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Assessing Performance Outcomes in Marketing

Research in marketing has increasingly focused on building knowledge about how firms' marketing contributes to performance outcomes. A key precursor to accurately diagnosing the value firms' marketing creates is conceptualizing and operationalizing appropriate ways to assess performance outcomes. Yet, to date, there has been little conceptual development and no systematic examination of how researchers in marketing should conceptualize and measure the performance outcomes associated with firms' marketing. The authors develop a theory-based performance evaluation framework and examine the assessment of such performance outcomes in 998 empirical studies published in the top 15 marketing journals from 1981 through 2014. The results reveal a large number of different performance outcome measures used in prior empirical research that may be only weakly related to one another, making it difficult to synthesize findings across studies. In addition, the authors identify significant problems in how performance outcomes in marketing are commonly conceptualized and operationalized. They also reveal several theoretically and managerially important performance areas in which empirical knowledge of marketing's impact is limited or absent. Finally, they examine the implications of the results, provide actionable guidelines for researchers, and suggest a road map for systematically improving research practice in the future.

Keywords: marketing performance, outcome measures, conceptualization, operationalization, guidelines

A central question in the marketing discipline is the role that firms' marketing plays in explaining performance outcomes. Answering this question is critical to ensuring the relevance of academic research (e.g., Reibstein, Day, and Wind 2009) and strengthening marketers' voice in firm-level strategy (e.g., Petersen et al. 2009). As a result, since the early 1980s, hundreds of studies have investigated the impact of various aspects of firms' marketing on performance outcomes. However, to date, the findings remain fragmented and inconclusive (Morgan 2012; Rust et al. 2004). A key reason for this may be the nature, number, and diversity of performance outcome measures employed (e.g., Hult et al. 2008; Krasnikov and Jayachandran 2008). Yet there has been little conceptual development—and no systematic evaluation—of the performance measures employed as dependent variables by marketing researchers. This contrasts with the management literature, in which critical consideration and debate concerning how organizational performance should be assessed has been the focus of much attention (e.g., Combs, Crook, and Shook 2005; March and Sutton 1997; Miller, Washburn, and Glick 2013; Richard et al. 2009).[1]

In this article, we provide such a critical assessment of performance outcomes used in the marketing literature. The raison d'être for this study is that although linking firms' marketing with performance outcomes is a critical issue, scant attention has been devoted to how performance is—and should be—conceptualized and measured. This deficiency has limited knowledge development because researchers have lacked a well-defined, theoretically anchored framework for developing valid measures of the performance outcomes that may be associated with firms' marketing. As a result, researchers have used a range of often ill-defined measures of performance that may not capture the whole domain of the construct. In addition, a plethora of different performance measures have been used across studies, many of which are unlikely to be highly positively correlated with one another. Thus, the measures of performance used across (and sometimes within) studies are often incommensurate,

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[1]The management literature assessments deal primarily with firm-level performance outcomes and, thus, cover only a subset of the performance outcomes of interest to marketing researchers.

ISSN: 0022-2429 (print)
1547-7185 (electronic)

Journal of Marketing
Vol. 80 (March 2016), 1–20
DOI: 10.1509/jm.15.0287

making synthesis across studies and cumulative knowledge development difficult, if not impossible.

To establish the nature and scale of this problem, we first delineate the conceptual domain of marketing performance outcomes and identify the major different types of performance outcomes that may be associated with firms' marketing. In doing so, we provide researchers with a common set of different aspects of performance[2] that may be linked to firms' marketing. Furthermore, we build a theory-based evaluation framework, employing criteria that researchers can use to assess the conceptualization and operationalization of dependent variables measuring marketing performance outcomes. This framework identifies important issues that should be considered and within which explicit choices need to be made when selecting measures of performance outcome in empirical studies. The marketing–performance outcome chain we develop as part of this evaluative framework has important and actionable implications for managers. It also offers important new operational performance "mechanism" insights for researchers in other disciplines (e.g., strategic management, international business) focused on understanding organizational performance.

Second, we employ this evaluative framework to provide a systematic assessment of the performance conceptualizations and measures used in empirical literature that examines the outcomes of firms' marketing. This assessment reveals and calibrates major weaknesses in prior conceptualizations and operationalizations of performance outcomes. We identify ways in which these problems have limited researchers' ability to synthesize findings across studies and to build credible cumulative knowledge of the performance impact of marketing. Our analysis also reveals aspects of marketing performance outcomes about which little is known, providing important opportunities for further research. For example, we show that little is known about the growth outcomes of firms' marketing and also that few studies have examined theoretically important market-based assets, such as brand equity and customer lifetime value (CLV), as performance outcomes.

Third, building on the evaluative framework and the weaknesses and gaps observed in our empirical literature assessment, we identify the discipline-level steps needed to improve the conceptualization and operationalization of performance outcomes in future studies in ways that will allow cumulative knowledge building. We also offer practical new guidelines for how researchers should approach the conceptualization and operationalization of performance outcomes that may be the result of firms' marketing. In addition, we identify major factors that should be considered in making these choices. In doing so, we provide an actionable road map that, if employed, will enhance the contribution to knowledge of future empirical research studies. Even more important, it will enable the synthesis of future empirical findings on the performance outcomes of marketing across studies. This is vital if the marketing discipline is to be able to credibly "prove" the value of firms' marketing assets and activities.

In the following sections, we detail the conceptual model of marketing performance outcomes developed in our study. Then, we explain the evaluative framework built to analyze the measures of marketing performance outcomes in empirical studies. Next, we describe the methods employed in this review, after which we present and discuss the results. Finally, we draw conclusions from this evaluation and highlight directions for further research, along with guidelines for improving performance conceptualization and operationalization.

The Chain of Marketing Performance Outcomes

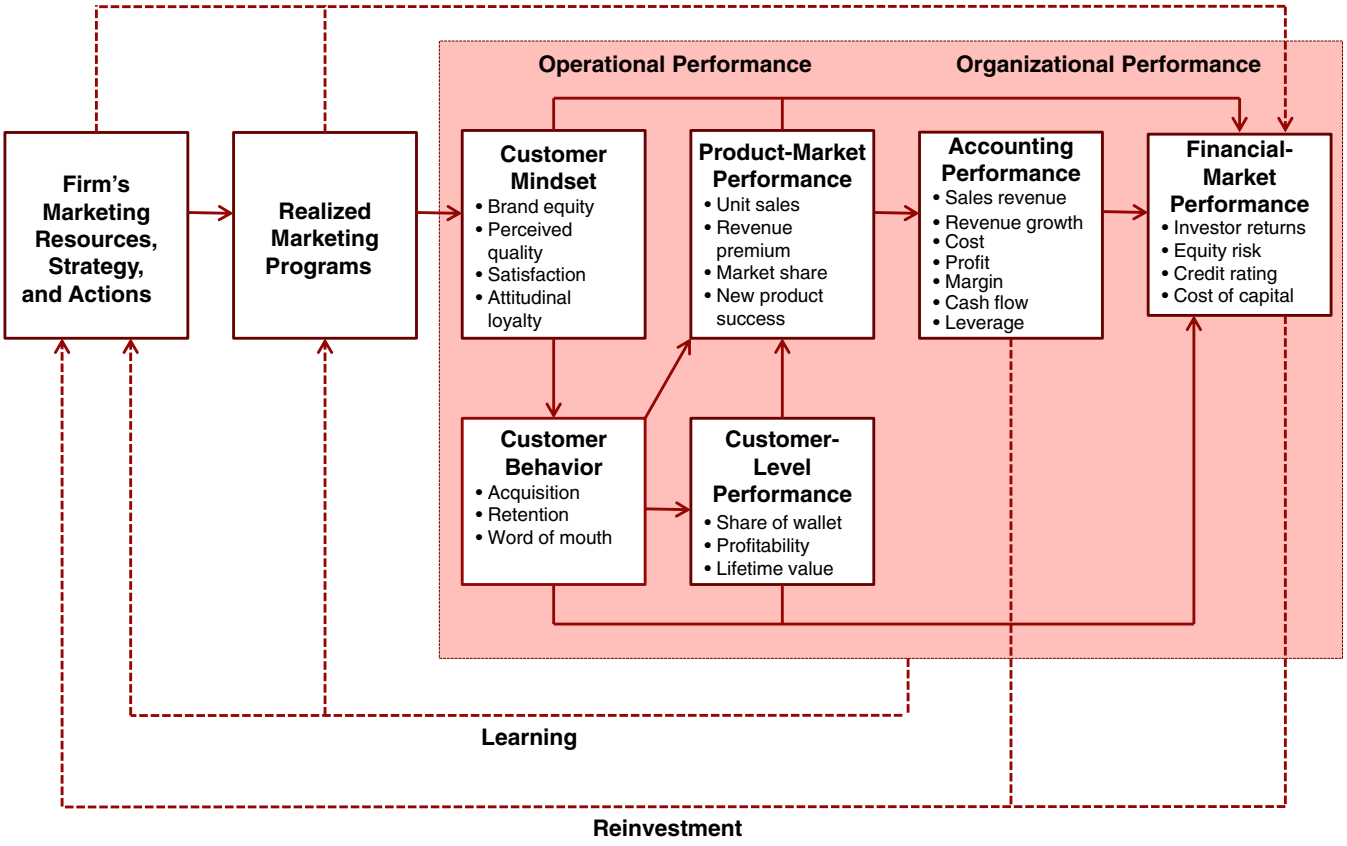
The accepted paradigm for measurement development and theory testing in organizational science holds that (1) the conceptual domain of a construct must be well-defined and understood before operationalization can be attempted and (2) the measures used should represent a valid sample of indicators of the domain of the construct they purport to measure. Here, we view performance outcomes associated with firms' marketing efforts in line with conceptualizations of operational and organizational performance in strategic management[3] (e.g., Hamann et al. 2013; Venkatraman and Ramanujam 1986). From this perspective, *operational* performance refers to the fulfillment of goals within different value-chain activity areas of the firm (e.g., primary activities, such as marketing, and support activities, such as purchasing) that may subsequently lead to *organizational* performance, that is, "the economic outcomes resulting from the interplay among an organization's attributes, actions, and environment" (Combs, Crook, and Shook 2005, p. 261).

