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The marketing–finance interface: A new integrative review of metrics, methods, and findings and an agenda for future research

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The marketing–finance interface is an important research field in marketing, helping demonstrate the accountability of marketing within companies and building a necessary interdisciplinary bridge to finance and accounting research. Since the first comprehensive review article by Srinivasan and Hanssens (2009), the marketing–finance field has broadened considerably, as has research in finance and accounting. This updated systematic review of extant and new research integrates research in marketing, finance, and accounting into an overarching marketing–finance research framework. We discuss new methodological developments and offer solutions to recent technical debates on the event-study method and Tobin's q. Motivated in part by a survey of marketing–finance researchers, the article identifies and synthesizes four key emerging research areas: digital marketing and firm value, tradeoffs between “doing good” and “doing well,” the mechanisms of firm-value effects, and feedback effects. The article closes with a future research agenda for this dynamic research field and offers key conclusions.

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1. Introduction

The academic discipline of finance, both asset pricing and corporate finance, is well linked with the field of marketing, an initiative referred to as the “marketing–finance interface.” This area of research investigates the relationships between marketing-related constructs and metrics that incorporate the behavior of financial-market participants, including analysts, investors, and creditors. The main objective of this stream of research is to broaden the scope of marketing to include investors as a relevant stakeholder, and to demonstrate that marketing matters and should get “a seat at the table” in important business decisions” (Lehmann, 2004, p. 74).

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1.1. A test of the functioning of markets

One central motive for studying the marketing–finance relationship is to assess the degree to which markets function well (i.e., result in the allocation of investment capital that serves consumer utility) (Fornell et al., 2006). Achieving this goal, however, confronts two significant challenges. First, on the capital side, investment decisions must be motivated by *long-term criteria* rather than, for example, short-term cash flows without long-term contributions. Thus, the field needs investment performance metrics proven to create long-term value. Second, on the marketing practice side, it must be possible to distinguish *effective from ineffective marketing*. On the input side, marketing actions include decisions on product, price, promotion, and place (the 4Ps). On the output side, several possible key performance indicators or metrics for marketing can affect firm profits (Abramson et al., 2005) and shareholder value (Schulze et al., 2012). At the same time, across nearly 1000 published studies, Katsikeas et al. (2016) report that the average correlation between accounting measures and customer mindset metrics is only 0.27 and the intercorrelation across customer-level metrics is only 0.13. These findings show that there is still a lot more ground to be covered for effective marketing. However, as marketing inevitably consumes scarce firm resources of talent, time, and money, the ultimate, generally agreed-on performance metric is the financial value of the firm. This value is continuously measured as the stock price of publicly held firms and is occasionally assessed for public and private firms when mergers or acquisitions occur. It is therefore not surprising that marketing accountability—defined as the measurement and optimization of the contribution of marketing investments to firm value—has emerged as a challenging issue for the senior leadership of organizations. Although marketers are investing more—on average, a record high of 12% of the firm's overall budget is spent on marketing (CMO Survey, 2019)—most are unable to connect their investments with firm value. Instead, they are more likely to focus on marketing metrics than on financial metrics when making decisions (Mintz & Currim, 2013). While marketers are responsible for the brand in 91% of companies, they are accountable for stock-market performance in only 2% of firms. This leaves CEOs and boards uncertain of the true value of marketing (CMO Survey, 2019).

1.2. Brief history of research on the marketing–finance relationship

In 2004, Donald Lehmann edited a special issue of *Journal of Marketing (JM)* that paved the way for future developments at the marketing–finance interface. In 2006, the Marketing Science Institute/EMI initiative led to the funding of several research projects that were subsequently published in a special section of *JM* (November 2009). The marketing–finance initiative also spawned a series of biennial conferences, called the Marketing Strategy Meets Wall Street Conference, in Atlanta (2009), Boston (2011), Frankfurt (2013), Singapore (2015), San Francisco (2017), and Fontainebleau (2019). Leading journals in marketing and management have published frequent contributions at the marketing–finance interface. The first review article on this material, written by Srinivasan and Hanssens (2009, SH hereinafter), appeared in *Journal of Marketing Research (JMR)*. This was followed by other meta-analysis/review articles (e.g., Edeling & Fischer, 2016; Sorescu et al., 2017). Books, notably *Assessing Marketing Strategy Performance* (Moorman & Lehmann, 2004) and *Handbook of Marketing and Finance* (Ganesan, 2012) have also disseminated this research. These academic developments were accompanied by the foundation of the Marketing Accountability Standards Board in 2007, an initiative led by marketers and academics which aims to advance accountable marketing practices.

1.3. The need for a new review article

The timing is right for a new review article at the marketing–finance interface for several reasons. First, the number of empirical articles in this domain has increased to 226 since 2009, compared with 42 articles reviewed in SH. Managers and researchers are therefore confronted with an array of metrics, methods, and findings, possibly leading to information overload and a perceived “marketing performance credibility gap among boards, CEOs, CMOs and the supply chain of agency, media and solution providers that support them” (Diorio, 2017). Second, the metrics analyzed on both the marketing and firm value side have increased. Third, several methodological issues, including the general use of Tobin's q (Bendle & Butt, 2018) and the execution of event studies (Skiera et al., 2017), remain unresolved.

Last, the landscape for marketing managers and researchers since 2009 has changed. The field is witnessing a growing trend toward redefining the role of the corporation from provider of products and services to champion of social issues. Some pundits call the shift to shareholder activism a mandate, specifically among next-generation consumers who believe that the primary purpose of a company is not to generate profits but to improve society. This philosophy has many high-profile supporters, including BlackRock CEO Larry Fink (2019), who called for corporations to leverage their leadership to solve pressing social problems. Business Roundtable's (2019) recent statement to abandon the shareholder-centric view and to balance the claims of all major stakeholders (customers, employees, suppliers, communities, and shareholders) brought this issue to the forefront.

1.4. Structure and contributions of the current work

We ask several key research questions. First, how can the metrics that have emerged since 2009 be categorized into a conceptual marketing–finance framework? Second, which data-analytic advances, such as machine-learning-supported textual analysis, have had a major impact on the field since 2009? How can the methodological debates since 2009 be resolved? Importantly, which generalizable results can be drawn from the countless empirical studies? We organize these generalizations along the

following four themes, motivated in part by a survey we conducted among researchers from marketing, finance, and accounting: (1) digital marketing and firm value, (2) tradeoffs between “doing good” and “doing well,” (3) the mechanisms of firm-value effects, and (4) feedback effects. Finally, what directions should future research take against the backdrop of a business environment that is moving away from a pure shareholder-focused approach?

In addressing these questions, we offer several contributions. For researchers, we provide an overview of metrics, methods, and findings and an agenda for future research. Our review shows that finance and accounting researchers tackle marketing-related topics, but do so using different approaches in data collection and analysis. We explore avenues for enhancing marketing's position among the business disciplines. For marketing managers, we provide insights into the strongest drivers of firm value. Our review also sheds light on the potential of marketing to reconcile the objectives of multiple stakeholders (customers, shareholders, employees, and communities). For the investor community (analysts and investors), we provide insights into how to incorporate information from various marketing actions/signals in their investment decisions and how they can use marketing-based valuation methods to evaluate entire companies.

2. Scope of the review

2.1. Database compilation and scope

Using the aforementioned definition of the research field, we searched the literature for empirical articles that included marketing-related variables (e.g., marketing organization, marketing actions, marketing assets) and broad financial-market-related variables (e.g., behavior of financial-market participants, financial-market performance).¹ While we acknowledge the importance of the product-market (e.g., market share) and accounting performance (e.g., profit) as important mediators of the marketing–firm-value relationship, we do not consider articles that focus on these metrics in our review. In addition, we exclude purely experimental studies that deal with consumer financial decision making, including individuals' investment decisions (e.g., Lynch Jr., 2011).²

We applied the following multistep search procedure, focusing on journals from marketing (*JM*, *JMR*, *Marketing Science*, *Management Science*, *Journal of the Academy of Marketing Science*, *International Journal of Research in Marketing*, *Journal of Retailing*, *Journal of Service Research*, *Journal of Product Innovation Management*, and *Marketing Letters*), finance (*Journal of Finance*, *Journal of Financial Economics*, and *Review of Financial Studies*), and accounting (*Accounting Review*, *Journal of Accounting Research*, and *Journal of Accounting and Economics*). We screened finance and accounting journals for studies that either fit the search criteria or were relevant from a methodological standpoint (see the resulting matrix, including exemplary studies, in Web Appendix A). We (1) reviewed all the studies cited in SH, the meta-analysis by Edeling and Fischer (2016), the review on event studies in marketing research by Sorescu et al. (2017), and Bendle and Butt's (2018) study on the use of Tobin's q in marketing; (2) reviewed all studies that cite these articles; (3) conducted a keyword search on Google Scholar (e.g., “marketing firm value,” “marketing stock return,” “marketing stock risk”); and (4) applied a journal-by-journal search from 2009, the publication year of SH, to April 30, 2020.

