Marketing and Firm Value

Shuba Srinivasan
Boston University

(thanks to Dominique Hanssens for contributions to Book and Alex Edeling for IJRM contributions)

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Outline

Intro

Evolution of metrics

Development of methods

Generalizable findings

Future research and conclusion

Marketing-Finance Interface

- Academic discipline of finance, both corporate finance and financial markets, has been linked with the field of marketing, referred to as “research on the marketing-finance interface.”

- Marketing-finance interface investigates the relationships between marketing-related variables and metrics, incorporating the behavior of financial-market participants including analysts, investors, and creditors.

- The main objective of this stream of research has been to broaden the scope of marketing to include investors as a relevant stakeholder.

Typical Research questions

- How does the stock market react when companies build brands, launch new products and engage in marketing activities that may not yield immediate cash-flow benefits, but strengthen the long-term viability of the enterprise?

- Are managers influenced by investor behavior, for example, does the recent evolution of stock prices impact the types of marketing activities the firm engages in through a feedback loop?

- These and other questions are of interest to both academic disciplines, but also to their practice communities.

Marketing-Finance Interface

- Stock price is a recognized consensus metric of a firm's economic health and, as such, marketers are well served by knowing which of their actions, if any, either lift or depress stock prices.

- In that context, the finance literature on asset pricing relies heavily on the efficient markets' hypothesis (EMH), which states that all value-relevant information about firms is incorporated immediately and fully in their stock prices.

- The EMH comes in three forms: weak efficiency (only historical information on the firm is incorporated), semi-strong efficiency (historical data plus newly emerged public information) and strong efficiency (semi-strong efficiency plus private information).

    - Strong efficiency has been ruled out empirically and, in fact, the use of insider (private) information in stock trading is illegal precisely because it can result in substantial capital gains for the information holder.

Marketing-Finance Interface

- General consensus in the financial community that market efficiency holds somewhere in between its weak and its semi-strong form.
- Herein lies an important connection with the marketing discipline, because marketing almost always involves releasing new and publicly available information.
  - In general, favorable developments affecting cash flows would result in increases in stock price, and unfavorable developments would result in decreases (Mizik and Jacobson 2004).
  - That is, all else equal, the stock market should reward firms with higher stock prices as “good news” about marketing becomes available. In contrast, “bad news” about marketing should have the opposite effect.
  - In other words, stock market valuation should be in sync with product-market valuation—actions that drive value in product markets should also drive firm value.

The need for an updated “marketing–finance interface”:The managerial gap

Demonstrating the impact of marketing actions on financial outcomes is #1 C-suite communication challenge (CMO survey 2019-2022)
11% of revenues are in marketing investments, yet only 41.6% are able to quantify its impact

- Short tenure of CMOs (3.5 years compared to 7.2 [CEO] or 5.7 [CFO])
- Juniorization of the marketing staff (Fournier et al. 2020)

Marketing function is responsible for stock market performance in only 3% of companies (even a decrease since 2014) (CMO survey August 2019)

Marketers do not use stock prices or Tobin’s q to evaluate the effectiveness of marketing-mix activities (Mintz and Currim 2013, *JM*)

The need for an updated “marketing–finance interface” review article (3): A new business and marketing landscape

Business Roundtable℠

Shareholder value ⇨

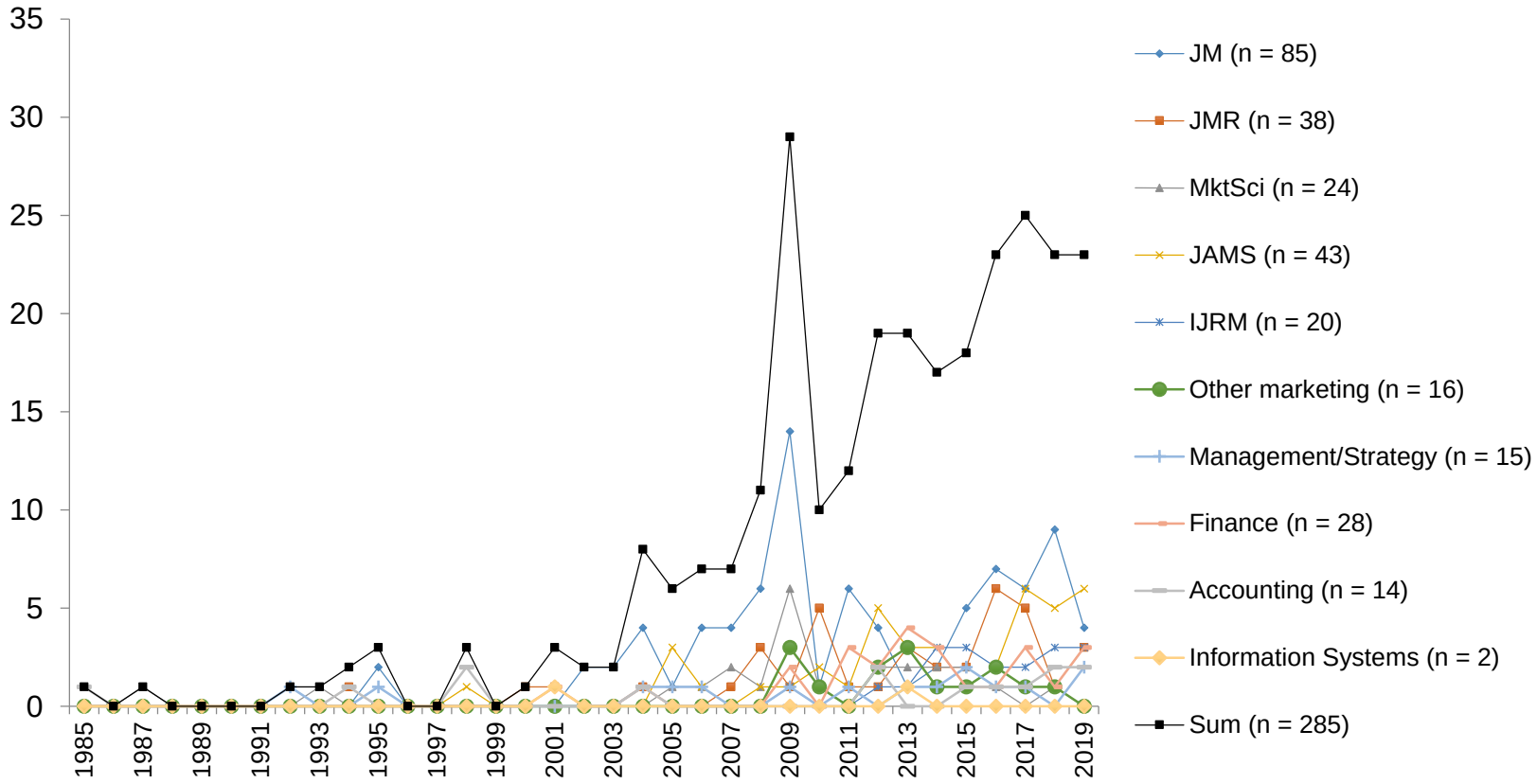
- Customer value
- Employee value
- Supplier value
- Community value
- Shareholder value

“A company cannot achieve long-term profits without embracing purpose and considering the needs of a broad range of stakeholders.”
(Larry Fink, CEO of BlackRock)

A “jungle” of empirical marketing-finance research since 2009

Journal-based evolution of the marketing-finance interface over time

Chart*



*The year 2020 was not included in the chart due to partial count (deadline for inclusion: April 30, 2020).

Observations

- General upward trend
- Majority in marketing outlets with strong managerial focus (*JM*, *JAMS*)
- 59 studies outside of marketing, with largest share in the foundational field of finance

Important extant marketing-finance topics (from survey)

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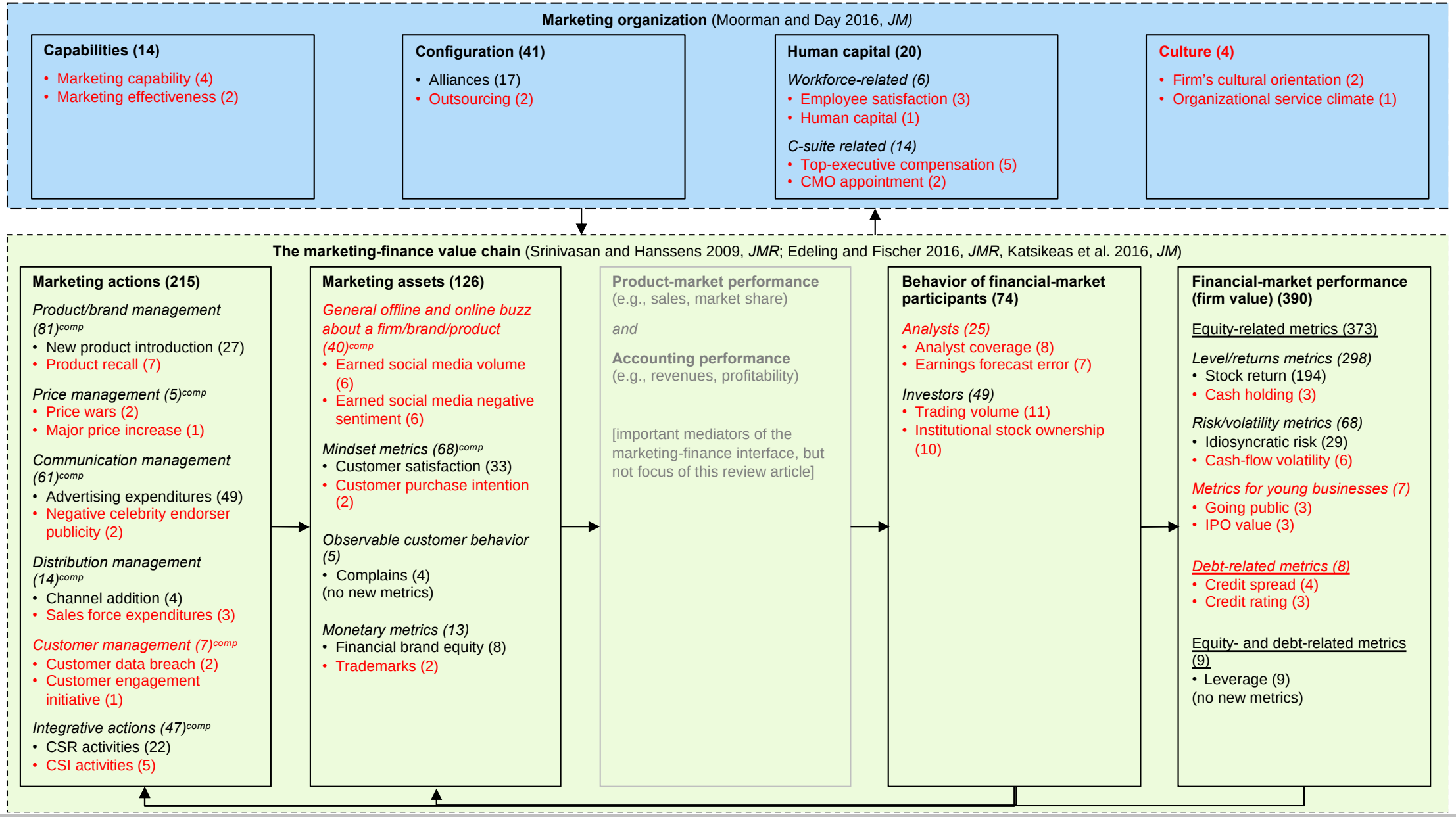
RQ 1: Categorization of metrics into marketing-finance framework



