Management Accounting Research 25 (2014) 187–205

Contents lists available at ScienceDirect

Management Accounting Research

journal homepage: www.elsevier.com/locate/mar

The effect of measurement timing on the information content of customer satisfaction measures☆

Clara Xiaoling Chen[a], Melissa Martin[b], Kenneth A. Merchant[c,*]

[a] University of Illinois at Urbana-Champaign, Department of Accountancy, 389 Wohlers Hall, 1206 South Sixth Street, Champaign, IL 61820, United States
[b] Arizona State University, Business Administration Building 223E, PO Box 873606, Tempe, AZ 85287-3606, United States
[c] University of Southern California, Leventhal School of Accounting, 3660 Trousdale Parkway, University of Southern California, Los Angeles, CA 90089-0441, United States

ARTICLE INFO

Keywords:
Customer satisfaction
Nonfinancial performance measures
Intangible asset
Performance driver
Consumption systems
Homebuilding industry

ABSTRACT

We use two sets of customer satisfaction measures obtained from a homebuilding company to examine the effect of measurement timing on the association between customer satisfaction measures and future financial performance. The research site employs two separate consulting firms that measure customer satisfaction at different times from the same homebuyer population. A national consulting firm captures customer satisfaction at a fixed time in the year following purchase (the "NF" measure), whereas an industry-focused, boutique consulting firm captures customer satisfaction at three specific points in time (30 days, 5 months, 11 months) after purchase (the "BF" measures). We analyze data for the period 2002–2004 and have the following findings: first, customers' satisfaction varies over a homebuyer's consumption period. Comparing across the three BF measures, we find that on average a homebuyer is most satisfied 30 days after purchase and least satisfied 11 months after purchase. Second, we compare the NF measure with the BF measures and find significant differences in their predictive abilities for future financial performance. The BF measures are significant leading indicators of future financial performance, as measured by higher revenues and profits and lower warranty costs, but the NF measure is not. Additional analyses indicate that the relatively higher predictive ability of the BF measures is due to the more precise timing of those measures, rather than differences in measurement content. Finally, we find that the point of diminishing returns to improvements in customer satisfaction varies across customer satisfaction measures obtained at different points in the consumption period. We conclude that timing has a significant impact on the information content of customer satisfaction measures, at least for goods and services that are consumed over extended period of time.

1. Introduction

A growing body of research has shown that some nonfinancial performance measures (e.g., quality, employee satisfaction, and customer satisfaction) are leading indicators of future financial performance, or "performance drivers" (e.g., Amir and Lev, 1996; Banker et al., 2000; Ittner and Larcker, 1998; Nagar and Rajan, 2001, 2005; Said et al., 2003; Wiersma, 2008). Incorporating these performance drivers into multi-aspect performance measurement systems, such as management-by-objectives (MBO) systems, key-performance-indicator (KPI) systems, dashboards, or balanced scorecards (BSC), can alleviate the common problems of management myopia or short-termism (e.g.,

☆ Data availability: Data used in this study are derived from proprietary sources.

* Corresponding author. Tel.: +1 2138215920.
E-mail address: kmerchant@marshall.usc.edu (K.A. Merchant).

1044-5005/$ – see front matter © 2013 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.mar.2013.12.003

Banker et al., 2000; Davila and Venkatachalam, 2004; Hemmer, 1995; Ittner and Larcker, 1997, 1998, 2001, 2003; Kaplan and Norton, 1996, 2001; Perera et al., 1997).

Among the potential performance drivers, customer satisfaction has attracted the most attention from both practitioners and researchers. This is not surprising. Senior executives from 148 financial services firms ranked customer relations as the most important driver of firm's long-term success (Ittner and Larcker, 2001), and the customer domain is one of the main elements in the BSC model.

Interestingly, however, empirical evidence linking customer satisfaction and forthcoming firm outcomes is mixed (e.g., Anderson et al., 1997; Ittner and Larcker, 1998). One plausible explanation for the mixed evidence is that there are alternative ways to measure customer satisfaction (Dikolli and Sedatole, 2007; Peterson and Wilson, 1992; Szymanski and Henard, 2001). Dikolli and Sedatole (2007) note that "given the difficulty of measuring customer satisfaction (Lambert, 1998) and the relatively large and somewhat mixed body of research examining customer satisfaction, research examining the effects of measurement alternatives on the customer satisfaction–future performance relation seems warranted"(p. 75).