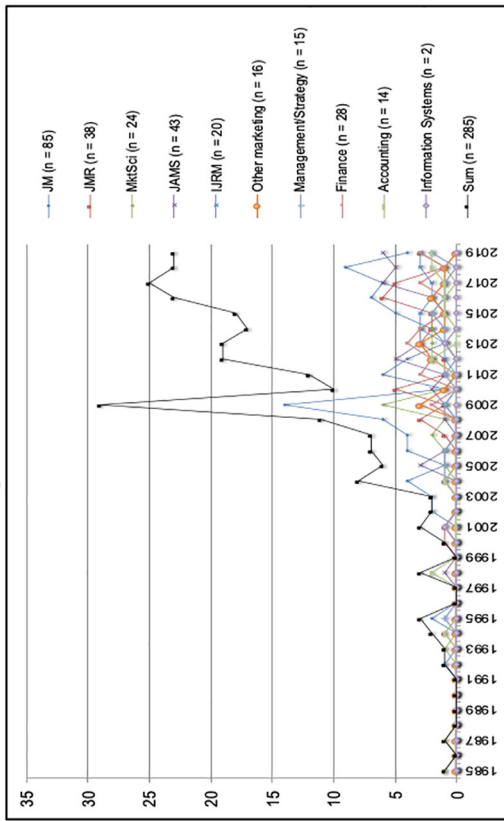
The search led to the identification of 285 empirical articles, 226 (or 79.3%) of which were published in or after 2009 (Web Appendix B provides a reference list of all included studies). Fig. 1, panel A, shows the evolution of the number of publications per year, both overall and journal specific. We conclude as follows: (1) taking the year 2009 as a positive outlier due to the *JM* special issue, there is a general upward trend in published articles; (2) the vast majority of studies have appeared in major journals with a managerial focus (*JM* and *Journal of the Academy of Marketing Science*); and (3) the number of studies dealing with marketing–finance topics outside the marketing discipline is considerable, with 59 studies (or 20.7%) in total—among those, finance has the largest share (28 articles), followed by management/strategy (15) and accounting (14). Thus, while marketing–finance research has been growing rapidly in the marketing discipline, it has also spread (or developed in parallel) to related disciplines, in particular the foundational field of finance, where the focus has been on innovation, advertising, digital metrics, and, particularly, corporate social responsibility (CSR).

The distribution of articles by investigated industry shows that 73.0% are from a mix of industries, 6.0% from pharmaceuticals, 4.9% from high-tech, 4.2% from consumer products, 2.5% from automobiles, and the remaining 9.1% from other single industries (0.4% of articles do not report the industry). Thus, a majority of articles use samples obtained across industry sectors, which enhances the generalizability of the findings. Regional distribution is skewed, with 89.1% of studies conducted in the US. Thus, despite research showing that global equity markets are integrated (Park, 2004), generalizations to other international markets are lacking, offering an opportunity for further research.

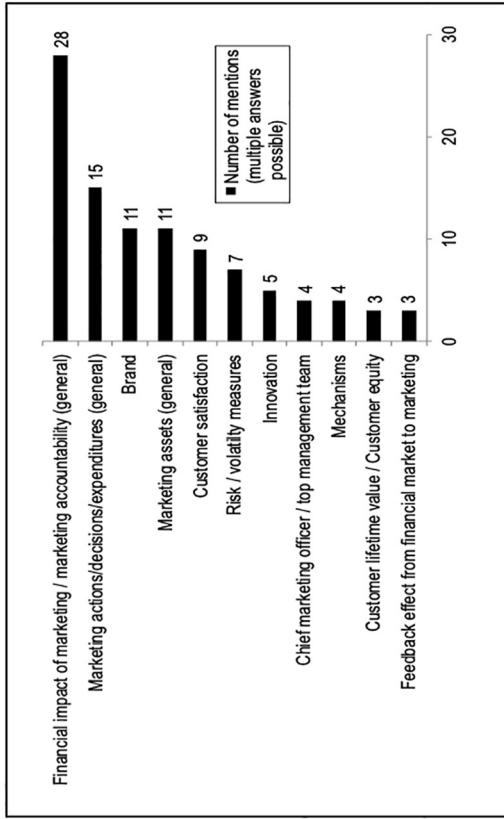
¹ To make the total number of metrics included in this study manageable, we do not include variables the previous studies use as control (i.e., are not the focal drivers) variables. In addition, while we comprehensively gather results for all main effects under investigation, we discuss interaction effects only selectively in the findings section of this article. While our data show a trend toward contingency studies in the field (i.e., significantly higher proportion after than before 2009 according to a chi-square test [$p = 0.051$]), including all interaction effects would make the already-complex description of relationships in our framework even more complicated.

² Some of the studies included in our review enrich their archival data analyses with experimental studies of investor behavior to explain mechanisms of marketing's firm-value effects (e.g., Wang et al., 2019).

A) Evolution of the marketing–finance interface over time^a

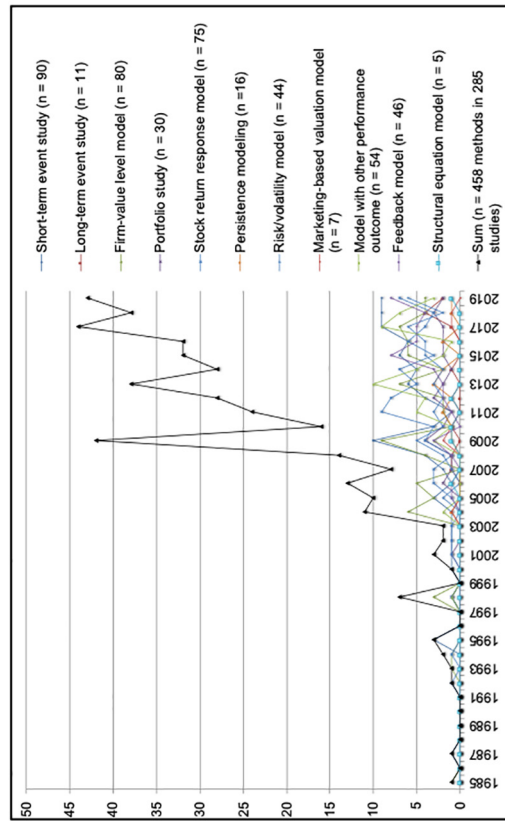


B) Important extant marketing–finance topics (from survey)



C) Evolution of marketing–finance methods over time^a

^aThe year 2020 is not included in the figure due to partial count (until April 30).



D) Important future marketing–finance topics (from survey)

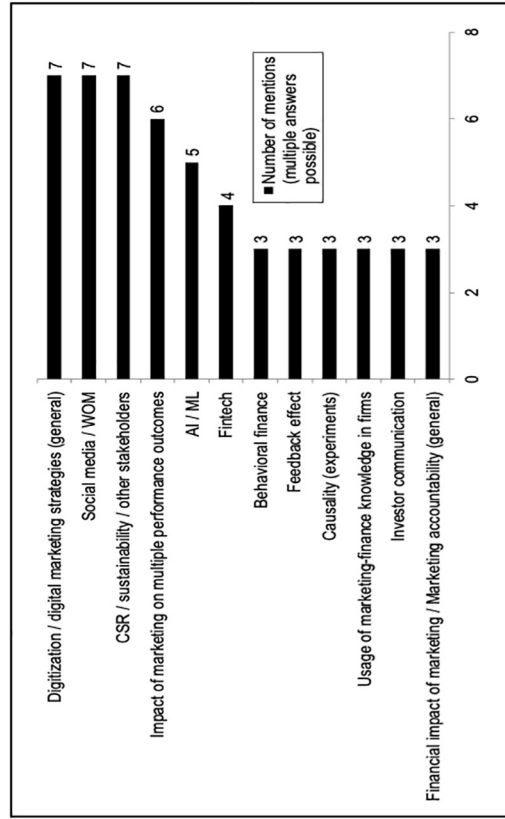


Fig. 1. Graphical representation of data from review of studies and surveys.

2.2. Survey of marketing–finance and finance/accounting researchers

To add to the insights from our systematic review of previous work, we conducted two online surveys, one among researchers who have worked on marketing–finance topics and one among those who have published event studies and/or Tobin’s q-related work in major finance and accounting journals. The surveys took place from August to October 2019 and included questions about the most important past and future marketing–finance topics (survey 1), the relevance of marketing topics for finance/accounting researchers (survey 2), the influence of digitization on the research fields (both surveys), respondents’ own use of different research methods (survey 1), and recent methodological controversies within the marketing–finance research field with respect to event studies and the appropriateness of Tobin’s q (both surveys). For surveys 1 and 2, we obtained usable answers from 66 and 46 respondents, respectively, with 51 and 26 individuals completing the full questionnaire.

2.3. Contribution over other reviews at the marketing–finance interface

The value of our study lies in its breadth of coverage of marketing variables and methodological approaches. Regarding the marketing variables, we evaluate the full set of variables suggested by SH (marketing assets and actions) and Moorman and Day (2016) (marketing organization, including capabilities, human capital, configuration, and culture). Regarding methodological approaches, we incorporate models with other financial outcome variables (e.g., analyst/investor behavior) and feedback models from the stock market to marketing decision making. In contrast with the studies of Conchar et al. (2005), Edeling and Fischer (2016), and Sorescu et al. (2017), which focus specifically on certain variables and/or methods, in the spirit of SH, our study presents a comprehensive state-of-the-art picture of the marketing–finance research field (see Web Appendix C for a comparison of review studies).