Drawing on the conceptual frameworks of Rust et al. (2004), Keller and Lehmann (2006), Petersen et al. (2009), and Morgan (2012), we illustrate in Figure 1 the conceptual model we develop to identify the fundamental steps in the creation of operational and organizational marketing performance outcomes. This begins with firms' marketing resources, strategies, and actions that become manifest in the product marketplace in firms' realized marketing programs (e.g., Rust et al. 2004), which represent the first stage of the operational performance outcomes of firms' value chain activities associated with marketing (Combs et al. 2005; Porter 1985). Only when customers in the product marketplace are exposed to firms' strategic marketing decisions and the deployment of marketing program-related resources to enact these decisions can the firm begin to realize its marketing program value (e.g., Ray, Barney, and Muhanna 2004; Vorhies and Morgan 2005).

[2]Whereas Srinivasan and Hanssens's (2009) review examines analysis approaches from finance that can be used to test linkages between marketing and firm-level value, our focus is on the conceptualization and operationalization of the entire chain of performance outcomes that may be associated with firms' marketing at any level of analysis and on critically assessing performance measures used as dependent variables in empirical studies in marketing.

[3]The conceptual domain of organizational performance can be specified by relating it to the broader construct of organizational effectiveness—the degree to which organizations attain the purposes they are supposed to with respect to the different constituencies they serve (Strasser et al. 1981). Organizational effectiveness encompasses both organizational and operational performance and is also linked to other performance concepts (e.g., corporate environmental or social performance relevant to practice and research) that are beyond the scope of this study.

FIGURE 1
The Marketing–Performance Outcome Chain and Exemplar Measures



The next stage in operational performance outcome realization begins with customers' perceptions of a firm's value offerings, which stem from the firm's marketing program actions, and customers' subsequent behavioral responses (e.g., Keller and Lehmann 2006). Preexisting knowledge of some of the firm's market-based assets may also directly influence customers' perceptions and behaviors. For example, existing brand equity, customer relationships, and perceived firm-category expertise may all influence customer perceptions and behaviors with respect to the firm's realized marketing program (e.g., Brown and Dacin 1997; Homburg, Koschate, and Hoyer 2005). Ceteris paribus, the greater the number of target customers who are aware of the firm's marketing program and perceive it positively with respect to their consumption needs, the greater will be the number of purchase selection decisions favoring the firm's value offering and the more likely will be these customers to be satisfied with their purchase and to engage in positive postpurchase behaviors (e.g., Stahl et al. 2012).

Next, these customer purchase and postpurchase behaviors[4] (e.g., repurchase, word of mouth) result in product-marketplace outcomes. These outcomes may be observed by the supplier firm and calibrated at the level of individual or groups of customers in terms of customer value measures, such as share of wallet, profitability, and CLV (e.g., Petersen et al. 2009; Stahl et al. 2012). These outcomes are also observed and calibrated at a product-market level by individual firms, channel members, and/or industry analysts using measures such as unit sales, market share, and revenue premium (Rust et al. 2004).

For firms selling in a single product marketplace,[5] the outcomes at the product-market level and the financial value of the resources consumed in achieving them collectively determine the firm's subsequent income-statement results for the relevant period, according to standard financial accounting practices (Morgan 2012). These income-statement accounting results include the firm's revenues, margin, and profits. For all types and sizes of firms, these accounting performance outcomes provide the basis for calculating the taxation of the firm's profits. For publicly traded firms, these results are also aggregated into quarterly and annual financial statements reported to investors.

[4]Prepurchase behavior interest indicators (e.g., website visits, signing up to receive catalogs or e-mail offers) are part of realized marketing program outcomes and are not considered customer behavior measures of performance outcomes.

[5]For firms operating in multiple marketplaces, these product-market performance outcomes are aggregated to determine the firm-level income. However, many firms also have internal management accounting systems that allocate costs to provide equivalent measures of accounting performance for income statements at the product-market level.

Investors observe this entire chain of preceding performance outcomes. Along with analysts, they use the level of the firm's current income, the current value of its assets, and their assessment of likely future income and asset value (taking account of likely risks to such future values) to value the firm's stock and debt (e.g., Mizik and Jacobson 2003; Rego, Billett, and Morgan 2009). This valuation is reflected in financial market–based assessments of firm performance in terms of likely rewards (e.g., total shareholder returns) and risks (e.g., stock beta, credit rating). Firms' financial accounting statements contain the majority of the information investors require to determine such valuations. However, as Figure 1 shows, investor valuations may also be directly affected by unexpected changes in indicators of firms' customer mindset, customer behavior, and product-market performance (e.g., Mizik and Jacobson 2008).

The whole marketing–performance outcome chain depicted in Figure 1 is dynamic in two main respects. First, firms reinvest the financial resources they generate to build and maintain their marketing-related (and complementary) resources and capabilities (e.g., Srivastava, Shervani, and Fahey 1998). Second, firms also learn by going through the stages of the marketing–performance outcome chain in ways that lead to adjustments to their selection and management of future marketing resources and marketing program actions (Morgan 2012). However, managers may also change their firms' resource deployments and marketing-related actions in response to observed outcomes at any level of the performance-outcome chain, including financial-market outcomes (e.g., Chakravarty and Grewal 2011).

Evaluative Framework

Analyzing the conceptualization and operationalizations of performance adopted in empirical studies requires a well-defined and theoretically anchored evaluative framework. Table 1 presents an overview of the evaluative framework we adopt for this task. We developed the framework from a comprehensive review of conceptual and empirical contributions to performance outcome assessment in management (e.g., March and Sutton 1997; Richard et al. 2009), international business (e.g., Hitt, Hoskisson, and Kim 1997; Hult et al. 2008), marketing (e.g., Bhargava, Dubelaar, and Ramaswami 1994; Katsikeas, Leonidou, and Morgan 2000), accounting (e.g., Callen 1991; Henri 2004), and strategic management (e.g., Combs, Crook, and Shook 2005; Fryxell and Barton 1990). Synthesizing this literature suggests that a framework for evaluating marketing performance outcomes should consider five critical issues, each of which we subsequently examine in more detail: (1) theoretical rationale, (2) conceptual approach to the treatment of performance, (3) aspects of performance assessed, (4) referents of performance, and (5) time horizon.

Overall, the resulting evaluative framework is more comprehensive than Hult et al.'s (2008) assessment of performance measures in international business, which uses Venkatraman and Ramanujam's (1986) performance measurement framework (i.e., financial, operational, overall effectiveness), source of data (i.e., primary and secondary), and level of analysis (i.e., firm, strategic business unit, interorganizational unit). Likewise, our assessment is broader in terms of operational performance outcomes considered and evaluative criteria used than both Richard et al.'s (2009) review of the multidimensional nature of organizational performance and Miller, Washburn, and Glick's (2013) review of the theoretical and methodological approaches to firm-level performance adopted in management journals. The wider range of performance outcomes we consider and the richer set of evaluative criteria we employ enable us to broaden our analysis and deepen our understanding of the conceptualization and operationalization of performance outcomes of firms' marketing.

Theoretical Rationale

Drawing on Miller, Washburn, and Glick (2013), we consider the key issue of whether performance is formally defined and a rationale provided for the performance conceptualization adopted in the theoretical or conceptual body of each article (as opposed to simply documenting its operationalization in describing the research methods employed). Space constraints may often lead researchers to provide relatively little detail about this in their articles. However, inclusion of a conceptual performance definition and rationale indicates the extent to which researchers thoughtfully evaluated alternatives and selected an appropriate performance conceptualization. For example, Cavusgil and Zou's (1994) study of exporters' marketing strategy and performance provides a rationale for assessing this link at the product-market venture level and for conceptualizing performance as incorporating both economic and strategic aspects. However, the more common approach among researchers is to refer in broad and abstract terms to "performance" in their theorizing and then to select one or more specific variables to measure the construct, with ad hoc or no conceptual logic justifying the performance operationalization choice. Although clearly problematic in terms of scientific rigor, such approaches are also vulnerable to the "file-drawer" criticism that researchers may simply operationalize performance on the basis of the outcome variables that post hoc provide the strongest empirical results.

Conceptual Approach

How researchers theoretically view the performance construct has obvious implications for the way performance should be empirically assessed. This may be revealed in an explicit definition of and theoretical rationale for the choice, as depicted earlier. More often, however, it is implicit and reflected only in the language used in theorizing about performance and the details provided about its operationalization. Regardless, Miller, Washburn, and Glick (2013) identify three major conceptual approaches that we employ in our evaluation. First, researchers may take a latent conceptualization in which they view performance as a superordinate general phenomenon that exists at a more abstract level than its elements or dimensions. From this perspective, performance may be assessed as shared variance among indicators of its components. For example, Vorhies and Morgan (2005) view firm performance as the shared variance