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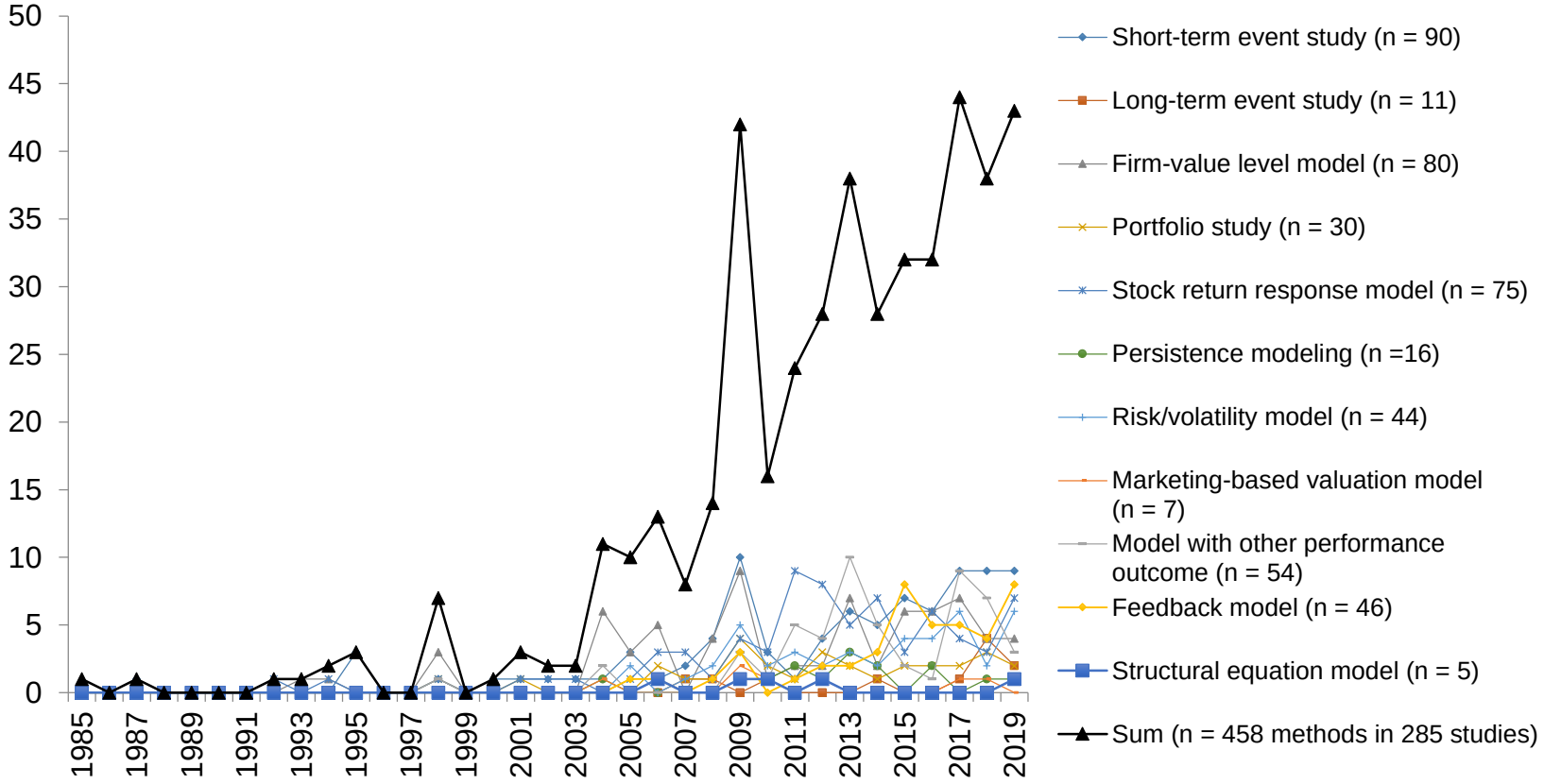
Method-based evolution of the marketing-finance interface over time

Chart*



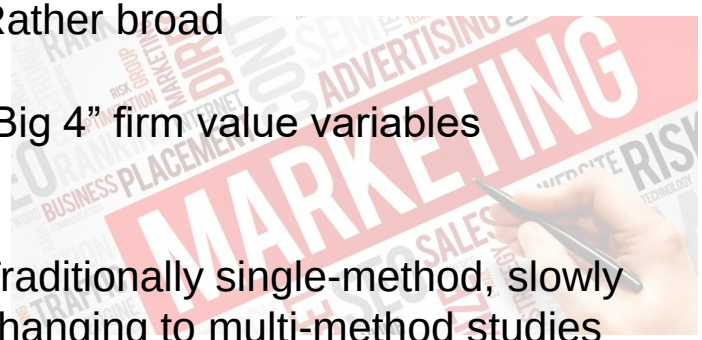
*The year 2020 was not included in the chart due to partial count (deadline for inclusion: April 30, 2020).

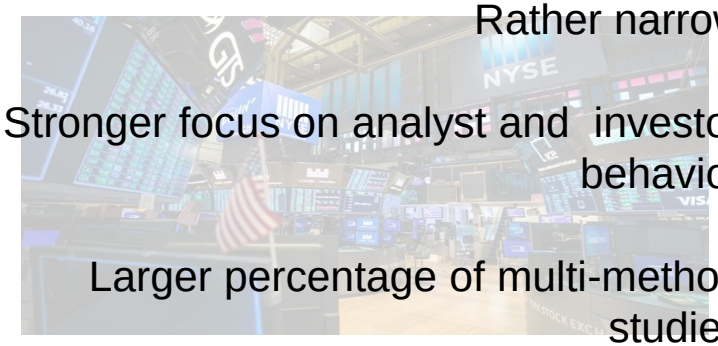
Observations

- Event studies, firm-value level models (mostly Tobin‘s q) and stock return response models with largest use
- Less focus on persistence modeling and portfolio studies
- Trend towards models with other performance outcomes and feedback models

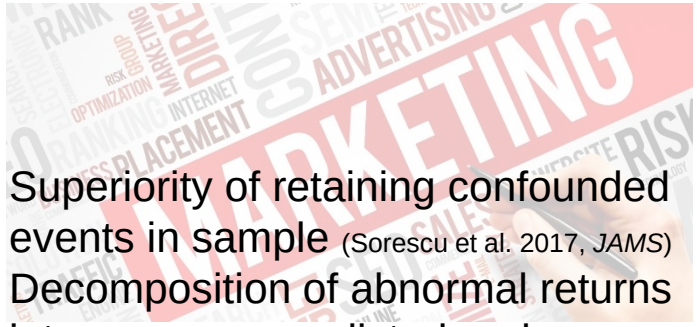
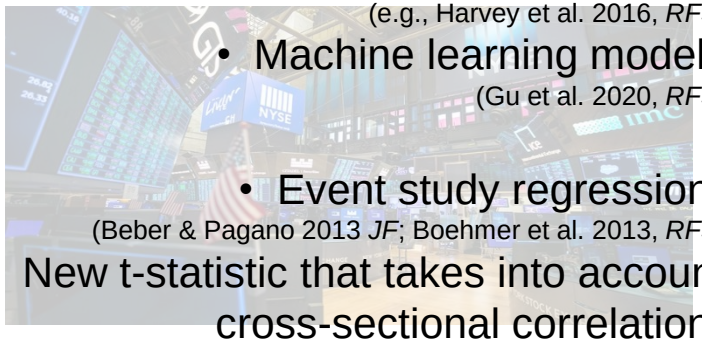
Comparison of marketing and finance/accounting literature on general methodological issues

Marketing literature	General methodological approaches	Finance/accounting literature
Strong theoretical discussion	**Theoretical foundation**	Focus rather on empirical phenomena
Marketing → Finance	**Direction of investigation**	Finance → Marketing
Rather broad	**Focus marketing variables**	Rather narrow
“Big 4” firm value variables	**Focus financial variables**	Stronger focus on analyst and investor behavior
Traditionally single-method, slowly changing to multi-method studies	**Methods per study**	Larger percentage of multi-method studies
• Panel data • Instrumental variables • VAR models	**Establishing causality**	• Natural experiments • Field experiments • Lab experiments





RQ 2: Methodological marketing-finance developments in marketing and finance/accounting literature (1)

Marketing literature	Method	Finance/accounting literature
-	**Factor models (general asset pricing)**	• Five-factor asset pricing model* (Fama and French 2015, *JFE*) • Behavioral factor model (Daniel et al. 2020, *RFS*) • General criticism of factor models (e.g., Harvey et al. 2016, *RFS*) • Machine learning models (Gu et al. 2020, *RFS*)
 • Superiority of retaining confounded events in sample (Sorescu et al. 2017, *JAMS*) • Decomposition of abnormal returns into manager-predicted and unpredicted abnormal return (Park et al. 2019, *JMR*) • New dependent variable (Skiera et al., 2017, *IJRM*)	**Event study**	 • Event study regression* (Beber & Pagano 2013 *JF*; Boehmer et al. 2013, *RFS*) • New t-statistic that takes into account cross-sectional correlation* (Kolari & Pynnönen 2010, *RFS*) • Event study for stock price risk* (Carlson et al. 2010, *RFS*)

*Applied in marketing research.

