The Impact of Firm Management's Stated Marketing Focus on Abnormal Stock Returns in Investor Earnings Calls

sudhir voleti
Indian School of Business (ISB)
praveen kopalle
Dartmouth College

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Abstract

We propose and use a novel construct ("stated marketing focus") to mine the incidence and emphasis of marketing information in firms' quarterly earnings conference calls for a large sample of firms (S&P1500) over a reasonably long time-frame (15 years) to summarize and capture the marketing function's contribution to firms' financial market returns. Thereafter, we employ an event study approach followed by a calendar-time abnormal returns model with time-varying risk factors to investigate, validate and empirically establish the value-relevance, explanatory power and predictive power of the SMF construct on cumulative abnormal stock returns over the short term. We find that controlling for known covariates such as financial variables and earnings surprises, marketing information disclosed in earnings calls systematically, statistically significantly and persistently affects market returns. Further, we find evidence that marketing information contains a predictive signal over horizons spanning 1 to 3 months. These findings offer useful implications for firms, financial market participants and marketing function stakeholders.

Keywords: Marketing incidence, financial returns, portfolio prediction

Track: Marketing Strategy & Theory

1.   Introduction Section

A question generating much interest and debate in recent years is "What is Marketing's contribution to firm value?" (e.g., Ebeling et al. 2020; Sorescu et al. 2017). For instance, Ebeling, Srinivasan and Hanssens (2020, p2) urge that "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". In this study, we estimate the (explanatory and predictive) impact of marketing related information disclosed by public firms in quarterly earnings calls on abnormal stock returns and thereby, on unanticipated changes in the market value. Such an endeavour requires an effective measure of 'marketing related information' that is directed towards financial market participants. In this vein, we propose a *Stated Marketing Focus* construct to summarize and capture marketing related information that firms disclose in their quarterly earnings conference calls to the investor community. We consider the incidence of marketing and demand-side vocabulary used by firms' top management teams in quarterly earnings calls as a substrate containing information on marketing's contribution to (current and future) firm performance, and thereby, to firm value. Past research shows that visibility has an impact on the magnitude of the stock market reaction to any event (Merton 1987; Huberman and Regev 2001; Warren and Sorescu 2017), and that all events may not be equally visible to investors. Hence, we posit that what firms' top management teams highlight in their earnings conference calls becomes more visible or salient to market participants and is likely to impact market reactions.

We start with the raw text data of earnings call transcripts and apply a dictionary-based set of operations to search, filter, and extract text units of interest (sentences and tokens) from this raw corpus. We then use a battery of machine learning classifiers over a sizeable, manually-labelled data sample (Hartmann et al. 2019) to identify and remove content not relevant to stated marketing focus (henceforth, SMF). (These steps are detailed later in the paper.) We combine unsupervised text-analytic methods with supervised (shallow) machine learning to capture metric aspects of an SMF construct. Earnings conference calls represent a predictably periodic interaction and information-exchange event between members of a firm's top management team and equity analysts, and are typically structured into a prepared remarks (PR) section delivered uninterrupted by firm management, followed by a question-and-answer (Q&A) section with equity analysts. Since these sections may contain differential SMF information, we analyze SMF for each section separately.

We employ two approaches to establish the existence and value-relevance of SMF effects on abnormal stock returns and financial markets. We first use an event study approach to assess SMF effects over the immediate and short term followed by a calendar-time abnormal returns (CTARs) model with time-varying risk factors (e.g., Jacobson and Mizik 2009) to assess SMF's predictive validity over a longer horizon (of 1-3 months). Through these approaches, we demonstrate face validity, construct falsifiability, and robustness and finally, predictive validity over abnormal stock returns for the SMF construct.

