



## Customer equity and market value: Two methods, same results? ☆

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### ABSTRACT

Although researchers have developed a variety of methods to model customer equity (CE), producing simple and robust models is a difficult task. Often, researchers have to compromise simplicity in favor of robustness or completeness. This paper empirically investigates two CE-based methods to compute proxies for market value. The models differ substantially in terms of complexity and the type of information they use, but their result is equivalent. Both models use Gupta et al. (2004) CE approach, and use data from the Brazilian Telecom Industry. The results show that CE, under the simpler, static approach, when added to net equity, is a good proxy for market value and reasonably equivalent to Gupta et al.'s (2004) CE under the dynamic approach. While the dynamic approach requires some technical training and substantive customer information that might not be readily available, the static approach is simpler and easier to compute.

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### 1. Introduction

Marketing managers are under constant pressure to measure, and demonstrate, the effectiveness of marketing, and academics are actively developing new methods to help. For example, the Marketing Science Institute (MSI) calls for research on metrics to assess the outcome of marketing efforts, and accountability and return on investment of marketing expenditures have consistently been the MSI's top research priorities for over a decade.

The need for greater performance due to the high competitiveness of markets, together with shareholders' demand for returns, brings about considerable changes to the way companies manage their resources. In marketing, this reality has a significant implication: the need to improve the profitability of customers while optimizing the use of financial resources. Thus, many papers and articles currently focus on market productivity in order to obtain better marketing metrics (Gupta, Lehmann, & Stuart, 2004; Gupta & Zeithaml, 2005; Kumar & Morris, 2007; Rust, Ambler, Carpenter, Kumar, & Srivastava, 2004; Srivastava, Shervani, & Fahey, 1998). As a result, two streams of research have been growing in importance and gaining attention in the marketing literature—one of them develops methods to measure

the return on investment of marketing actions, and the other calculates the value of the customer (customer equity and customer lifetime value).

Several researchers have explored the relationship between marketing action and shareholder value (Anderson, Fornel, & Mazvancheryl, 2004; Gruca & Rego, 2005; Gupta et al., 2004; Hogan et al., 2002; Rust, Ambler, et al., 2004; Srivastava et al., 1998), and have developed a variety of methods to model customer equity (CE), customer lifetime value (CLV), and market value (MV) (e.g., Berger et al., 2006; Gupta et al., 2006; Rust, Lemon, & Zeithaml, 2004; Srivastava et al., 1998). The widespread adoption of sophisticated tools by managers is, however, strongly dependent on the simplicity and robustness of such tools (Little, 2004). Models that are both simple and robust are hard to produce, and researchers often have to compromise simplicity in favor of robustness or completeness on important issues.

This paper empirically demonstrates the equivalence of two CE models, which use Gupta et al.'s (2004) model as a base, in computing proxies for the market value (MV) of a firm. One of the models is dynamic customer equity (DCE) and considers current and future customers; the other is static customer equity (SCE) and considers only current customers. Both models allow firms to compute the expected CE value at any given time using customer and financial information. The models differ substantially in terms of complexity and the type of information they use, but their results are reasonably equivalent, so firms can use the simple CE model to predict market value without significant loss in terms of accuracy.

The remainder of this paper has the following structure. Sections 2 and 3 contain a discussion of the related literature and present the model. Section 4 applies the models using data from telecom

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companies on the Brazilian stock market. Section 5 then presents the research results and their implications, and Section 6 sums up the research.

## 2. Customer lifetime value and customer equity

Practitioners are increasingly using metrics relative to customers, and academics have written several articles and books about CE and CLV (Blattberg, Getz, & Thomas, 2001; Gupta & Lehmann, 2006; Hanssens, Thorpe, & Finkbeiner, 2008; Rust & Reinartz, 2005; Rust, Zeithaml, & Lemon, 2000; Wiesel, Skiera, & Villanueva, 2008). Indeed, CE already has several definitions. Blattberg and Deighton (1996) are the first to use the term customer equity, defining customer equity as the ideal balance between what companies spend on acquiring customers and what they spend on retaining them. To calculate CE, Blattberg and Deighton suggest that a company measure expected contributions from each customer, taking into consideration their life expectancy. Later, the company should discount these expected contributions (at the discount rate that the company expects to earn on its investments) to compute their net present value.

Although Blattberg and Deighton (1996) proposed the term, other authors have played an important role in this field, enhancing the definition or even proposing different concepts and ways of measuring CE.

Gupta et al.'s (2004) study extends the work of various researchers (e.g., Blattberg et al., 2001; Niraj, Gupta, & Narasimhan, 2001; Reinartz & Kumar, 2000; Rust et al., 2000) and follows the traditional model, adopting a financial approach of discounted cash flow to determine CLV for every customer, and then to estimate CE (sum of all CLVs of the firm). The basis of their approach is that CLV is the net discounted cash flow of future income derived from the acquisition, retention, and expansion of the customer base minus their associated costs. The computation of cash flow uses data obtained only from secondary sources, including actual information on the retention rate of customers over time. However, this information is often unavailable from secondary sources. In fact, Gupta et al. (2004) use estimations of this rate in their own paper. A point worth noting is that in Gupta et al.'s model, the acquisition of customers is possible at all times since the acquisition and loss of customers occur in a continuous process.