RQ 2: Methodological marketing-finance developments in marketing and finance/accounting literature (2)

Marketing literature	Method	Finance/accounting literature
Long-term financial consequences of marketing assets and decomposition into immediate and future effects (Mizik 2014, *JMR*)	**Stock return response model**	See “factor models” developments
-	**Calendar time portfolio**	See “factor models” developments
• Structural panel VAR model (Kang et al. 2016, *JM*) • Interactions in panel VAR (Huang and Trusov 2020, *IJRM*)	**Persistence modeling**	-
Inferiority of Tobin’s q (Bendle and Butt 2018, *MktSci*)	**Tobin’s q models**	New “Total q” metric* (Peters and Taylor 2017, *JFE)*
• Debt and non-operating assets (Schulze et al. 2012, *JM*) • Missing data and customer dynamics (McCarthy et al. 2017, *JM*) • Noncontractual firms (McCarthy and Fader 2018, *JMR)*	**Customer-based valuation**	-

*Applied in marketing research.

Fama French/Carhart four-factor model with common stochastic volatility using moving windows

$$(R_{it} - R_{rf,t}) = \alpha_i + \beta_{1i}(R_{mt} - R_{rf,t}) + \beta_{2i}SMB_t + \beta_{3i}HML_t + \beta_{4i}UMD_t + \varepsilon_{it}$$

where

$$\varepsilon_{it} \sim N(0, \sigma^2_{\varepsilon_i})$$

R_{it} is the stock return for firm *i* at time *t*, $R_{rf,t}$ is the risk-free rate of return in period *t*, R_{mt} is the average market rate of return in period *t*

SMB_t is the return on a value-weighted portfolio of small stocks minus the return of big stocks

HML_t the return on a value-weighted portfolio of high book-to-market stocks minus the return on a value-weighted portfolio of low book-to-market stocks

UMD_t is the average return on two high prior-return portfolios minus the average return on two low prior-return portfolios.

Two Research Approaches

- Stock Return Response Modeling (SRM)
  - Single-equation approach based on the ECM
- Persistence Modeling (VAR)
  - Systems approach on revenue, profit and stock price
- See Srinivasan and Hanssens (2008).

Approach 2: Stock-return Response Modeling

- Single equation approach based on ECM
- Srinivasan, Pauwels, Silva-Risso, Hanssens (2008, JM)
- Recognizes random-walk behavior of stock prices
- Which unanticipated events lift the stock price and therefore the return ?
- Have causal and signaling interpretations
- Cross-section & time-series data

Approach 2: Stock-return Response Modeling

$$R_{it} = ER_{it} + \beta_1 U\Delta REV_{it} + \beta_2 U\Delta INC_{it} + \beta_3 U\Delta CUST_{it} + \beta_4 U\Delta OMKT_{it} + \beta_5 U\Delta COMP_{it} + \varepsilon_{i2t}$$

R_{it}	the stock return for firm i at time t
ER_{it}	the expected return from the FF benchmark model
$U\Delta REV_{it}$	the unanticipated change in revenue
$U\Delta INC_{it}$	the unanticipated change in earnings
$U\Delta CUST_{it}$	unanticipated change in non-financial metrics (e.g., customer satisfaction)
$U\Delta OMKT_{it}$	the unanticipated change to marketing variables or strategies
$U\Delta COMP_{it}$	the unanticipated change to competitive marketing variables or strategies

The unanticipated components may be modeled as the difference between analysts' consensus forecasts and the realized value (in the case of earnings), or via time-series extrapolations using the residuals from a time-series model (e.g., Lev 1989).

Approach 3: VAR modeling

- See Pauwels, Silva-Risso, Srinivasan and Hanssens (2004)
- Models revenue, profit, marketing activity and market value as a system
- Recognizes feedback loops, e.g. stock prices influence future marketing decisions (Markovitch, Steckel & Yeung 2005)
- Allows for deviations from the ECM
- Requires long time-series data

Illustration of a VAR Model

Persistence Modeling (VAR) : Systems approach on revenue, profit and stock price

$$\begin{bmatrix} \Delta MBR_{it} \\ \Delta INC_{it} \\ \Delta REV_{it} \\ MKT1_{it} \\ MKT2_{it} \end{bmatrix} = C + \sum_{n=1}^{N} B_n \times \begin{bmatrix} \Delta MBR_{it-n} \\ \Delta INC_{it-n} \\ \Delta REV_{it-n} \\ MKT1_{it-n} \\ MKT2_{it-n} \end{bmatrix} + \Gamma \times \begin{bmatrix} X_{1t} \\ X_{2t} \\ X_{3t} \end{bmatrix} + \begin{bmatrix} u_{MBR_{it}} \\ u_{INC_{it}} \\ u_{REV_{it}} \\ u_{MKT1_{it}} \\ u_{MKT2_{it}} \end{bmatrix} \qquad [4]$$

MBR_{it}	the market-to-book ratio for firm i at time t
REV_{it}	the top-line revenue for firm i at time t
INC_{it}	the bottom-line earnings for firm i at time t
$MKT1_{it}$	firm i's marketing action (e.g. advertising)
$MKT2_{it}$	firm i's marketing action (e.g. promotions)

- The first equation is an expanded version of stock return response model

Illustration of a VAR Model

- Persistence models provide baseline forecasts of each endogenous variable, along with estimates of the shock or surprise component in each variable.
- If the EMH holds and all relevant new information is incorporated immediately, then the lagged terms in the firm value equation of (4) will be zero. By contrast, lagged effects indicate that information is incorporated only gradually.
- For example, Pauwels et al. (2004) show that investors in the automotive industry need about ten weeks to fully incorporate the impact of a new-product introduction on stock returns.

Illustrations of a VAR Model

- There have been several applications of VAR models in the finance literature (e.g., Campbell and Shiller 1998; Dufour and Engle 2000; Vuolteenaho 2002).
- Kang, Germann and Grewal (2016) model the interactions among CSR, corporate social irresponsibility and firm value using a structural panel-VAR model that allows contemporaneous effects among some of the endogenous variables, using annual data on more than 4,500 firms for nineteen years (i.e., a large cross section and short time series).
- Huang and Trusov (2020) investigate how the interrelationship between firm financial performance and executive compensation varies with productivity and customer satisfaction levels, by incorporating interactions in a panel-VAR model.

Limitations

- First, persistence models are inherently reduced-form models, unless structural restrictions are imposed on the contemporaneous causal ordering.

- Second, VAR models can result in over-parameterization, which may affect the quality of individual parameter estimates.

- Finally, the data requirements are substantial, and the data-generating process is assumed constant over time. To alleviate this concern, the stability of results over time needs to be tested, which may lead to moving-window estimation to capture response shifts (e.g., Pauwels and Hanssens 2007).

Resolving of methodological debates

Should researchers still use Tobin's q as a firm-value metric (Bendle and Butt 2018, *MktSci*)?

Suggestion by authors

"Reconsider using (TQ) as performance metric given that (it is) biased toward false positives when firms make marketing investments" (p. 497)

Three observations:

- Criticism is not new (e.g. Edeling and Fischer 2016, *JMR*, Mizik and Jacobson 2009, *JMR*)
- Criticism is not limited to marketing (e.g., Gurun and Butler 2012, *JF*)
- Finance and accounting researchers still use TQ excessively

Our recommendations

- Justify choice of metrics
- Use multiple metrics
- Apply new "Total q" developed by Peters and Taylor (2017, *JFE)*

What should be the dependent variable in marketing event studies (Skiera et al. 2017, *IJRM*)?

Suggestion by authors

Since marketing event studies tend to only affect the operating business of a firm, marketing-finance researchers should use

$$CAR^{OB} = \frac{CAR^{SHV}}{OB / (OB - NOA + DEBT)}$$

as dependent variable in event studies.