In the event study, after controlling for known covariates and controls (financial metrics, firm and time effects, lexical-structure related), we find that SMF statistically significantly affects market returns. We find that SMF construct variables (incidence and sentiment) account for about 1.9% of explained variance in fitted market returns, about one-fifth the size of the corresponding impact of financial metrics. The CTAR model allows us to assess whether the SMF construct informs future abnormal returns (and if so, bears predictive power). We find that the SMF contains usable information on the stock returns of monthly stock portfolios (rebalanced quarterly) in a statistically significant manner for up to three months forward from the month of the earnings call event. Further, we find that the quality of the SMF signal from the earning call's 'Q&A' section dominates that from the PR section in magnitude (average CAR impact of 0.0089 or 10.08% annualized in Q&A versus 0.0041 or 4.92% annualized in the PR section), significance (average t-statistic is 4.8 in Q&A against 2.9 in PR), and persistence (1-3 months in Q&A versus 1 month ahead in PR).

2.   Data, Variables and Model Specification

The data for our study come from multiple sources. We use daily stock return data from the University of Chicago's Center for Research in Security Prices (CRSP) database, and standard accounting variables from WRDS and COMPUSTAT. Values of the risk-free return, market returns, market size (SMB), book-to-market (HML), and momentum factors (MOM) needed to estimate the Carhart (1997) 4-factor risk model come from Kenneth French's data library. We obtain text transcripts of quarterly earnings calls from Capital IQ. Our sample comprises all S&P1500 firms over 15 years (2005-2019), covering 2407 unique firms from 67 of the 99 SIC two-digit codes and 59 year-quarters. Overall, we obtain 52,918 usable observations for analysis, and cover a broad swathe of the US economy.

Our dependent variable is the cumulative abnormal returns (CAR) metric over a 1, 3, and 5 day half-window around the event date (i.e., the day of the earnings call). CAR

summarizes the totality of a firm's risk-adjusted prospects in the immediate to short term (corresponding well with our symmetric event windows) by accounting for all known information, including the impact of a firms' marketing focus. Since CAR is well established in the accounting and finance literature, standard financial and nonfinancial control variables are known a priori. Conceptually, our basic model for the event study can be expressed as:

$$\begin{pmatrix} \text{Cumulative Abnormal} \\ \text{Returns CAR in} \\ \text{window } k \end{pmatrix} = f\left(\left\{ \begin{matrix} \text{CAR} \\ \text{determinants}_{it} \end{matrix} \right\}; \left\{ \begin{matrix} \text{Control} \\ \text{Variables}_{it} \end{matrix} \right\}; \left\{ \begin{matrix} \text{SMF} \\ \text{Measures}_{it} \end{matrix} \right\} \right) + \varepsilon_{it} \qquad (1)$$

Here, i indexes firm and t the year-and-quarter of the earnings call event. In Equation (1), we posit that after controlling for known determinants of market returns based on prior studies, the SMF coefficients capture any systematic SMF effects on CAR over a given window around the earnings call event. For ease, we group together CAR determinants into 'financial controls' from the finance and accounting literature (e.g., Bochkay et al. 2020; Alok and Ayyagari 2020). The other controls are 'standard controls', i.e., firm and time fixed effects, and 'text and linguistic feature controls' (e.g., Berger et al. 2020). Table 1 lists analysis variables and groups.

Following Equation (1) and per the variables defined in Table 1, we estimate:

$$\begin{aligned} CAR_{it}^{(k)} = & \beta_0 + \beta_1 * \text{Mktg\_Sent\_Propn\_PR}_{it} + \beta_2 * \text{Mktg\_Sent\_Propn\_QNA}_{it} \\ & + \beta_3 * \text{SMF\_Propn\_Pos\_Senti\_PR}_{it} + \beta_4 * \text{SMF\_Propn\_Neg\_Senti\_PR}_{it} \\ & + \beta_5 * \text{SMF\_Propn\_Neg\_Senti\_QNA}_{it} + \beta_6 * \text{SMF\_Propn\_Neg\_Senti\_QNA}_{it} \\[6pt] & + \beta_7 * \text{RoA}_{it} + \beta_8 * \text{Log\_Total\_Assets}_{it} + \beta_9 * \text{SUE}_{it} + \beta_{10} * \text{Leverage}_{it} \\ & + \beta_{11} * \text{Cash\_Ratio}_{it} + \beta_{12} * \text{COGS\_Growth}_{it} + \beta_{13} * \text{Sales\_Growth}_{it} \\[6pt] & + \beta_{14} * \text{Propn\_MTLD\_Lexical\_Variability\_PR}_{it} \\ & + \beta_{15} * \text{Propn\_MTLD\_Lexical\_Variability\_QNA}_{it} \\ & + \beta_{16} * \text{SMF\_Readability\_Fog\_Index\_PR}_{it} \\ & + \beta_{17} * \text{SMF\_Readability\_Fog\_Index\_QNA}_{it} \\[6pt] & + \left\{ \text{Firm\_Fixed\_Effects} \right\}_{i=1}^{I} + \left\{ \text{Time\_Fixed\_Effects} \right\}_{t=1}^{T} + \varepsilon_{it}, \end{aligned}$$

$$\varepsilon_{it} \sim IID \, N\left(0, \sigma^2\right). \qquad (2)$$

Here, i indexes firms, t indexes year_quarters, and $k = \{1, 3, 5\}$ represents the event half-window in days. Coefficients β_1 to β_6 yield the marginal SMF effect on CAR. Among these,

β_1 and β_2 represent SMF incidence and the other coefficients represent the effects of positive or negative valence or *tonality* of SMF incidence on CAR.

Table 1: Descriptive Statistics of Analysis Variables

Variable	Description	Quantity Represented	Mean (s.d.)
Dependent Variable (DV)			
CAR(-k,k)	Cumul. Abnormal Returns over a -k to +k days window around Earnings Call	Capital Market Response	-0.001 (0.084), k=1
			-0.002 (0.099), k=3
			-0.002 (0.109), k=5
Fin-Acc Controls			
RoA	Return on Assets	Profitability	0.028 (0.967)
Log_Tot_Asst	Log of Total Assets	Firm Size	-0.115 (0.908)
SUE	Standardized Unexpected Earnings	Earnings Surprise	-0.002 (1.024)
Leverage	Leverage Ratio	Debt to Equity	0.002 (1.173)
Cash_Ratio	Cash Ratio	Short term liquidity measure	1.09 (1.899)
Debt_Capital	Debt to (Debt + equity)	% Debt in capital structure	0.451 (1.691)
COGS_Growth	COGS growth in % over last Qtr	Growth Rate of Costs	0.06 (1.285)
Sales_growth	Sales Growth in % over last Qtr	Growth rate of sales	0.083 (2.442)
Firm Fixed Effects	All time-invariant firm specific effects	Firm Effect on CAR	
Time Fixed Effects	All year-quarter specific effects	year_quarter effect on CAR	
Text Derived SMF variables			
Mktg_sent_propn_PR	Proportion of SMF Sentences in PR	Construct incidence in PR	0.564 (0.101)
Mktg_sent_propn_QNA	Proportion of SMF sents in QNA	Construct incidence in QNA	0.353 (0.113)
Text and Lexical Features			
SMF_Ratio_Pos_Senti_PR	Pos & Neg Valence Scores Proportion b/w SMF & non-SMF Text	Relative Sentiment level between SMF & non-SMF Text	1.070 (0.215)
SMF_Ratio_Neg_Senti_PR			0.948 (0.277)
SMF_Ratio_Pos_Senti_QNA	Same as above for QNA section		1.008 (0.213)
SMF_Ratio_Neg_Senti_QNA			0.955 (0.307)
Ratio_MTLD_Lexical_Variability_PR	Proportion of Textual Diversity (content variability) b/w SMF & non-SMF text in the PR & QNA sections		1.224 (0.178)
Ratio_MTLD_Lexical_Variability_QNA			1.061 (0.191)
SMF_Readability_Fog_Index_PR	Measure of SMF Text Readability	Clarity vs Obfuscation	13.14 (1.61)
SMF_Readability_Fog_Index_QNA	Same as above for QNA section		12.62 (2.41)