3. New metrics at the marketing–finance interface

Fig. 2 depicts the framework used to categorize hitherto investigated metrics at the marketing–finance interface. Using the frameworks of SH, Edeling and Fischer (2016), and Katsikeas et al. (2016), we begin from a marketing–finance value chain that

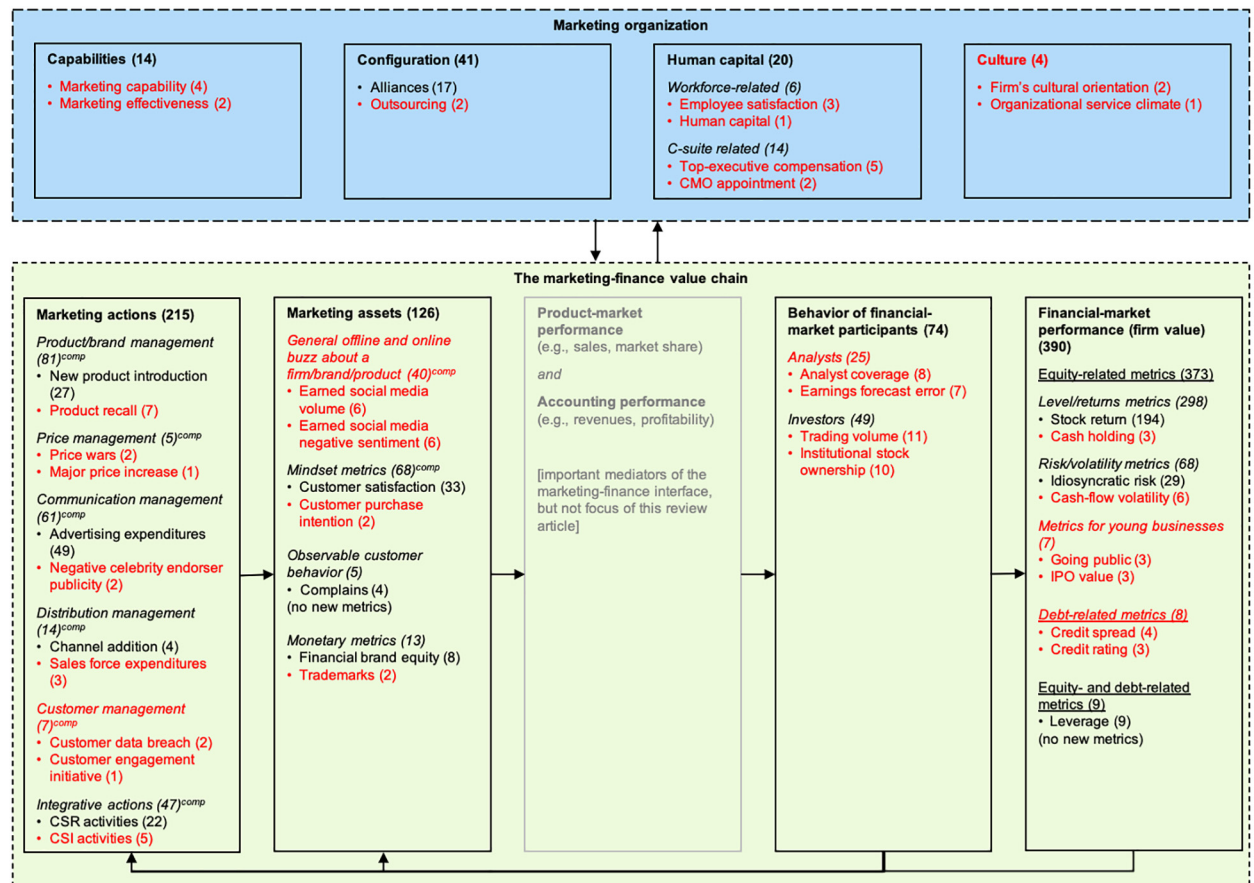


Fig. 2. Metrics studied at the marketing–finance interface before and after 2009.

links marketing actions through marketing assets, market, and accounting performance with behavior of the investor community, culminating in financial–market performance metrics.

We combine this operational marketing–finance value chain with the view of Moorman and Day (2016), who regard “marketing organization” as fundamental to the achievement of marketing excellence. Marketing organization is the strategic foundation for the functioning of the conversion of marketing actions into firm value along the marketing–finance value chain. It consists of four dimensions: capabilities (“complex bundles of firm-level skills and knowledge and firm adaptation to market-place changes”), configuration (“organizational structures, metrics, and incentives/control systems that shape marketing activities”), human capital (“marketing leaders and employees ... [who] create, implement, and evaluate a firm’s strategy”), and culture (“values, norms, and behaviors that facilitate a focus on the market over time”) (Moorman & Day, 2016, p. 6).

For each of the eight focus categories, Fig. 2 shows the intensity with which marketing–finance researchers have investigated relationships between marketing variables and financial-market metrics. Studies have considered both directions, from marketing to finance variables and, to a lesser degree, feedback effects from the financial market to marketing organization, actions, and assets. The numbers in parentheses show the number of studies that have dealt with a category or an exemplary variable. As one study can include more than one marketing or financial-market variable, the sum of studies across marketing and finance categories exceeds the number of empirical studies included in the review (285). The numbers show that the majority of studies have investigated either marketing action (215) or marketing asset relationships (126), while marketing organization is a considerably under-explored topic. In organizational studies, researchers have investigated configurational themes (41) the most, followed by human capital (20) and capabilities (14), but culture only sporadically (4).

The emphasis on classic marketing action and asset topics is also mirrored in the free-text answers to a survey question on the most important marketing–finance interface topics in the past (see Fig. 1, panel B). The only organizational topic that appears on the list of the most-often-mentioned themes is chief marketing officer (CMO)/top management team (4 mentions). Overall, the top marketing variables that have been investigated by at least 10 articles are advertising expenditures (49), customer satisfaction (33), new product introduction (27), CSR activities (22), R&D expenditures (18), alliances (17), and customer-based brand equity (17). On the financial-market side, studies with financial-market performance (390) strongly outnumber studies focusing on the behavior of financial-market participants (74). Of the eight most-often-investigated metrics with double-digit studies, six belong to the former group including stock returns (194), Tobin’s q/market-to-book ratio (71), idiosyncratic risk (29), systematic risk (25), market capitalization (13), and cash flow (13), while only two metrics are part of the latter category with trading volume (11) and institutional stock ownership (10).

Using a two-color scheme, Fig. 2 also shows recent metric developments within the marketing–finance interface field. All sub-category variables investigated at the time of SH (2009) are depicted in black (“old”). Conversely, sub-category variables analyzed since 2009 are in red (“new”). In each sub-category, the first mentioned variable is the most frequently used across all years, while the second is a new variable since 2009, either with the highest or second-highest frequency if the most frequently used happens to be a new variable. Three insights emerge. First, only one new category has surfaced since 2009—the *organizational culture* dimension. Second, several sub-categories have emerged in the past 10 years, including customer management in the “actions” category, general offline and online buzz in the “assets” category, analysts in the “behavior” category, and metrics for young firms and debt-related metrics in the “financial-market performance” category. Third, two sub-categories have not seen any development of new metrics since 2009—observable customer behavior within marketing assets and equity- and debt-related metrics within financial-market performance. Overall, the majority of metrics have been introduced since the publication of SH (see Web Appendix D for a detailed list of metrics, including their categorization as “old” or “new” and number of occurrences). In addition, 53.0% of variables (55.3% of marketing variables, 46.7% of financial variables) have appeared in only one study.

Fig. 2 includes only information on focal-firm effects, that is, relationships between a firm’s marketing variables and its own financial-market outcomes. However, several attempts have analyzed competitor effects in areas such as innovation, promotion, and advertising (Srinivasan et al., 2009); customer data breaches (Martin et al., 2017); online negative chatter about product recalls (Borah & Tellis, 2016); and celebrity endorsements (Knittel & Stango, 2014). Fig. 2 highlights the marketing sub-categories in which competitor effects have been investigated (using the superscript comp).

4. Development of methods in marketing and finance/accounting research

4.1. Different methodological approaches in marketing and finance/accounting research

Generally speaking, marketing–finance interface studies in marketing and finance/accounting differ considerably in terms of several important criteria (see Panel A of Table 1).³ First, finance/accounting studies mainly focus on interesting empirical phenomena using unique databases, such as daily advertising data (Focke et al., 2020) and Amazon.com product reviews (Huang, 2018). The theory section in marketing articles is often lengthier, and a higher percentage of studies are explicitly based on finance theories such as stakeholder theory (Wies et al., 2019), psychology-based concepts such as associative network theory (Borah & Tellis, 2016), and interdisciplinary theories such as news value theory (Stähler & Fischer, 2020).

Second, key differences emerge in the direction of investigation and the foci regarding variables. The vast majority of marketing articles investigate the traditional direction from marketing to financial-market metrics, thus contributing to the goal of “nailing down marketing’s impact” (Hanssens et al., 2009, p. 115). Conversely, a much higher percentage of studies in finance/accounting

³ In Web Appendix E, we compare exemplary studies from marketing and finance/accounting that essentially deal with the same marketing metrics.

Table 1
Methodological developments in marketing vs. finance/accounting literature.