Our recommendations:

- Always consider which part of shareholder value (operating business, non-operating assets, or debt) is affected by marketing events
- Use CAR^{OB} as robustness check (e.g., Lim, Tuli, and Dekimpe 2018, *IJRM*)

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Generalizable results – quantitative synthesis

Stock return findings:
Most-often analyzed marketing variables

	Stock return		
Marketing variable (category)	+	0	-
Advertising expenditures (actions)	12	8	5
Customer satisfaction (assets)	12	9	0
New product introductions (actions)	15	5	0
CSR (actions)	3	4	4
Alliances (configuration)	12	4	4
Customer-based brand equity (assets)	8	11	0
R&D expenditures (actions)	1	2	1
Product quality (assets)	5	5	0
Financial brand equity (assets)	2	2	0
Product recall (actions)	1	2	5
Earned social media volume (assets)	7	2	0
Earned social media negative sentiment (assets)	0	1	7
Earned social media positive sentiment (assets)	2	1	0
Myopic management (actions)	2	1	5

Identified groups

Only positive or neutral findings

Mixed positive and negative findings, but predominantly positive

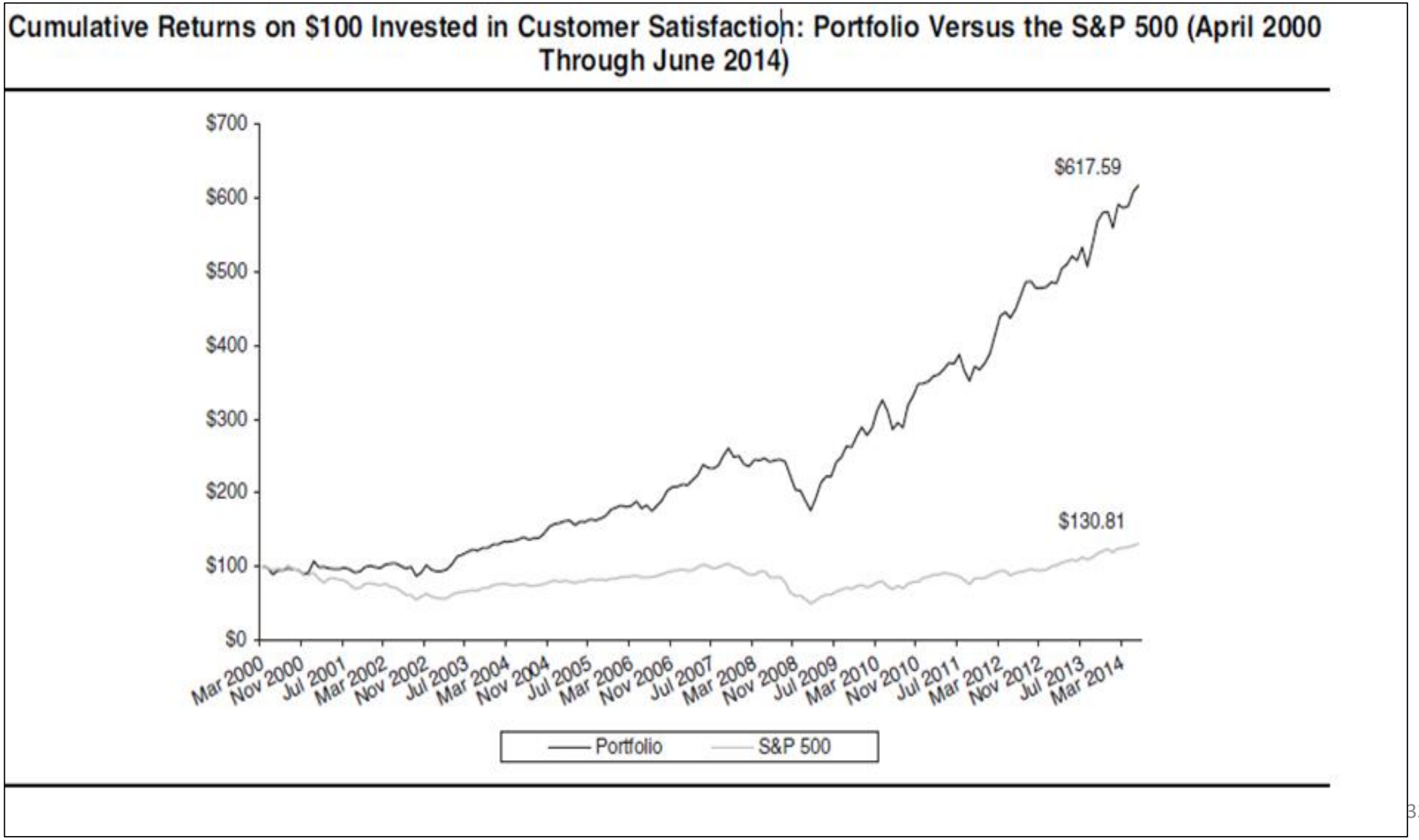
Mixed positive and negative findings, more or less balanced

Strong overweight of negative effects

How about marketing and firm value (Y factor)?

	Firm Value Elasticity	
Advertising	.04	Edeling-Fischer JMR 2016
Brand Assets	.33	Edeling-Fischer JMR 2016
Customer Relationship Assets	.72	Edeling-Fischer JMR 2016
Innovation	+	Sood-Tellis MKS 2009

Customer Satisfaction and Firm Value (Source: Fornell et al. 2016)



Customer Satisfaction and Firm Value (Source: Fornell et al. 2016)

- Key takeaway is that customer satisfaction movements, even though they are not financial metrics, contain information about the future of a business that is *not* picked up by earnings and other financial data collected at the same time.

- The marketing profession offers, of course, an intuitive explanation for this phenomenon:
  - satisfied customers are more likely to remain loyal to the brand,
  - to increase their consumption of the brand and/or
  - to recommend the brand to others,

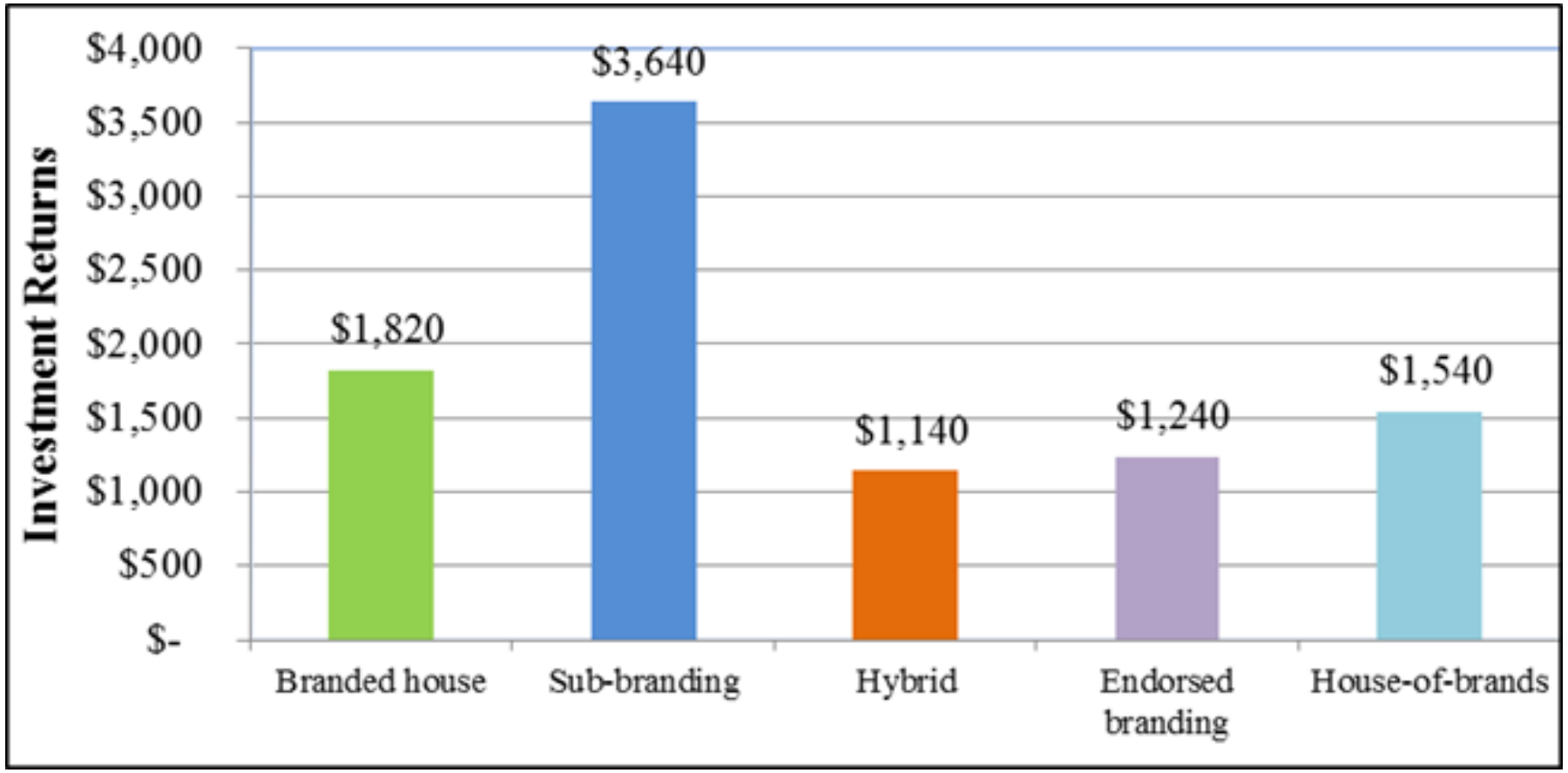
  all of which impact future revenue generation in ways that current cash flows may not (yet) reflect.

