Marketing metrics: Insights from Brazilian managers

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This study examines how managers approach marketing measures in a Brazilian context. Using data from a large-scale empirical study in Brazil, we focus on managers’ views of the practices in marketing measurement and identify which indicators they emphasize. The findings, which reflect Brazilian managerial practice, indicate that managers use a combination of metrics. Items such as total number of customers, number of complaints, and customer satisfaction are among the most known and most used metrics. When addressing the 10 most relevant metrics results yield 4 groups, including customer vision, financial, product vision, and market and innovation. Indicators pertaining to customer vision are the most important to Brazilian managers. Furthermore, we discuss the results and draw comparisons with similar studies conducted in the United Kingdom and China. Finally, we present conclusions and avenues for future research.

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1. Introduction

Environmental dynamics, such as the fierce competition companies face in the marketplace, require the development of measurement indicators that enable managers to make better and more informed marketing investment decisions (Kornelis, Dekimpe, & Leeflang, 2008; Leeflang et al., 2009). Such demand has triggered interest in gaining a better understanding of marketing metrics and how managers use them (Gupta, Lehman, & Stuart, 2004; Helgesen, 2007; Petersen et al., 2009). Indeed, doing so will enforce the application of accurate metrics that are capable of measuring financial and non-financial impacts of marketing decisions (Debruyne & Hubbard, 2000; Gupta & Zeithaml, 2006; Lages, Lancastre, & Lages, 2008; Petersen et al., 2009; Seggie, Cavusgil, & Phelan, 2007).

Overall, measurement may be considered a way to ascertain a quantitative value to a certain (objective or subjective) attribute or result. To measure actions and performances properly, criteria on the attributes that should be considered need to be defined (Lages et al., 2008; Patterson, 2007; Seggie et al., 2007). A great amount of complexity occurs in the measurement of marketing program outcomes, as marketing actions often have subjective effects and involve a wide range of factors (Lionch, Eusebio, & Ambler, 2002; Petersen et al., 2009; Seggie et al., 2007). The fluctuation of values over time adds to the difficulty in measuring returns from marketing decisions and/or actions (Powell, 2002). Frequently, managers do not know the precise financial and non-financial return from their marketing investments (Lionch et al., 2002; Petersen et al., 2009). Considering that marketing investment decisions involve all marketing (sub)divisions and often have a strategic impact within the company, understanding the marketing return on investment (ROI) is pertinent. Indeed, managers are typically confronted with the need to justify their investments, defend prospective projects, and measure past and future expenses and outcomes (Barwise & Farley, 2004; Seggie et al., 2007). The development of accurate and precise metrics becomes paramount to support and facilitate marketing decision making and budgeting (Lenskold, 2003). The lack of precise measures of financial and non-financial losses and gains makes marketing investments riskier (Powell, 2002). Thus, it is important to ascertain measures so that better and more informed resource allocation is conducted (Lovett & MacDonald, 2005) and, ultimately, investment risk is lowered. Consequently, companies that can establish reliable measurement techniques and accurately manage their marketing investment projects will have a competitive differential (Lenskold, 2003). Managers become capable of attributing values to specific actions and their respective generated results, which in turn enables them to identify which actions have predictable results and which actions have variable and/or subjective outcomes (Barwise & Farley, 2004; Helgesen, 2007). As such, organizations are able to identify their best investment options and determine the expected results from their marketing actions (Lages et al., 2008; Petersen et al., 2009).

Although the relevance of marketing metrics is well established for companies, there are no clear conclusions about which metrics to use and how to apply them (Powell, 2002). Previous studies have

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addressed several dimensions pertaining to marketing metrics, in particular those related to the assessment of marketing performance (Ambler & Kokkinaki, 1997; Ambler, Kokkinaki, & Puntoni, 2004; Davis, 2007; Kokkinaki & Ambler, 1999; Leeflang et al., 2009; Lenskold, 2003; Llonch et al., 2002; Petersen et al., 2009; Powell, 2002; Rosenwald, 2004; Seggie et al., 2007). Research has also identified significant nuances in the application of marketing measures across different cultures. For example, previous investigations compared the application of metrics in the United Kingdom and Spain (Ambler & Riley, 2000; Llonch et al., 2002); the United Kingdom and China (Ambler & Xicun, 2003); and the United Kingdom, the United States, Japan, Germany, and France (Barwise & Farley, 2004). Nonetheless, there is a paucity of research conducted on emerging economies in Latin America, especially in Brazil (Grinberg & Luce, 2002; Ribeiro, Souza, Reis, Veiga, & Rocha, 2005), and therefore a better understanding of how marketing is practiced in such countries is warranted. The aim of this research is to contribute to this identified gap by examining how managers approach marketing measures in a specific context. That is, the study adds to existing knowledge by (1) expanding literature on the measurement of marketing actions’ outcomes and (2) developing an understanding about the metrics used in a Brazilian context and thus bringing further viewpoints into the marketing experience (DeBerry-Spence, 2008). Using data from a large-scale empirical study in Brazil, we focus on managers’ views and identify which marketing metrics are considered the most relevant. We then draw comparisons with results from previous studies.

In the next section, we take a snapshot of the Brazilian economy and market, followed by a review of the literature. Then, we explain the research method and present the research findings. The closing section discusses the main conclusions and draws avenues for future research.

