to be estimated and y_i^* is unobserved (Barboza & Roth, 2009). According to Greene (2003), what one observed is q

$$y = 0 \text{ if } y^* \leq 0$$
$$= 1 \text{ if } 0 < y^* \leq \mu_1$$
$$\vdots$$
$$= j \text{ if } \mu_{j-1} \leq y^*$$

Where y is customers' satisfaction level; 0, 1, 2,…, j is the level of satisfaction; μ_i are unknown parameters to be estimated with β. It should be emphasized that the value 0, 1, 2, …, j are simply coding and do not take quantify the y variable. According to this explanation, the probability that one customer has expressed for the m-th satisfaction level, given his/her satisfaction judgments x_i' is

$$Pr(y_j = m) = Pr(\mu_{m-1} < y^* \leq \mu_m) = F(\mu_m - x_i'\beta) - F(\mu_{m-1} - x_i'\beta)$$

Where $F(\mu_m - x_i'\beta)$ and $F(\mu_{m-1} - x_i'\beta)$ is the standard normal distribution function for the Ordered Probit model and the standard logistic distribution for the Orederd Logit model.

The estimated vector of coefficients β can provide information about the effect of independent variables on the probability that an overall satisfaction level can happen (Barboza & Roth, 2009). The orederd probit and ordered logit models provide the probability that each level of overall satisfaction can happen with a specific sample of data. For example, Gan, Clemes, Limsombunchai and Weng (2006) used logistic regression to identify that the factors which

influenced the customer's choice between electronic banking and non-electronic banking in New Zealand are the service quality, perceived risk factors, user input factors, employment, and education. In the same stream of research, Eboli and Mazzulla (2009) also used ordinal logistic regression analysis to estimate the weight of the service aspects on the overall satisfaction. The paper showed the valid of logistics regression analysis which can be applied to the CS assessment process. The probit and logit model also can be used as the extension for the SERVQUAL method. After using SERVQUAL method for identify and validate the factors which affect to customer behavior. The logit and probit model can be used to rank the factors with regard to their impact on customer behavior (Clemes, Gan & Zhang, 2010).

4.5 Other methods

Important-Performance Analysis (IPA). The importance–performance analysis (IPA) is a widely used analytical technique that yields prescriptions for the management of CS. IPA is a two-dimensional grid based on customer-perceived importance of quality attributes and attribute performance (Matzler, Bailom, Hinterhuber, Renzl, & Pichler, 2004). It provides an attractive snapshot of the importance of a set of selected attributes in customers' behaviour processes and how well the products/services met consumer expectations. Thus, it can provide a clear direction for a company's future resource allocation decisions (Liu & Jang, 2009). This approach assumes that attribute performance and attribute importance are two independent variables (Matzler et al., 2004). Therefore, this approach can offer augmented assessment for other methods in term of measuring CS after valid attributes are defined.

Liu and Jang (2009) used IPA method as a first step for identifying the effects of food, service, atmospherics and other attributes on CS and behavioral intentions. Along with factor analysis and multiple regressions, this study indicates that food quality, service reliability and environmental cleanliness are three pivotal attributes to create satisfied customers and positive post-dining behavioral intentions. Matzler, Sauerwein, and Heischmidt (2003) used a revised model of IPA to investigate the asymmetric characteristics of impact of impact of the different attributes on overall satisfaction. They found that four types of factors which are basic factors, high performance factors, low performance factors, and excitement factors have different importance characteristics if concerning two different context business of high and low performance.

Cluster Analysis. The objective of Cluster analysis in dealing with CS is to identify Benefit Segments of Customers. In other words, the method can identify different clusters of customers who allocate importance to performance attributes in similar way within each cluster and in different way comparing with others (Vavra, 1997). For example, in the customer base, there might be a group of customers who might place a high importance on after-sale service. Another group might accord higher importance to a wide array of features. In Cluster analysis, you need to identify from previous literature the performance attribute and collect customer judgments about the importance of these attributes. Andriotis, Agiomirgianakis and Mihiotis (2008) used the framework included both factor analysis and cluster analysis to identify the right factor which influence the satisfaction of tourists to the island of Crete. The cluster analysis also produced three clusters: the "higher-satisfied", "the In-Betweener", and the "Lower-Satisfied". Bjertnaes, Skudal and Iversen (2013) used cluster analysis to identify response clusters of patients, based on their responses to single items about overall patient satisfaction, benefit of treatment and perception of malpractice. The study identified five response clusters with distinct patient-reported outcome scores, in addition to a heterogeneous outlier group with very poor scores across all outcomes.