Panel A: Comparison of marketing and finance/accounting literature on general methodological issues		
General methodological aspect	Marketing literature	Finance and accounting literature
Theoretical foundation	Stronger theoretical discussion than in finance/accounting articles (e.g., stakeholder theory in Wies et al., 2019 ; associative-network theory in Borah & Tellis, 2016 ; theory of news value in Stähler & Fischer, 2020)	Often assumed that reader is familiar with key finance theories such as the efficient market hypothesis (Fama, 1991); focus is rather on empirical phenomena (e.g., Focke et al., 2020 ; Huang, 2018)
Direction of investigation	Rather from marketing to financial variables	Larger percentage of studies that examine the finance → marketing direction
Focus of attention marketing variables	Rather broad with focus on innovation, advertising, customer satisfaction, and brand equity	Rather narrow with focus on innovation, advertising, online metrics, and, particularly, CSR
Focus of attention financial variables	The “big 4” firm-value variables stock return, Tobin’s q, idiosyncratic and systematic risk	Stronger focus on analyst and, particularly, investor behavior
Single- vs. multi-method approach	Traditionally single-method approach, slowly changing to multi-method	Larger percentage of multi-method studies (e.g., both directions of investigations in the same study as in Larkin, 2013)
Strategies to establish causality	Panel-data and instrumental-variable approaches (e.g., Germann et al., 2015); vector-autoregressive models (e.g., Colicev et al., 2018)	Panel-data and instrumental-variable approaches (e.g., Chen et al., 2020); (Quasi-)natural experiments using differences-in-differences (e.g., He & Tian, 2013) or regression discontinuity (e.g., Manchiraju & Rajgopal, 2017); field experiments (Lawrence et al., 2018); lab experiments (Martin & Moser, 2016)
Panel B: Major methodological marketing–finance developments in marketing and finance/accounting literature		
Method	Marketing literature	Finance and accounting literature <i>[application in marketing literature]</i>
Factor models (general asset pricing)		<ul style="list-style-type: none"> • Five-factor asset pricing model that adds profitability and investment to the original 3-factor Fama–French model (Fama & French, 2015) [Fornell et al., 2016; Hou et al. (2015) also use investment and profitability factors to explain asset pricing anomalies • Behavioral factor model based on investor psychology by Daniel et al. (2020) • New significance hurdles ($t \geq 3.0$) for models that try to explain the cross section of stock returns (Harvey et al., 2016) • Machine-learning approaches to identify relevant asset pricing factors outperform traditional four-factor models in return prediction (Gu et al., 2020)
Event study	<ul style="list-style-type: none"> • Superiority of retaining confounded events in sample (Sorescu et al., 2017) • Decomposition of abnormal return into manager-predicted and unpredicted abnormal return (K.M. Park et al., 2019) • Using the cumulative abnormal return on the operative business (CAR^{OB}) as the dependent variable (Skiera et al., 2017) 	<ul style="list-style-type: none"> • Event-study regression as an alternative to standard analysis of cumulative abnormal returns (Beber & Pagano, 2013; Boehmer et al., 2013) [Hock & Raitchel, 2020] • New t-statistic that takes into account cross-sectional correlation among abnormal returns (Kolari & Pynnönen, 2010) [Feng et al., 2020] • Event studies to analyze change in stock price risk (Carlson et al., 2010) [Thomaz & Swaminathan, 2015]
Stock return response models	Analysis of the total long-term financial consequences of marketing assets and decomposition into immediate and future effects (Mizik, 2014)	Developments from the “Factor models” (see above) apply here
Calendar time portfolio		Developments from the “Factor models” (see above) apply here
Persistence modeling	<ul style="list-style-type: none"> • Structural panel VAR model by Kang et al. (2016) • Interactions in panel VAR model by Huang and Trusov (2020) 	
Tobin’s q models	<ul style="list-style-type: none"> • Formal derivation of the inferiority of the Tobin’s q measure for market-based assets studies (Bendle & Butt, 2018) 	Development of a new “Total q” measure that overcomes many of the limitations of the traditional Tobin’s q metric (Peters & Taylor, 2017) [Du & Osmonbekov, 2020]
Marketing-based valuation	<ul style="list-style-type: none"> • Incorporation of debt and non-operating assets into customer-based valuation (Schulze et al., 2012) • Calculation of customer-based firm value based on only publicly disclosed customer data accounting for missing data and customer dynamics (McCarthy et al., 2017) • Calculation of customer-based firm value for noncontractual firms (McCarthy & Fader, 2018) 	

ask how financial variables affect firms' marketing decision making. We further observe asymmetry in metric foci: marketing studies are broad on the marketing side but narrow on the financial-market side (with a focus on the "big 4" firm-value metrics stock return, Tobin's q , and idiosyncratic and systematic risk). Finance/accounting studies have less breadth on the marketing side (focus on innovation, advertising, online metrics, and, particularly, CSR) but higher variety on the finance side (an especially strong focus on investor behavior metrics such as trading volume). Finance/accounting articles also investigate more relationships per study, relying on multi-method designs, a trend that has only recently been adopted by marketing researchers for robustness and breadth of insights (Moorman et al., 2019).

Finally, we observe substantive differences in the way marketing and finance/accounting articles establish causality in econometric studies (Angrist & Pischke, 2009). Other than event studies constructed as quasi experiments (see subsequent discussion), marketing researchers have relied mainly on panel-data and instrumental-variable approaches to account for endogeneity (Germann et al., 2015) or explicitly modeled the temporal causal nature or structure of relationships using vector autoregressive (VAR) modeling (Colicev et al., 2018). Identification is a paramount issue for finance/accounting scholars. Thus, they often rely on exogenous shocks that act as quasi-natural experiments (e.g., an Indian law that makes CSR expenditures mandatory for firms above a certain size; Manchiraju & Rajgopal, 2017). The methods to analyze such data are either regression discontinuity (Manchiraju & Rajgopal, 2017) or difference-in-differences (He & Tian, 2013). Accounting researchers have also begun using field experiments to evaluate the effect of news articles on liquidity and stock returns (Lawrence et al., 2018). In general, marketing researchers can benefit from monitoring the ongoing discussion in finance and accounting about the potential to show causal effects (e.g., Gow et al., 2016).

4.2. Evolution of data analytic methods

SH propose four research methodologies, based on the Fama–French model, that previous work has used with different frequencies (see Fig. 1, panel C): short-term (90, 19.7%) and long-term (11, 2.4%) event studies, stock return response models (75, 16.4%), calendar time portfolio models (30, 6.6%), and persistence (VAR) models (16, 3.5%). These approaches generally rely on the efficient market hypothesis in finance, which states that investors fully and immediately incorporate any new information that has value relevance. In addition to these models, marketing–finance researchers have applied firm-value-level models for variables such as Tobin's q (Kang et al., 2016) (80, 17.5%), risk/volatility models (Han et al., 2017) (44, 9.6%), models for other financial outcome variables such as credit ratings or trading volume (Anderson & Mansi, 2009; Focke et al., 2020) (54, 11.8%), feedback models that incorporate the reverse effect from stock-market performance to marketing actions (Park et al., 2019) (46, 10.0%), marketing-based valuation models (McCarthy & Fader, 2018) (7, 1.5%), and structural equation models (Zuo et al., 2019) (5, 1.1%).⁴ In what follows, we discuss several of these methods, including some recent developments in marketing and finance/accounting research (see Panel B of Table 1).

4.2.1. Factor models

The Fama–French four-factor model, a foundational model, recognizes systematic sources of cross-sectional differences among firms' stock returns: the size factor, the market-to-book value factor, the market risk factor (the original three factors by E.F. Fama & French, 1993), and the momentum factor (added by Carhart, 1997). Four-factor models have been used to compute abnormal returns and to calculate systematic and idiosyncratic risk, which then serve as input in different firm-value models (L. Hsu et al., 2016). Recently, Fornell, Morgeson, and Hult (2016) estimated the stock returns to customer satisfaction using a new five-factor model suggested by Fama and French (2015). This model augments their original three factors with a profitability factor (difference in returns between diversified portfolios of stocks with strong versus weak profitability) and an investment factor (difference in returns between diversified portfolios of stocks of low and high investment firms). In the past five years, the discussion about factor models in the finance literature has accelerated. In particular, Hou et al. (2015) develop their own factor pricing model that also relies on the market, size, profitability, and investment factor. Recently, Daniel et al. (2020) introduced a novel behavioral factor model based on investor psychology. Researchers have also turned to machine-learning approaches to identify relevant asset pricing factors and have shown that these methods outperform traditional four-factor models in return prediction (Gu et al., 2020). These rapid developments (of which we can only provide an overview) are accompanied by increasing skepticism toward attempts to find significant drivers of abnormal stock returns, that is, pricing anomalies (e.g., Harvey et al., 2016). We advise marketing researchers to closely follow these developments (see, e.g., the 2020 special issue on "New Methods in the Cross-Section" in *Review of Financial Studies*).

4.2.2. Event studies

Event-study approaches have had a solid trajectory with increased use over time, likely because they allow for an inference of causality in quasi-experimental settings. Event studies are used to measure short- or long-term value relevance of a discrete event (e.g., Martin et al., 2017). The intuition behind event-study methodology is that, given market efficiency, perfect information, and rational investors (Fama, 1991), the effect of a relevant event should be immediately reflected in stock prices. Both marketing and finance researchers have added to the development of this method during the past years. In finance, research has introduced the so-called event-study regression, an alternative to the standard analysis of cumulative abnormal returns (e.g., Beber & Pagano,

⁴ Our survey results regarding the distribution of applied methods largely corroborate these trends of the most preferred methods for marketing–finance research.

2013; Boehmer et al., 2013). Hock and Raithe (2020) recently applied this method to investigate celebrity endorsement scandals. The approach can be superior if the researcher is interested in the effect of direct firm reactions to certain marketing-related events.

A technical issue that often arises in event studies is cross-sectional correlation among abnormal returns when the event days are clustered for sample firms, leading to over-rejection of the null hypothesis of no mean event effect (SH). The calendar time portfolio approach automatically accounts for this problem, but with the limitations that individual-firm abnormal returns cannot be computed and the test power is generally low (Sorescu et al., 2017). Kolari and Pynnönen (2010) suggest a new *t*-statistic that overcomes the misleading-inference problem of cross-sectional correlation in single- and multiple-event windows. Feng et al. (2020) recently applied this *t*-statistic in their study of unprofitable customer management strategies.

Another development in the finance literature that was transferred to the marketing–finance interface is the application of the event-study approach to stock price risk instead of returns (Carlson et al., 2010). Thomaz and Swaminathan (2015) use this approach to analyze the impact of marketing alliances on firm risk.

There have also been recent event-study-related advancements in marketing research. Standard practice (60.4% of studies in our sample) is to eliminate confounded events (e.g., due to earnings announcements) in short-term event studies. Sorescu et al. (2017) argue in favor of retaining such events in the sample to increase statistical power and to decrease the subjectivity in the choice of confounding announcements. They provide evidence that retaining versus deleting confounded events does not significantly alter results. Park et al.'s (2019) approach contributes to the question of what proportion of abnormal returns are really unpredicted. They decompose abnormal returns to drug approval into a proportion predicted by pharmaceutical managers based on their pre-approval market research and a proportion not predicted by managers before approval (i.e., new information).

A fundamental decision when conducting event studies is how the abnormal return (AR) or cumulative abnormal return (CAR), when using event windows of more than a day, should be calculated. Skiera et al. (2017) develop an innovative and simple solution to the phenomenon that most marketing events are likely to affect only a firm's operating business (OB) and not the other two components of shareholder value (SHB): non-operating assets (NOA, e.g., excess cash) and debt (DEBT). They derive mathematically that if the assumption of a sole effect on OB holds, the CAR on the operating business (CAR^{OB}) is equal to the standard CAR^{SHV} divided by a firm-specific "leverage effect" $OB/(OB - NOA + DEBT)$, which describes the relative change in SHV for a 1% change in operating business. Applying this simple formula to three previously published event studies, the researchers show that CAR^{OB} results can differ fundamentally from the standard CAR^{SHV} results, including even a change in sign.