2. Brazilian market

The population of Brazil is more than 190 million inhabitants. Although Brazil stands out among emergent economies, particularly among BRIC countries (i.e., the developing economies of Brazil, Russia, India, and China) (Bharadwaj, 2008), a considerable part of the population is still marginal to consumption. Nonetheless, during the past few years, the Brazilian consumer market has shown clear signs of (economic) growth triggered by access to credit, higher employment rates, and general increases in family income. As a consequence, statistics have shown higher consumption levels, and, for example, during the 2005–2007 period, 23.5 million people from lower social classes reached the intermediary class (class C). Currently, the intermediary class is 46% of the Brazilian population, compared with 34% in 2005. In addition, demographic changes are becoming visible in the Brazilian market—namely, an increase in the life expectancy to 73 years of age (there were 19.1 million people over 60 years in 2006 compared with 7.2 million in 1996), an increase in participation of women in the labor market (currently 44% of the economically active Brazilian population), an increase in the number of childless families (6 million in 2006 compared with 5.2 million in 1996), and an increase in the number of people living on their own (6.0 million in 2006 compared with 5.2 million in 1996) (Alves, 2008). Such transformations challenge marketing managers in Brazil, demanding new approaches to the market, such as the development of tailored offers to market niches, integrated communication and the application of new tools and technologies, better correspondence to customers’ implicit and explicit needs, and a comprehensive ethical conduct accounting for the individual, community, and environment (Oliveira, 2004).

3. Measurement in marketing

The measurement of marketing activities and actions is complex, encompassing both objective and subjective measures. Early approaches to marketing measurement in the 1950s essentially had an econometric background and focused on establishing the product price that would maximize the financial outcome, given a forecasted demand (Boschan, 1953; Clark, 1951; William, 1953). Over time, the scope of studies in marketing measurement widened and spread to specific marketing practices outcomes. For example, studies examined financial outcomes from advertising and communication campaigns and the last effects of those campaigns in customers’ perceptions (Helsen & Schmittlein, 1993; Vakratsas & Ambler, 1999). Research also addressed the measurement of the value of the global brand, customer-based brand equity, and the influence of product innovation on organizational performance (Ambler & Xicun, 2003; Collier, Monz, & Conlin, 1984; Gobeli & Brown, 1986). Other studies attempted to gauge the lifetime value of customers and customer satisfaction (Debruyne & Hubbard, 2000; Rust, Zeithaml, & Lemon, 2002). Investigation was also concerned with marketing outcomes in specific settings, such as results in service delivery backgrounds (Ittner & Larcker, 1997; Mann & Kehoe, 1994; Zeithaml, 2000) and marketing return on Internet endeavors (Seggie et al., 2007).

Recently, research has focused on the long-standing problem of measuring the impact and value of marketing and the financial outcomes generated by marketing actions considering a wide range of variables (Leefflang et al., 2009; Petersen et al., 2009; Seggie et al., 2007). The aim of that research was to examine the financial outcomes caused by specific actions and the results had the investment not occurred (Ambler et al., 2004; Lenskold, 2003; Powell, 2002; Schultz & Schultz, 2003). These studies often refer to aspects from financial studies, such as cash flow, payback time, net present value, and ROI.

According to Lenskold (2003), four techniques allow for the measurement and isolation of variables in marketing: (1) direct measurement, (2) controlled testing, (3) benchmarking assumptions, and (4) assumed impact. The direct measurement technique captures clear and evident marketing outcomes, such as marketing expenses and inputs (Ambler & Kokkinaki, 1997; Rust, Lemon, & Zeithaml, 2004). Overall, this is a difficult technique to apply because marketing always involves other factors (Jung & Robinson, 2005). The controlled testing technique isolates marketing variables and actions and measures their impact. The benchmarking assumptions technique entails monitoring customer actions through all possible contacts between the customer and the company, such as telephone call contacts, website access, and market research (Ambler et al., 2004; Ogden, 2002). Finally, the assumed impact technique analyzes the behavior of current and non-current customers and identifies the reasons for (non-)purchasing of the company's products (Lenskold, 2003).

3.1. Variables in marketing measurement

Marketing variables can be grouped as controllable and non-controllable according to the degree to which the marketing professional has power over his or her management (Schultz, Tannenbaum, & Lauterborn, 1993). Controllable variables are those over which the marketing manager's decisions directly influence the outcomes. Frequently, the controllable variables are established as the marketing mix—price, place, product, and promotion.

Price may positively or negatively influence customer perceptions about the company and/or product quality and is directly related to sales volume variation, which is one of the simplest ways to measure marketing outcomes (Ambler & Kokkinaki, 1997; Rust et al., 2004). Distribution may also affect customer perceptions of product quality and value, but often distribution decisions take longer to affect company outcomes (Ogden, 2002), which makes measurement more complex (Powell, 2002). Product-related decisions are controlled by marketers and may involve decisions regarding quality, packaging, shape, or production quantity. Several studies have reported the advantages of using project-based approaches that isolate the returns separately on the basis of each product (Ambler et al., 2004;
Lensesld, 2003; Powell, 2002; Schultz & Schultz, 2003). Finally, communication decisions involve controllable dimensions, such as company positioning, advertising campaigns, promotions, sales force organization, and events. Communication outcomes are difficult to measure because they vary and are often of a subjective nature (e.g., customer attitudes and perceptions). Consequently, the difficulty in isolating communication decisions and calculating their impact is a major hurdle for firms to forecast the marketing (projects) ROI (Lensesld, 2003; Powell, 2002; Schultz & Schultz, 2003).