TABLE 1
Evaluative Framework of Marketing-Performance Assessment

Classifier Variable	Definition	Representative Measures Used in Prior Research[a]
Theoretical Rationale	Whether performance is formally defined and conceptual rationale provided in the conceptual part of the article	
Provided	Definition and rationale for the conceptualization of performance offered	ROA, ROE, market share change
Not provided	Definition and rationale for the conceptualization of performance not offered	ROA, ROE, market share change
Conceptual Approach	How the performance construct is viewed theoretically and treated empirically	
Latent construct	Entails a general conception of performance and assumes that its various elements or dimensions are to a large extent linked and that they covary	New product performance
Separate constructs	Distinct aspects or dimensions of performance exist, but theoretical arguments and empirical analyses pertain to specific aspects or dimensions	Sales revenue and cash flows
Aggregate construct	Viewed as a well-defined composite or mathematical combination of various performance items or dimensions, which are not assumed to covary	Composite of ROA, ROS, and market-to-book ratio
Aspects of Performance	Type of performance outcome assessed	
Customer mindset	Customer perceptions of and attitudes toward the firm and its value offering	Customer satisfaction
Customer behavior	Observed customer purchase and postpurchase behaviors pertaining to the firm and its value offering	Customer retention
Customer-level performance	Economic outcomes for the firm of the behavior of individuals or groups of customers	Share of customer "wallet"
Product-market performance	Performance outcomes achieved (e.g., unit sales, penetration) in the marketplace in which the product is offered	Market share
Accounting performance	Financial performance outcomes specified in the firm's financial statements and reports	ROA
Financial-market performance	Performance as reflected in stockholder or debtholder markets (including market analysts)	Total shareholder returns
Referents	Standard against which performance is judged	
Absolute	Performance outcome assessed as a stand-alone variable, not viewed in relation to any referent	Profits
Temporal	Performance outcome viewed relative to performance on the same criterion at some point in the past or to expected performance at some point in the future	Margin growth
Inputs	Performance outcome viewed relative to the resources consumed (i.e., efficiency with which the outcome is achieved)	ROI
Competition–industry	Performance outcome assessed relative to performance on the same outcome of rivals or other firms operating in the same industry	ROI relative to those of competitors
Firm's goals	Performance outcome assessed relative to the firm's desired or planned performance levels on the same outcome	Sales volume relative to set goal
Stock market	Firm's stock price relative to that of the entire stock market during the same period	Abnormal stock returns
Time Horizon	Temporal perspective reflected in the outcome measure	
Historical	Assessment of performance over a specified period in the past relative to that of the independent variables	ROS over past three years
Current	Performance outcome data representing the same time period as that of the independent variables	Overall performance at current period
Future	Assessment of performance over a specified future period relative to that of the independent variables	Expected new product performance over next five years

[a]A list of example articles using each of these representative measures is available from the authors on request.
Notes: ROA = return on assets; ROE = return on equity; ROS = return on sales; ROI = return on investment.

among indicators of profitability, customer satisfaction, and market effectiveness dimensions. Second, researchers may view performance as comprising separate constructs that are loosely related as members of the domain of the overall performance construct and focus their theorizing and assessment on one or more of the specific aspects of performance. For example, in their study of CLV and customer equity, Kumar and Shah (2009) conceptualize and select

market capitalization as their ultimate performance outcome variable. Third, researchers may view performance as an aggregate composite of its dimensions (which may or may not covary) and focus their theoretical arguments and assessment on the mathematical combination of various specified dimensions. For example, Interbrand mathematically combines a number of different aspects of brand equity to compute a dollar brand value, which some studies have used as a marketing performance outcome (e.g., Ratnatunga and Ewing 2009).

Aspects of Performance

Aspects of performance concern the type of performance outcome assessed (Morgan, Clark, and Gooner 2002; Richard et al. 2009). Drawing on the chain of marketing performance outcomes described previously and depicted in Figure 1, we identify six key aspects of performance that may be assessed in empirical studies: (1) customer mindset outcomes—customer perceptions and attitudes regarding the firm and its value offering (e.g., brand equity, customer satisfaction); (2) customer behavior outcomes—customer purchase and postpurchase behaviors toward the firm and its value offerings (e.g., customer retention, word of mouth); (3) customer-level performance outcomes—economic outcomes for the firm that concern the behavior of individuals or groups of customers (e.g., customer profitability, CLV); (4) product market performance outcomes—how the product performs in the marketplace in which it is offered (e.g., unit sales, market share); (5) accounting performance outcomes—financial outcomes reported in the firm's financial statements and reports (e.g., profitability, return on assets [ROA]); and (6) financial-market performance outcomes—outcomes reflected in indicators related to stock or debt markets (e.g., total shareholder returns, bond ratings). We use these categories to capture the aspects of marketing performance used in empirical studies.

Referents of Performance

Referents are standards against which performance is assessed (Morgan, Clark, and Gooner 2002). By determining the performance standard, the selection of a referent significantly affects the performance level observed (Cameron 1986; Lewin and Minton 1986) and the way a given outcome should be interpreted (Chakravarthy 1986). Therefore, it is essential that researchers explicitly choose referents based on the theory underlying the research model being tested (Walker and Ruekert 1987). Consequently, we examine the implicit and explicit referents against which performance is assessed in empirical studies using six common nonexclusive standards: (1) absolute—the absence of any explicit or implicit referent (e.g., sales revenue); (2) relative to inputs—observed outcomes relative to the resources deployed in achieving them (e.g., ROA); (3) temporal—outcomes relative to performance on the same criteria in other time frames (e.g., change of sales in last five years); (4) competition–industry—observed outcomes relative to others (e.g., return on investment [ROI] compared with industry average); (5) firm goals—the extent to which planned performance outcomes are achieved (e.g., sales revenue compared with plan); and (6) stock market—the extent to which stock-related performance outcomes differ from those of the whole stock market (e.g., abnormal stock returns).

Time Horizon

Time horizon concerns the temporal period adopted in the measurement of performance (Lubatkin and Shrieves 1986; Steers 1975). The majority of studies to date that examine marketing's performance outcomes have used cross-sectional research designs, which rely on theoretical rather than empirical demonstrations of causality. Consequently, if researchers adopt cross-sectional designs and wish both to minimize the influence of "unobservables" (Jacobson 1990) and to maximize the theoretical causal links between independent variables and dependent variables measuring performance, the use of appropriate time orientations for performance measurement is vital (e.g., Richard et al. 2009). We identify three distinct time orientations for measuring performance outcomes (relative to predictor independent variables) in the literature: (1) historical, (2) current, and (3) future (e.g., Katsikeas, Leonidou, and Morgan 2000). We use these categories in our evaluation of the empirical literature that assesses marketing's performance outcomes.

Methodology

Scope of Study

To assess the measures of marketing-performance outcomes used in the literature, we established a set of study-eligibility criteria. Articles eligible for inclusion had to (1) examine performance outcomes resulting from possession and deployment of firms' marketing resources (e.g., brand equity, customer relationships) and/or program-related activities (e.g., advertising, new product development)[6]; (2) be empirical in nature, using primary and/or secondary data, as opposed to purely conceptual studies; (3) identify at least one marketing-related independent variable associated with at least one dependent variable measuring performance outcomes; and (4) be published during the 1981–2014 period, because only a handful of studies of the performance outcomes of marketing were conducted before this period (see Yadav 2010).

We excluded reviews of empirical research, meta-analyses that involve marketing performance outcomes, and studies that treat performance purely as an independent variable. We also excluded studies that focus on individual employee outcomes, such as salesperson performance. Furthermore, we excluded idiosyncratic performance outcomes, such as trade show and store configuration performance, and industry-specific outcomes with no obvious cross-industry comparable (e.g., museum attendance, physician prescribing behavior, charitable

[6]Although there is marketing literature on choice modeling and some of these studies include firm actions (e.g., advertising), they adopt a consumer perspective and examine consumer decision making rather than brand choice as an aspect of firm performance. With our focus on the firm's perspective and on assessing performance outcomes resulting from its marketing resources, strategies, and actions, we exclude these studies from our sample.

donations). Finally, studies examining simulated or industry-level performance were ineligible.

To ensure the representativeness, completeness, and high quality of studies included in our review, we drew on Baumgartner and Pieters's (2003) study of the influence of marketing journals to develop a list of scholarly outlets. Five academic researchers knowledgeable of the marketing literature served as expert judges to assess the appropriateness of each of the 20 most influential journals in Baumgartner and Pieters's (2003) study for our review study. This process led to the inclusion of 15 journals (see Appendix A). We conducted a systematic issue-by-issue search for empirical articles that examine performance outcomes in marketing in each of these journals, which led to the identification of 998 articles that meet the study's eligibility criteria.

Coding

We followed procedures recommended in the literature to develop the database for this study (e.g., Kolbe and Burnett 1991; Lipsey and Wilson 2001). To achieve accuracy, clarity, and thoroughness in our assessment and to minimize coding errors, we developed a protocol that specified the information to be extracted from each article using a four-step approach. First, we created a draft list of marketing performance indicators identified in the literature, together with items operationalizing each of the evaluative criteria employed in our assessment framework (i.e., theoretical rationale, conceptual approach, aspects of performance, referents used, and time horizon) and key data-collection and research-scope issues (i.e., market context, time frame, source of data, and mode of assessment). The draft protocol contained the evaluative criteria and specific items or classifier categories within each criterion specified in Table 1, as well as the method-related characteristics listed in Appendix B. We detail the coding of the theoretical and methodological approaches to performance in Appendix C. Second, we selected and evaluated a random sample of 25 articles using this draft coding protocol and made refinements to ensure accurate and meaningful codification. Third, four marketing scholars examined the thoroughness, precision, and clarity of the evaluative criteria, method-related characteristics, and classifier categories, and revisions and improvements were made to ensure an unambiguous coding scheme. Fourth, we pretested the revised protocol using two expert judges, who independently evaluated another 20 randomly selected articles. Full consistency was attained between the judges, ensuring the precision, meaningfulness, and reliability of our coding process.

The finalized coding protocol comprised four parts. The first part contained a list of 59 performance indicators classified into 14 groups relating to customer mind-set (6), customer behavior (4), customer-level outcomes (4), sales (3), share (3), product (5), brand (2), revenue (3), profit (9), cost (3), cash flow (4), return (6), risk (3), and company (4) items, as well as miscellaneous items. The second part focused on the evaluative criteria assessing the theoretical rationale (2) and conceptual (3) and methodological (3) approaches to performance adopted. The third part referred to our evaluative criteria pertaining to aspects of performance (6), referents (6), and time horizon (3) and the data-collection and research-scope issues of market context (2), mode of assessment (2), source of data (2), and time frame (3) in the measurement of performance. The fourth part included drivers of performance examined to ensure that performance was treated as a dependent variable in each of the articles identified. Because of the wide-ranging diversity of these drivers of performance, we did not precode them but kept them in an open-ended format.