CTAR and Portfolio Construction Model

We examine whether the SMF construct bears predictive ability regarding abnormal market returns. A predictive signal would imply that the SMF construct informs future abnormal returns which in turn enables a fund manager to go long (short) on stocks predicted to rise (fall) over a future period. Following the asset pricing literature in finance, we perform a portfolio returns prediction test using a calendar-time portfolios abnormal returns (CTARs)

model, the most common method for measuring long term abnormal returns in the marketing-finance literature (Sorescu et al. 2017 p.195).

We first create sets of firms that all have their events (earnings calls) in a month, for all 59 months in the sample. Then we create monthly portfolios by sorting on firms' SMF construct values. A month's focal portfolio comprises only the top & bottom quartiles since these correspond to the highest and lowest SMF-bearing firms. Let i index firm, $t(i)$ represent the earnings call event date of firm i, p index the quarterly portfolio in which $t(i)$ occurs and k index the number of months (each comprising 22 working days) ahead of the event date. Then, for k={1,2, 3} months[5], we compute k-months-ahead cumulative returns denoted by $CAR_{i,t(i)+k}$ and k-months-ahead risk factor values (namely, $R_{m,t(i)+k} - R_{rf,t(i)+k}$, $SMB_{t(i)+k}$, $HML_{t(i)+k}$, $MOM_{t(i)+k}$) for each firm based on its exact event date using daily returns and daily risk factors data. We then regress $CAR_{i,t(i)+k}$ on k-months-ahead risk factors and the top quartile dummy:

$$CAR_{i,t(i)+k} = \alpha_0 + \delta * I\left(\text{Top.Quartile}_{i,t(i)}^{(p)}\right) + \beta *\left(R_{market,t(i)+k} - R_{riskfree,t(i)+k}\right) + s * SMB_{t(i)+k}$$
$$+ h * HML_{t(i)+k} + m * MOM_{t(i)+k} + \varepsilon_{i,t(i)+k},$$

where:

$$CAR_{i,t(i)+k} = \left(R_{i,t(i)+k} - R_{riskfree,t(i)+k}\right), \quad E\left(\varepsilon_{i,t(i)+k}\right) = 0, \quad Var\left(\varepsilon_{i,t(i)+k}\right) = \sigma_\varepsilon^2.$$

(3)

In Equation (3), $I(.)$ is an indicator variable which is '1' when firm i forms part of the top quartile of stocks in portfolio p, and zero otherwise. Among the Fama-French risk factors, $R_{m,t(i)+k} - R_{f,t(i)+k}$ represents the excess market return over the risk-free return rate at time $t(i)+k$, $SMB_{t(i)+k}$ is the return on a diversified portfolio of small stocks minus the return on a diversified portfolio of big stocks, $HML_{t(i)+k}$ is the difference in returns between diversified portfolios of High Book Value/Market Value and low Book Value/Market Value stocks, and $MOM_{t(i)+k}$ is the Carhart (1997) based momentum risk factor.

3.   Results

Table 5 displays the OLS results for Equation (2). The top row in Table 5 indexes the columns from (1) to (7). Of these, column (1) lists the SMF variables, financial controls, lexical controls, and fixed effects controls. Columns (2) to (4) detail the marginal parameter estimates and standard errors of CAR covariates measured in the 1, 3 and 5-day half-

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[5] At k=4 months, a new quarter starts with a new set of earnings calls scheduled and new portfolios are created.

windows, respectively. Statistically significant coefficients along with their significance level are highlighted in bold. We standardize all numeric variables to have zero-mean and unit variance, which allows for comparing the magnitude of the coefficients directly with one another. We also perform an analysis of variance, and accordingly decompose the sum of squares into a variance component for each source of variation (i.e., each analysis variable) in the model. Accordingly, columns (5) to (7) detail the percentage of explained variance in the fitted CAR from each analysis variable, and the F-test statistics for the hypothesis that any given source of variation in the model is zero.

