The Relationship between Customer Satisfaction and Shareholder Value

KURT MATZLER*, HANS H. HINTERHUBER**, CHRISTIAN DAXER** & MAXIMILIAN HUBER**

*Institute of Business Administration, Management and Economics, University of Klagenfurt, Klagenfurt, Austria, **Department of General and Tourism Management, University of Innsbruck, Innsbruck, Austria

ABSTRACT This paper studies the relationship between customer satisfaction and shareholder value. In the first section of the paper the link between the two variables is examined theoretically, it is then tested empirically. Customer satisfaction data were taken from the American Customer Satisfaction Index (ACSI) database. Shareholder value was measured using Tobin’s q. The sample consisted of 99 companies with ACSI data and Tobin’s q from 1994 to 2002. The results of this study give insights into the relationship between customer satisfaction and shareholder value. First, there is a positive association between customer satisfaction and shareholder value. Second, this relationship is not affected by the turbulence of financial markets after the beginning of the year 2000. Third, there is a time lag of three quarters between customer satisfaction and the strongest impact on shareholder value. Fourth, it seems that there exists an optimal level of customer satisfaction, and if it is exceeded value will be destroyed.

KEY WORDS: Customer satisfaction, shareholder value, Tobin’s q

Introduction

Over the last two decades, shareholder value has become a widely used indicator for a company’s success. Widespread shareholder value orientation is increasingly changing the method of corporate decision making. Consequently, market strategies along with any other management decisions are evaluated by their ability to enhance shareholder value and no longer by traditional yardsticks such as market share, sales growth or return on investment (Srivastava et al., 1998).

On the other hand, customer satisfaction is a central concept in theory and practice. It is widely accepted that delivering products and services of high quality leads to customer satisfaction and in turn to higher profits. In order to improve their competitive position, many companies use some form of customer satisfaction programme in developing,
monitoring and evaluating their products and services, formulate strategies to enhance satisfaction, and compensate employees based on satisfaction ratings (Matzler et al., 2004; Matzler & Pechlaner, 2001). Companies however, will allocate resources for improving customer satisfaction only if the effects are satisfying in financial terms. Astonishingly, only a few papers address the relation of customer satisfaction to shareholder value.

Therefore, the objective of this paper is to examine more closely the links between customer satisfaction and shareholder value. First, the relationship is investigated theoretically. Then, an empirical study with data from the ACSI and Tobin’s q data for 99 companies between 1994 and 2002 is carried out. The following questions are studied. (1) Is there a relationship between customer satisfaction and shareholder value? (2) Is this relationship robust or is it affected by the turbulences of the financial markets after the beginning of 2000? (3) What is the time lag between customer satisfaction and its impact on shareholder value? (4) Is there an optimal level of customer satisfaction, which, if exceeded, destroys value?

Customer Satisfaction and Shareholder Value: A Conceptual Framework

In the last few years, many researchers have been studying the processes by which delivering high-quality goods and services influences profitability through customer satisfaction (Anderson et al., 1994; Hinterhuber et al., 2003; Oliver, 1997; Reichheld & Sasser, 1990; Rust et al., 1995; Stahl et al., 2003). It is widely agreed that customer satisfaction leads to

- Repurchase,
- Cross selling,
- Reduced price sensitivity,
- Positive word-of-mouth.

Numerous empirical studies could find a positive relationship between customer satisfaction and profitability (Anderson et al., 1994; Reichheld & Sasser, 1990). However, accounting-based profitability measures such as ROI are not reliable indicators of shareholder value.

The shareholder value approach is based on discounted cash flow analysis. Because shareholder value is composed of the present value of (1) cash flows during the value growth period and (2) the long-term, residual value of the product/business at the end of the value growth period, the value of any strategy is inherently driven by (Srivastava et al., 1998):

1. an acceleration of cash flows (earlier cash flows are preferred because risk and time adjustments reduce the value of later cash flows),
2. an increase in the level of cash flows (e.g. higher revenues and/or lower costs),
3. a reduction in risks associated with cash flows (e.g. through a reduction in both volatility and vulnerability of future cash flows) and hence, indirectly, the firm’s costs of capital, and
4. the residual value of the business (long-term value can be enhanced, for example, by increasing the size and quality of the customer base).

Therefore, in order understand the relationship between customer satisfaction and shareholder value, the behavioural outcomes of satisfaction need to be related to these drivers of shareholder value. Figure 1 illustrates the relationship between the variables. On the left-hand side, the consequences of customer satisfaction are shown (first level
results) which are related to outcomes (second level results) that directly influence the drivers of shareholder value.