Our survey results on the question whether the implications from Skiera et al.'s (2017) study are likely to be adopted by marketing–finance and finance/accounting researchers are noteworthy. While the average score for the first group is 3.6 ($SD = 1.1, n = 17$), the second group is more skeptical ($M = 2.6, SD = 1.5, n = 10$). Skiera et al. themselves argue that "events typically explored in ... finance, such as regulatory changes, natural disasters, and mergers and acquisitions, are likely to influence both the value of the operating business and non-operating assets and debt" (p. 644). Our suggestion to researchers who want to conduct marketing event studies resembles Skiera et al.'s call to elaborate more on which parts of SHV are influenced by marketing events. First evidence (albeit not in an event-study setting) shows that marketing assets such as customer satisfaction and brand equity can have a significant effect on debt-related metrics such as credit ratings (Anderson & Mansi, 2009; Himme & Fischer, 2014) and cash holdings (Bharadwaj et al., 2020; Larkin, 2013), so a general statement is not possible. Given that the components of the leverage effect are publicly available, calculating CAR^{OB} , comparing it with CAR^{SHV} , and interpreting potential differences should be standard practice in marketing–finance research (for a recent application, see Lim et al., 2018).

4.2.3. Stock return response models and calendar time portfolios

Stock return response models typically measure incremental value relevance of continuous marketing metrics that are not fully reflected in contemporaneous accounting performance. These models are used to establish whether investors perceive information on changes in marketing activity, such as advertising spending, as contributing to a change in the projection of future cash flows. Importantly, these models are based on the efficient market hypothesis and recognize that investors react only to new information, which is operationalized as the difference between the actual and expected level of the independent variable (e.g., Edeling & Fischer, 2016; Mizik & Jacobson, 2009; SH). Yet empirical marketing–finance researchers need to consider the distinction between unexpected changes and levels of marketing actions, which many still ignore (e.g., Larivière et al., 2016). Recently, Mizik (2014) suggested a method that builds on stock return response modeling that enables the analysis of the total long-term financial consequences of marketing assets and their decomposition into immediate and future effects.

Calendar time portfolios measure mispricing, or "the extent to which the financial markets fail to react to information that has long-term profit implications or overreact to information that does not have long-term profit implications" (Jacobson & Mizik, 2009, p. 837). Research has extended this approach to incorporate the Fama–French five-factor model (see Fornell et al., 2016).

4.2.4. Persistence models

Persistence models involving time-series methods are well suited to analyze stock price data and their sensitivity to new marketing information (e.g., Colicev et al., 2018). They are flexible to accommodate dynamics, feedback loops from investors to managers, and deviations from the efficient market hypothesis. In addition, they can flexibly incorporate risk and other performance variables. In the past few years, marketing–finance research has applied panel-VAR models, which exploit cross-sectional variation when long time series are not available. Kang et al. (2016) use annual data on >4500 firms across 19 years (i.e., a large cross-section and short time series) to model the interplay among CSR, corporate social irresponsibility (CSI), and firm value using a structural panel-VAR model that allows contemporaneous effects among some of the endogenous variables. Recently, Huang and Trusov (2020) introduced interactions in a

panel-VAR model to investigate how the interrelationship between firm financial performance and executive compensation varies with productivity and customer satisfaction levels. Overall, persistence models continue to remain in the methods toolkit for marketing–finance researchers, especially as granular weekly or even daily data (Colicev et al., 2018) become more available.

4.2.5. Tobin's q models

Firm-value-level models include all models that connect a firm-value dependent variable in levels (i.e., cash flow, market capitalization, Tobin's q, and market-to-book ratio) with an independent marketing variable. The frequent and growing use of level models is surprising given criticism that autocorrelation leads to downward-biased standard errors and false inferences (Edeling & Fischer, 2016; Mizik & Jacobson, 2009). The most-often used metric, Tobin's q, is under special scrutiny. In a thought-provoking study, Bendle and Butt (2018) question the validity of marketing–finance studies that use accounting-based approximations of Tobin's q (AATQ) as the dependent firm-value variable. The core criticism is that market-based assets such as self-created customer satisfaction or brand equity go unrecorded in firms' accounting reports, leading to a biased measure of a firm's replacement value in the denominator of the AATQ formula. The authors formally show that performance-neutral marketing decisions such as converting advertising expenditures (cash) into brand equity (unrecorded asset) increase AATQ, which results in an over-estimation of the value relevance of marketing.

Considering that Tobin's q (and the related market-to-book ratio) is the second most often used firm-value variable (after stock return, see Section 3) in our review, we offer several observations and potential remedies to the discussion. First, the criticism of AATQ is not new. Mizik and Jacobson (2009), in their commentary to SH, already mention the measurement error in the denominator of AATQ as a critical flaw. Edeling and Fischer's (2016) meta-analysis shows that elasticities derived from “intangibles-to-tangibles” models are substantially larger than the elasticities derived from stock return models. Second, the criticism is not limited to the marketing field. Finance researchers are frank about the fact that “proxies of Tobin's q are imperfect measures of firm value” (Gurun & Butler, 2012, p. 586). Third, despite these limitations, and similar to researchers in marketing, finance and accounting researchers continue to use Tobin's q in their models. Use of the keyword “Tobin's q” in Google Scholar led to 266 identified articles in the top three finance journals and 81 articles in the top three accounting journals (both according to the UT Dallas list) since 2010. However, the majority of these studies use Tobin's q as a regressor that measures firms' future growth or investment opportunities rather than as the dependent variable. Not surprisingly, respondents in our finance/accounting survey concur that stock returns should be preferred to Tobin's q as a performance metric ($M = 4.22$, $SD = 0.67$; scale from 1 [completely disagree] to 5 [completely agree]). The only slightly lower score for marketing–finance researchers ($M = 3.76$, $SD = 1.09$) for this question shows that the community is largely aware of the shortcomings of Tobin's q. Finally, similar to the event-study-related suggestions, we urge researchers to justify the choice of firm-value metrics (previous use in a top marketing journal is not a justification) and to use more than one metric for robustness. One of these metrics could actually be a variant of the traditional AATQ, a measure called “Total q” developed by Peters and Taylor (2017) in the finance field. This easily computable measure accounts for intangible capital in the denominator as the sum of so-called knowledge capital (based on R&D expenditures) and organization capital (based on selling, general, and administrative expenditures). The metric, applied recently in the marketing literature by Du and Osmonbekov (2020) and popular in the finance literature (301 citations on Google Scholar as of May 1, 2020), is closer to the true Tobin's q measure than AATQ and thus could overcome many of the problems Bendle and Butt (2018) discuss.

4.2.6. Marketing-based valuation

At a more strategic level, emerging from the marketing–finance literature is a new approach to firm valuation, *marketing-based valuation*, that monetizes the expected value of a firm's customer relationships as a proxy for its future financial outlook. This is achieved by deriving the *customer equity* of the firm, or the sum of expected net revenues from current customers and future customer acquisitions.⁵ Gupta et al. (2004) pioneered this approach and applied it to the valuation of several high-technology firms. They also reported on the high customer retention \rightarrow firm-value elasticity of around 5, which draws attention to the strategic importance of generating high customer satisfaction levels. Schulze et al. (2012) expanded on this work by incorporating debt and non-operating assets in the calculations. They, too, report a higher-than-unity elasticity of customer equity on shareholder value. More recently, McCarthy and Hardie (2017) demonstrated that publicly disclosed customer data are sufficient to derive customer-based corporate valuations and that this can be done even for non-contractual firms (McCarthy & Fader, 2018). Overall, the establishment of a strong link between customer equity and firm value (meta-analytic average elasticity of 0.72 in Edeling & Fischer, 2016) is perhaps the most important indicator of the strategic importance of good marketing.

4.3. Development of data collection methods: Textual analysis approaches

In addition to the developments in data *analysis* methods, important progress has been made with respect to data *collection* methods in the past 10 years. The most important digitization-triggered novelty is that marketing–finance researchers augment structured numeric marketing data (e.g., advertising expenditures, customer satisfaction ratings) with unstructured textual data (Berger et al., 2020). Table 2 contains previous applications of automated textual analysis⁶ in the domain and categorizes them according to the data used and the extracted text information. While a majority of applications use consumer-generated social

⁵ The tangible parts of firm value, such as plants and equipment, should be included separately.

⁶ Automated textual analysis is distinct from manual textual analysis that is also applied at the marketing–finance interface (e.g., Bayer et al., 2017). Manual coding reaches its limits with extensive text data, as is customary in marketing and finance.

Table 2
Studies using automatic textual analysis methods at the marketing–finance interface.