Table 2: Model Estimates for Equation 2

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variable Groups	**CAR(-1, 1)**	**CAR(-3, 3)**	**CAR(-5, 5)**	**CAR(-1, 1)**	**CAR(-3, 3)**	**CAR(-5, 5)**
Variables	**Parm Est (Std Err)**			**% of Explained Variance**		
(Intercept)	0.326 (1.073)	0.03 (1.042)	0.213 (1.033)	0	0	0
SMF Construct & Related Metrics						
SMF Sentence Propn_PR	-0.007 (0.008)	-0.008 (0.008)	-0.009 (0.008)	0.02	0.03	0.04
SMF Sentence Propn_QNA	**0.035 (0.009)***	**0.036 (0.009)***	**0.036 (0.009)***	0.45	0.49	0.49
SMF_Ratio_Pos_Senti_PR	**0.019 (0.006)***	**0.016 (0.005)***	**0.014 (0.005)***	0.35	0.26	0.21
SMF_Ratio_Neg_Senti_PR	-0.03 (0.006)	-0.03 (0.006)	**-0.033 (0.006)***	0.86	0.88	1.07
SMF_Ratio_Pos_Senti_QNA	**0.011 (0.005)**	**0.009 (0.005)*	**0.009 (0.005)*	0.12	0.09	0.08
SMF_Ratio_Neg_Senti_QNA	**-0.009 (0.005)*	**-0.011 (0.005)**	**-0.01 (0.005)**	0.1	0.16	0.13
Financial Controls			**Group Total**	**1.9**	**1.91**	**2.02**
Return_on_Assets	**0.07 (0.007)***	**0.071 (0.007)***	**0.074 (0.007)***	3.42	3.6	3.89
Log_Total_Asset	**-0.247 (0.025)***	**-0.22 (0.024)***	**-0.207 (0.024)***	3.13	2.6	2.26
Earnings Surprise (SUE)	**0.051 (0.005)***	**0.048 (0.005)***	**0.043 (0.005)***	3.16	2.86	2.26
Leverage	-0.001 (0.004)	0.006 (0.004)	0.004 (0.004)	0	0.07	0.04
Cash_Ratio	**-0.038 (0.014)**	**-0.027 (0.013)**	-0.021 (0.013)	0.24	0.13	0.08
Debt_Capital	0.029 (0.018)	0.014 (0.018)	0.016 (0.017)	0.08	0.02	0.02
COGS_growth	**0.04 (0.01)**	**0.037 (0.01)**	**0.037 (0.01)**	0.52	0.45	0.46
Sales_Growth	**0.061 (0.015)**	**0.029 (0.015)**	**0.029 (0.015)**	0.49	0.12	0.12
Lexical Controls			**Group Total**	**11.04**	**9.85**	**9.13**
Ratio_MTLD_Lexical_Variability_PR	**-0.013 (0.006)**	**-0.016 (0.006)***	-0.015 (0.006)***	0.16	0.24	0.22
Readability_Fog_Index_PR	**-0.021 (0.008)***	**-0.027 (0.008)***	-0.029 (0.008)***	0.19	0.33	0.38
Ratio_MTLD_Lexical_Variability_QNA	**-0.009 (0.005)*	**-0.012 (0.005)**	-0.011 (0.005)**	0.09	0.17	0.12
Readability_Fog_Index_QNA	**-0.019 (0.007)**	**-0.016 (0.006)***	-0.013 (0.006)**	0.27	0.2	0.13
Other Controls			**Group Total**	**0.71**	**0.94**	**0.85**
Firm Fixed Effects	Yes	Yes	Yes	81.63	77.63	74.83
Time Fixed Effects	Yes	Yes	Yes	4.69	9.66	13.18
			Group Total	**86.32**	**87.29**	**88.01**
Observations	49918	49918	49918			
Adjusted R squared	0.027	0.029	0.032			
F-stat	1.751	1.777	1.883			