As mentioned previously, uncontrollable variables also have an impact on marketing decisions and outcomes. For example, competition directly affects the company's marketing-mix decisions, demand, and ultimately, market share (Ambler & Kokkinaki, 1997; Lensesld, 2003; Schultz et al., 1993). The legal environment may also affect marketing decisions and performance because it often creates constraints to the company’s actions and tax obligations (Jung & Robinson, 2005; Lensesld, 2003; Ogden, 2002; Schultz et al., 1993). The political and economic environment affects purchasing power and the ease with which money is accessed. Such aspects influence demand and demand patterns (Powell, 2002; Schultz et al., 1993). Finally, demand fluctuation relates to industries' variation in demand according to, for example, seasonal factors (e.g., tourism industry). Thus, it is important to account for such influential factors in marketing decision making.

3.2. Categorizing marketing indicators

Marketing investments are predominantly intangible in nature and therefore are difficult to measure accurately. Indeed, marketing actions and dimensions (e.g., customer satisfaction) often cannot be displayed on the balance sheet. Frequent marketing actions are considered expenses that must be returned in the short run (Srivasvate, Shervani, & Fahey, 1998). Thus, measurement in marketing tends to deal with a wide range of variables and includes subjective matters that challenge the process of metrics development.

Marketing performance has traditionally been measured through market return metrics, such as market share and sales volume (Grucia & Rego, 2005). Nonetheless, a wide spectrum of other indicators has been developed, and their groupings remain controversial (Petersen et al., 2009). For example, Clark (1999) structured metrics into four groups: (1) traditional financial measures (e.g., sales, profit and cash flow), (2) non-financial measures (e.g., customer loyalty and satisfaction, market share, quality), (3) input measures (related to marketing, such as marketing orientation, implementation, and audit), and (4) output measures (e.g., efficiency and effectiveness, multivariate analysis). Davis (2007) organized metrics into groups and sub-groups. The main groupings entail marketing planning and customers (e.g., objectives, forecasts, markets, segments), the offering (e.g., products, prices, advertising, brands, retail), and the sales force (e.g., sales force size, sales force quotas, sales force compensation). Farris, Bendle, Pfeifer, and Reibstein (2006) also proposed a widely used grouping of metrics organized into nine sets: (1) Share of Hearts, Minds, and Markets, (2) Margins and Profits, (3) Product and Portfolio Management, (4) Customer Profitability, (5) Sales Force and Channel Management, (6) Pricing Strategy, (7) Promotion, (8) Advertising Media and Web Metrics, and (9) Marketing and Finance.

As a result of the over-arching views of these groupings (Petersen et al., 2009), the current study subsequently adjusts a classification of marketing metrics based on the literature and empirical data.

4. Method

4.1. Instrument development and test

Our unit of analysis is marketing managers’ practice and perceptions of marketing metrics. To gain comprehensive insights into the research subject, we chose a qualitative approach for the preliminary research stage. The purpose of the exploratory work was to gain a focused understanding of how Brazilian marketing managers perceive and use the marketing metrics identified in the literature. For such an endeavor, we developed an interview guide that addressed the following topics: (1) general views on the measurement of marketing ROI and general knowledge about marketing metrics, (2) whether there is an effort to control marketing projects' outcomes, (3) practices of metrics usage to measure marketing ROI, and (4) degree of difficulty of specific marketing metrics (easiest and most difficult ones to apply). From the first two topics, we were able to collect background information about managers’ opinions and company practices in terms of marketing investments and control. The third and fourth topics enabled us to address specific marketing metrics, which in turn aided in the design of the questionnaire. Three expert judges (academics) tested and validated the final guide. We gathered information from interviews with 11 marketing managers from medium-sized and large business-to-business (B2B) companies in various industries.

We used the input from the literature review and the exploratory research to develop the questionnaire. To reflect the Brazilian managers’ inputs, we grouped indicators according to the literature review and interviewees’ contribution. The following criteria were followed to determine which marketing metrics we would include in the research instrument: (1) indicators derived from the literature (e.g., Ambler & Xiucun, 2003; Clark, 1999; Davis, 2007; Farris et al., 2006; Grucia & Rego, 2005); (2) indicators mentioned twice or more during the qualitative phase; and (3) more general indicators, when available (e.g., “number of contacts” was preferred to “number of site visits”). We excluded sector dependent indicators (e.g., service occupancy).

In line with the findings from the exploratory stage, we derived a categorization of the indicators organized into the following groups: (1) promotion indicators (e.g., purchasing on promotion, return on advertising, customer referrals), (2) customer behavior and intermediate indicators (e.g., customer satisfaction, perceived quality, customer lifetime value, awareness, complaints, total number of customers, number of contacts, commitment/purchase intent), (3) financial indicators (e.g., profit/profitability, discount rate, ROI, marketing spend, gross margins, sales value and/or volume), and (4) market and innovation indicators (e.g., number of new products, market share, price variance, availability). The final version of the questionnaire comprised 22 indicators. Respondents were asked to indicate their familiar with each indicator (yes/no; dichotomous), frequency of utilization (5-point Likert-type scale: 1 = annually, and 5 = daily), and degree of importance (5-point Likert-type scale; 1 = not important at all, and 5 = very important). Table 1 shows the questionnaire's sections along with background literature and item's sources.