Brand Equity and Firm Value

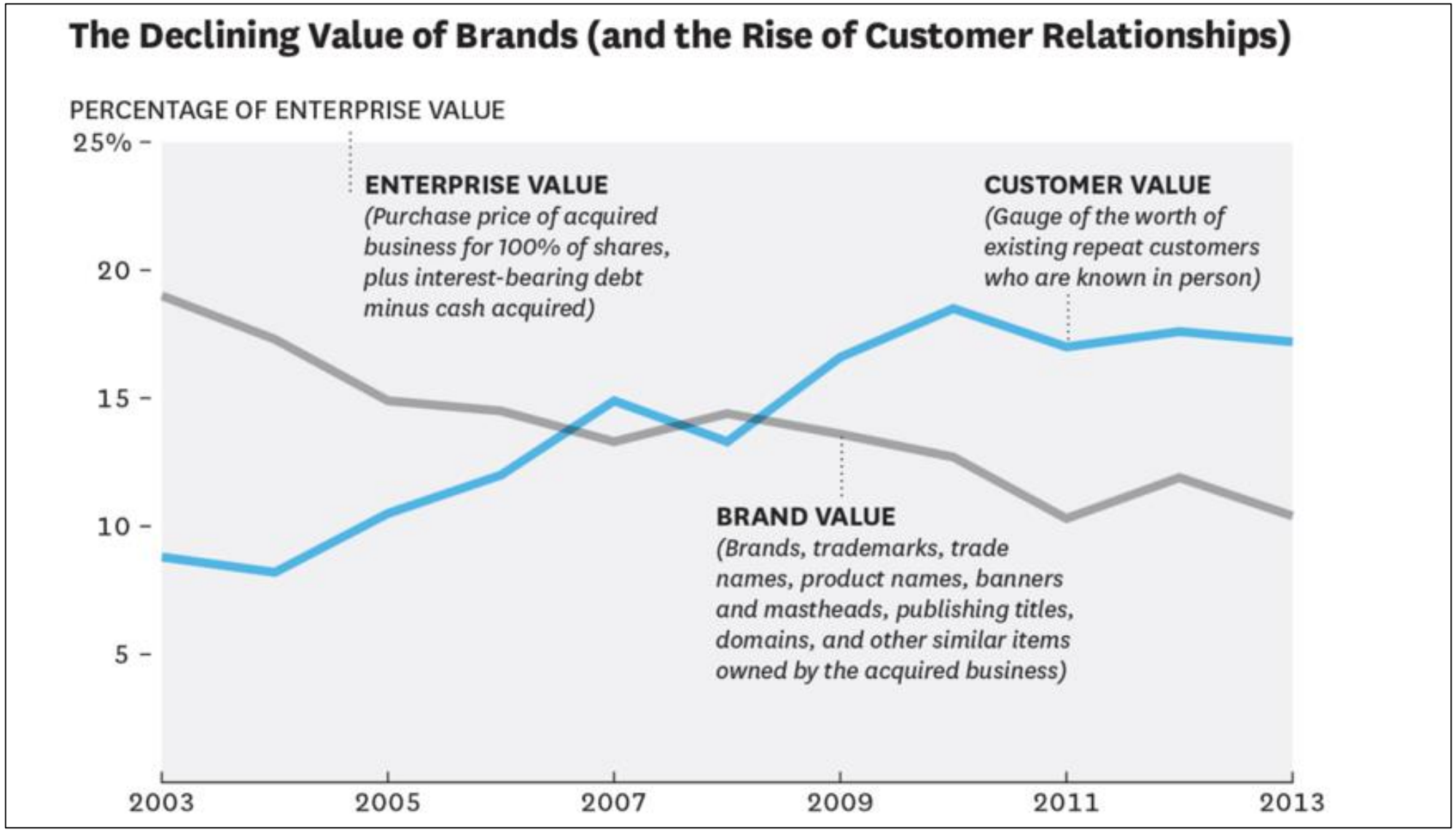
- Comparing Interbrand's 111 "World's Most Valuable Brands" to two benchmark portfolios: strong brands deliver higher monthly stock returns, with lower risk (Madden, Fehle & Fournier 2006).

- Comparing Tobin's q for 113 firms over 5 years: corporate branding > house-of-brands > mixed branding (Rao, Agarwal & Dahlhoff 2004).

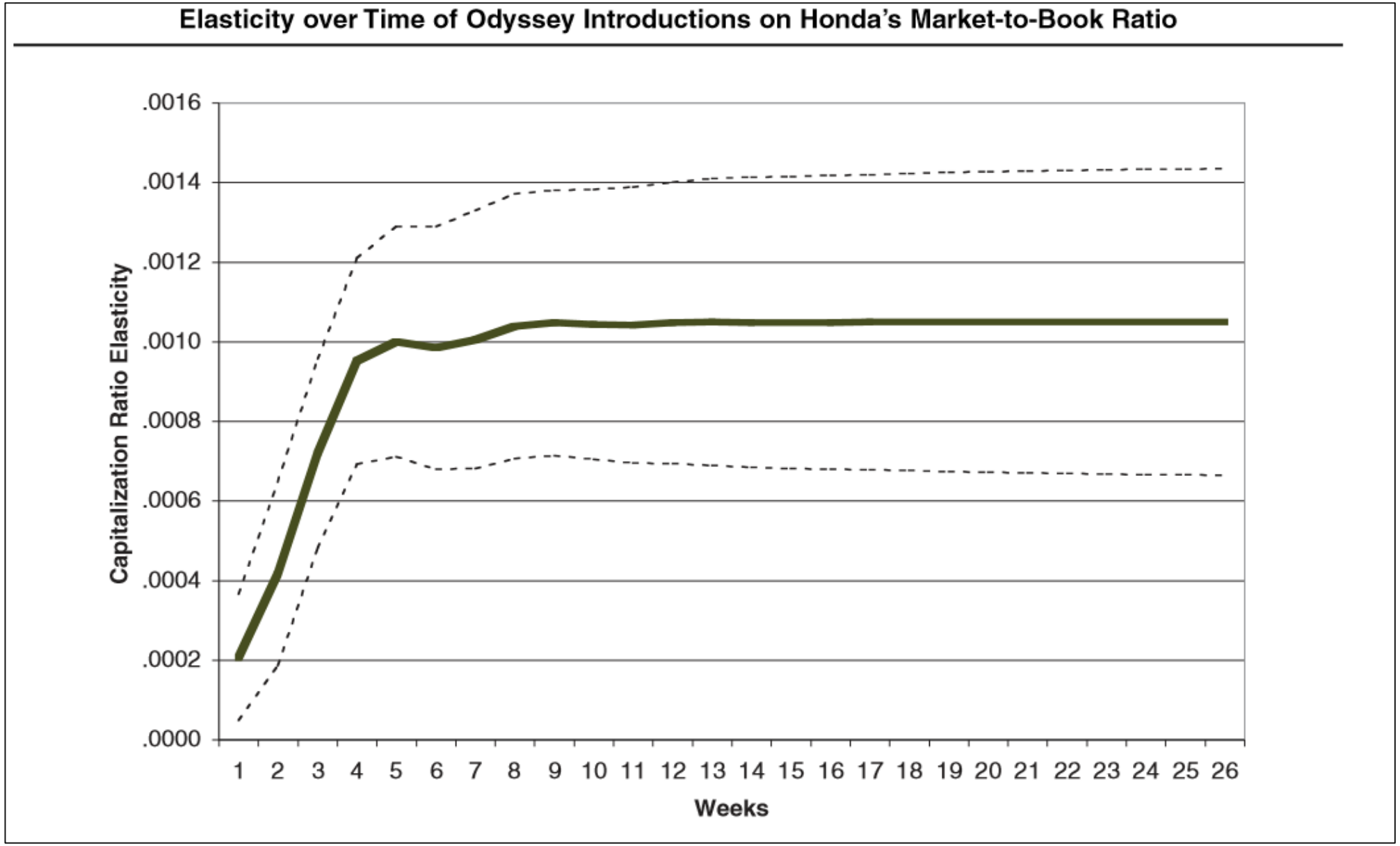
Empirical Results on Returns: Value of $1000 invested



Evolution of brand value vs. customer relations value in mergers & acquisitions (Source: Binder and Hanssens 2015)



Product Innovation and Firm Value (Source: Pauwels et al. 2004)



Innovation and Growth in the Auto Industry (Pauwels et al. JM 2004)

% major brands Firm Value Impact		SUVS	Minivans	Sedans	Small cars
Rebates	+	17%	0%	20%	20%
	-	83%	100%	80%	80%
Innovation	+	83%	83%	60%	100%
	-	17%	17%	40%	0%