Two experienced researchers carried out the coding of each of the 998 eligible articles, under the supervision of the lead investigator, who had extensive knowledge of coding procedures. The coders underwent training on administering the coding protocol and participated in a coding exercise, each independently coding 25 randomly selected articles, to ensure that the procedure was clear and well understood. The coding process involved four steps. First, the two coders, working independently of each other, transferred the relevant information in each article onto the coding protocol form. Second, we carefully checked and edited all coding protocols to ensure that they were fully and appropriately completed. Third, we compared all protocols completed by the two coders. Intercoder agreement ranged from 89% to 100%, indicating a highly reliable coding process. Any remaining discrepancies between the two coders were discussed with the lead investigator to reach consensus. Fourth, the lead investigator coded another 30 randomly selected articles, and the results were fully consistent with those of the two coders, enhancing confidence in the reliability of the evaluation procedure in this study.

Results

Theoretical Rationale and Conceptual Approach

Table 2 contains the summary statistics concerning the evaluative criteria used to assess the performance outcomes employed in the empirical studies examined. Perhaps most striking is that less than 10% of all studies (11% in the top marketing journals[7]) explicitly provide a clear definition and theoretical justification for the adopted conceptualization of marketing performance. A recent review of leading management journals found similar results, with less than 8% of the studies in management providing "formal definitions or explanations regarding the nature of firm performance" (Miller, Washburn, and Glick 2013, p. 955). In terms of the conceptual approach adopted, our analysis shows that the majority of studies employ a latent-construct conceptualization, whereas a large minority adopt a domain of separate-constructs approach. In contrast, the number of studies using an aggregate performance-construct conceptualization is negligible.

Additional analysis indicates that one-fifth of the less than 10% of studies that do provide an explicit conceptualization

[7]This nomenclature is widely used to distinguish *Journal of Marketing*, *Journal of Marketing Research*, *Journal of Consumer Research*, and *Marketing Science* among marketing academics. However, we did not find a single article published in *Journal of Consumer Research* that met the study's eligibility criteria (see Appendix A).

TABLE 2
Assessment of Marketing Performance Measures in Published Studies, 1981–2014

Classifier Variable	Total n = 998 (315)	Period 1981–1994 n_1 = 99 (43)	1995–2004 n_2 = 234 (83)	2005–2014 n_3 = 665 (189)
Theoretical Rationale				
Provided	9.7 (10.8)	12.1 (11.6)	12.4 (6.0)	8.4 (12.7)
Not provided	90.3 (89.2)	87.9 (88.4)	87.6 (94.0)	91.6 (87.3)
Conceptual Approach				
Latent construct	55.4 (33.7)	36.4 (25.6)	59.8 (53.0)	56.6 (27.0)
Separate constructs	44.5 (66.3)	63.6 (74.4)	40.2 (47.0)	43.2 (73.0)
Aggregate construct	.1 (—)	— (—)	— (—)	.2 (—)
Agreement between conceptual approach and operationalization	83.2 (86.3)	70.7 (79.1)	76.9 (80.7)	87.2 (90.5)
Aspects of Performance				
Customer mindset	14.6 (13.3)	4.0 (4.7)	17.1 (13.3)	15.3 (15.3)
Customer behavior	12.2 (11.7)	5.1 (4.7)	16.7 (14.5)	11.7 (12.2)
Customer-level performance	4.9 (5.7)	1.0 (—)	2.6 (6.0)	6.3 (6.9)
Product-market performance	36.2 (26.7)	35.4 (32.6)	41.5 (36.1)	34.4 (21.2)
Accounting performance	63.7 (51.7)	63.6 (58.1)	68.8 (57.8)	62.0 (47.6)
Financial-market performance	15.0 (24.1)	5.1 (4.7)	9.8 (15.7)	18.3 (32.3)
Referents				
Absolute	51.3 (55.6)	57.6 (67.4)	49.1 (49.4)	51.1 (55.6)
Inputs	62.3 (54.3)	64.6 (55.8)	64.1 (56.6)	61.4 (52.9)
Temporal	26.5 (18.7)	24.2 (18.6)	27.4 (15.7)	26.5 (20.1)
Competition–industry	35.9 (21.9)	32.3 (23.3)	41.0 (31.3)	34.6 (17.5)
Firm's goals	9.9 (6.7)	2.0 (4.7)	14.1 (12.0)	9.6 (4.8)
Stock market	14.7 (22.5)	4.0 (—)	10.7 (18.1)	17.7 (29.6)
Time Horizon				
Historical	19.8 (18.7)	22.2 (16.3)	22.2 (18.1)	18.6 (19.6)
Current	85.0 (87.0)	75.8 (88.4)	84.2 (84.3)	86.6 (87.8)
Future	11.5 (19.0)	7.1 (2.3)	13.7 (22.9)	11.4 (21.2)

Notes: Values are percentages. Data in parentheses pertain only to the top three marketing journals (*Journal of Marketing*, *Journal of Marketing Research*, and *Marketing Science*).

and justification of marketing performance subsequently employ performance operationalizations that are inconsistent with the conceptualization detailed by the researchers. Thus, the vast majority of studies covered in our review (>92%) either fail to provide a clear definition and rationale for the conceptualization of performance adopted or are inconsistent across their conceptualization and operationalization of performance.

Aspects and Measures of Marketing Performance

Table 2 reveals that to date, the accounting and product-market aspects of performance have dominated research on the performance outcomes of marketing. To provide further insights, we also undertook a more detailed examination of the measures most commonly used within each aspect of performance (Table 3). We find that the most widely used measures of marketing performance outcomes are accounting indicators of profit and sales revenue and market share, which is a product-market performance indicator. The performance outcome indicators growing most rapidly in use in the past decade are in the areas of financial-market returns (e.g., abnormal stock returns, Tobin's q, total shareholder returns) and—from a very low base—customer-level performance outcomes. Overall, this pattern suggests a rapid rise in interest in the financial performance outcomes of marketing, with particular emphasis on shareholders. In terms of the different aspects of performance outcomes used in empirical studies, the descriptive results of our analysis, which we detail next, are also revealing.

Customer-based measures. Although the proportion of studies using customer-based performance measures has diminished slightly in the past decade, more than 23% of all studies examined still use these measures. Within the customer mindset aspect of performance, customer satisfaction is the dominant measure used. In contrast, few studies have used brand equity as a measure of performance outcomes. Likewise, performance measures relating to customer behavior have been dominated by retention, with only recent attention focusing on acquisition. In terms of customer-level outcomes, despite increased conceptual attention to the financial value of a firm's customers (e.g., Gupta, Lehmann, and Stuart 2004) and developments in how this value might be best assessed (e.g., Kumar 2008; Venkatesan and Kumar 2004), relatively few studies have included measures in this domain (e.g., CLV) as dependent variables measuring performance outcomes. Overall, this suggests that little is

TABLE 3
Frequency of Use of Marketing Performance Measures in Published Studies, 1981–2014

Aspect of Performance and Measure	Total n = 998 (315)	Period 1981–1994 n_1 = 99 (43)	1995–2004 n_2 = 234 (83)	2005–2014 n_3 = 665 (189)
Customer Based	23.5 (22.2)	10.1 (9.3)	26.9 (22.9)	24.4 (24.9)
Customer Mindset	14.6 (13.3)	4.0 (4.7)	17.1 (13.3)	15.3 (15.3)
Satisfaction	10.8 (7.9)	2.0 (2.3)	13.2 (8.4)	10.8 (9.0)
Perceived quality	1.2 (1.3)	— (—)	2.6 (3.6)	.9 (.5)
Perceived value	2.1 (2.5)	— (—)	1.7 (2.4)	2.6 (3.2)
Attitudinal loyalty	1.9 (2.9)	— (—)	2.1 (2.4)	2.1 (3.7)
Brand equity	1.0 (.6)	1.0 (2.3)	.4 (—)	1.2 (.5)
Other	.4 (—)	1.0 (—)	— (—)	.5 (—)
Customer Behavior	12.2 (11.7)	5.1 (4.7)	16.7 (14.5)	11.7 (12.2)
Acquisition	3.0 (1.9)	— (—)	2.1 (2.4)	3.8 (2.1)
Retention	7.7 (7.3)	3.0 (—)	12.8 (13.3)	6.6 (6.3)
Word of mouth	1.8 (2.9)	2.0 (4.7)	1.7 (1.2)	1.8 (3.2)
Other	2.3 (2.9)	— (—)	1.7 (2.4)	2.9 (3.7)
Customer-Level Performance	4.9 (5.7)	1.0 (—)	2.6 (6.0)	6.3 (6.9)
Share of wallet	1.5 (1.6)	1.0 (—)	.9 (2.4)	1.8 (1.6)
Profitability	.9 (1.6)	— (—)	.4 (1.2)	1.2 (2.1)
CLV	.5 (1.0)	— (—)	.4 (1.2)	.6 (1.1)
Other	2.0 (1.6)	— (—)	.9 (1.2)	2.7 (2.1)
Product Market	36.2 (26.7)	35.4 (32.6)	41.5 (36.1)	34.4 (21.2)
Sales Related	8.0 (8.6)	9.1 (7.0)	9.4 (7.2)	7.4 (9.5)
Unit sales	6.1 (7.6)	9.1 (7.0)	6.8 (6.0)	5.4 (8.4)
Unit sales growth	1.7 (1.0)	— (—)	3.0 (1.2)	1.5 (1.1)
Other	.8 (—)	— (—)	1.3 (—)	.8 (—)
Share Related	29.0 (16.5)	25.3 (16.3)	33.3 (27.7)	28.0 (11.6)
Market share	25.2 (15.2)	24.2 (16.3)	29.9 (25.3)	23.6 (10.6)
Market share growth	4.2 (1.6)	3.0 (2.3)	3.4 (2.4)	4.7 (1.1)
Other	1.4 (1.0)	1.0 (—)	3.8 (3.6)	.6 (—)
Product Related	9.0 (3.8)	7.1 (9.3)	12.9 (3.6)	8.3 (2.6)
Product performance	.6 (.3)	— (—)	.4 (1.2)	.8 (—)
New product success	3.8 (2.2)	2.0 (2.3)	7.7 (3.6)	2.8 (1.6)
New product intro/development	2.2 (.6)	1.0 (—)	1.7 (—)	2.6 (1.1)
New product time to market	1.3 (.6)	1.0 (2.3)	1.7 (1.2)	1.2 (—)
Other	4.2 (1.0)	3.0 (4.7)	5.1 (1.2)	4.1 (—)
Brand Related	.2 (—)	— (—)	— (—)	.3 (—)
Revenue premium	.3 (—)	— (—)	— (—)	.5 (—)
Other	— (—)	— (—)	— (—)	— (—)
Accounting	63.7 (51.7)	63.6 (58.1)	68.8 (57.8)	62.0 (47.6)
Revenue Related	41.3 (31.4)	33.3 (32.6)	43.6 (32.5)	41.7 (30.7)
Sales revenue	24.1 (20.3)	19.2 (20.9)	24.4 (24.1)	24.8 (18.5)
Sales revenue growth	16.8 (8.3)	11.1 (9.3)	17.5 (4.8)	17.4 (9.5)
Other	4.7 (4.1)	9.1 (4.7)	8.5 (6.0)	2.7 (3.2)
Profit Related	53.3 (38.4)	62.6 (55.8)	57.3 (47.0)	50.5 (30.7)
Profit/profitability	32.6 (23.8)	30.3 (27.9)	36.4 (33.7)	31.7 (18.5)
Profit/profitability growth	4.8 (1.9)	1.0 (—)	2.6 (2.4)	6.2 (2.1)
Profit margin	6.4 (3.5)	3.0 (—)	7.7 (8.4)	6.5 (2.1)
ROI	18.6 (11.4)	22.2 (18.6)	24.8 (16.9)	15.9 (7.4)
ROA	11.0 (8.3)	16.2 (11.6)	9.0 (10.8)	11.0 (6.3)
Return on equity	1.2 (1.6)	4.0 (4.7)	.9 (—)	.9 (1.6)
Return on sales	6.4 (3.2)	4.0 (2.3)	7.7 (6.0)	6.3 (2.1)
Return on capital	.6 (.3)	1.0 (2.3)	.4 (—)	.6 (—)
Other	2.8 (2.2)	4.0 (2.3)	3.4 (2.4)	2.4 (2.1)
Cost Related	2.9 (2.5)	1.0 (2.3)	1.3 (—)	3.8 (3.7)
Cost control	.8 (.3)	— (—)	.9 (—)	.9 (.5)
Cost reduction	1.0 (.3)	— (—)	— (—)	1.5 (.5)
Other	1.3 (1.9)	1.0 (2.3)	.4 (—)	1.7 (2.7)