Data Envelopment Analysis (DEA). The traditional DEA technique has long been utilized as an invaluable tool in the field of operations research and management science to solve

problems in wide range of industries as well as in not-for profit (Bayraktar, Tatoglu, Turkyilmaz, Delen & Zaim, 2012). The DEA model measures the efficiency of any Decision Making Unit (DMU) which is obtained as the maximum of a ratio of weighted outputs to weighted inputs subject to the condition that the similar ratios for every DMU be less than or equal to unity (Charnes, Cooper, & Rhodes, 1978). In DEA model for CS, a DMU is a customer which expresses judgments. The inputs are usually the attributes of overall CS which are pre-defined from the literature. The outputs are usually customer behaviors such as: overall CS, customer loyalty, customer re-purchase intention, etc. DEA method respects and takes into account the cause-effect relationship between inputs and outputs makes it suitable for measuring the result of the company's efforts to satisfy customers. DEA model provides the efficiency score which express how efficient the attributes from products/services make the customer satisfy comparing with other products or services. DEA can be used most effectively for benchmarking to compare the satisfaction level between a group of companies. Löthgren and Tambour (1999) used DEA network model to obtain measures of efficiency and productivity that account for CS of Swedish pharmacies. Estimation results from the network model and a direct productivity model (without CS) are compared and indicate that the technical efficiency is lower under the network model. Bayraktar et al. (2012) used DEA for analyzing and comparing CS and loyalty efficiency for mobile phone brands in an emerging telecommunication market, Turkey. Drawing on the perceptual responses of 251 mobile phone users, the DEA models reveal that from the top six mobile phone brands in Turkey, Nokia features as the most efficient brand followed by LG and Sonny Ericsson in terms of CS and loyalty.

There are still a lot of methods and models which can be useful for measuring CS. They are not mentioned in detail in this study concerning the less popular of these methods for both academic research and practical application in term of measuring CS. These methods can be named such as: Descriptive Statistics, Discriminant analysis, Kano model, multiple regressions, conjoint analysis, etc.

5 DISCUSSION AND SUGGESTED CRITERIA

5.1 Different approaches

There are two approaches for measuring CS in the selected articles with respect to the objective of the methodologies. The first approach is based on theoretical backgrounds to propose the attributes which influence CS. Then it assumes that these pre-defined attributes are the best for predicting CS. This approach pays much attention to the validation and reliability of the model with the collected data. The most important result of this approach is usually the current level of CS. In addition, the methodologies following this approach usually supply more information which is useful for practical context. This approach is standardized and has more comparative power across firms, industries or sectors. NCSI, MUSA, DEA can be classified into this approach.

The second approach focuses on finding and testing the relationship between proposed attributes and CS. This approach also based on the theoretical background to posit the attributes which affect to CS. Then it will attempt to evaluate whether these attributes have statistical significant relationship with CS. The most important result of this approach is the set of attributes which are defined as the best ones for measuring CS. This approach usually cannot estimate the current level of CS; however it can be used for developing an appropriate instrument for assessing customer about their satisfaction. This approach can be very flexible. Each firm, industry or sector has different attributes which are the most influencer to CS. Therefore, this approach can be useful to investigate the CS for a specific business context

when the comparison is not essential. SERVQUAL, Ordered Logit/Ordered Probit model, IPA, Cluster analysis can be classified into this approach.

In sum, two different approaches for measuring CS can be seen from the selected articles. The first approach is more completed and can be used as a standard for comparison. This approach focuses on getting the overall level of CS. On the other hand, the second approach is more flexible and should be used in specific business context when the attention of the manager is more about finding what makes CS.

5.2 Suggested Criteria

The need of research on measuring CS as a leading indicator

Among the articles about measuring CS, there were just a few ones mentioned to the purpose of measuring CS as a leading indicator for financial performance (Grigoroudis, Nikolopoulou & Zopounidis, 2008; Fornell, 1992; Fornell et al., 1996). The main objective of the most articles is to validate the relationship between service/product attributes and CS or customer behaviors (Chen, Hsiao & Hwang, 2012; Grigoroudis & Siskos, 2002; etc.). The main themes of the implications from these studies focus more on the management and marketing areas. What can be derived from these articles is that they assume the methodologies can effectively measure the CS index which can be served as a leading indicator of financial performance though it was not directly stated in most of the articles. The articles about the relationship between CS and financial performance also did not mention to the specific criteria for measuring CS as leading indicator for financial performance (Fornell, Mithas, Morgerson & Krishnan, 2006; Yu, 2007; Gómez, McLaughlin &Wittink, 2004). Ittner and Lacker (1998) measured the relationship between CS with financial measures using different types of CS measures. Although their study found that there was no significantly different result when using different CS measures, it did not mention to the criteria for the matter of leading indicator. This study also suggested doing further research on why there was unexpected negative relationship between CS measures and financial measures in some industry which can be caused by the problem of using unsuitable CS measures. For the practical implication, CS measures require capacity to drive the financial performance. As a leading indicator for financial performance, CS measurements should have a stable positive relationship with financial performance. Therefore, there should be distinguished the measurement of current CS level for management and marketing purpose and its role as a leading indicator for financial performance. Thus, taking consideration of CS measurement as a leading indicator of financial performance becomes a gap in CS research. This discussion pays more attention to the suggestion of the idea of criteria for measuring CS measurement as a driver for financial performance.