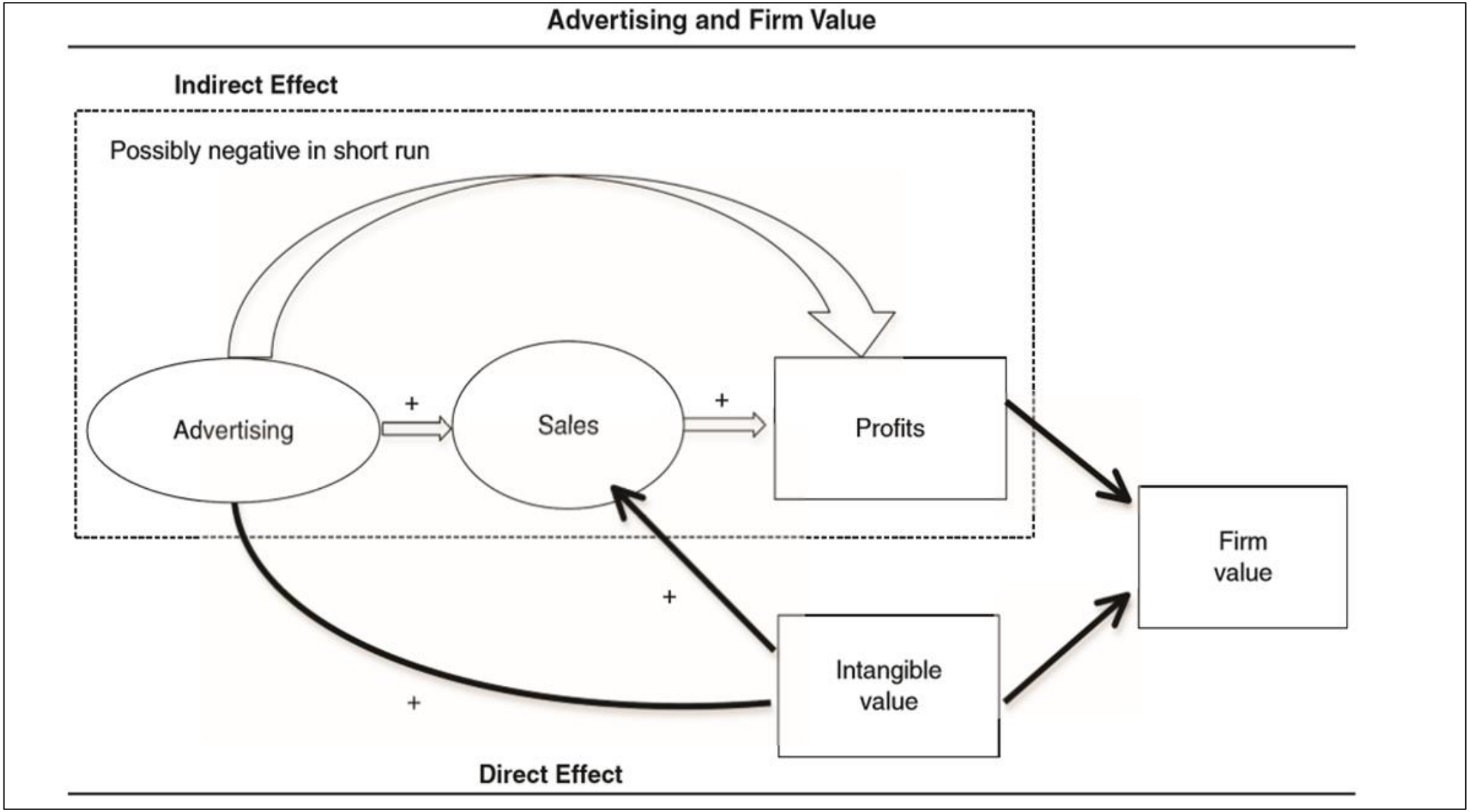
Product Innovation, Sales Promotion and Firm Value (Source: Pauwels et al. 2004)

Impact of Product Introduction and Rebates on Performance and Firm Value (Mean Values)

	New Product Introductions		Sales Promotions	
	Short Run	Long Run	Short Run	Long Run
Top-Line Performance				
Firm revenue	2.39	4.30	1.48	7.94
Bottom-Line Performance				
Firm income	.37	.60	1.09	–1.28
Firm Value				
Ratio of market capitalization to book value	.02	1.14	.12	–.78

Notes: For readability, we multiplied elasticity estimates by 1000.

Advertising and Firm Value (Source: Joshi and Hanssens 2010)



Generalizable results

Digital marketing and firm value

Finding 1: Online communication actions by firms have a positive effect on firm value (Bayer et al. 2020, IJRM; Boyd et al. 2019, JM, Cao et al. 2018, JR)

Finding 2: Owned social media is a driver of firm value, with potential asymmetries for positive and negative sentiment and likely spillovers on rivals (Bartov et al. 2018, TAR; Borah and Tellis 2016, JMR; Colicev et al. 2018, JM; Huang 2018, JFE, Luo et al. 2013, ISR; Tirunillai and Tellis 2012, MktSci)

Finding 3: Data breaches can have severe negative firm-value effects on focal firms and, to a lesser degree, rival firms (Kashmiri et al. 2017, JAMS; Martin and Murphy 2017, JAMS; Martin et al. 2017, JM)

Generalizable results

Tradeoff between doing good and doing well

Finding 4: In general, positive changes for the customer stakeholder group in terms of higher customer satisfaction are associated with positive shareholder effects (Colicev et al. 2018, *JM*, Fornell et al. 2016, *JM*, Larivière et al. 2016, *JMR*)

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 (Edmans 2011, *JFE*, Green et al. 2019, *JFE*, Vomberg et al. 2015, *SMJ*)

Finding 6: Evidence of the shareholder-value effect of investing in CSR is highly mixed and contingent on a firm's marketing and corporate social irresponsibility (CSI) activities, as well as other firms' CSR behavior in the value chain (Dai et al. 2020, *JFE*, Kang et al. 2016, *JM*; Manchiraju and Rajgopal 2017, *JAR*; Servaes and Tamajo 2013, *ManSci*; Woodroof et al. 2019, *JAMS*)

Generalizable results

Feedback effects

Finding 9: Myopic management has negative stock-market consequences, and firms should aim to introduce organizational structures to reduce its occurrence (Bendig et al. 2018, *JM*, Kothari et al. 2016, *TAR*, Mizik 2010, *JMR*; Srinivasan and Ramani 2019, *JM*)

Finding 10: Firms react to stock-market-related signals by adapting their marketing activities, with mixed consequences for their product-market performance (Chakravarty and Grewal 2011, *ManSci*; Focke et al. 2020, *RFS*; Mian et al. 2018, *IJRM*; Park et al. 2019, *JMR*)

Finding 11: Firms that are (or become) publicly listed alter their innovation behavior substantially (Bernstein 2015, *JF*; Moorman et al. 2012, *MktSci*; Wies and Moorman 2015, *JMR*)

Table 6: Summary of propositions on how CEO characteristics impact innovation and stock returns

Characteristics	DV	Propositions
Personality		
Overconfidence	Innovation	P1a: CEO overconfidence is positively related to innovation.
	Stock returns	P1b: CEO overconfidence has a positive indirect relationship with stock returns through innovation.
		P1c: CEO overconfidence has a negative direct relationship with stock returns.
Sensation seeking	Innovation	P2a: CEO sensation seeking is positively related to innovation.
	Stock returns	P2b: CEO sensation seeking has a positive indirect relationship with stock returns through innovation.
Military background	Innovation	P3a: CEO military background is negatively related to innovation.
	Stock returns	P3b: CEO military background has a negative indirect relationship with stoc returns through innovation.
Political ideology	Innovation	P4a: CEO liberal ideology is positively related to innovation.
	Stock returns	P4b: CEO liberal ideology has a positive indirect relationship with stock returns through innovation.
Demographics		
Age	Innovation	P5a: CEO age is negatively related to innovation.
	Stock returns	P5b: CEO age has a negative indirect relationship with stock returns throug innovation.
		P5c: CEO age has a positive direct relationship with stock returns.
Education	Innovation	P6a: CEO educational level and MBA degree are both positively related to innovation.
	Stock returns	P6b: CEO educational level and MBA degree both have a positive direct relationship with stock returns.
Gender	Innovation	P7a: Female CEOs are positively associated with innovation.
		P7b: Female CEOs are negatively associated with innovation.
	Stock returns	P7c: Female CEOs have a positive direct relationship with stock returns.
		P7d: Innovation strengthens the positive relationship between female CEOs and stock returns.
		P7e: Female CEOs have a negative direct relationship with stock returns.
Experience		
Tenure	Innovation	P8a: CEO tenure has a U-shaped relationship with innovation.
	Stock returns	P8b: CEO tenure has a U-shaped direct relationship with stock returns.
Functional expertise	Innovation	P9a: CEO “output” functional expertise is positively related to innovation.
Compensation		
Long term incentive-based compensation	Innovation	P10a: CEO Long-term incentive-based compensation is positively related to innovation.
	Stock returns	P10b: CEO long-term incentive-based compensation has a positive direct relationship with stock returns.

Marketing and Firm Value Findings

Marketing Driver	Overall Result on Firm Value
• Brand Equity, Customer Equity, Customer Satisfaction and Market Leadership	Marketing assets have a positive and substantial impact on firm value. Among those, customer relationship strength trumps brand strength and market leadership.
• Marketing Actions: product innovation, product quality, advertising, price promotion and distribution	Product innovation generally has a positive effect on firm value. Other marketing actions have a small positive or neutral effect on firm value, except price promotions, which can have a negative impact.
• Digital Marketing	Digital marketing provides several new customer-generated metrics that can have positive or negative firm-value effects.
• Product recalls & data breaches	With increased information flows, certain problematic external events – such as product recalls and data breaches - can have a pronounced negative impact on firm value. Corporate activism as a reaction to external developments needs to be approached carefully, as it, too, can backfire on investor sentiment.
• Employee Satisfaction	When employee satisfaction is viewed as important for generating customer satisfaction, it can have a measurable impact on firm value.
• CEO and CMO characteristics	Several CEO and CMO characteristics have been found to influence investor sentiment and therefore firm value.
• Reverse Causality	There are several documented cases of stock-prices movements driving changes in marketing managerial decisions. However, these decisions do not necessarily serve the best interest of the firm.