To test the questionnaire, we assessed content validity by asking expert academic judges (Malhotra, 2001) to evaluate the adequacy of the questionnaire. Only marginal changes were suggested. We further assessed the appropriateness of the research instrument by conducting a pre-test with five executives from five companies in the population. The pre-test indicated comprehension and consistency in the interpretation of the scale.

4.2. Data collection

The questionnaire was applied through telephone interviews to managers across Brazil. The informants were marketing managers from medium-sized and large Brazilian companies who were directly involved with marketing decisions. We followed a probabilistic sampling procedure. From a list of 10,000 medium-sized and large Brazilian companies, we randomly selected 2291 companies and contacted them by telephone using the MultiCall Centre Software. The interviews were conducted by four trained interviewers. They were
Table 1: Questionnaire sections and sources.

<table>
<thead>
<tr>
<th>Topics measured</th>
<th>Description</th>
<th>Items</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion indicators</td>
<td>Contains metrics that may be directly related to the promotion process: to the customer, producer distributor and intermediaries (Lenskold, 2003).</td>
<td>Average Transaction Size; Purchasing on promotion; Return on advertising; Customer referrals</td>
<td>Farris et al. (2006); Schultz and Schultz (2003); Kokkinaki and Ambler (1999); Davis (2007); Rosenwald (2004); Lenskold (2003); Exploratory fieldwork.</td>
</tr>
<tr>
<td>Customer behavior and</td>
<td>Entails metrics that are directly associated with customers’ thoughts, attitudes and actions (Davis, 2007; Farris et al., 2006).</td>
<td>Brand/product knowledge; Number of complaints; Customer satisfaction; Perceived quality; Customer life cycle; Number of customers; Number of contacts; Commitment/purchase intent</td>
<td>Davis (2007); Farris et al. (2006); Kokkinaki and Ambler (1999); Ambler and Kokkinaki (1997); Clark (1999); Rosenwald (2004); Powell (2002); Lenskold (2003); Greenberg (2001); Stone et al. (2001); Schultz and Schultz (2003); Exploratory fieldwork.</td>
</tr>
<tr>
<td>intermediate indicators</td>
<td>Encompasses measurements that have an impact on the company’s cash-flow (Graca &amp; Rego, 2005).</td>
<td>Profit/profitability; Gross margins; Discount rate; ROI; Sales volume; Marketing spending</td>
<td>Gaslene et al. (1999); Farris et al. (2006); Powell (2002); Lenskold (2003); Ross et al. (2000); Davis (2007); Clark (1999); Graca and Rego (2005); Rosenwald (2004); Schultz and Schultz (2003); Kokkinaki and Ambler (1999); Exploratory fieldwork.</td>
</tr>
<tr>
<td>Financial indicators</td>
<td>Reports, in general terms, metrics related to distributors, supply and demand.</td>
<td>Service/product availability; Number of new products; Market share; Price variation</td>
<td>Kokkinaki and Ambler (1999); Powell (2002); Davis (2007); Farris et al. (2006); Lenskold (2003); Rosenwald (2004); Exploratory fieldwork.</td>
</tr>
</tbody>
</table>

4.3. Sample profile

The sample ($n = 234$) included a wide variety of companies with regard to location and industry. The organizations operated in a B2B context and were located in the following regions of Brazil: southeast (61.54%), south (26.50%), northeast (5.98%), and north (2.99%). This is in line with other research showing that a large number of Brazilian companies are based in the southeast region (Lall et al., 2004). The sample also entailed a wide spectrum of industries: manufacturing (52.56%), services and trade (44.02%), and other (3.42%). Finally, there were more large companies (64.53%) than medium-sized companies in the sample. Titles of the sampled respondents included general marketing managers (29.91%), marketing assistants (26.92%), analysts (12.39%), coordinators/supervisors (17.95%), directors (6.41), and others (6.41%). In terms of academic background, most respondents held a higher education and/or postgraduate degree in the following areas: marketing and marketing-related areas (e.g., public relations, communications) (43.59%), business (31.20%), other social sciences (6.84%), sciences and engineering (9.40%), and other (8.97%).

4.4. Data analysis

We developed the data analysis in two stages. In the first stage, we considered all proposed performance metrics and described the reported metric familiarity, usage, and relevance. In this phase, data analysis was essentially descriptive and involved independent samples t-tests and chi-square tests. In the second stage, we focused on the 10 most important metrics. We followed the suggestion from prior work that executives tend to rely on a set of metrics, usually 8 to 10 in prior work and fewer in smaller companies (e.g., Ambler & Riley, 2000; Ambler & Xiucun, 2003; Clarke & Flaherty, 2003; Fawcett & Cooper, 1998; Imlach et al., 2002; Zhou, Zhuang, & Yip, 2007). This idea was echoed during the exploratory research when interviewees suggested that they tend to use no more than 10 performance measures for managing the business.