Suggested criteria

The financial measures for study. As mentioned in the introduction, the researches on the consequence of CS are one of the most selected and concerned topics. One question raised from the topic is about which financial measurements should be used for investigating the leading effect of CS measures. The Service-Profit Chain (SPC) framework can be used to shed some light on this issue. SPC is a framework for linking service operations, employee assessments, and customer assessments to a firm's profitability (Kamakura, Mittal, de Rosa & Mazzon, 2002). There are two different approaches to the financial measures to which the SPC should aim. The first one is the original SPC framework which was proposed by Heskett, Jones, Loveman, Sasser and Schelesinger (1994). This approach focuses on customer retention and revenue. The first approach did not include the cost and investment to achieve the better customer perception. On the other hand, the second approach- Return on Quality

framework which was proposed by Rust, Anthony and Timothy (1995) takes into account the cost and investment so that the focus is probability. It is assumed that the ultimate goal of any firm towards to profitability. Hence, in order to make CS measurement as a leading indicator for profitability, the employed methodology should consider the cost spent to achieve the satisfaction of customer. Otherwise, the revenue-related financial measurements should be used to study the economic return of CS measures. The further step can be taken to investigate the profitability of CS index. Because all the aforementioned methodologies do not take the cost for improving CS into account when measuring CS, it is more realistic to study the relationship between revenue-related measures and CS measures from these methodologies.

The overall CS. The overall CS should be used in any methodology if its role is a leading indicator of financial performance. Overall CS reflects the cumulative evaluation of customers' experience with a firm. Compare to the transaction-specific satisfaction, overall satisfaction is more consistent through time and includes the effect of more other factors for example the past experience, the comparison with other competitors, etc. It also reduces the influence of specific unusual event on the customers' evaluation. So, this type of satisfaction has more capacity to explain the customer post-purchased behaviors. Then in turn it has much more directly influence on financial performance in comparison with transaction-specific satisfaction.

Forward looking. Forward looking means that CS measures should not only just measure the customer's past experience but need to have predictive capability as well. The predictive power of CS measurements can be achieved by satisfying two conditions. The first condition is that CS measures have stable positive relationship with financial measures. The second one requests that it should lead or drive financial performance. The predictive capacity can be gained through including the proxy of economic return such as customer retention and price tolerance when measuring CS (Anderson & Fornell, 2000). In addition, the methodology for measuring CS also needs to have causal relationship between antecedents and consequences of CS. The reason for this criterion rises from the need that manager need to know both what make customer satisfied and how CS level drives the customer behavior and then financial performance.

Weighting criterion. According to this criterion, the factors which have more influence upon the economic return should be realized and have more weight when calculating the final CS level. It should be noticed that the methodology should focus on the factors which have impacts on the economic return rather than just on the CS. If this weighting criterion cannot be done, it is more likely that CS index only measures effectively the satisfied customers but they are not willing to pay more. For example, Stauss and Neuhaus (1997) found that customers who give equal satisfaction scores have different emotions towards the service provider, different expectations concerning the service provider's future capabilities to perform, and different behavioral intentions to maintain the relationship.

The Comparison Norm. Most of the aforementioned methodologies use the expectation-disconfirmation paradigm for the background theory to investigate the CS. There is another paradigm which can be used as substitution for it which is called Norm of Comparison standard. The Norm standards refer to what "should be" the performance of the product, whereas the predictive expectations in the basic confirmation paradigm mean what "will be" the likely product performance (Yi, 1990). In order to link CS to customer retention which then leads to economic return, the Competitor Norm Standard should be used. The expectation do not count on the competitive feature which can cause customers who are satisfied still move to competitors whose products or services are over current customers'

expectation. The Competitor Norm Standard should be applied to measure CS level together with the perceived value to get the real CS level which is more likely to lead to the customer retention and economic return.

5.3 Measuring CS in Vietnam

This paper tries to make a small survey about the use of CS measures and how CS is applied in Vietnam. The questionnaire used in the survey has two sections. The first section is about how companies in Vietnam perceive the importance of CS measures in predicting financial performance. The second focuses on how the CS measures are obtained from customers' opinions. Online surveys were sent to 650 companies which are listed on the Ho Chi Minh Stock Exchange and Hanoi Stock Exchange. 76 surveys were completed and collected for further analysis. The response rate is 12% which is relative low but can be expected for the online survey with no incentive included. The companies which participated in the survey come from wide range of different industries. This reduces the bias which can be caused by the individual characteristics of companies.