Authors	Discipline	Data information		Extracted text information			
		Data type (text producer)	Data source(s)	Volume	Classification (applied approach)		
					Sentiment classification	Content classification	Topic modeling
Tirunillai and Tellis (2012)	Marketing	Earned social media (consumers)	Consumer reviews on Amazon.com, Epinions.com, Yahoo! Shopping	Yes	Yes (ML ^a [naive Bayes, support vector machine])	No	No
Solomon (2012)	Finance	News content (institutions)	Factiva	No	Yes (lexicon-based [Loughran & McDonald, 2011])	No	No
Green and Jame (2013)	Finance	Firm/brand names (firm)	CSRP	No	No	Yes (company name fluency based on lexicon approach)	No
Xiong and Bharadwaj (2013)	Marketing	News content (institutions)	Lydia/TextMap (text processing system for >500 newspapers)	No	Yes (lexicon-based [Godbole et al., 2007])	No	No
Borah and Tellis (2016)	Marketing	Earned social media during product recalls (consumers)	Third-party provider (not named) offering data from car-related forums, blogs, and reviews	No	Yes (lexicon-based, from third-party provided)	No	No
Hsu and Lawrence (2016)	Marketing	Earned social media during product recalls (consumers)	Third-party provider Alterian offering data from social media mentions, blogs, tweets, posts, images, and conversations	Yes	Yes (lexicon-based, from-third party provider)	No	No
Kashmiri et al. (2017)	Marketing	Product-market similarity (firms)	Text-based Network Industry Classification (TNIC) database by Hoberg and Phillips (2016)	No	No	Yes (similarity of words used by firms i and j)	No
Bartov et al. (2018)	Accounting	Earned social media (consumers)	Twitter reseller GNIP	No	Yes (ML [naive Bayes] and lexicon-based [Loughran & McDonald, 2011, Harvard Psychosociological Dictionary])	No	No
Colicev et al. (2018)	Marketing	Earned social media (consumers)	Third-party provider (not named) offering data from Facebook, Twitter, and YouTube	Yes	Yes (ML [naive Bayes])	No	No
Panagopoulos et al. (2018)	Marketing	CEO external focus (firm)	10-K reports	No	No	Yes (lexicon-based [Yadav et al., 2007])	No
		Product-market fluidity (firms)	Product-market fluidity database by Hoberg et al. (2014)	No	No	Yes (changing of product words by rivals that overlap with firm i's vocabulary)	No
Sorescu et al. (2018)	Marketing	Diffusion of innovation (society)	Google Books Ngram Viewer	Yes	No	No	No
Bhattacharya et al. (2019)	Marketing	Strategic orientation (firms)	10-K reports	No	No	Yes (lexicon-based [Linguistics Inquiry and Word Count])	No
Chen et al. (2019)	Finance	Fintech innovations (firms)	Patent filings	No	No	Yes (machine learning [support vector machines, neural networks])	No
Dotzel and Shankar (2019)	Marketing	Service innovation announcement	Lexis Nexis	No	No	No	Yes (ML [latent Dirichlet allocation]) (customer vs.

(continued on next page)

Table 2 (continued)

Authors	Discipline	Data information		Extracted text information			
		Data type (text producer)	Data source(s)	Volume	Classification (applied approach)		
					Sentiment classification	Content classification	Topic modeling
		quality (firms)					technology vs. service emphasis)
Frennea et al. (2019)	Marketing	Consideration of receivables investments (firms)	10-K reports	No	No	Yes (lexicon-based)	No
Green et al. (2019)	Finance	Employee satisfaction (employees)	Glassdoor	No	Yes (difference in number of words in Pros and Cons sections)	No	No

^a ML = machine learning.

media data (e.g., Bartov et al., 2018; Borah & Tellis, 2016), we observe a recent trend toward the study of firm-generated text data from 10-K reports (e.g., Frennea et al., 2019) and press announcements (e.g., Dotzel & Shankar, 2019). Other used sources are newspapers (Solomon, 2012; Xiong & Bharadwaj, 2013) and books. Sorescu et al. (2018) use the publicly available Google Books Ngram Viewer tool to identify the historical usage of certain words in published books.

These studies extract different types of text information from the given data, which can broadly be divided into simple volume of documents (e.g., reviews as in Tirunillai & Tellis, 2012) or words (Sorescu et al., 2018) and more complex classification outcomes. We distinguish among sentiment classification (distinguishing between positive and negative sentiment), content classification (assigning pre-defined category labels), and topic modeling (exploratively identifying general topics; see Berger et al., 2020; Hartmann et al., 2019). Marketing–finance research has predominantly dealt with sentiment analysis and content classification, while using topic modeling only sporadically. While topic modeling relies on unsupervised machine-learning techniques such as Latent Dirichlet allocation, sentiment and content classification can be executed using either lexicon-based methods or supervised machine-learning approaches (Hartmann et al., 2019), with applications in marketing favoring the latter. However, researchers in accounting and finance are less enthusiastic about the often-complex machine-learning algorithms because of their potential lack of transparency (Loughran & McDonald, 2016).

5. New findings

5.1. Overview

Given the multitude of empirical findings at the marketing–finance interface and in the interest of space, we present an overview of findings in this section and selected findings based on their importance for the field (Section 5.2). Table 3 summarizes the findings for the marketing → financial-market effects for the most-often analyzed marketing (top 9) and finance variables (top 10). We focus on this classic direction because feedback effects have been investigated much less often (see Section 5.2.4). Note that the entries (1) are based on regression coefficients; (2) contain main effects only; and (3) distinguish among significantly positive (+), non-significant (0), significantly negative (−), and non-studied relationships (gray fields). A study can contribute more than one effect if findings are inconsistent across methods (e.g., Fornell et al., 2006) or samples (e.g., Balasubramanian et al., 2005). We find that though these are the most-often studied relationships, 78 of the 140 cells are still gray, indicating a large potential for future research. Because stock return is the only finance outcome variable that is covered for each of the marketing variables, we rely on stock-return effects for our generalizable conclusions.⁷

We identify four groups of marketing variables to organize the findings overview. The first group comprises variables with only positive or neutral stock-return effects—that is, the marketing action variable new-product introductions as well as the marketing asset variables customer satisfaction, customer-based brand equity, product quality, financial brand equity, earned social media volume, and positive sentiment. The second group includes advertising expenditures and alliances, variables that have mixed positive and negative findings, with a predominance of positive effects. The third group contains R&D expenditures and CSR actions, which have mixed effects with an exact (R&D) or approximate (CSR) balance of positive and negative findings. The fourth group consists of variables with a preponderance of negative previous effects, such as product recalls, earned social media negative sentiment, and myopic management.

Based on this synthesis, companies' strongest marketing-related stock-return levers are new-product introductions; the three central mindset variables—customer satisfaction, brand equity, and perceived product quality—and the volume and positive sentiment of online buzz that brands and firms generate. Firms should be especially focused on preventing myopic management, product recalls, and negative social media coverage. Interestingly, several studies identify significant relationships across these

⁷ “Real” empirical generalizations are derived from quantitative meta-analyses (Hanssens, 2018), which, unlike our qualitative systematic review, allows for a mean effect size as in Edeling and Fischer (2016).

Table 3
Overview of results for the top ten marketing and financial-market variables.

Variable (category)	# ^a	Behavior of financial-market participants						Financial-market performance																							
		Analysts			Investors			Level/return metrics						Risk-volatility metrics																	
		Earnings forecast error			Trading volume			Stock return			Tobin's q/Market-to-book ratio			Market-capitalization			Cash flow			Idiosyncratic risk			Systematic risk			Total stock risk			Cash-flow volatility		
		7	0	-	8	0	+	184	0	+	65	0	+	12	0	+	9	0	+	28	0	+	25	0	+	6	0	+	6	0	+
1. Advertising expenditures (actions)	36				1	0	0	12	8	5	8	3	2	1	0	0	0	1	0	2	0	1	0	1	3				0	1	0
2. Customer satisfaction (assets)	32	0	0	1				15	9	0	13	0	1	3	0	1	3	0	0	1	2	2	0	1	4	0	0	1	0	0	1
3. New product introductions (actions)	24				1	0	0	15	5	0	13	1	0							2	2	0	2	1	0	1	2	0			
4. CSR (actions)	17	0	0	1				3	4	4	6	6	1							0	1	1	0	1	1						
5. Alliances (configuration)	16							12	4	4	0	1	0							0	0	2	0	0	1						
5. Customer-based brand equity (assets)	16							8	11	0	1	0	0				2	0	0	0	2	3	1	1	2	0	0	1	0	0	2
6. R&D expenditures (actions)	15							1	2	1	6	2	1										0	0	1						
7. Product quality (assets)	8	1	0	0				5	5	0	1	0	0																		
7. Financial brand equity (assets)	8							2	2	0	3	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	1	0			
8. Product recall (actions)	6							1	2	5																					
8. Earned social media volume (assets)	6				1	0	0	7	2	0										1	3	0									
8. Earned social media negative sentiment (assets)	6				1	0	0	0	1	7										3	0	0									
9. Earned social media positive sentiment (assets)	5				0	1	0	2	1	0										0	2	2									
9. Myopic management (actions)	5							2	1	5																					

^aTotal number of studies that investigate the impact of marketing on financial variables. For example, 32 studies examine the effect of customer satisfaction on any financial variables (not just the ones listed here). Similarly, seven studies assess the effect of any marketing variables on earnings forecast error.
Notes: The table includes main effects based on model-based results (regression coefficients). One study can contribute more than one effect (e.g., due to different methodological approaches, different samples). Gray fields indicate that the relationship has not been studied.

variables, such as a higher likelihood of product recalls for myopic firms (Bendig et al., 2018) or an amplifying negative stock-return effect of online chatter associated with product recalls (Borah & Tellis, 2016; L. Hsu & Lawrence, 2016).

5.2. Selected findings in four major topic areas

We select four major topic areas based on our judgment of dominant issues in the field and a synthesis of the answers to our survey questions on important extant and future topics (see Fig. 1, panels B and D): digital marketing and firm value (Section 5.2.1); tradeoffs between doing good and doing well (Section 5.2.2); mechanisms of firm-value effects, for which we cover selected moderation and mediation findings (Section 5.2.3); and feedback effects from the financial market to marketing decisions (Section 5.2.4). For each topic area, we offer several synthesizing statements based on emerging empirical patterns. Web Appendix F includes a list of selected studies published since 2009 within each area, including a summary of their main findings.

5.2.1. Digital marketing and firm value

Despite the dominant role of digital marketing in marketing research (Lamberton & Stephen, 2016), surprisingly few studies have examined the relationship between digital marketing and firm value. A quote from our survey offers a potential explanation: "Marketing–finance topics tend to be more strategic whereas research on digitization from firm perspective has been mostly tactical." Regarding firms' online communication actions, the limited published evidence suggests that the firm-value impact of online advertising lies between the effect of offline national and regional advertising, but negative interaction effects of the three media types hint at weak communication integration or a ceiling effect of the impact of advertising in general (Sridhar et al., 2016). Bayer et al., 2020 show that paid search advertising has a more positive effect on sales than offline advertising, consistent with paid search being closest to the actual purchase decision and having enhanced targeting abilities. They find that display advertising has a relatively more positive effect on Tobin's q than offline advertising, consistent with its long-term effects.