For these 10 measures, we applied exploratory factor analysis (EFA) to detect whether the groupings (Hair, Anderson, Tatham, & Black, 1998) that initially emerged from the literature and exploratory research held among the selected items. We also calculated the measurement of internal consistency, Cronbach’s alpha, for the factors derived from EFA. Subsequently, we used a total aggregation procedure (Baggozzi & Edwards, 1998) to estimate a higher-order model and to test the importance of each marketing metrics dimension in Brazil.

5. Findings

5.1. Overall managers’ views on the proposed marketing metrics

The results summarize the descriptive statistics for the data collected regarding the familiarity, usage, and relevance of the 22 marketing metrics (see Table 2). Overall, more than 66% of respondents were familiar with the presented indicators, and companies used several complementary indicators, rather than relying only on one. Such results suggest that managers are aware of the relevance of using various measurement inputs to attain a more holistic understanding of the situation (Ambler & Roberts, 2008).

Notably, among the most recognizable metrics are those related to the customer behavior and intermediate category. In particular, the items “number of customers”, “number of complaints”, and “customer satisfaction” were known by more than 90% of the respondents. These metrics were also among the most used. The highest percentage of managers (76.06%) rated “customer satisfaction” as a very important metric, and it is also the most important on average (4.75). However, many of the customer satisfaction-related metrics are subjective and thus should be critically interpreted.

We considered the possible correlation between the level of measures’ importance and frequency of utilization (see Ambler & Riley, 2000; Ambler & Xiucun, 2003). We found no significant correlations for most measures, and some indicators presented discrepancy between the level of importance and the degree of usage. Ambler and Riley (2000) found a similar pattern in their study. As they explain “a deeper inspection of the data reveals that most firms tended to rank variables high on the importance scale but with the highest level of routine assessment varying dramatically” (p.10). Indeed, metrics such as “discount rate” and “number of contacts,” though not among the most important, are more commonly used, probably because they are easily measured. There are also metrics that present a high degree of importance and a low level of frequency of utilization (e.g., “customer satisfaction,” “sales volume,” “
The results still reflect some indicators with lower importance and lower levels of utilization ("purchasing on promotion," "customer life cycle," "return on advertising," and "marketing spending") and suggest that those metrics are considered either more difficult to measure in real time or industry specific. Finally, it is worth noting the financial indicator "profit/profitability," which has one of the highest levels of importance and frequency of utilization.

In addition, we conducted independent samples t-tests and chi-square tests to detect differences between the groups of respondents/companies and metrics' level of importance, familiarity and usage. The results with regard to indicator level of importance and company size (medium-sized or large) yielded a significant difference between groups for the metric "ROI" (t = 2.954, p < 0.01). Managers from larger companies tended to attribute a higher level of importance to ROI than those from medium-sized companies. Note also that "ROI" was one of the indicators that, overall, presented a high degree of importance but low usage frequency, and therefore was used more by the larger companies.

With regard to differences among industries, the metrics "customer referrals" and "brand/product knowledge" tended to be highlighted by managers from the services and trade group (t = 2.143, p < 0.05; t = 2.333, p < 0.05). Such a finding supports the idea that word of mouth and brand familiarity are important in services as ways to reduce risk in purchase buying decisions (Molinari, Abratt, & Dion, 2008). Though not statistically significant, the ranking of the most relevant metrics for service managers and manufacturing managers is distinct. For example, manufacturing managers tended to highlight profit/profitability, customer satisfaction, sales volume, perceived quality, and ROI, whereas service managers highlighted customer satisfaction, brand/product knowledge, number of complaints, sales volume, and perceived quality.

The variables associated with the respondents' academic background and job position had a significant influence on various indicators' familiarity and usage. For example, there was a significant difference among job position groups regarding the familiarity with the indicators "brand and product knowledge" (χ² = 16.581, p < 0.01) and "perceived quality" (χ² = 15.007, p < 0.01) and among academic background groups regarding usage of "marketing spend" (χ² = 12.902, p < 0.05) and "market share" (χ² = 12.971, p < 0.05).

### 5.2. Most relevant marketing metrics

As mentioned previously, our data analysis followed with a test of the proposed groupings considering the most relevant metrics as assessed by managers (Clark, Abela, & Ambler, 2006). The following metrics were the 10 most relevant marketing metrics: brand/product knowledge, commitment/purchase intent, customer satisfaction, market share, number of complaints, perceived quality, profit/profitability, ROI, sales volume, service/product availability. These 10 items were part of the following dimensions: "customer behavior and intermediate," "financial" and "market and innovation". It should be noted that no items from the group "promotion" were among the most relevant.

We applied EFA to the 10 indicators using principal components analysis with orthogonal VARIMAX rotation and Kaiser normalization (see Table 3). The extracted factor solution reported four factors, with all items showing high loadings with the associated factor (above 0.61). The four-factor solution explained 62.8% of the total variance. All factors showed acceptable coefficient alphas (Hair et al., 1998). Overall, the solution maintained the previously considered dimensions; however, it split the customer behavior and intermediate into two factors. Notably, factor 2 seems to entail items that are more directed at customer vision (customer satisfaction, number of complaints, and commitment/purchase intent), and factor 3 items are more related to product vision (brand/product knowledge, and perceived quality).4 Accordingly, we named factor 2 as 'customer vision' and factor 3 as 'product vision'.