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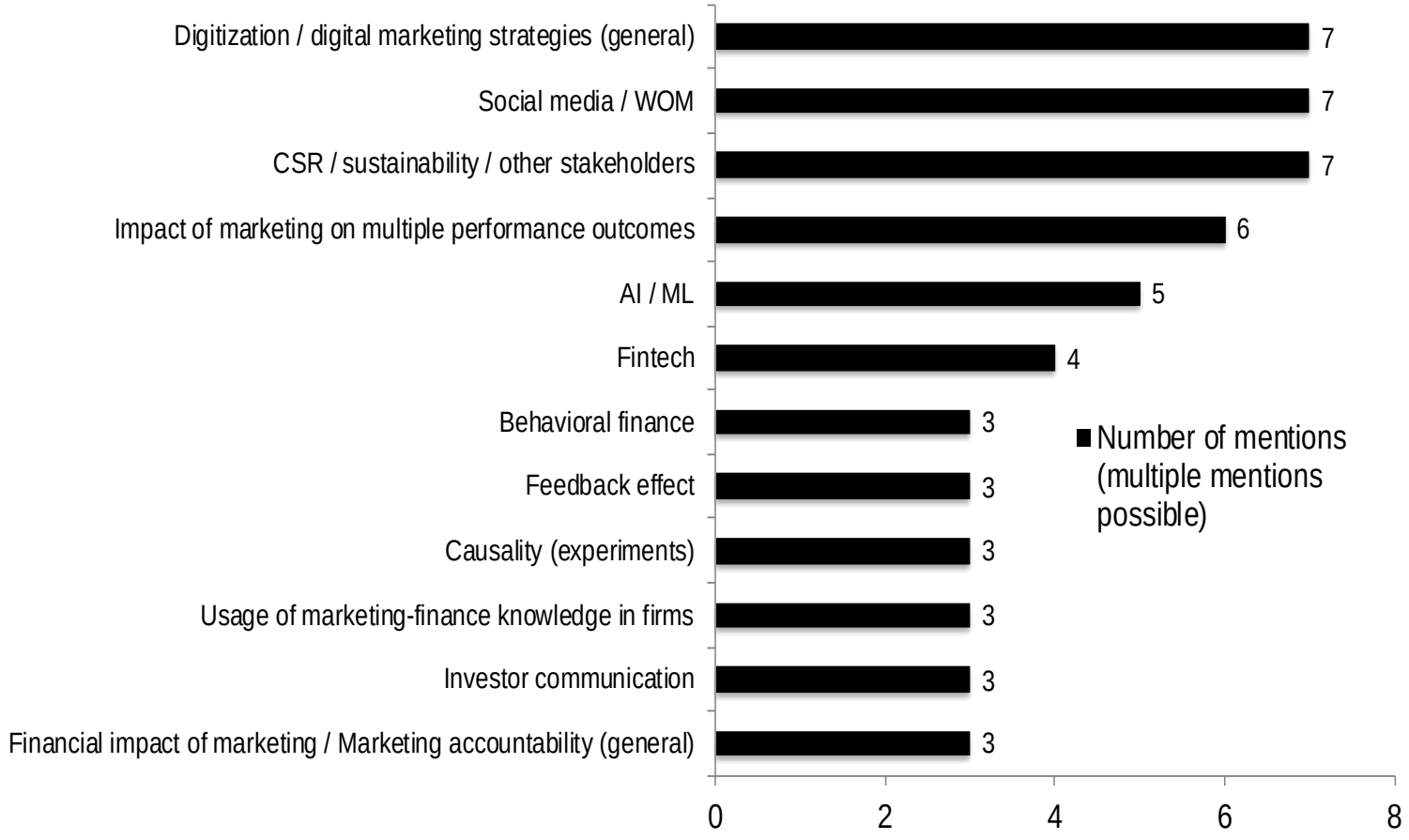
Future research and conclusion

Figure: Important future marketing-finance topics (from survey)



Future research directions (1)

Substantive topics

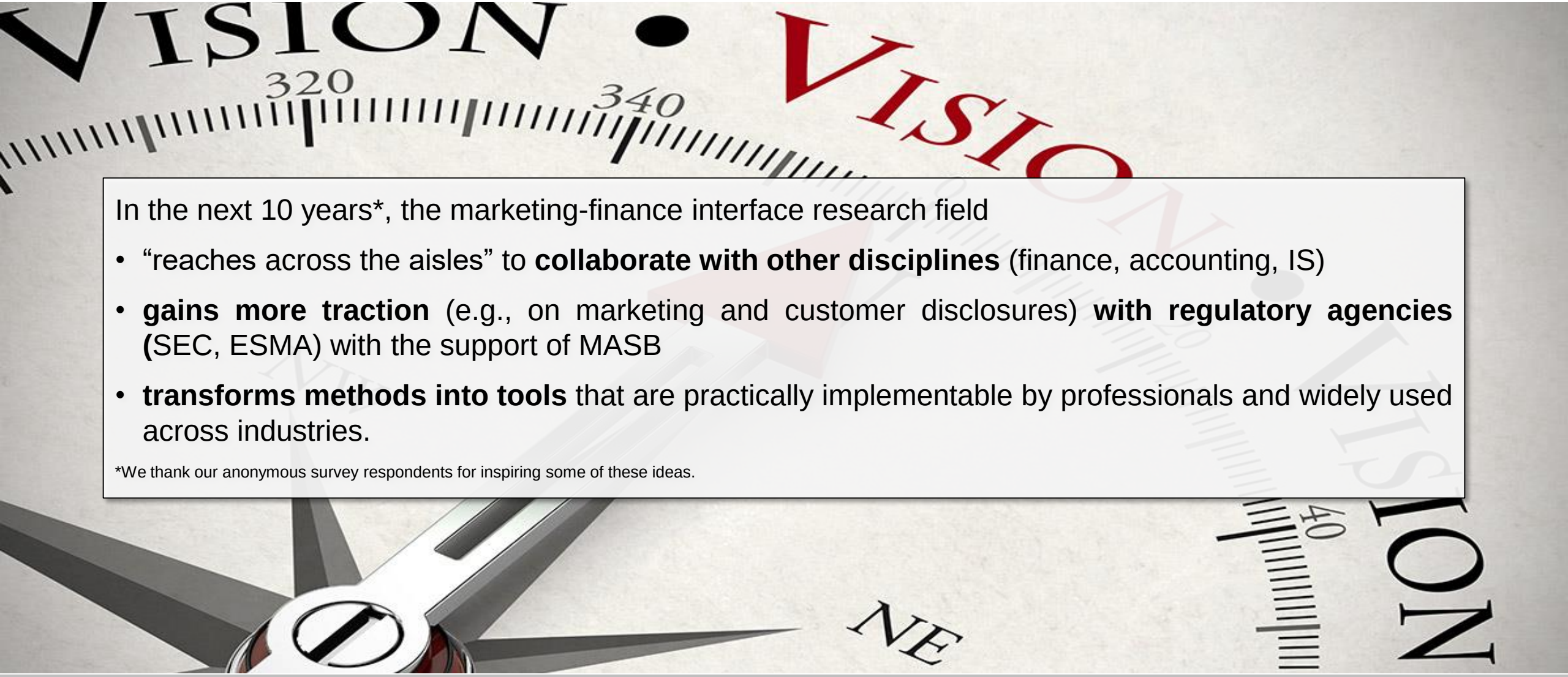
- **Fintech / Artificial intelligence**
- **Effectiveness vs. efficiency** of marketing activities and their firm value effects
- **Macroeconomic trends** (e.g., low interest rates, Covid-19 pandemic)
- **Socio-economic and political** issues and their effect on financial-market performance (e.g., Bhagwat et al. 2020, *JM*), with a **special focus on firm risk** (Fournier et al. 2020)
- Underresearched **marketing variables**: Culture, pricing, distribution

Future research directions (2)

Methodological topics

- **Textual analysis** using state-of-the art machine learning approaches (Hartmann et al. 2019, *IJRM*)
- **Using datasets that are already widely used in finance and accounting research**
  - Earnings calls
  - Analyst reports
  - Text-based Network Industry Classifications (TNIC) (Hoberg and Philips 2016, *JPE*)
  - Product market fluidity (Hoberg et al. 2014, *JF*)
  - Finance-oriented word-list dictionaries (Loughran and McDonald 2011, *JF*)
- **Causal effects** of marketing on firm value (Covid-19 as an exogenous shock?!)
- **Individual investor behavior** studies (e.g. Fecht et al. 2018, *JF*)

A vision for the marketing-finance interface research field



In the next 10 years*, the marketing-finance interface research field

- "reaches across the aisles" to **collaborate with other disciplines** (finance, accounting, IS)
- **gains more traction** (e.g., on marketing and customer disclosures) **with regulatory agencies (**SEC, ESMA) with the support of MASB
- **transforms methods into tools** that are practically implementable by professionals and widely used across industries.

*We thank our anonymous survey respondents for inspiring some of these ideas.

Thank you very much!

ssrini@bu.edu

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Full Length Article

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

Alexander Edeling [a,*], Shuba Srinivasan [b], Dominique M. Hanssens [c]

[a] University of Cologne, The Faculty of Management, Economics and Social Sciences, Albertus-Magnus-Platz, D-50923 Cologne, Germany
[b] Questrom School of Business, Boston University, 595 Commonwealth Avenue, Boston, MA 02215, USA
[c] Anderson School of Management, University of California, Los Angeles, 110 Westwood Plaza, Los Angeles, CA 90095-1481, USA

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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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Picture sources

Slide 0, 29: https://ally-marketing.com/effective-marketing-plan-elements/; https://abc7news.com/nyse-new-york-stock-exchange-trading-floor-market/6212400/

Slide 3: www.komar.de

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Slide 6,18: www.kissflow.com

Slide 28: www.stegmayer-coaching.de

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, *JM*]; associative-network theory in Borah and Tellis [2016, *JMR*]; theory of news value in Stäbler and Fischer [2020, *JM*])	Often assumed that reader is familiar with key finance theories such as the efficient market hypothesis (Fama 1991, *JF*); **focus is rather on empirical phenomena** (e.g., Focke et al. 2020, *RFS*; Huang 2018, *JFE*)
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, *JFE*])
Strategies to establish causality	**Panel-data** and **instrumental-variable** approaches (e.g., Germann et al. 2015, *JM*); **vector-autoregressive models** (e.g., Colicev et al. 2018, *JM*)	Panel-data and instrumental variable approaches (e.g., Chen et al. 2020, *JFE*); **(Quasi-)natural experiments** using differences-in-differences (e.g., He & Tian 2013, *JFE*) or regression discontinuity (e.g., Manchiraju and Rajgopal 2017, *JAR*); **field experiments** (Lawrence et al. 2018, *JAE*); **lab experiments** (Martin and Moser 2016, *JAE*)