After analyzing the survey, the result shows that, most of the companies (65/76) agree that non-financial measures and especially CS are important and very important to future financial performance. But only about two-thirds in total 76 companies (51 companies) conduct the survey about CS. However, the structures used in the survey for measuring CS by these companies are mostly the simple versions which include only one or two questions about the CS level from customers. As a result, all the companies which report having CS survey do not use any sophisticated statistical methodology which are suggested in this paper. This can be explained by the fact that measuring CS is the new concept in such an emerging market as Vietnam. Vietnam started to open the economy with the aim of forming a liberalized economy with fully competitive markets for just more than 20 years after a long time under State Controlled economy. Therefore, just recently, the increasing highly competitive environment in the economy has pushed firms toward customers-focused strategy and lead to the concept of measuring CS. Another reason for not using sophisticated statistical methodologies for measuring CS can also come from the fact that the companies do not know and understand how they could be beneficial and how to use these methodologies. Being asked about the willingness to use any sophisticated methodology, most of the companies (56/76) answer that they might consider to use if they have chance to understand them basically. So that this paper can be helpful to show corporate executives the conceptual basic of the statistical methodologies for measuring CS in Vietnam.

In addition, the companies which conducts CS survey are usually belong to the business to customers (B2C) sectors such as Consumer goods, Financial and Banking service and transportation. The explanation for this can be that companies operated in business to business (B2B) sectors do not have large customer base so that they can manage CS by individually contacting with a particular customer. It is not true in B2C sectors in which companies have to deal with thousands of customers per day. This difference in measuring CS in B2B and B2C can be seen as an interesting topic for future studies.

6 CONCLUSION

In order to manage CS effectively, managers need to measure it. This study attempts to review most of the popular methodologies for measuring CS such as NCSI, SERVQUAL, MUSA, DEA, Ordered Probit and Ordered Logit model, etc. For practical application, CS measurements should be used as a driver for financial performance. For this objective, this paper attempts to suggest criteria which should be satisfied to make the CS measurements as

leading indicator of financial performance. It also gives some insights about how companies in Vietnam measure CS and raises the need for studies about the difference between measuring CS in B2B and B2C companies. The limitation of this paper lies on the lack of suggestion of methods to apply these criteria in methodologies for measuring CS which can be a concern for further research on measuring CS.

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Appendix:

A survey about measuring customer satisfaction in Vietnam

This survey serves for the educational purpose only - No detailed company profile is needed and revealed

Which sectors is your company operating?

1. Business to Business

2. Business to Customers

3. Service

4. Manufacturing

5. Finance and Banking

6. Healthcare

7. Real Estate

8. Mining

9. Other:

Section 1:

Perception of companies about customer satisfaction

Question 1: How is the non-financial measures important to your company in term of pursuing long-term profitable objective?

1. Very important

2. Important

3. Somehow important

4. Not so important

5. Not important at all

Question 2: Which are the following non-financial measures which your company choose to include in your performance system?

1. Employee satisfaction/survey

2. Productivity of employees

3. Customer satisfaction/survey

4. Staff turnover

5. New idea implementation

6. Hours of training

7. Delivery time

8. Number of complaints

9. Other:

Question 3: How are customer satisfaction measures important to your company in term of pursuing long-term profitable objective?

1. Very important

2. Important

3. Somehow important

4. Not so important

5. Not important at all

Section 2

The implementation of measuring customer satisfaction

Question 1: Has your company already measured customer satisfaction?

If "Yes" go to Question 2 and Question 3. If "No" go to Question 4. Question 5 is for all participants

Yes

No

Question 2: Which kind of survey has your company used to measured customer satisfaction?

1. Survey with one question about customer satisfaction

2. Survey with set of questions not only about customer satisfaction but also the drivers of customer satisfaction.

3. Other: ….

Question 3: Has your company used any of following methodology to measure customer satisfaction?

1. National Customer Satisfaction Index

2. Service quality (SERVQUAL)

3. MUlticriteria Satisfaction Analysis (MUSA)

4. Ordered Probit and Ordered Logit model

5. Important-Performance Analysis (IPA)

6. Cluster Analysis

7. Data Envelopment Analysis (DEA)

8. We do not use any one of them

9. Other: …..

Question 4: Does your company have project of measuring customer satisfaction in the near future?

YES

NO

Question 5: If your company has not used any sophisticated statistical methodology, would your company consider to use them for measuring customer satisfaction?

1. Yes, we are going to use them

2. Yes, if we can understand them basically

3. Yes, if others companies also use them

4. Yes, but we have to outsource it for other parties

5. No, we find our current methodology adequate

6. No, we do not need measure customer satisfaction

7. Other: ...