TABLE 3
Continued

Aspect of Performance and Measure	Total n = 998 (315)	Period 1981–1994 n_1 = 99 (43)	1995–2004 n_2 = 234 (83)	2005–2014 n_3 = 665 (189)
Cash Flow Related	3.7 (3.2)	3.0 (—)	2.6 (1.2)	4.2 (4.8)
Cash flow	3.2 (1.9)	3.0 (—)	2.6 (1.2)	3.5 (2.6)
Cash flow growth	.1 (.3)	— (—)	— (—)	.2 (.5)
Cash flow volatility	.5 (1.3)	— (—)	— (—)	.8 (2.1)
Other	.4 (.6)	— (—)	(—)	.7 (1.1)
Financial Market	15.0 (24.1)	5.1 (4.7)	9.8 (15.7)	18.3 (32.3)
Returns Based	14.2 (22.5)	5.1 (4.7)	9.8 (15.7)	17.1 (29.6)
Tobin's q	3.9 (4.8)	— (—)	2.1 (4.8)	5.1 (5.8)
Short-term abnormal stock returns	3.9 (7.6)	1.0 (—)	3.4 (6.0)	4.5 (10.1)
Long-term abnormal stock returns	2.8 (5.4)	— (—)	1.7 (1.2)	3.6 (8.5)
Total shareholder returns	2.3 (4.4)	3.0 (2.3)	1.7 (2.4)	2.4 (5.8)
Market-to-book ratio	1.3 (1.6)	— (—)	.4 (1.2)	1.8 (2.1)
Other	2.2 (2.5)	1.0 (2.3)	.9 (—)	2.9 (3.7)
Risk Based	1.5 (3.2)	— (—)	— (—)	2.3 (5.3)
Systematic equity risk	1.1 (2.5)	— (—)	— (—)	1.7 (4.2)
Unsystematic equity risk	.3 (1.0)	— (—)	— (—)	.5 (1.6)
Other	.8 (1.6)	— (—)	— (—)	1.2 (2.6)
Company	12.8 (6.7)	9.1 (14.0)	13.7 (8.4)	13.1 (4.2)
Company growth	3.9 (3.5)	3.0 (7.0)	5.1 (3.6)	3.6 (2.6)
Company image/reputation	2.0 (.3)	2.0 (—)	2.2 (1.2)	2.0 (—)
Overall performance	5.9 (3.5)	3.0 (4.7)	6.8 (6.0)	6.0 (2.1)
Other	3.3 (1.3)	2.0 (4.7)	3.8 (1.2)	3.3 (.5)
Miscellaneous	11.3 (7.9)	14.1 (9.3)	13.2 (9.6)	10.2 (6.9)

Notes: Values are percentages. Data in parentheses pertain only to the top three marketing journals (*Journal of Marketing*, *Journal of Marketing Research*, *and Marketing Science*).

empirically known about what *drives* brand equity and CLV—which is the main question of interest to managers and central to theoretical explanations that link marketing with firm performance and value (e.g., Kumar and Shah 2009; Srivastava, Shervani, and Fahey 1998).

Product-market measures. The most widely used performance indicator at the product-market level in our sample of empirical studies is market share, being much more common than product-based (e.g., unit sales) or brand-related (e.g., revenue premium) measures. This may be due to the relatively easier access to the data required for computing firms' dollar market share. However, Table 3 also reveals that market share has been a relatively less popular performance measure in the past decade (particularly in the top three journals). This may be a function of an unresolved academic debate in the 1980s and 1990s about the "true" accounting performance value of market share (e.g., Boulding and Staelin 1993; Jacobson and Aaker 1985). However, managers still widely use market share as a marketing performance goal and measure (e.g., Farris et al. 2006).

Accounting measures. Measures related to profit and sales revenue are the two most widely used accounting performance outcome indicators. Although the proportion of studies using "return-on" profit measures is still significant, Table 3 reveals a recent drop in this use. This may be due to the fact that, as Ambler and Roberts (2008) observe, in most circumstances, firms maximize profit ROI before they maximize absolute profit. Thus, return-on measures reflect the efficiency with which profits are produced rather than the level of profits achieved. We also observe a consistently small number of studies employing cash-flow measures of performance. This is surprising given the advantages of cash flow over other profitability measures noted in the accounting literature (e.g., Dechow, Kothari, and Watts 1998; Eckbo and Smith 1998). Furthermore, cash flow is the basis of the predominant conceptual model for linking marketing with firm performance over the past 20 years (Gruca and Rego 2005; Srivastava, Shervani, and Fahey 1998).

Similarly, we observe a small number of studies using cost-related performance measures. The conventional wisdom in accounting policy is that marketing is an expense and increases firms' costs (e.g., Mizik and Nissim 2011). However, recent work on CLV (e.g., Krasnikov, Jayachandran, and Kumar 2013) and brand equity (e.g., Rego, Billett, and Morgan 2009) has suggested that marketing can reduce firms' costs—not least in terms of reducing the expenditures required to provide the same product-market outcomes. This is clearly an important area for further research.

Financial-market measures. Our analyses reveal a rapid recent rise in the use of stock market–related measures of performance, driven largely by the top three marketing journals of the past decade. This reflects a renewed emphasis

on shareholder value and the emergence of the "marketing–finance interface" research stream (e.g., Rust et al. 2004; Srinivasan and Hanssens 2009). However, Table 3 also shows that the new focus on returns to stockholders has greatly eclipsed attention to debtholders (i.e., bond prices and yields)—with an insufficient number of articles published to enable us to calibrate debt market–related measures as a separate indicator type in our results. Yet the value of the world's debt markets is equivalent to that of stock markets, and finance theory asserts that both markets are equally valid and important to corporate finance. This suggests another area for further research on performance outcomes in marketing.

In the past decade, researchers have also begun examining risk-related performance outcomes of marketing. Yet almost all the risk measures used to date have been related to financial markets and based on stock price or accounting cash-flow volatility. Few studies have used debtholder-related risk measures (e.g., credit ratings) that focus on investor assessments that firms will be able to repay debts. This means that whereas relatively little is known about the risk performance outcomes of marketing in general, more is known about financial market–related and accounting variability–related risk (movements in a firm's equity prices or cash flow) than about vulnerability-related risk (probability of loss or failure). Yet vulnerability-related risk is how most managers conceive of risk when making internal investment decisions (e.g., Ruefli, Collins, and Lacugna 1999). This suggests another fruitful area for future investigation.

Beyond these findings regarding the use of specific measures of different aspects of performance, one other noteworthy finding shown in Table 3 is the relative infrequency of the use of growth-related measures across all aspects of performance. Yet growth is a key (and frequently tracked) goal in most firms (e.g., Farris et al. 2006). Of the very small number of growth measures that studies have used, the overwhelming majority pertains to sales.[8] Lehmann and Winer (2009, p. 261) argue that growth matters—maybe more than anything else—and that linking marketing with profitable growth is required for marketers to gain a "seat at the [top] table". Thus, we need to know more about not just sales growth but also margin and profit growth.