***, ** & * indicate significance at 0.01, 0.05 and 0.10 respectively

In columns (2) to (4) of Table 5, the results for 4 of 6 variables in the *SMF Construct & SMF Sentiment* variable group show a sizeable, statistically significant, and temporally persistent CAR effect in both the PR and the Q&A sections. **SMF Sentence Propn_QNA** captures SMF content in the ECT's Q&A section, upon controlling for sentiment or lexical structure and **SMF Sentence Propn_PR** does likewise in the PR section. Here, some interesting points

emerge. Marketing related mentions (or information disclosure) in Q&A brought up by either equity analysts in their questions and/or firm management in their responses have a strong positive CAR effect suggesting significant upside potential from SMF. However, the market seems to discount SMF in the PR section across all three event windows tested for. The CAR effect of contextual sentiment or tonality is in line with prior work in the accounting literature (e.g., Bushee et al. 2018, Berman et al. 2019). Relative to the rest of the earnings call, a higher positive (negative) valence in marketing related disclosures and discussions yields a positive (negative) CAR impact. The magnitude is highest for the core SMF construct in the Q&A section followed by positive SMF valence in the PR and then the QNA sections respectively. Overall, SMF incidence and sentiment accounts for about 1.94% of CAR variance explained by the predictor set (columns (5) to (7)).

CTAR and Portfolio Construction ModelAnalysis

Panels A and B in Table 3 show the results – parameter estimates and t-statistics - of the portfolio prediction tests using the SMF construct signal to create long-short portfolios, using sentence constructed SMFs and token constructed SMFs respectively. Columns (2) to (4) depict portfolio return results 1, 2, and 3 months ahead of event date, respectively for SMF from the PR section. Columns (5) to (7) do likewise for the Q&A section. Of the twelve estimates of interest across panels A and B (the shaded third row in each panel), seven are statistically significant at the 0.05 significance level and a further two are significant at the 0.10 level. All significant SMF estimates are positive in sign implying that the top quartile of firms emphasizing SMF in their earnings calls see abnormal market returns rise over the next k months.

In terms of magnitude, consider for instance the k=1 month ahead return in column (2) of Panel A based on the SMF score in the PR section. The estimated abnormal monthly return for the portfolio is 0.0041 with a t-statistic of 2.9 (significant at 0.01 level). The annualized abnormal return over 12 months is 4.92%. The implication is that despite available marketing-related information in the earnings call event, capital markets appear to have underpriced stocks in the high-SMF portfolio by 4.92%. Alternately, a trading strategy that goes long on the top-quartile SMF based on PR portfolio and short on the corresponding bottom quartile would earn an annualized 4.92% above market returns. We also note that the 0.0041 magnitude is comparable to 0.0052 reported for the impact of customer satisfaction (Jacobson and Mizik 2009; Aksoy et al. 2008).