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**Table 2: Importance of marketing metrics.**

<table>
<thead>
<tr>
<th>Metric</th>
<th>% of managers who reported familiarity</th>
<th>% of managers who reported using the metric</th>
<th>% of managers who rate the metric as &quot;very important&quot;</th>
<th>Metric frequency of utilization – Mean (standard deviation)</th>
<th>Pearson correlation between frequency of utilization and importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer behavior and intermediate</td>
<td>83.28</td>
<td>62.93</td>
<td>52.72</td>
<td>3.3</td>
<td>4.47</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>94.48</td>
<td>80.77</td>
<td>76.07</td>
<td>2.98 (1.38)</td>
<td>4.75 (0.59)</td>
</tr>
<tr>
<td>Brand/product knowledge</td>
<td>88.89</td>
<td>68.38</td>
<td>62.82</td>
<td>3.54 (1.44)</td>
<td>4.60 (0.70)</td>
</tr>
<tr>
<td>Number of complaints</td>
<td>91.88</td>
<td>72.65</td>
<td>65.81</td>
<td>3.22 (1.39)</td>
<td>4.59 (0.76)</td>
</tr>
<tr>
<td>Perceived quality</td>
<td>82.05</td>
<td>67.09</td>
<td>55.98</td>
<td>3.54 (1.12)</td>
<td>4.59 (0.66)</td>
</tr>
<tr>
<td>Commitment/purchase intent</td>
<td>75.21</td>
<td>49.15</td>
<td>44.44</td>
<td>3.23 (1.11)</td>
<td>4.45 (0.76)</td>
</tr>
<tr>
<td>Number of customers</td>
<td>90.17</td>
<td>74.36</td>
<td>52.56</td>
<td>3.29 (1.11)</td>
<td>4.40 (0.82)</td>
</tr>
<tr>
<td>Number of contacts</td>
<td>76.92</td>
<td>52.56</td>
<td>35.47</td>
<td>3.92 (0.94)</td>
<td>4.22 (0.85)</td>
</tr>
<tr>
<td>Customer life cycle</td>
<td>66.67</td>
<td>38.46</td>
<td>28.63</td>
<td>2.74 (1.14)</td>
<td>4.19 (0.97)</td>
</tr>
<tr>
<td>Financial</td>
<td>76.41</td>
<td>51.88</td>
<td>41.17</td>
<td>3.31</td>
<td>4.52</td>
</tr>
<tr>
<td>Sales volume</td>
<td>83.75</td>
<td>68.80</td>
<td>61.54</td>
<td>3.81 (1.06)</td>
<td>4.68 (0.58)</td>
</tr>
<tr>
<td>Profit/profitability</td>
<td>82.05</td>
<td>57.26</td>
<td>61.54</td>
<td>3.31 (1.04)</td>
<td>4.64 (0.75)</td>
</tr>
<tr>
<td>ROI</td>
<td>69.23</td>
<td>43.16</td>
<td>44.02</td>
<td>2.70 (1.03)</td>
<td>4.51 (0.76)</td>
</tr>
<tr>
<td>Gross margins</td>
<td>73.08</td>
<td>47.44</td>
<td>43.16</td>
<td>3.35 (1.13)</td>
<td>4.39 (0.90)</td>
</tr>
<tr>
<td>Marketing spending</td>
<td>82.05</td>
<td>61.54</td>
<td>48.29</td>
<td>2.60 (1.17)</td>
<td>4.38 (0.93)</td>
</tr>
<tr>
<td>Discount rate</td>
<td>75.64</td>
<td>50.00</td>
<td>28.21</td>
<td>3.92 (1.21)</td>
<td>3.98 (1.01)</td>
</tr>
<tr>
<td>Market and innovation</td>
<td>77.35</td>
<td>56.41</td>
<td>43.59</td>
<td>3.19</td>
<td>4.29</td>
</tr>
<tr>
<td>Market share</td>
<td>74.36</td>
<td>55.56</td>
<td>46.15</td>
<td>2.83 (1.14)</td>
<td>4.40 (0.74)</td>
</tr>
<tr>
<td>Service/product availability</td>
<td>79.06</td>
<td>58.97</td>
<td>48.29</td>
<td>3.85 (1.14)</td>
<td>4.45 (0.80)</td>
</tr>
<tr>
<td>Price variation</td>
<td>77.35</td>
<td>56.41</td>
<td>41.45</td>
<td>3.60 (1.09)</td>
<td>4.39 (0.79)</td>
</tr>
<tr>
<td>Number of new products</td>
<td>78.63</td>
<td>54.70</td>
<td>38.46</td>
<td>2.91 (1.19)</td>
<td>4.23 (0.88)</td>
</tr>
<tr>
<td>Promotion</td>
<td>75.11</td>
<td>45.73</td>
<td>38.55</td>
<td>3.23</td>
<td>4.07</td>
</tr>
<tr>
<td>Average transaction size</td>
<td>84.62</td>
<td>65.81</td>
<td>48.72</td>
<td>3.55 (1.04)</td>
<td>4.44 (0.74)</td>
</tr>
<tr>
<td>Return on advertising</td>
<td>78.63</td>
<td>45.73</td>
<td>44.44</td>
<td>2.71 (1.05)</td>
<td>4.28 (1.00)</td>
</tr>
<tr>
<td>Purchasing on promotion</td>
<td>67.52</td>
<td>35.47</td>
<td>20.51</td>
<td>2.84 (1.08)</td>
<td>3.83 (1.03)</td>
</tr>
<tr>
<td>Customer referrals</td>
<td>69.66</td>
<td>35.90</td>
<td>17.52</td>
<td>3.25 (1.04)</td>
<td>3.72 (1.01)</td>
</tr>
</tbody>
</table>

Notes: n = 234; *p < 0.05; **p < 0.01.