**Repurchase and Shareholder Value**

Customer satisfaction leads to repurchases (e.g. Anderson & Sullivan, 1993; Fornell, 1992; Rust *et al.*, 1995). The continuous repurchase of a company’s product results in a stable relationship between customer and supplier, which allow a firm to generate meaningful knowledge about the customers. Through experience curve effects and economies of scale, a company is able significantly to lower its relationship costs. Furthermore, costs for acquiring new customers decrease. As a result, shareholder value will be enhanced. In addition, the stable customer base can enhance a firm’s shareholder value in multiple ways (Srivastava *et al.*, 1998). The faster acceptance of new products by loyal customers accelerates market penetration and therefore also cash flows. A large stable customer base reduces the volatility of the cash flows. The lower volatility of the cash flows also leads to a lower cost of capital and therefore to an enhancement of cash flows. Finally, customers’ loyalty enhances the residual value of the firm through size and quality of the customer base.

**Cross Selling and Shareholder Value**

Customer satisfaction also leads to cross-selling (e.g. Hallowell, 1996; Homburg & Schäfer, 2002; Reichheld & Sasser, 1990). Enhanced cross-selling has two effects. First, the total sales of the company grow and markets can be penetrated faster because customers who have become loyal are responding better to a firm’s marketing efforts (Srivastava *et al.*, 1998). The additional sales increase cash flows and reduce their volatility by means of diversification beyond the core business (cross selling). A faster market penetration accelerates cash flows and therefore also enhances shareholder value.
Low Price Sensibility and Shareholder Value

Satisfied customers are less price sensitive (e.g. Krishnamurthi & Raij, 1991; Reichheld & Sasser, 1990; Stock, 2003). The lower price-sensibility increases the willingness of the customers to pay for the benefits they receive. Furthermore, satisfied customers are more tolerant to price increases. Finally, they are less susceptible to price reductions of competitors. Customer satisfaction – through lower price sensibility – therefore increases the cash flow and boosts shareholder value.

Word-of-Mouth and Shareholder Value

Finally, customer satisfaction also leads to positive word-of-mouth (e.g. Zeithaml et al., 1996). Positive word-of-mouth can significantly enhance the effectiveness of marketing communication and therefore lower acquisition costs for new customers, which increases a firm’s cash flow. The enhanced effectiveness of marketing communication also enables a firm to penetrate markets faster, which accelerates cash flows. Word-of-mouth can also contribute to improve a company’s reputation, which leads to an augmentation of its residual value.

In the literature, numerous empirical studies that investigate the relationship between customer satisfaction and profitability can be found. Buzzell & Gale (1987) report a significant relationship between relative quality and ROI. Using data from the Swedish Customer Satisfaction Index, Anderson et al. (1994) found a strong relationship between customer satisfaction and ROI. Aaker & Jacobson (1994) found a positive relationship between perceived quality and stock market returns. Ittner & Larcker (1998) found a relationship between satisfaction and accounting returns and Eklöf et al.’s (1999) as well as Anderson et al.’s (2004) findings indicate a strong relationship between customer satisfaction and Tobin’s q. The latter study investigated the association between customer satisfaction and shareholder value for the period from 1994 to 1997. Hence, it does not include the turbulences on the financial markets after the beginning of 2000. Furthermore, Anderson et al.’s (2004) study uses one-period lagged values of the independent variables. However, it is not clear whether the one-period lagged values capture best the time lag between customer satisfaction and its impact on shareholder value. Therefore, the following questions are addressed in this study. (1) Is there a relationship between customer satisfaction and shareholder value? (2) Is this relationship robust or is it affected by the turbulences of the financial markets after the beginning of 2000? (3) What is the time lag between customer satisfaction and its impact on shareholder value? (4) Is there an optimal level of customer satisfaction, which, if exceeded, destroys value?

Empirical Study

Data

This study uses data from the American Customer Satisfaction Index (Fornell et al., 1996) which measures customer satisfaction of approximately 200 American companies in 40 industries over seven sectors of the US economy. For each firm, approximately 250 telephone interviews with its customers are conducted to assess their satisfaction with the products and services. ACSI data are available from 1994 at http://www.theacsi.org. For the purpose of this study not all companies contained in the ACSI could be included in the analysis. First, it was necessary to obtain a match between the ACSI sample and the
Compustat database that was used to calculate Tobin’s $q$, only those companies could be included in the sample for which both customer satisfaction data and shareholder value data were available. Furthermore, highly diversified companies for which several customer satisfaction datasets exist in the ACSI were excluded, such as GM, where customer satisfaction is measured for Buick, Cadillac, Pontiac and so forth in order to avoid data dilution. After this selection process, 99 companies remained that formed the basis of the analysis.