Referents and Time Horizon of Assessment

Referents. Measures that are relative to inputs (e.g., ROI) and absolute measures (i.e., those with no referent, such as sales revenue) dominate in published studies of marketing performance outcomes (see Table 2). A much smaller number of measures have been assessed relative to competitors or industry averages—predominantly, studies using market share. From an industry-average perspective, this may be accomplished to some degree in cross-industry samples by including industry controls in the analyses. However, this is more difficult to do from a competitor referent perspective because standard controls typically assess the degree of competition (e.g., Hirschman–Herfindahl index), and firms typically do not "compete" with every other firm in an industry but rather view some subset as their "competitive set." Only approximately one-quarter of the measures use temporal referents—those relative to a different time period on the same aspect of performance. Yet most financial accounting statements show prior-period comparisons, and these comparisons are widely reported in the financial press and used by managers and investors.

Another issue of concern is the small number of studies adopting goal-related referents, which might be due to the difficulty in operationalizing such referents using secondary data. The lack of knowledge of marketing's impact on goal-related performance outcomes is problematic because it forces researchers to either assume (implicitly or explicitly) what firms' goals might be or to adopt more "goal-agnostic" financial-market performance measures (e.g., Germann, Ebbes, and Grewal 2015). In the former case, this may lead to considerable "noise" in data sets or even erroneous and misleading results, when different firms are seeking to achieve different goals. For example, assessing retailers' performance in terms of absolute or relative profitability while assuming that Amazon.com's marketing actions are designed to maximize short-term profitability or beat the retail industry average profitability would clearly be inaccurate. In the latter case, the error may lead to the adoption of more causally distant firm-level performance measures and reduce the likelihood of finding expected relationships. The most commonly adopted goal-based perspectives on marketing performance have been those that use survey questions regarding the extent to which firms achieved their objectives on various criteria. The relative decline of survey-based research designs in articles in the top marketing journals may be problematic in this regard (note the rapid decline of goal-based referents in the top three journals, as shown in Table 2).

Time horizon. Table 2 shows that current-period performance (e.g., operationalizations "over the past 12 months") is the dominant time horizon, which is used more than four times as often as historical time frames. The relative popularity of current-period performance operationalizations may be partly due to the difficulty of capturing future time frames for researchers using primary data. The fact that almost 20% of the studies use historical measures of performance outcomes may be surprising because it is difficult to conceive of any benefit in linking marketing-related independent variables with prior performance outcomes. This appears to be mainly an unintended consequence of researchers using multiyear averaging of performance outcome variables to "smooth out" idiosyncratic changes and including data from years that precede the data indicators of the independent variables. Table 2 also shows that the adoption of future time horizons in performance assessments remains low. Studies that adopt this time frame often do so as a result of the use of stock-market measures whereby stock prices impound forward-looking investor expectations of

[8]First-differenced "change" measures are also technically "growth" but are not conceptualized as such. Rather, they are viewed and interpreted as simple "level" variables that deal with various econometric problems in panel data.

future value, and, to a lesser extent, the use of longitudinal-panel secondary data sets, in which future performance can be directly measured.

Additional Data Collection and Design Characteristics

We also coded information related to the scope and data collection of the performance measures employed in the studies in our sample (see Appendix B). First, more than half the performance studies focused on both business-to-consumer and business-to-business market contexts, but of the remainder, the emphasis was slightly more on business-to-consumer markets (amplified in the top three journals). This suggests a relatively balanced approach to market context in understanding the performance outcomes of marketing. Second, in terms of the time frame adopted, the majority of studies had a one-off perspective (i.e., they assessed performance at one point in time), whereas just more than one-quarter adopted a long-term focus and the remainder a short-term perspective (less than a 12-month period). This pattern was true across all three decades. Third, in terms of source of data, almost two-thirds of the studies collected primary data, though articles published in the top three journals used primary and secondary sources equally. Notably, few studies used a combination of both primary and secondary data. Finally, in terms of mode of assessment, studies tended to make greater use of subjective than objective performance measures, although we observe a reverse pattern in the top three journals. Few studies used both objective and subjective measures of performance.

Discussion and Implications

With two-thirds of the 998 empirical studies in our sample published in the past decade—a trend mirrored in the top three journals—our results show a rapid rise in interest in assessing marketing's performance outcomes. This growth is likely a reflection of the increasingly "show-me" imperative in practice that has grown stronger as firms have moved to zero-based budgeting (e.g., Homburg, Artz, and Wieseke 2012; O'Sullivan and Abela 2007). It may also reflect warnings from leading researchers that marketing will become irrelevant as both an academic discipline and a functional area within firms if it is viewed as being "soft" and unable to demonstrate linkages with valuable performance outcomes (e.g., Kumar and Shah 2009; Lehmann 2004; Rust et al. 2004).

More broadly, 38% of the studies we examined rely on a single measure of performance, and an additional 40% treat performance as a latent variable but do not report correlations between the indicators. Yet the limited literature on performance assessment in marketing (e.g., Bhargava, Dubelaar, and Ramaswami 1994; Morgan, Clark, and Gooner 2002) and the more extensive literature in management (e.g., Chakravarthy 1986; Richard et al. 2009) and accounting and finance (e.g., Callen 1991; Henri 2004; Rowe and Morrow 1999) clearly indicate that performance is a complex, multidimensional construct. This is a significant problem for existing knowledge in marketing if there are trade-offs between different aspects of performance. Marketing researchers often implicitly assume strong positive correlations between different aspects and measures of performance. If this assumption is correct, the selection of a specific measure of performance outcome may not matter greatly because observed hypothesis testing results are unlikely to be significantly affected by the choice. However, some empirical work in marketing has reported trade-offs between different measures of performance (e.g., Vorhies and Morgan 2003; Walker and Ruekert 1987).

In support of these reported trade-offs, our results provide the strongest evidence to date that any assumption of strong positive correlations between different aspects of performance is often false. Relatively few of the studies that use more than one performance measure report the correlations between them. Nevertheless, examining those that do suggests that different performance measures are generally only relatively weakly correlated. For example, as Appendix D shows, the mean correlation reported between different objective indicators of performance is only .25. Furthermore, the correlations between performance measures we observe vary widely, and some measures are even negatively correlated. For example, using secondary performance data measures, Morgan, Slotegraaf, and Vorhies (2009) show that sales growth and margin growth (the two determinants of profit growth) are significantly negatively correlated (–.33). Thus, a researcher choosing one of these two measures of performance would likely obtain radically different answers on the "growth" value of the same marketing-related resources, strategies, and actions.

This is obviously a critical issue for knowledge development in marketing. With more than 600 articles on marketing performance outcomes in the past decade and a cumulative total now approaching 1,000, it is vital that we are able to draw cross-study inferences about the performance outcomes of firms' marketing. However, with no common conceptualization and operationalization of the different aspects of marketing performance, we have no way of knowing whether differences in results across empirical studies are due to the effect of differences in (1) the study context (i.e., the firms included in the sample, the industries represented, or the period of data collection), (2) the independent variables examined (and how the same independent variables are operationalized), or (3) the selection and operationalization of dependent variables measuring marketing performance.

This situation is worrying for three reasons. First, meta-analytic studies represent a "gold-standard" means to examine relationships between variables (e.g., Farley, Lehmann, and Sawyer 1995). However, aside from a limited number of meta-analyses of specific marketing performance outcomes (e.g., market share), the disparate conceptualizations and operationalizations of performance revealed in our study make it impossible to conduct a meta-analysis on the performance impact of marketing across the nearly 1,000 studies undertaken to date—or even in large subsets of these studies. Thus, from a disciplinary standpoint, when continually challenged with the question "Does marketing really matter?" we are largely unable to use meta-analytic studies to

calibrate and "prove" the value of marketing as a function or set of activities and, consequently, as an academic discipline.

Second, absent such meta-analytic ability, we are also unable to identify which firm marketing resources, capabilities, strategies, and activities may contribute the greatest performance value, and under what conditions. This poses severe challenges to researchers who want to provide useful insights of an "empirical generalization" nature to managers. Thus, even if senior managers believe that firms' marketing efforts create value, researchers are largely unable to provide insights into which marketing-related levers are the most worthwhile investments under different conditions. This inability may both reduce the potential productivity of firms' marketing investments and account for at least some of the observed frequency of "myopic management" in terms of firms' decisions about such investments (e.g., Mizik 2010).

Third, an inability to synthesize results from different studies through the use of common conceptualizations and operationalizations of marketing performance outcomes significantly diminishes the marketing field's ability to build a solid and cumulatively growing knowledge base. From a social science perspective, this is a fundamental problem in the development of strong and coherent disciplinary knowledge. Until this issue is resolved, we are likely to witness a continuing fragmentation of knowledge concerning marketing's performance outcomes, which will limit the level of disciplinary maturity in the marketing field. Worse, because the relevance of any applied academic discipline is a function of its researchers' ability to provide credible evidence of the field's value to users of the disciplinary knowledge they produce, such a state of affairs may ultimately constitute an existential threat to marketing as an academic discipline.

Guidelines for Assessment of Marketing Performance

Given the current state of performance conceptualization and operationalization, and the problems it poses for knowledge development, immediate action is required. As a discipline, marketing clearly needs a core set of agreed-on, common priority conceptualizations and operationalizations for marketing performance outcomes. Creating this core list should involve both leading marketing researchers and CMO- and CEO-level managers. To be truly relevant, researchers must not only prove the value of marketing but do so in terms of the performance outcomes that managers use and are held accountable for (e.g., Richard et al. 2009). In accomplishing this, a working party under the auspices of the American Marketing Association and/or Marketing Science Institute could be convened to generate a set of initial core suggestions for conceptualizing and operationalizing marketing performance outcomes (Figure 1 provides a good starting point). These suggestions could be discussed at different conferences to allow a wide variety of input and opinions to be canvassed and each proposed performance conceptualization and operationalization combination to be critically debated and prioritized. After a core set of such conceptualizations and operationalizations was agreed on, journal editors and editorial review board members could then play important roles in encouraging its use in an effort to allow cumulative knowledge building across marketing studies in the future.