4 Because the EFA solution and the two factors only included two indicators, confirmatory factor analysis was not applied. We assessed measurement properties on the basis of the EFA and Cronbach alpha results (see Gebauer, 2008).

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To assess the importance of the marketing metrics, as rated by Brazilian managers, we tested a model formed by the four EFA dimensions. With the purpose of attaining parsimony in parameter estimation (due to the sample size), we simplified the data by viewing each dimension as an observed variable associated with a first-order construct. We followed Bagozzi and Edwards’s (1998) recommendations for total aggregation and represented each construct by averaging their respective indicators (Fig. 1). The general model’s fit indexes indicate an acceptable fit (CMIN/DF = 1.272, χ² = 0.280; goodness-of-fit index = 0.995; adjusted goodness-of-fit index = 0.974; Tucker–Lewis index = 0.972, comparative fit index = 0.991; root mean square error of approximation = 0.034). A closer examination of the magnitude of the estimated parameters shows that customer vision (β = 0.577, p < 0.01) and product vision (β = 0.416, p < 0.01) are important marketing metrics. These two components were previously perceived as forming the customer behavior and intermediate-related metrics, thus underlining the role of customer and trading indicators for the assessment of marketing decisions. The financial dimension (β = 0.532, p < 0.01) also portrayed an expressive factor loading, suggesting an elevated relevance of financial measures. Finally, market and innovation (β = 0.381, p < 0.01) had a lower level of relevance when compared with the other dimensions.

6. Discussion and managerial implications

This study constitutes a preliminary attempt to frame how Brazilian managers use marketing metrics and which ones they consider most relevant. There is a wide range of metrics in the literature; thus, this study narrowed down the number of indicators reflecting the Brazilian managerial practice into the following groups: promotion, customer behavior and intermediate, financial, and market and innovation. Overall, the results depict Brazilian managers’ significant knowledge, relevance, and usage of marketing metrics. It is clear that managers resort to a wide range of indicators to assess their firms’ marketing performance. The findings also report a core relevance attributed to customer related metrics, in particular to the “customer satisfaction” measure.

The relevance of customer-related indicators was highlighted when we focused on the (10) most important indicators. Indeed, the aforementioned groupings were confirmed apart from the customer behavior and intermediate group, which was divided into two sub-dimensions: customer vision and product vision. Thus, the findings showed that metrics specifically related to customer vision should be considered in isolation and are of the utmost importance. These results seem to mirror Brazilian companies’ increasing concern with customer satisfaction. This may be partly explained by the development in the 1990s of three governmental programs that aimed to enhance Brazilian companies’ competitiveness and performance in an international context: (1) Brazilian Program of Quality and Productivity, (2) Program for Industrial Competitiveness, and (3) Program for Technological Capabilities. Additional official incentives were assigned to certification programs such as the International Organizational for Standardization (Shankar, 2003). This focus on quality triggered the measurement and monitoring of customer satisfaction, demanding the adoption of market-related metrics (Mello, Silva, Turrioni, & Souza, 2002). Through these programs, Brazilian managers came to understand that customer satisfaction is a route to sustain and

Table 3
Dimensions of marketing metrics (EFA).

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Metric</th>
<th>Factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Financial</td>
<td>Profit/profitability</td>
<td>.803</td>
</tr>
<tr>
<td></td>
<td>ROI</td>
<td>.754</td>
</tr>
<tr>
<td></td>
<td>Sales volume</td>
<td>.617</td>
</tr>
<tr>
<td>Customer vision</td>
<td>Customer satisfaction</td>
<td>.740</td>
</tr>
<tr>
<td></td>
<td>Number of complaints</td>
<td>.724</td>
</tr>
<tr>
<td>Product vision</td>
<td>Brand/product knowledge</td>
<td>.655</td>
</tr>
<tr>
<td></td>
<td>Perceived quality</td>
<td>.779</td>
</tr>
<tr>
<td>Market and innovation</td>
<td>Market share</td>
<td>.843</td>
</tr>
<tr>
<td></td>
<td>Service/product availability</td>
<td>.663</td>
</tr>
</tbody>
</table>

Note: The extraction method applied was principal components analysis, and the rotation method was VARIMAX with Kaiser normalization.

Fig. 1. Model of marketing metrics importance in Brazil. Note: **p < 0.01.
develop (business) relationships (Claro & Claro, 2004; Claro, Claro, & Zylbersztajn, 2005; Rocha & Luce, 2006). Indeed, the referred indicator has been viewed as the strongest market measure when considering total quality programs (Rocha & Luce, 2006).