RQ 2: Methodological marketing-finance development in marketing and finance/accounting literature (1)

Method	Marketing literature	Finance and accounting literature [applications in marketing literature]
Factor models (general asset pricing)		• **Five-factor asset pricing** model that adds profitability and investment to the original 3-factor Fama–French model (Fama and French 2015, *JFE*) [Fornell et al. 2016, *JM*]; 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, *RFS*) • **New significance hurdles** ($t \geq 3.0$) for models that try to explain the cross section of stock returns (Harvey et al. 2016, *RFS*) • **Machine-learning approaches** to identify relevant asset pricing factors outperform traditional four-factor models in return prediction (Gu et al. 2020, *RFS*)
Event study	• Superiority of **retaining confounded events** in sample (Sorescu et al. 2017, *JAMS*) • **Decomposition of abnormal returns** into manager-predicted and unpredicted abnormal return (Park et al. 2019, *JMR*) • Using the cumulative **abnormal return on the operative business** (CAR^{OB}) as the dependent variable (Skiera et al., 2017, *IJRM*)	• **Event-study regression** as an alternative to standard analysis of cumulative abnormal returns (Beber & Pagano 2013 *JF*; Boehmer et al. 2013, *RFS*) [Hock & Raithel 2020, ManSci] • **New t-statistic** that takes into account cross-sectional correlation among abnormal returns (Kolari & Pynnönen 2010, *RFS*) [Feng et al. 2020, *JAMS*] • Event studies to analyze change in **stock price risk** (Carlson et al. 2010, *RFS*) [Thomaz & Swaminathan 2015, *JM*]

RQ 2: Methodological marketing-finance developments in marketing and finance/accounting literature: Data collection methods

		Data information		Extracted text information			
		Data type (text producer)	Data source(s)	Volume	Classification (applied approach)		
Authors	Discipline				Sentiment classification	Content classification	Topic modeling
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.

RQ 2: Methodological marketing-finance developments in marketing and finance/accounting literature: Data collection methods

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.

RQ 2: Methodological marketing-finance developments in marketing and finance/accounting literature: Data collection methods

RQ 5: Future research directions

Substantive topics

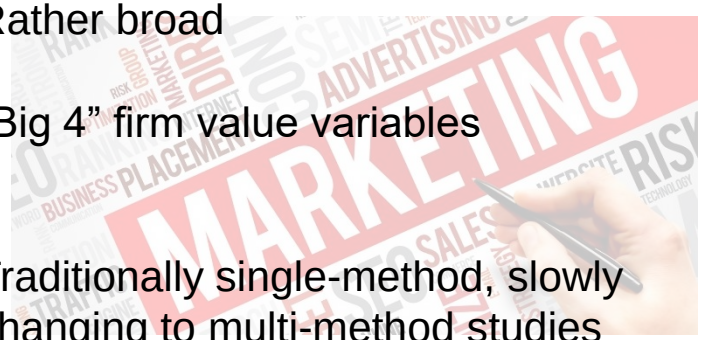
- **Fintech:** Investment decisions that incorporate insights from marketing models
- **Artificial intelligence:** Improvement of workflow efficiencies and/or value enhancement of existing investments
- **Effectiveness vs. efficiency** of marketing activities and their firm value effects
- Incorporation of **capital market feedback** regarding service offerings, pricing, and selection of distribution channels
- **"Going private**" effect on marketing actions and assets
- **Macroeconomic trends** (e.g., low interest rates, Covid-19 pandemic) and their effect ob the marketing-finance interface
- **Socio-economic and political** issues and their effect on financial-market performance (e.g., Bhagwat et al. 2020, *JM*), with a **special focus on firm risk** (Fournier et al. 2020)

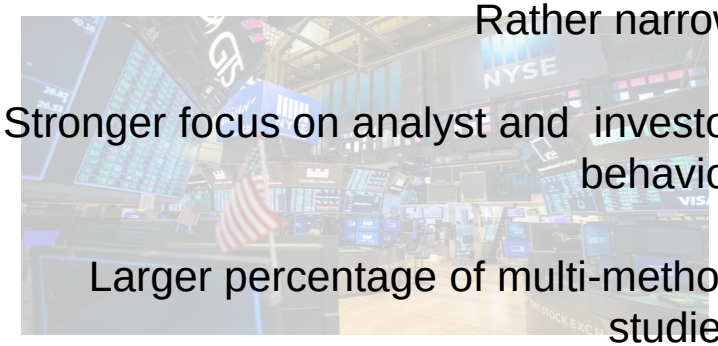
Methodological topics

- **Textual analysis** using state-of-the art machine learning approaches (Hartmann et al. 2019, *IJRM*)
- **Using datasets that are already widely used in finance and accounting research**
  - Earnings calls
  - Analyst reports
  - Text-based Network Industry Classifications (TNIC) (Hoberg and Philips 2016, *JPE*)
  - Product market fluidity (Hoberg et al. 2014, *JF*)
  - Finance-oriented word-list dictionaries (Loughran and McDonald 2011, *JF*)
- **Causal effects** of marketing on firm value (Covid-19 as an exogenous shock?)
- **Individual investor behavior studies** (e.g. Fecht et al. 2018, *JF*)

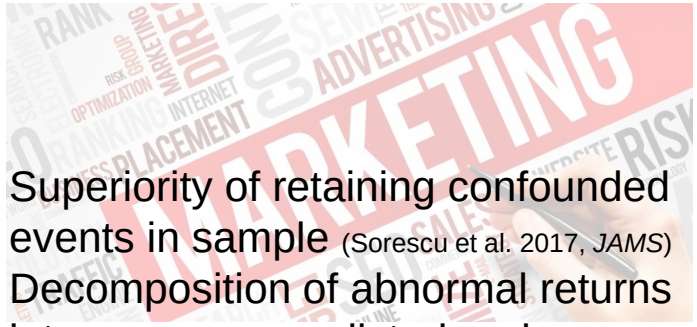
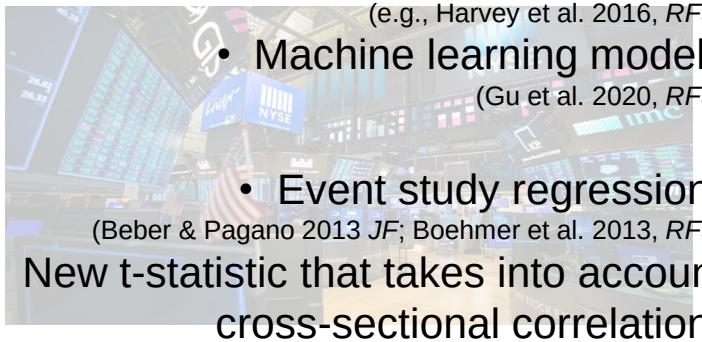
Comparison of marketing and finance/accounting literature on general methodological issues

Marketing literature	General methodological approaches	Finance/accounting literature
Strong theoretical discussion	**Theoretical foundation**	Focus rather on empirical phenomena
Marketing → Finance	**Direction of investigation**	Finance → Marketing
Rather broad	**Focus marketing variables**	Rather narrow
“Big 4” firm value variables	**Focus financial variables**	Stronger focus on analyst and investor behavior
Traditionally single-method, slowly changing to multi-method studies	**Methods per study**	Larger percentage of multi-method studies
• Panel data • Instrumental variables • VAR models	**Establishing causality**	• Natural experiments • Field experiments • Lab experiments





RQ 2: Methodological marketing-finance developments in marketing and finance/accounting literature (1)

Marketing literature	Method	Finance/accounting literature
-	**Factor models (general asset pricing)**	• Five-factor asset pricing model* (Fama and French 2015, *JFE*) • Behavioral factor model (Daniel et al. 2020, *RFS*) • General criticism of factor models (e.g., Harvey et al. 2016, *RFS*) • Machine learning models (Gu et al. 2020, *RFS*)
 • Superiority of retaining confounded events in sample (Sorescu et al. 2017, *JAMS*) • Decomposition of abnormal returns into manager-predicted and unpredicted abnormal return (Park et al. 2019, *JMR*) • New dependent variable (Skiera et al., 2017, *IJRM*)	**Event study**	 • Event study regression* (Beber & Pagano 2013 *JF*; Boehmer et al. 2013, *RFS*) • New t-statistic that takes into account cross-sectional correlation* (Kolari & Pynnönen 2010, *RFS*) • Event study for stock price risk* (Carlson et al. 2010, *RFS*)

*Applied in marketing research.

RQ 2: Methodological marketing-finance developments in marketing and finance/accounting literature (2)

Marketing literature	Method	Finance/accounting literature
Long-term financial consequences of marketing assets and decomposition into immediate and future effects (Mizik 2014, *JMR*)	**Stock return response model**	See "factor models" developments
-	**Calendar time portfolio**	See "factor models" developments
• Structural panel VAR model (Kang et al. 2016, *JM*) • Interactions in panel VAR (Huang and Trusov 2020, *IJRM*)	**Persistence modeling**	-
Inferiority of Tobin's q (Bendle and Butt 2018, *MktSci*)	**Tobin's q models**	New "Total q" metric* (Peters and Taylor 2017, *JFE)*
• Debt and non-operating assets (Schulze et al. 2012, *JM*) • Missing data and customer dynamics (McCarthy et al. 2017, *JM*) • Noncontractual firms (McCarthy and Fader 2018, *JMR)*	**Customer-based valuation**	-

*Applied in marketing research.