## 3. Customer equity and market value

Marketing has been under growing pressure to justify its investment needs; meanwhile executives find that demonstrating a return on marketing expenditures is difficult. Asking for millions of dollars for advertising or for an improvement to customer service is easy; what is hard is showing the shareholder how this investment affects the company's profits and shareholder value.

Marketers often lament that businesses view marketing costs in accounting terms as an expense, evaluating them only in the short run and seeking to minimize them, rather than viewing the marketing costs in finance terms as a long-term investment (Rego, Billett, & Morgan, 2009; Rust, Lemon, et al., 2004). This view leads companies to resort to short-term actions like promotions and cost reduction, whose effects are easier to quantify (Gupta & Lehmann, 2006). This short-sightedness impacts marketers' ability not only to secure funds to invest in marketing assets but also to ensure that they have an equal seat at the table in corporate-level decision making (Lukas, Whitwell, & Doyle, 2005; Rego et al., 2009; Webster, Malter, & Ganesan, 2003). This situation is unlikely to change unless researchers can establish a demonstrable link between marketing-related spending and financial rewards and risks (Day & Fahey, 1988; Rego et al., 2009). Lukas et al. suggest an urgent need for managers to use finance-based measures, and, in particular, to include shareholder value metrics, notably those that marketing influences

the most. The inclusion of these metrics will give us a better understanding of marketing's contribution to corporate performance (Lukas et al.).

Rust, Lemon, et al. (2004) suggest that companies could start using financial accounting in calculating the return on investment in marketing by considering the effect of those expenditures on CE, that is, relating increases in CE with the investments needed to reach them. As the CE concept focuses on long-term profitability instead of share or sales, one can expect a relation between CE and company value and, consequently, between CE and the MV of the company (Hogan et al., 2002). Hence, CE provides information that is directly relevant to marketing decision makers, to non-marketing executives such as CFOs, and to financial analysts (Gupta & Lehmann, 2006).

One could therefore say that one of the most important aspects of CE is that CE is a proxy of company value (Rust, Lemon, et al., 2004). This statement is true both from the theoretical point of view and, increasingly, from the empirical point of view (Rust & Bhalla, 2010). Empirical studies have validated the claim of customer value (henceforth, customer equity) as a proxy for a firm's MV (Kumar & Shah, 2009). Several studies have explored the relationship between marketing action and MV (Anderson et al., 2004; Gruca & Rego, 2005; Gupta et al., 2004; Hogan et al., 2002; Rust et al., 2004; Srivastava et al., 1998), and they have developed a variety of methods to model CE, CLV, and MV (e.g., Berger et al., 2006; Gupta et al., 2004; Gupta et al., 2006; Rust, Lemon, et al., 2004; Srivastava et al., 1998).

The close relationship between CE and MV means that improvements in CE drivers (according to Rust, Lemon, et al., 2004: value equity, brand equity, and relationship equity) may enhance the performance of the company. Following on from this argument, one could claim that marketing actions influence CE drivers, then CE, which in turn affects company value.

## 4. Method

This section focuses on data collection procedures and model development in order to investigate the equivalence of two CE-based methods to compute proxies for the MV of the firm.

### 4.1. Data collection

To test the static and dynamic models in Brazil, the authors identified an industry that satisfies the prerequisites recommended by the designers of the models: information on customer margin and acquisition costs, and information on customer base (size and changes in retention rate—churn rate). The telecommunications industry satisfied both criteria, especially with respect to customer base, since the industry is regulated by ANATEL (“Agência Nacional de Telecomunicações”, or, National Telecommunications Agency). All telecom companies in Brazil must provide the Agency with quarterly data on the customer base, which satisfies the criterion above. Thus, the study uses data from the Stock Exchange of São Paulo (BOVESPA<sup>3</sup>) and from ANATEL.<sup>4</sup> In Table 1 is a list of the companies used in the study.

The study uses data from BOVESPA's quarterly investor reports and from ANATEL's quarterly reports, starting from the first quarter of 2003 to the third quarter of 2006. The total number of companies is 13, the number of time periods is 15, and this interaction yields a total of 144 observations.<sup>5</sup> These two data sources—BOVESPA and ANATEL—give us information on MV, customer retention rate,

<sup>3</sup> BOVESPA (2007). Retrieved from: <http://www.bovespa.com.br/principal.asp>. BOVESPA (2010). Retrieved from: <http://www.bmfbovespa.com.br/home.aspx?idioma=pt-br>.

<sup>4</sup> ANATEL (2007). Retrieved from: <http://www.anatel.gov.br/home/default.asp>. ANATEL (2010). Retrieved from: <http://www.anatel.gov.br/Portal/exibirPortalInternet.do>.

<sup>5</sup> Until its consolidation in 2005, Vivo was a group of 5 independent companies and Tim a merger of two companies in the third quarter of 2004, and an acquisition of a third one in the first quarter of 2006.

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