In the social media sphere, firms' owned social media has both direct and indirect (via its effect on mindset metrics) effects on abnormal stock returns (Colicev et al., 2018). The financial market highly values the introduction of mobile apps, and the intended purpose of the app (e.g., social interaction vs. purchase) plays a moderating role (Boyd et al., 2019; Cao et al., 2018).

Finding 1. Online communication actions by firms have a positive effect on firm value.

Earned online buzz has been researched extensively. Beyond the findings that the volume of earned social media and the negative sentiment of social media affect stock prices significantly (see Section 5.1), there is evidence of sentiment asymmetries: negative chatter hurts firm performance, but positive chatter does not improve firm value to the same absolute extent (Colicev et al., 2018; Tirunillai & Tellis, 2012). Negative chatter is also likely to affect competitor stock returns positively in general but negatively during product recalls (Borah & Tellis, 2016; Tirunillai & Tellis, 2012). However, social media is a stronger predictor of stock returns and stock risk than more traditional online buzz metrics, such as online search and web traffic (X. Luo et al., 2013). Twitter tweets and Amazon product reviews are especially important predictors of abnormal returns (Bartov et al., 2018; J. Huang, 2018).

Finding 2. Earned social media is a driver of firm value, with potential asymmetries for positive and negative sentiment and likely spillovers on rivals.

Data privacy is an evolving field in digital marketing research (Martin & Murphy, 2017). Customer data breaches appear to harm the stock return of both the affected firms and their competitors (Kashmiri et al., 2017; Martin et al., 2017). Firms can mitigate the negative consequences by giving customer control of their data via opt-out options (Martin et al., 2017) and by investing in stronger marketing capability and IT know-how in the top management team (Kashmiri et al., 2017).

Finding 3. Data breaches can have severe negative firm-value effects on focal firms and, to a lesser degree, rival firms.

5.2.2. Tradeoffs between doing good and doing well

Marketing–finance research has extensively examined whether creating value for shareholders versus for three other important stakeholder groups (customers, employees, and society as a whole) is actually a tradeoff or whether mutual benefits are possible. The positive empirical evidence for marketing's main stakeholder group, customers, and their satisfaction is overwhelming (see Section 5.1), based not only on the widely used ACSI database but also on a customer satisfaction measure from Interbrand (Colicev et al., 2018) and Amazon customer reviews (Huang, 2018). However, the routes by which customer satisfaction increases firm value, via loyalty intention (another mindset metric; Larivière et al., 2016), earnings surprises (Fornell et al., 2016), or analyst recommendations (Luo et al., 2010), need further investigation, as do industry-specific heterogeneity (Larivière et al., 2016) and interactions with other mindset metrics (Himme & Fischer, 2014).

Finding 4. In general, positive changes for the customer stakeholder group in terms of higher customer satisfaction are associated with positive shareholder effects.

The yearly abnormal return to the intangible asset employee satisfaction (measured via Fortune's "100 Best Companies to Work for in America" ranking) is 3.5% (Edmans, 2011), and thus only approximately one-third of the yearly abnormal return to customer

satisfaction of 10.8% (Fornell et al., 2016). Green et al.'s (2019) recent study finds that firms with improving online employee reviews on *Glassdoor.com* also outperform firms that experience declines in these crowdsourced ratings. Firms' activities to improve their human capital must be considered in parallel to their customer-focused marketing initiatives. Vomberg et al. (2015) find significant human-capital effects on Tobin's *q*, cash flow, and cash flow volatility only when interacted with the customer-based brand equity of a firm. Similarly, Groening et al. (2016) show that positive (negative) actions toward employees are an especially positive (negative) signal for investors when they co-occur with positive (negative) customer-related achievements. In addition, online job postings by firms, especially those that signal hiring for growth, have positive effects on stock prices (Gutierrez et al., 2020).

Finding 5. Preliminary evidence suggests that employee satisfaction has a positive effect on firm value and a positive interaction with a firm's brand and customer activities.

The stakeholder group of society/communities, which is often the target of CSR activities, has the most questionable mutual benefit with shareholders (see also Section 5.1). For example, the announcement of cause-related marketing initiatives can even decrease shareholder wealth (Woodroof et al., 2019). Similarly, the introduction of an Indian law that forces firms that fulfill certain criteria to spend at least 2% of their net income on CSR has led to a significant firm-value loss for affected firms (Manchiraju & Rajgopal, 2017). Again, marketing plays an important role in mitigating the negative consequences through better corporate reputation (Woodroof et al., 2019) or by helping firms reap positive firm-value benefits through higher advertising expenditures and a better prior reputation (Servaes & Tamayo, 2013). Kang et al.'s (2016) study on the interplay of CSR and CSI, which together can be termed "corporate social behavior," shows that firms aim to weaken the detrimental effects of CSI through a subsequent increase of CSR but are not rewarded by the stock market. Dai et al. (2020) identify a key interaction effect, in which buyers' and suppliers' collaborative CSR efforts improve firm value of both firms.

Finding 6. Evidence of the shareholder-value effect of investing in CSR is highly mixed and contingent on a firm's marketing and CSI activities, as well as other firms' CSR behavior in the value chain.

5.2.3. Mechanisms of firm-value effects

A critical point raised in the marketing–finance survey is the perception that most studies use overly simplistic models and that researchers should go "beyond studies that show how marketing action/asset affects stock return" (quote from one researcher surveyed). Our review shows that this perception may not be accurate though. In addition to the methodological advances we outline, the majority of studies (66.0%) use moderation–effects models, with a significantly higher proportion since 2009 (69.5% vs. 52.5%; chi-square test, $p = 0.051$). Use of mediation models is still low (9.1%) but has grown considerably since 2009 (11.1% vs. 1.7%; $p = 0.084$).

The number of interaction effects investigated at the marketing–finance interface is vast. In particular, each event study that uses a regression analysis to identify drivers of abnormal returns is essentially an interaction analysis with many moderating variables. Standard regression models include various interaction effects as well, as Nath and Bharadwaj's (2020) recent study on the contingency effects of the CMO presence–firm value relationship shows. Thus, full coverage of all moderation effects would go beyond the scope of this article. The situation for mediation findings is somewhat less cluttered, but again a broad discussion of effects is not feasible. Nevertheless, we include in Web Appendices G–I three tables that report moderation and mediation findings. Whenever possible, we select studies that deal with our two themes "digital marketing and firm value" (depicted in green) and "tradeoffs between doing good and doing well" (depicted in yellow). The tables help identify areas that are still under-researched in terms of interaction and mediation effects. Web Appendix G, which includes selected moderation studies for the marketing → financial-market direction, shows, for example, that, so far, no studies have examined the interaction between configuration and human capital. Web Appendix H, which entails all interaction studies in the opposite direction, shows even more uncovered (gray) areas in need of investigation (e.g., how the behavior of financial-market participants coupled with financial-market performance affects marketing decisions). Mediation studies are more evenly distributed across our defined marketing and financial-market categories, as the full coverage in Web Appendix I shows. However, we were unable to identify studies that include metrics related to the marketing–organization categories configuration, human capital, or culture as mediators. In addition, with one exception (Malshe & Agarwal, 2015), all mediation studies follow the direction marketing → financial market, thus calling for future research to show a chain of effects in feedback studies. Overall, various moderation and mediation effects have been studied at the marketing–finance interface, but opportunities to investigate other mechanisms remain.

Several recent studies have investigated investor attention and expectations as explanatory mechanisms for the shareholder-value effects of marketing metrics. Xiong and Bharadwaj (2013) show that corporate news, combined with advertising activities, can have an effect on proxies of investor attention (i.e., firm ticker Google search and trading volume). Similarly, Warren and Sorescu (2017b) investigate the role of the investor community as recipients of corporate information and find that their attention (measured by trading volume, institutional holdings, and analyst following) is driven by concurrent announcements of new product introductions with other firm news. Marketing variables also shape investor expectations of corporate announcements. Specifically, investors react less to (i.e., are less surprised by) new product introductions if a firm has introduced many new products in the past or if the volume of past news sentiment is high (Warren & Sorescu, 2017a). Chen et al. (2019) identify a similar anticipation mechanism in their study on the financial value of fintech innovations.

Finding 7. Abnormal returns to firms' marketing activities should be regarded not solely as representative of the net present value of future cash flows but also as an indicator of how salient the information is and the extent to which investors have formed previous expectations of it.

Few studies have addressed the "mechanism question" using experimental investigations of individual investor behavior. [Wiles et al. \(2010\)](#) use lab experiments to validate their findings regarding the stock return effect of deceptive advertising in the pharmaceutical industry. Recently, [Wang et al. \(2019\)](#) corroborated their study findings of a significantly higher valuation for Chinese home-name stocks in two lab experiments, using investor identification and motivation to self-enhance as mediator and moderator, respectively. Further experimental research is required to validate aggregate-level findings with individual-investor-level behavior.

One mediating/moderating party we highlight here is financial analysts, who act as information intermediaries within the marketing-firm value chain. [Luo et al. \(2010\)](#) show that analyst recommendation level and dispersion mediate the relationship between customer satisfaction and stock returns and systematic and idiosyncratic risk. [Luo and de Jong \(2012\)](#) show similar effects of other analyst-related variables (coverage, earnings forecast) on the advertising-firm value relationship. Likewise, [Du and Osmonbekov \(2020\)](#) show that analyst coverage plays a moderating role, in that advertising only affects firm value positively when firms are not covered by analysts, implying that analyst coverage and firm advertising are substitutes.

Finding 8. Financial analysts play an important mediating and moderating role in the marketing-firm value relationship.