In this study, we answer the above call for research by exploiting a unique database to which we obtained access. Our research site uses customer satisfaction measures obtained from the same customer population by two different consulting firms, one of which gathers its measures at three different points in time. The company from which we obtained these data is a large privately-owned homebuilder (hereafter referred to as "IJK Homes" or "IJK"). One of the consulting firms that gathered customer satisfaction measures for IJK is a large, well-known, national consumer sentiment survey research firm (hereafter "NF") that collects customer satisfaction data across a wide range of industries. This firm administers its survey questionnaires in the second quarter of each calendar year to those who have purchased homes in the prior calendar year. The other survey research firm (hereafter "BF") is a small, boutique firm that focuses on the homebuilding industry. BF measures customer satisfaction at three different points in time—30 days, 5 months, and 11 months after the purchase of the home. These data allowed us to test the effects of measurement timing on the information content of customer satisfaction measures, while holding the setting constant.[1]

Timing is an important measurement property but has been largely ignored in the accounting literature focused on customer satisfaction measures. Customer satisfaction measures gathered at different points after the interaction will likely capture different customer perspectives (Fisk et al., 1990). Measurement timing is likely to be particularly important in assessing satisfaction with goods and services consumed over long period of time, which include both "durable goods," as described in the economics literature, and the more complex "consumption systems," a term that is used in the marketing literature. A consumption system is "a bundle of goods and services that are consumed over time in multiple consumption episodes" (Mittal et al., 1999: p. 89).[2] The attributes of customer satisfaction as it relates to goods and services that are consumed over an extended period of time, such as homes, automobiles, refrigerators and furniture, should be inherently different from that of goods that are purchased and consumed quickly (e.g., hamburgers, shampoo). It takes longer for consumers to form accurate impressions of durable goods and consumption systems, and the satisfaction levels of consumers of consumption systems can vary over time (Mittal et al., 2001). Thus, as compared with firms in nondurable goods industries, those in the durable goods industries require customer satisfaction measures that capture different aspects of and fluctuations in customer satisfaction at the appropriate time. For example, customers who are perfectly happy immediately after purchasing a new car or moving into a new home might not have the same overall satisfaction level six months or one year later, when they have become more familiar with the features and reliability of the car or house.

From IJK, we also obtained financial performance data by project by month for a three-year period (2002–2004).[3] Using these data we were able to examine the effects of NF and BF customer satisfaction indicators on financial performance and other important outcome variables (e.g., referrals, warranty costs).

We find three primary empirical results. First, homebuyer satisfaction is not stable. We compare the customer satisfaction levels across the three BF surveys obtained at different times in the consumption cycle and find that overall satisfaction with home purchases decreases over time. Homebuyers tend to be most satisfied with home purchases 30 days after home purchase and least satisfied with home purchase 11 months after home purchase. Second, in directly comparing the predictive ability of the NF and BF measures, we find that several dimensions of the BF customer satisfaction measures provide significant leading indicators of future financial performance, as measured by higher revenues and profits and lower warranty costs. However, none of the NF customer satisfaction measures has significant predictive ability. Additional analyses indicate that the relatively higher predictive ability of the BF customer satisfaction measures is mainly due to the more precise timing of the BF satisfaction surveys as compared to the NF satisfaction surveys, not to differences in survey content. Third, consistent with some prior research (Ittner and Larcker, 1998), we find diminishing and then negative returns to improvements in customer satisfaction. We go beyond prior research by demonstrating that the point of

[1] We use the terms "information content" and "predictive ability" interchangeably in our study.

[2] Durable goods refer only to the product aspect and can be considered special cases of the broad concept of consumption systems, which including both the product aspect and the service aspect (Mittal et al., 1999).

[3] For IJK, a project is considered to be the entire neighborhood plan. As such, over 200 neighborhoods were included in the analysis, each containing 250–300 homes. The sample years are homogeneous in general economic conditions. Customer satisfaction data are collected at the individual home level and are aggregated to the project level before any analyses are run. Financial data are given at the project level.