Anderson et al. (2004) give an excellent overview of advantages and disadvantages of several measures of shareholder value and come to the conclusion that for the purpose of investigating the relationship between customer satisfaction and shareholder value ‘... Tobin’s $q$ appears the best option given its strengths of being forward-looking, comparable across firms, and grounded in economic theory.’ Tobin’s $q$ is defined as the ratio of the market value of the firm to the replacement cost of its tangible assets:

$$q = \frac{\text{market value of a firm's assets}}{\text{replacement value}}$$  \hspace{1cm} (1)

A $q$-value greater than 1.0 indicates that a firm creates value for its shareholders; a firm with $q < 1$ destroys value. However, it is important to note that the $q$-ratio is difficult to compute as it is almost impossible to estimate the replacement costs of a company’s intangible assets (Varajya et al., 1987). For this reason, approximations to Tobin’s $q$ are used. In this analysis, the approximation of Chung & Pruitt (1995), who provide an accurate approximation of $q$ by using financial information, is adopted.

Approximation $q = \frac{(\text{Market value of equity} + \text{Book value of debt})}{\text{Total assets}}$  \hspace{1cm} (2)

Data were taken from Standard&Poor’s Compustat Plus database. For each company, Tobin’s $q$ was calculated for each quarter and year according to the available ACSI data. Below, the three single items as defined by Compustat are specified.

1. ‘Market value’ of equity is defined by the monthly close price multiplied by common shares outstanding.
2. ‘Book value’ of debt is defined as the sum of long-term debt and short-term debt, i.e. current liabilities.
3. The item ‘total asset’ represents the total value of all items included in the asset section and reported on the balance sheet.

**Results**

Strength of the relationship and time lag. In order to test the strength of the relationship between customer satisfaction and Tobin’s $q$, a linear regression analysis was conducted, whereas the ACSI constitutes the independent variable, while Tobin’s $q$ is used as a dependent variable.

The existence of a cause-and-effect relationship between customer satisfaction and shareholder value leads to the assumption that a time lag between changes in customer satisfaction and its impact on shareholder value should be observable. Therefore, the strength of the relationship between customer satisfaction and several differently postponed shareholder value measures is tested. The quarter with the strongest relationship to the ACSI indicates the length of the time lag. Table 1 reports the results.
The results of the regression analysis in Table 1 show a positive relationship between customer satisfaction and shareholder value. Considering the multitude of variables influencing shareholder value, $R^2$ between 0.045 and 0.131 are satisfying results. As the postponed Tobin’s $q$ values display both higher regression coefficients with the ACSI and higher corrected $R^2$s, the assumed time lag is also confirmed. The results show the strongest relationship between customer satisfaction and shareholder value three quarters after the measurement of the ACSI. Therefore, for further analysis of the satisfaction-shareholder value-relationship Tobin’s $q$ postponed by three quarters is used.

**Turbulence of Financial Markets**

A widespread assumption is that the turbulences on the financial markets, as observed recently, reduce the strengths of the relationship between customer satisfaction and shareholder value. The strongly fluctuating market values due to factors other than customer satisfaction are expected to have a significant impact on the measure of shareholder value employed, Tobin’s $q$. The Standard&Poor’s (S&P) 500 experiences above-average growth between 1997 and the middle of 2000. Since the beginning of 2001 the value of the S&P 500 has been declining significantly. Therefore, in the first analysis, differences in the relationship between customer satisfaction and shareholder value before and from 2000 onwards will be investigated. The second analysis compares the relationship before and after the beginning of 1997 to explore the differences in the linkage between customer satisfaction and shareholder value. The results are shown in Tables 2 and 3.

The results are highly interesting: the differences in the relationship between customer satisfaction and shareholder value due to turbulent financial markets can be neglected. Hence, the relationship between customer satisfaction and shareholder value is robust.

**High Customer Satisfaction versus Low Customer Satisfaction – Companies**

Theory suggests that companies with higher levels of customer satisfaction should be rewarded by a superior shareholder value. This assumption is tested in two ways. First, it is analysed whether companies with above-average ACSI scores achieve a higher

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<th>Beta</th>
<th>Correc. $R^2$</th>
<th>Signif.</th>
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<tbody>
<tr>
<td>Before 2000</td>
<td>0.361</td>
<td>0.128</td>
<td>0.000</td>
</tr>
<tr>
<td>After 2000</td>
<td>0.365</td>
<td>0.126</td>
<td>0.000</td>
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shareholder value than companies with below-average ACSI scores. Second, the top and bottom 25% of companies according to their ACSI scores are compared with one another.