In the meantime, researchers investigating performance outcomes in marketing should help by following the guidelines we outline next in designing and reporting their studies:

1. *Avoid (implicitly or explicitly) conceptualizing and operationalizing "performance" as a global latent construct.* Evidence in the management and strategy literature suggests performance is not a global latent construct (e.g., Combs, Crook, and Shook 2005; Hamann et al. 2013). The relatively weak correlations observed between performance measures (Appendix D) support this. Thus, rather than trying to understand how marketing phenomena may be linked to "overall" performance outcomes, which our study reveals researchers commonly do, those researchers should specify one or more aspects of performance. This holds for both researchers using primary survey data and those using secondary data. Individual items concerning different performance dimensions and indicators may be more highly correlated in survey studies than when using secondary data and may even exhibit acceptable reliability when combined. However, examination of secondary data measures of the same performance phenomena suggests that the validity of such "overall" performance scales is questionable (Combs, Crook, and Shook 2005). Thus, treating scale items indicating different aspects of performance separately is advisable.
2. *Clearly depict the conceptualization of performance adopted in the theoretical development of the study and provide a rationale for the conceptualization adopted.* Researchers should choose one or more of the six aspects of marketing performance outcomes we identify—customer mindset, customer behavior, customer-level performance, product-market performance, accounting performance, and financial-market performance—and provide an explicit rationale for this selection. In addition to the advantages and disadvantages outlined in Table 4, causal adjacency should be a key consideration in making these choices and considering their associated rationale. For example, trying to link marketing-related resources and actions directly to firm-level financial-market performance indicators may not be ideal; there are usually a number of intervening stages in the marketing–performance outcome chain (Figure 1) that may introduce a lot of "noise," potentially making it difficult to empirically confirm an expected performance relationship, even if it exists.
3. *Select one or more indicators from within each chosen performance aspect to operationalize the performance conceptualization adopted.* That almost 20% of studies providing an explicit performance conceptualization subsequently employ operationalizations inconsistent with their conceptualization suggests that care must be taken to ensure that the indicators selected are well aligned with the conceptualization of performance adopted. Furthermore, in selecting such indicators, researchers should try to choose measures most commonly used in previous studies and/or most widely employed for goal-setting and performance-assessment purposes in management practice. Doing so will ensure that researchers build collective knowledge more sequentially and that the cumulative knowledge built is relevant to managers.
4. *Do not expect relationships between independent variables and indicators of different aspects of performance to necessarily converge.* Although "triangulation" using different

TABLE 4
Types of Performance Outcomes

Aspect of Performance	Advantages	Disadvantages	Considerations
Customer mindset	• Causally close (often closest) to marketing actions • May be unique to marketing performance outcomes vs. other business disciplines • Commonly used to set marketing-specific goals and assess marketing performance in practice	• Primary data may be difficult and costly to collect if direct self-reports from customers • Secondary data from research vendors may not align well with theorized constructs or data from other vendors	• Sampling: current customers vs. past customers vs. all potential customers in the marketplace • Possible demographic effects on measures • Noise in survey measures (primary and secondary data) • Allows for goal-based assessment only if collected or supplemented by primary data • Transaction-specific vs. overall evaluations
Customer behavior	• Causally close to marketing actions • May be unique to marketing performance outcomes vs. other business disciplines • Commonly used to set marketing-specific goals and assess performance in practice • Direct observation shows revealed preferences	• Primary data may be difficult and costly to collect if direct self-reports from customers • Observed behavior data may require working with firms and can be difficult to collect from multiple firms • Differences across firms in how observed behaviors are defined and calibrated	• Noise in survey measures (primary data) • Allows for goal-based assessment only if collected or supplemented by primary data
Customer-level performance	• Causally close to marketing actions • May be unique to marketing performance outcomes vs. other business disciplines • Commonly used to set marketing-specific goals and assess performance in practice	• May require working directly with firms and may be difficult to work with multiple firms • Differences across firms in how economic outcomes are determined and calculated	• Allows for goal-based assessment only if collected or supplemented by primary data • Noise in survey measures (primary data)
Product market performance	• Causally close to marketing actions • May be unique to marketing performance outcomes vs. other business disciplines • Commonly used to set marketing-specific goals and assess performance in practice	• Unit sales data difficult to obtain from secondary sources for most industries • Even firms in the same industry may define the markets in which they compete differently • Higher level of aggregation, so may be less diagnostic	• How to define the "market" • Allows for goal-based assessment only if collected or supplemented by primary data • Noise in survey measures (primary data)
Accounting performance	• Well-defined and standardized measures • Revenue-related items commonly used to set marketing-specific goals and assess marketing performance in practice • Secondary data availability • For primary survey data, specific items likely to have the same meaning across firms	• Corporate level, so may be further away from marketing actions and less diagnostic • Not forward-looking • May undervalue intangible assets • Mostly ignores risk • Treats most marketing expenditures as an expense	• Potential differences between firms and industries in their accounting practices, policies, and norms • Differences in measures across countries • Allows for goal-based assessment only if collected or supplemented by primary data • Noise in survey measures (primary data)

TABLE 4
Continued

Aspect of Performance	Advantages	Disadvantages	Considerations
Financial-market performance	• Investors (and analysts) are forward looking • May better value intangible assets • Finance theory suggests investors may be more goal agnostic (but time frames and even criteria may be goal related from the firm's perspective) • Secondary data availability	• Corporate level, so may be further away from marketing actions and less diagnostic • Publicly traded (tend to be larger) firms only • Difficulties in assessing firms across different countries (and financial markets) • May be subject to short-term fluctuations unconnected with a firm's underlying performance	• Risk adjustment • Public/larger firm sample selection bias • Assumes primacy of shareholders among stakeholders, but this may not be true in some countries • Assumes financial market is efficient and participants well informed of the marketing phenomena being studied • Allows for goal-based assessment only if collected or supplemented via primary data • Noise in survey measures (primary data)

indicators of the same performance phenomenon is good social science research practice, it should be useful only within aspects of performance—not across them (Appendix D, Panel B). For example, examining links between a marketing action and different indicators of brand equity as a robustness check makes sense, but expecting results across a measure of brand equity and a measure of abnormal stock returns to converge may not. Furthermore, when there is reason to suspect that managers may face trade-off decisions involving different performance outcomes (e.g., sales growth vs. margin growth, short-term profits vs. long-term asset value) linked to the same marketing-related independent variables, researchers should include multiple performance indicators to examine such trade-offs in their studies. Failing to do so may lead researchers to guide managers to take actions that produce unintended negative consequences on other unexamined but related performance outcomes.

5. *Make explicit referent and time horizon choices associated with the measures of performance outcomes employed and provide a rationale for the appropriateness of these choices.* Researchers should select from the referent alternatives we identify (i.e., relative to goal, competitors, prior period, and/or resource inputs) and then choose an appropriate time horizon (e.g., past quarter, current year, future three-year average) over which to consider performance relative to the referent selected. These are key research design decisions: the choice of referent fundamentally determines how the level of observed performance on a specified criterion is to be interpreted (e.g., Morgan, Clark, and Gooner 2002), and the selection of time frame greatly affects researchers' ability to control for "unobservables" and infer causality (e.g., Jacobson 1990). In general, future time horizons (relative to the independent variables) should be preferred.
6. *Theorize and hypothesize expected cause-and-effect relationships that are specific to and tightly connected with the particular performance aspects and indicators selected.* Although this step seems obvious, our analyses suggest that researchers usually do not do this. Rather, performance is often conceptualized implicitly as an abstract global phenomenon, and whichever performance variable is empirically used is assumed to be an indicator of this abstract performance construct. This assumes high positive correlations between all performance indicators, an assumption we show to be false (Appendix D). From a social science perspective, this is clearly not good research practice and should be avoided. More positively, focusing on the specific performance aspects selected and the allied indicators in developing conceptual arguments usually enables researchers to develop a more concrete and compelling rationale for hypothesized relationships between the independent variables and the dependent variables measuring performance.
7. *Report sample sizes and correlations, including those between the dependent variables measuring performance that are employed when using more than one marketing performance indicator.* Sample sizes and correlations are necessary to make studies amenable to inclusion in subsequent meta-analyses; yet, in our sample, less than 36% of the studies report a correlation matrix. Including these details will enable synthesis across studies and integration of empirical findings and, in turn, generate cumulative knowledge development within the discipline. Journal editors and reviewers should help enforce this practice when reviewing and accepting papers.

Following these guidelines is critical to improving future performance conceptualizations and operationalizations. Importantly, these practical steps are immediately actionable. Furthermore, they will help researchers not only in marketing but also in other business disciplines, such as management, in which critiques of performance assessments have appeared more frequently over time without seeming to have solved the problems identified. However, we should be cognizant of sociological forces that may also be at play in marketing, which requires not just that researchers follow the guidelines we propose but also that reviewers and editors are aligned.

For example, there is evidence that marketing is much more influenced by other disciplines, such as finance, than vice versa (e.g., Clark et al. 2014). This may be one reason for the rapid growth in the use of financial market–related performance measures we've observed in the past decade.

However, although studies using such performance metrics are welcomed, care must be taken to ensure that other performance outcomes are not assumed to be inferior, for two reasons. First, the rapid decline in the use of goal-based referents (particularly in the top three journals) we observe may be driven by a preference of reviewers for more "objective" performance measures and the resulting decline in use of primary data. This is problematic because secondary performance data alone do not allow the use of goal-based referents. Yet not using goal-based referents at all across studies would significantly impede understanding of firms' actions and, even worse, might lead to incorrect managerial recommendations.

Second, marketing's influence can grow only if its unique characteristics add to greater understanding of issues that matter to other disciplines. From this perspective, Figure 1 suggests that the operational performance outcomes (customer mindset, customer behavior, customer-level performance, and product-market performance) appear to be most unique to marketing. How and when these are linked with accounting and financial-market performance is thus likely to be of greatest interest to researchers in disciplines such as management, finance, and economics. Examining such links may require the use of primary as well as secondary data. Therefore, reviewers and editors, as well as individual researchers, will need to ensure a pluralistic approach and be agnostic to research design if we are to build cumulative and impactful knowledge concerning marketing's performance impact.