Table 3: Portfolio Prediction Test Results for Sentence and Token Proportions

(1)	(2)	(3)	(4)	(5)	(6)	(7)
DV = CAR$_{i,t+k}$	SMIE Metric: Mktg_sent_propn_PR			SMIE Metric: Mktg_sent_propn_QNA		
Panel A - SENTS	k = 1 month	k = 2 months	k = 3 months	k = 1 month	k = 2 months	k = 3 months
Variables	Estimate [t-stat]			Estimate [t-stat]		
Intercept	0.004 [4.02] ***	0.008 [5.85] ***	0.011 [6.59] ***	0.001 [1.24]	0.004 [2.83] ***	0.007 [3.74] ***
SMIE.Top.Quartile Dummy	0.004 [2.93] ***	-0.002 [-0.08]	0.000 [0.09]	0.009 [6.02] ***	0.008 [4.19] ***	0.010 [4.17] ***
Mkt_RF_k months ahead	1.086 [61.59] ***	1.128 [64.06] ***	1.145 [67.79] ***	1.048 [59.07] ***	1.124 [64.24] ***	1.149 [67.69] ***
SMB K months ahead	0.623 [18.56]***	0.664 [19.39] ***	0.720 [20.49] ***	0.621 [18.46] ***	0.606 [17.79] ***	0.684 [19.36] ***
HML k months ahead	0.192 [7.43] ***	0.240 [10.41] ***	0.240 [10.41] ***	0.241 [9.32] ***	0.271 [11.78]***	0.264 [11.11] ***
OLS summary						
Num Observations	38593	38543	38481	38553	38502	38438
R squared	0.164	0.162	0.173	0.159	0.162	0.172
F-statistic	1892	1866	2017	1822	1855	1999
Panel B - TOKENS	SMIE Metric: Mktg_token_propn_PR			SMIE Metric: Mktg_token_propn_QNA		
Variables	Estimate [t-stat]			Estimate [t-stat]		
Intercept	0.002 [1.87]	0.006 [3.91] ***	0.007 [4.31] ***	0.002 [1.95]	0.004 [3.19] ***	0.008 [4.47] ***
SMIE.Top.Quartile Dummy	0.007 [5.12] ***	0.003 [1.73]	0.006 [2.46] ***	0.004 [3.15] ***	0.003 [1.77]	0.004 [1.67]
Mkt_RF_k months ahead	1.074 [59.94] ***	1.144 [63.48] ***	1.144 [67.29] ***	1.082 [61.19] ***	1.137 [65.19] ***	1.139 [69.05] ***
SMB K months ahead	0.614 [18.02] ***	0.636 [18.17] ***	0.695 [19.83] ***	0.628 [18.70] ***	0.639 [18.82] ***	0.708 [20.68] ***
HML k months ahead	0.231 [8.82] ***	0.288 [12.22]***	0.275 [11.67] ***	0.276 [10.70] ***	0.296 [12.96] ***	0.293 [12.78] ***
OLS summary						
Num Observations	38570	38527	38466	38542	38489	38418
R squared	0.160	0.160	0.175	0.170	0.169	0.181
F-statistic	1841	1835	2038	1977	1960	2130

The portfolio constructed using the Q&A section SMF signal in column (5) however shows a significantly larger abnormal monthly returns (0.0084 magnitude with a t-statistic of 6, 10.06% annualized). Further, the Q&A section based SMF signal persists and detects significant underpricing of the SMF construct at k=2 and 3 months ahead as well (see columns (6) and (7) in Panel A). When we consider the SMF metric of token proportions instead of sentence proportions, and repeat the portfolio returns prediction tests, the results continue to hold (see Panel B). We note that these results, in combination with our results in Tables 5 and 7, yield predictive validity for the SMF construct for two alternative SMF specifications – sentences and tokens. The intercept terms suggest that the portfolios created using SMF-PR and SMF-Q&A signals, yield an annualized return of 5.64% and 2.4% respectively. Annual abnormal returns from SMF in the Q&A (PR) section exceeds that from customer satisfaction (Fornell et al. 2006; Jacobson and Mizik 2009) and is somewhat higher than that from R&D (Lev and Sougiannis 1996) or employee satisfaction (Edmans 2011).

5.   Conclusion

In summary, we contribute to the Marketing literature in two ways. In substantive terms, we empirically establish the value-relevance, the explanatory power, and the predictive power of a stated marketing focus (SMF) construct that captures the incidence and emphasis

of the role of the marketing function as highlighted in quarterly earnings calls transcripts, for a large sample of firms (S&P1500) over a reasonably long period of time (15 years). Methodologically, we demonstrate an approach to capture metric aspects of a construct of interest (SMF) by combining a dictionary-based set of operations to search, filter, and extract text units of interest (sentences and tokens) from raw text data, with text-analytic transformations of the refined sub-corpus. Further, we show that the SMF construct when employed as input into well-established empirical analysis frameworks (events studies and CTAR models) bears internal and external validity.

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