Interestingly, indicators related to the ‘promotion’ group were not amongst the 10 most relevant. Previous studies suggest that, in Brazil, return on promotion activities is considered to be the most difficult to assess (Grinberg & Luce, 2000). When evaluating communication activities, Brazilian managers tend to focus on awareness, recall and media assessment of a particular campaign or advertisement rather than on the overall communication program (Brasil, Perin, Sampaio, Lacher, & Teitelbaum, 2008; Grinberg & Luce, 2000). Therefore, it seems that promotion measures applied at a more operational level assessing particular events prevail over strategic level evaluation of a whole communication program.

Compared with previous studies, our findings reveal proximity with other emerging economies and some differences regarding the results from the United Kingdom. As the current research highlights, indicators regarding customer vision (entailing customer satisfaction, number of complaints, and commitment/purchase intent) are of the utmost importance to Brazilian managers. These findings differ from those obtained in a similar study conducted in the United Kingdom, where managers attributed the most importance to the financial indicator “profit/profitability.” In China, the most highlighted metrics were linked to “customer behavior” and “customer intermediate” (Ambler & Riley, 2000; Ambler & Xiucun, 2003). Thus, such results are more in line with the results obtained in Brazil. Figs. 2 and 3 summarize, respectively, the findings regarding the importance and utilization of marketing metrics in Brazil, China (Ambler & Xiucun, 2003), and the United Kingdom (Ambler & Riley, 2000).

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Fig. 2. Percentage of managers who rate the metric as “very important”. Sources: UK data (n = 231) – Ambler and Riley (2000); China data (n = 154) Ambler and Xiucun (2003).

Fig. 3. Percentage of managers who reported using the metric. Sources: UK data (n = 231) – Ambler and Riley (2000); China data (n = 154) Ambler and Xiucun (2003).
Several managerial implications can be inferred from our research. A core claim pertains to the relevance of marketing metric measures and their wide-ranging forms and applications. The dimensions and groupings we considered herein may constitute a tool for managers to reflect on the breadth of marketing measures and how applicable they are to specific situations. In particular, this study highlights the measures related to customer behavior and intermediate, promotion, financial, and market innovation. Managers need to discern the metrics’ specific relevance and how useful they are in assisting decision making. It should be noted, however, that any measurement is on-going and calls for permanent monitoring and enhancement.

This study also shows that marketing performance is a multi-dimensional construct. Managers should consider various financial and non-financial indicators and align those indicators with the managerial and functional objectives (Ambler & Roberts, 2008). It is important to consider both short- and long-term perspectives (Leeflang et al., 2009). Ultimately, metrics should be outcome orientated, providing information to (dis-)confirm current decisions and assist future decision making. Such an exercise would help establish overall performance antecedents (Ambler et al., 2004).

The multi-dimensionality of marketing metrics and the higher level of aggregation of the indicators suggest the possibility of combining or decomposing indicators according to the specific information needs. Marketing metrics may serve as input to overall performance metrics (Petersen et al., 2009). In addition, each individual metric may provide different levels of information estimated according to a particular unit of analysis. For example, in a B2B context, it may be worthwhile to compute several metrics per client (e.g., customer retention, customer complaints) or segment, rather than work with the overall values (Seggie et al., 2007).

An additional implication from this study calls for strong knowledge about marketing and non-marketing metrics. The existing multitude of metrics implies the integration of functional metrics with overall management metrics. Marketing managers need to be familiar with the marketing and non-marketing metrics so that they can operationalize, use, and integrate those metrics with other measurements (Ambler & Roberts, 2008; Petersen et al., 2009). Such an understanding is not always visible, and often there is the tendency to use simpler or less adequate measures in the interest of personal knowledge. In particular, marketing managers need to know and be able to disseminate marketing outcomes across functional boundaries so that the marketing practice and value are well understood throughout the company (Petersen et al., 2009).

7. Limitations and future research

This research constitutes a preliminary incursion into marketing metrics and their application by Brazilian managers. Although our survey entailed a probabilistic sampling procedure, the empirical study yielded a limited number of cases per industry specifying the B2B context. This limits the analysis to other business sectors and industries. Nonetheless, our overall model for the most relevant metrics showed distinct weights among the four dimensions of marketing metrics. In addition, although our findings did not show a significant difference in the importance of metrics among the two broad groups of industries (services and manufacturing), the descriptive differences in the rank order of the metrics suggest that industry-specific measures are relevant. Therefore, this study may be considered a platform to the development of more specific and detailed research about marketing metrics and their industry-specific implications.

The results regarding metrics usage and relevance must be interpreted with caution. For example, it is possible that specific indicators are difficult to measure and/or managers do not need to consider them constantly. Future research should address the contextual application of metrics. Moreover, although we thoroughly developed the list of metrics included in our study (refined by the exploratory research), further insights are needed on additional metrics and their operationalizations.

Finally, the research focused on the description and confirmation of the relevance and usage of marketing metrics according to managers’ views. During our exploratory research, Brazilian managers essentially highlighted the usage of metrics based on historical occurrences. Future research might further consider the implications of their utilization—namely, the impact on decision making and, ultimately, on business performance. In addition, the study of the effect of future-oriented metrics (e.g., client future value) with a long-term perspective (see Seggie et al., 2007) would be warranted.

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