5.2.4. Feedback effects

The number of studies investigating reverse causality from the stock market to firm marketing decisions has grown significantly since 2009 (see [Section 4](#)). We categorize these studies as research on (1) myopic management, (2) effects from financial-market metrics to marketing decisions, and (3) effects of the status of the company (public vs. private). Myopic management, or the practice of "overemphasiz[ing] strategies with immediate payoffs at the expense of strategies with superior but more distant payoffs" ([Mizik, 2010](#), p. 594), occurs frequently (20%) and has severe long-term negative consequences that are actually worse than the effects of accruals-based earnings manipulation ([Kothari et al., 2016](#); [Mizik, 2010](#)). Recent research finds that marketing myopia is especially common among firms that use share repurchases to increase short-term earnings per share and that its long-term negative consequences extend beyond the financial market to the product market in terms of a higher number or product recalls ([Bendig et al., 2018](#)). The good news is that firms can reduce myopic management by increasing marketing's relevance within the organization, including by having a powerful marketing department and a CEO who has a marketing background ([Srinivasan & Ramani, 2019](#)).

Finding 9. Myopic management has negative stock-market consequences, and firms should aim to introduce organizational structures to reduce its occurrence.

Extant and new research has established that managers adapt their managerial decision making in response to stock price return and volatility signals ([Chakravarty & Grewal, 2011](#); [Focke et al., 2020](#)). Adding to this work, [Park et al. \(2019\)](#) find that firms react to a higher unpredicted proportion of abnormal returns to new drug approvals by increasing the marketing budgets for these products. This managerial practice of "listening" to the stock market is rewarded in the product market in this case, as post-approval advertising sales elasticities are also higher. In a related study, [Mian et al. \(2018\)](#) find that firms increase their advertising expenditures significantly when the general investor sentiment (measured by variables such as number of initial public offerings in the market) is high. However, in contrast with [Park et al.](#), that study shows that such a practice should be avoided, as advertising effectiveness is lower when sentiment is high. Finally, a recent meta-analysis in the organizational behavior literature ([Porto & Foxall, 2019](#)) documents that, across a large sample of nearly 12,000 public firms in the US and UK, financial gains only partially feed back to subsequent marketing investments. Thus, "marketing is effective in generating financial gains, but it is not a sustainable activity, requiring managers to inject more money to do more marketing" ([Porto & Foxall, 2019](#), pp. 138–139).

Finding 10. Firms react to stock-market-related signals by adapting their marketing activities, with mixed consequences for their product-market performance.

An important question is how stock-market listings per se affect firms' marketing behavior. The empirical evidence on this question is limited to firms' innovation behavior. [Moorman et al. \(2012\)](#) find that publicly listed firms time their innovation activities so that they appear to have more innovations from year to year than private firms. [Wies and Moorman \(2015\)](#) and [Bernstein \(2015\)](#) show that not only is the public-market effect limited to such a "ratchet strategy" but firms also change their overall innovation behavior when turning from private to public. They increase the volume and variance of innovations but sacrifice radicalness and originality.

Finding 11. Firms that are (or become) publicly listed alter their innovation behavior substantially.

6. Emerging trends and future research directions

Our review emphasizes the role of investors in the formulation and implementation of marketing tactics and strategies. Revisiting the research agenda in SH, we find that several questions posed have been answered since 2009 while a few remain

unaddressed. One such under-researched topic pertains to biases in investor decision making. For example, when are investor reactions accurate, how do biases occur, and how can they be corrected? Furthermore, as roughly 90% of the studies in this review are from US settings, we call for future research to extend the findings to other international markets. We next provide a rich research agenda for marketing scholars in this domain organized into substantive and methodological topics.

6.1. Substantive topics for future research

First, we call for marketing scholars to collaborate with finance in the area of fintech in which investment decisions incorporate insights from marketing models. Relatedly, the adoption of artificial intelligence (AI) can enhance firm value in two ways. AI adoption can increase firm value by increasing productivity through improving workflow efficiencies, and AI technologies can potentially increase the value of existing investments within the firm (Cockburn et al., 2017). Combined, these two features of AI technologies suggest that adopting them will substantially increase firm value. A key empirical challenge in many studies on technology adoption is identifying investments in new technologies. Measures of R&D will not suffice, as these capture the firm's total investment, not just in new technologies. This calls for new measures based on textual analysis of a firm's disclosure of AI activities, which might be replicable for a large sample of publicly listed firms. Digitization presents new and ongoing research issues on online reviews, crypto currency products, consumer privacy, and data breaches, and their impact on investor behavior should be investigated.

Second, we call for research on how marketers can leverage financial decisions for more efficient and effective marketing. A focus on advertising efficiency rather than effectiveness, driven by a fiduciary responsibility to shareholders, may have led firms to over-invest in digital advertising at the expense of long-term brand building, a decision that top management teams at Adidas and Gap have begun to question (Bayer et al., 2020; Graham, 2019). Relatedly, the question of how financial outcomes feed back to marketing decisions needs to be addressed more systematically. For example, research could address how CMOs/marketing managers view the effect of capital market feedback on marketing plans and strategies, including product innovations (e.g., Park et al., 2019), service offerings, pricing, and pricing responses of competitors, and selection of distribution channels. A related topic is the effect of "going private" and how a delisting from the stock market affects marketing actions and assets.

Third, we call for research on the effect of economic and social transformations on marketing decisions. An important macro-economic trend of the past few years has been the global decrease in interest rates to historic lows, which positively affects individuals' risk-taking behavior (Lian et al., 2018). Future studies could address the question of how "cheap money" influences consumers' and marketing managers' decisions. Other highly relevant topics are recessions (e.g., the one caused by COVID-19) and demographics (e.g., the aging global population).

Fourth, the marketing–finance literature has long emphasized returns versus risk, with the former aligning with metrics traditionally studied in marketing, such as market share, revenues, or profits. As a consequence, theories and insights are better developed for returns, even though risk-related topics have received a great deal of coverage in accounting and finance. Increasingly salient are socio-economic and political issues that have the potential to affect firm value (see Bhagwat et al., 2020; Fournier et al., 2020; Josephson et al., 2019). Given rising stakeholder expectations of risk-laden issues such as immigration, gender and race equality, #MeToo, political ideology, income inequality, climate change, and gun control, firms often find themselves in situations—whether by intended action or by unintended association—in which they confront bad publicity, consumer protests, value-damaging boycotts, and even legal prosecution (Cohen & Gurun, 2018). Further research is necessary on emerging risks that capture stakeholder attention and lead to brand devaluation, cash flow volatility and firm risk, and attendant firm-value drawdowns.

Finally, future research should consider the topic of human capital and the role of CMOs/top management teams, a frequently mentioned theme among our survey respondents. Ya et al.'s (2020) study provides a systematic review and agenda on this topic.

6.2. Methodological topics for future research

We see several opportunities for future research in the methodological area. First, we call for further research using machine learning to parse marketing-related topics in financial and other data sources. Given the interdisciplinary nature of the research field, marketing–finance researchers should consult both the marketing and finance/accounting literature when deciding on machine-learning approaches, justify their choice, and, when in doubt, compare the accuracy of different algorithms (Borah & Tellis, 2016; Hartmann et al., 2019). Future research could use natural language processing, such as random forest or Naïve Bayes, of publicly available information in company statements. Second, and more generally, researchers should be open to using a variety of data sources, including earnings calls (e.g., J. Chen et al., 2018), CSR reports (e.g., Dhaliwal et al., 2012), analyst reports (e.g., A.H. Huang et al., 2014), datasets on the Text-based Network Industry Classifications by G. Hoberg and Phillips (2016) and used in marketing by Kashmiri et al. (2017), product-market fluidity data (G. Hoberg et al., 2014; Panagopoulos et al., 2018) and finance-oriented word-list dictionaries (e.g., Loughran & McDonald, 2011) from the finance/accounting literature.

Third, research should investigate the causal effects of marketing on firm value. For example, Covid-19 provides an exogenous shock that researchers could use in techniques such as difference-in-differences or regression discontinuity approaches (Angrist & Pischke, 2009) to assess the causal impact of drivers of interest on stock performance. Related questions are whether and how randomized controlled trials can be rigorously applied to marketing–finance research.

Finally, more work is required on individual investor behavior data, from either lab or field experiments. Marketing–finance researchers should be open to behavioral work and to collaborations with the growing consumer–financial decision making community. Furthermore, studies could adapt recent works in finance (e.g., Fecht et al., 2018) that examine individual retail investor (vs. institutional investor) stock-holding data.

7. Conclusion

This article provides a comprehensive review of the substantial body of research at the marketing–finance interface since 2009, based on 285 published articles and augmented with insights from surveys of leading academics. Given the growing pressure on marketing executives to demonstrate the financial accountability of their initiatives, the studies reviewed are important, as they demonstrate the clear linkage between marketing actions and investor response. Bridging multiple streams across disciplines, research at the marketing–finance interface can substantively enhance the management literature.

Our review also reveals that the relationship between marketing-related activities (industry-, firm-, and customer-level) and firm value will continue to be one of the most important topics in the next decade, which presents key opportunities. First, the overlap of topics we identified in marketing, finance, and accounting shows that the time is ripe for marketing–finance researchers to enhance interdisciplinary collaborations to translate insights into research targeted at the top finance and accounting journals. Second, there is an opportunity to gain more traction (e.g., on brand and customer disclosures) with regulatory agencies such as the SEC in the US and ESMA in Europe to benefit firms and their stakeholders. We encourage the Marketing Accountability Standards Board to play a more active role in this regard. Third, there is a growing emergence of the crossover of marketing–finance insights from academia into actual practice (e.g., with customer satisfaction and customer-based firm valuation). To accelerate this, a transformation of our methods into tools that are practically implementable by professionals will be necessary.⁸ As a step in that direction, we hope that the collective findings in this article will generate a much-needed discussion among academics, practitioners, and finance and marketing executives and foster further research on the ever-expanding role of marketing in determining firm value.

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Appendix A. Supplementary data

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