Managerial Implications

This study provides two main insights for managers. First, in designing marketing control systems and marketing dashboards, managers should select at least one metric within each aspect of performance in our marketing–performance outcome chain (Figure 1) based on its perceived importance within the category or industry. Doing so will give managers a comprehensive mix of higher-level evaluative (mainly backward-looking) metrics and more forward-looking diagnostic metrics that may explain aggregate outcomes. The correlations between different aspects of performance (Appendix D, Panel B) provide some indication of the strength of relationships that managers should anticipate (or view as "normal") between indicators from different performance aspect "buckets" in their dashboards. However, over time, managers should examine these linkages within their own firm, both to allow for "cause-and-effect" learning and to reduce the dangers of myopic management.

Second, our study is useful for marketers in explaining to senior managers the causal linkages between the firm's marketing efforts and the types of accounting and financial performance metrics on which senior managers usually set goals and on which they are typically evaluated. However, in explaining these linkages, marketers should also highlight that links between some of the performance measures are likely to be negative, and, thus, improving one aspect of performance may degrade another. For example, Rego, Morgan, and Fornell (2013) show that in consumer markets, under most circumstances, the link between market share and customer satisfaction is negative. Thus, actions designed to grow market share should be expected to adversely affect customer satisfaction. Understanding such relationships between different performance measures and recognizing trade-offs is crucial for ensuring decisions and actions that do not yield unanticipated and unintended negative outcomes on one or more measures of performance.

Further Research

Our study reveals three areas for further research that have the greatest potential to make significant contributions to marketing knowledge. First, our study reveals multiple performance areas that are underresearched, some of which are of particular theoretical importance. For example, market-based asset performance indicators of customer relationships and brand equity, such as CLV and revenue premium, should be more widely used, because we currently have limited knowledge of the marketing-related drivers of these important marketing-performance outcomes. Similarly, we know relatively little about how marketing contributes to cost- and risk-related aspects of marketing and firm performance. Other underresearched performance measures we identify, such as growth and probability of loss, are particularly important to senior managers and, thus, to establishing the relevance of marketing efforts.

Second, there is an urgent need for studies linking different aspects of performance (i.e., the boxes in Figure 1) and identifying contingency factors that may affect the strength of such relationships. The emerging literature on the marketing–finance interface is one example of the potential value of such explorations. Many other connections also remain to be explored (see Appendix D, Panel B). For example, establishing linkages between brand equity and its CLV and market share outcomes under different conditions is of central importance to executives in firms with valuable brand assets. Similarly, studies linking customer behavior (e.g., customer acquisition, word of mouth) and customer-level (e.g., share of wallet, profitability) performance indicators with subsequent product-market, accounting, and financial-market aspects of performance are clearly required.

Third, studies examining the timing of effects in relationships between indicators of different aspects of performance in marketing would also provide important new insights. For example, over what time frame should data covering an indicator of one aspect of performance (e.g., perceived quality) be collected to capture its value in contributing to another aspect (e.g., revenue growth)? What industry and marketplace contingencies affect these time frames, and how? Such knowledge would be invaluable in determining how long marketing investments may be expected to take to affect future performance outcomes that lead to financial returns. This knowledge may not only lead to more realistic management expectations but may also enable managers to better assess and make trade-off decisions between investments and actions that may produce greater returns, but over longer time periods, than those producing smaller but faster returns.

Conclusion

There can be few (if any) issues more central to the well-being of the marketing discipline than establishing the performance value of marketing. This study reveals the extent to which fragmentation and inadequacies in the conceptualization and operationalization of the performance outcomes that may be associated with firms' marketing assets and activities constitute a key barrier in validly and credibly addressing this question. The nature and magnitude of this problem require urgent and coordinated action in developing solutions. This study provides the initial impetus for such solution-focused action. In the meantime, researchers should individually aid such efforts by following the guidelines we provide to improve their choices of conceptualizations and operationalizations for performance outcomes in designing future empirical studies.

APPENDIX A
Marketing Journals Covered by the Study

		Period		
Journal	Total n = 998	1981–1994 n_1 = 99	1995–2004 n_2 = 234	2005–2014 n_3 = 665
Journal of Marketing	18.3	22.2	22.2	16.4
Journal of Business Research	15.7	13.1	15.8	16.1
Industrial Marketing Management	13.1	5.1	10.7	15.2
Journal of Product Innovation Management	12.5	7.1	9.4	14.4
Journal of the Academy of Marketing Science	9.6	6.1	6.4	11.3
Journal of Marketing Research	7.4	12.1	9.4	6.0
Marketing Science	5.8	9.1	3.8	6.0
International Journal of Research in Marketing	5.8	5.1	5.6	6.0
Journal of Retailing	3.3	10.1	4.7	1.8
Management Science	2.9	5.1	5.1	1.8
Journal of Advertising Research	2.1	1.0	3.0	2.0
Journal of International Business Studies	1.7	3.0	2.6	1.2
Journal of Advertising	1.0	1.0	.9	1.1
Journal of Personal Selling & Sales Management	.6	.0	.4	.8

Notes: Values are percentages.

APPENDIX B
Data Collection and Research Scope Issues in Marketing Performance Measurement

		Period		
Classifier Variable	Total n = 998 (315)	1981–1994 n_1 = 99 (43)	1995–2004 n_2 = 234 (83)	2005–2014 n_3 = 665 (189)
Market Context				
Business-to-consumer	27.3 (38.4)	32.1 (33.3)	30.7 (36.5)	25.6 (40.1)
Business-to-business	21.2 (15.9)	19.1 (12.1)	20.5 (18.9)	21.7 (15.4)
Both	51.5 (45.7)	48.8 (54.6)	48.8 (44.6)	52.7 (44.5)
Time Frame				
One-off	54.7 (37.3)	54.7 (51.5)	50.9 (46.7)	56.0 (30.8)
Short term	19.3 (27.2)	14.3 (18.2)	18.5 (20.0)	20.2 (31.8)
Long term	26.0 (35.5)	31.0 (30.3)	30.6 (33.3)	23.8 (37.4)
Source of Data				
Primary	62.5 (48.9)	58.6 (53.5)	67.5 (62.7)	61.3 (41.8)
Secondary	35.2 (49.5)	40.4 (46.5)	29.5 (33.7)	36.4 (57.1)
Both	2.3 (1.6)	1.0 (—)	3.0 (3.6)	2.3 (1.1)
Mode of Assessment				
Objective	44.3 (65.4)	59.6 (67.4)	38.0 (50.6)	44.2 (71.4)
Subjective	52.5 (32.7)	38.4 (32.6)	57.3 (44.6)	52.9 (27.5)
Both	3.2 (1.9)	2.0 (—)	4.7 (4.8)	2.9 (1.1)

Notes: Values are percentages. Data in parentheses pertain only to the top three marketing journals (*Journal of Marketing*, *Journal of Marketing Research*, and *Marketing Science*).

Appendix C: Coding of the Theoretical and Methodological Approaches to Performance Assessment

Following Miller, Washburn, and Glick (2013), we coded each article for its theoretical approach and methodological approach to performance. We based assessment of an article's *theoretical approach* on definitions and terminology of explanations of performance present in the theory sections. In identifying definitions and/or explanations, information about the underlying nature of performance was the basis for the categorization of articles using the three conceptual approaches (Table 1). An abstract performance definition or explanation that involves no separate aspects of performance is indicative of the latent-construct approach. A definition or explanation focusing on one or more specific performance aspects is most consistent with the separate-constructs approach. Attention to diverse aspects of performance and explanation of how they should be combined is in line with the aggregate- construct approach. In cases with no definition or explanation of performance, we focused on performance-related terminology and arguments in the article's theory/conceptual development to assess the theoretical approach to performance. Articles that lacked a formal definition of performance but used specific lexicons connected with one or more performance aspects in the theoretical/conceptual development fell into the separate-constructs approach. Articles that lacked a formal definition of performance but used the broad term "performance" in the theory/conceptual development fell into the latent-construct approach.

We based assessment of a study's *methodological approach* on our systematic examination of the methods and results sections. Studies that used two or more distinct performance variables in separate analyses were most consistent with the separate-constructs approach. For articles that employed only one dependent variable to measure performance in the analyses, we paid careful attention to the label used. We coded a variable focusing on a specific aspect of performance (e.g., sales growth, market share, or return on assets) using the separate-constructs approach, whereas a dependent variable that marked general performance was in line with the latent-construct approach. A dependent variable that focused on general performance was consistent with the aggregate-construct approach, if a composite measure was formed by means of multiple but diverse performance components according to rules regardless of covariation. The comparison between a study's methodological approach (i.e., operationalization) and its conceptual approach to performance indicates whether there is agreement between the two and, thus, is an important aspect of our assessment (Table 2).

APPENDIX D
Correlations Between Performance Measures and Between Performance Measure Groups

A: Correlations Between Performance Measures

	Between Objective Measures	Between Subjective Measures	Between Objective and Subjective Measures
Number of articles	35	62	8
Number of correlations	93	131	12
Mean correlation coefficient	.25	.46	.29
Strongest correlation coefficient	.98	.99	.88
Weakest correlation coefficient	.01	.01	.05
Strongest negative correlation	–.50	–.51	N.A.
Weakest negative correlation	–.01	–.01	N.A.

B: Intra- and Intergroup Correlations Between Performance Measure Groups

	Customer Mindset	Customer Behavior	Customer- Level Performance	Product-Market Performance	Accounting Performance	Financial-Market Performance
Customer mindset	N.A.					
Customer behavior	N.A.	N.A.				
Customer-level performance	.11	N.A.	.13			
Product-market performance	N.A.	N.A.	N.A.	N.A.		
Accounting performance	.27	N.A.	–.04	.33	.34	
Financial-market performance	N.A.	N.A.	N.A.	N.A.	.07	.11

Notes: Mean correlations between measures within and across a performance aspect group for those pairings with five or more correlations reported across the studies in our sample. N.A. = not applicable.

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