Customer satisfaction scores vary across industries (Anderson et al., 1994; Fornell et al., 1996). Therefore, the average ACSI scores per industry are used as a yardstick to classify the data. The sample is divided into two groups: companies with levels of customer satisfaction above ACSI average in the industry and companies with levels of customer satisfaction below ACSI average in the industry. To analyse the relationship between the two groups of customer satisfaction and shareholder value, Tobin’s $q$ data also has to be classified. As the strongest relationship was achieved by Tobin’s $q$ postponed by three quarters, this measure was applied in this analysis. For each company in each year the average deviation from the mean of each year and industry was computed. The next step was to calculate the percentage average deviation of Tobin’s $q$ postponed by three quarters for both groups.

The findings in Table 4 suggest that above average customer satisfaction scores lead to a 9.54% higher-than-average Tobin’s $q$. In contrast, below-average customer satisfaction scores result in a 12.97% lower than average Tobin’s $q$. However, the high standard deviation reduces the explanatory power of these results.

To emphasize the different effects of high and low customer satisfaction levels on shareholder value, the second analysis includes only the top and bottom 25% companies in regard to their ACSI scores. Beside this, the analysis was undertaken as explained above.

The findings of the second analysis, as can be seen in Table 5, support the previous results. Companies with the highest 25% ACSI scores achieve, on average, 13.97% higher Tobin’s $q$ than the average, while the bottom 25% of the companies realize 17.27% lower Tobin’s $q$ than the average. The high standard deviations show that also

### Table 3. Strength of the relationship before and after the beginning of 1997

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<th>Beta</th>
<th>Correc. $R^2$</th>
<th>Signif.</th>
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<tr>
<td>Before 1997</td>
<td>0.410</td>
<td>0.164</td>
<td>0.000</td>
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<tr>
<td>After 1997</td>
<td>0.398</td>
<td>0.156</td>
<td>0.000</td>
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### Table 4. Above and below average customer satisfaction and shareholder value

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<th>Mean deviation</th>
<th>Standard deviation</th>
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<tr>
<td>Group above average ACSI scores</td>
<td>9.54%</td>
<td>55.03</td>
</tr>
<tr>
<td>Group below average ACSI scores</td>
<td>−12.97%</td>
<td>48.62</td>
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### Table 5. Top and bottom 25% of companies

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<th>Mean deviation</th>
<th>Standard deviation</th>
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<tbody>
<tr>
<td>Top 25% ACSI scores</td>
<td>13.87%</td>
<td>58.74</td>
</tr>
<tr>
<td>Bottom 25% ACSI scores</td>
<td>−17.27%</td>
<td>48.63</td>
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the Tobin’s $q$ of the top and bottom 25% of the companies with regard to their ACSI scores are subject to significant fluctuations.

**Optimal Level of Customer Satisfaction**

From a managerial point of view it is vital to know how many resources should be devoted to customer satisfaction programmes. It is reasonable to assume that customer satisfaction above a certain level does not yield additional returns. If companies exaggerate in satisfying customers, value is destroyed. A simple way to approximate the optimal level of customer satisfaction is to calculate the average Tobin’s $q$ for each point of the ACSI scale. The results are shown in Figure 2. As can be seen, the average Tobin’s $q$ increases with an augmentation of the ACSI. However, there seems to be a maximum around 85% of the ACSI. An increase of customer satisfaction above this threshold is associated with a decrease in Tobin’s $q$.

These results, however, have to be interpreted with caution. Sector-specific differences were not taken into account. Instead, the overall relation across all industries and years analysed was described. Furthermore, due to the size of the sample on some levels, especially very low and very high ones, only a small number of observations were available. Therefore, the explanatory power of Figure 3 is very limited. A representative, industry-specific analysis was not feasible due to a lack of data in the various industries. Further research is necessary to investigate the industry-specific shape of the relationship between customer satisfaction and shareholder value.

**Conclusion**

The results of this study have shown (1) that there is a positive relationship between customer satisfaction and shareholder value; (2) that the strongest relationship between customer
satisfaction and shareholder value is three quarters after the measurement of customer satisfaction; (3) that the strength of the relationship is not affected by turbulences on financial markets; and (4) that it is reasonable to assume that there exists an optimal level of customer satisfaction. As a result, customer satisfaction is a strong vehicle to increase shareholder value. However, from a managerial point of view, one important question is still not answered: how many resources should be devoted to increasing customer satisfaction? Although our analysis indicates that satisfaction ratings above a certain threshold destroy value as they require too many resources, the results have to be interpreted very cautiously. This question cannot be addressed on an aggregate or an industry level, but rather on firm level. To find a reliable answer to this question much research is clearly needed.

References


