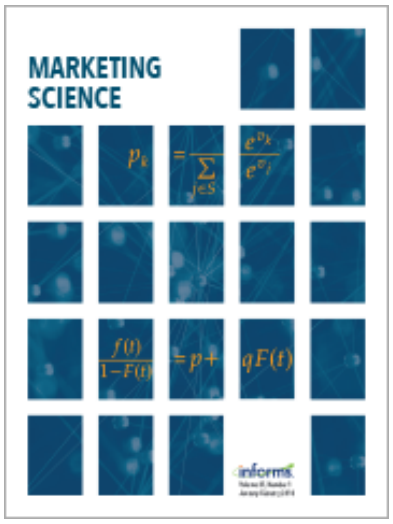


Marketing Science

Publication details, including instructions for authors and subscription information:
http://pubsonline.informs.org

Stock Market Reactions to Customer and Competitor Orientations: The Case of Initial Public Offerings

Alok R. Saboo, Rajdeep Grewal,

To cite this article:
Alok R. Saboo, Rajdeep Grewal, (2013) Stock Market Reactions to Customer and Competitor Orientations: The Case of Initial Public Offerings. Marketing Science 32(1):70-88. https://doi.org/10.1287/mksc.1120.0749

MARKETING SCIENCE
Vol. 32, No. 1, January–February 2013, pp. 70–88
ISSN 0732-2399 (print) | ISSN 1526-548X (online)

http://dx.doi.org/10.1287/mksc.1120.0749

Stock Market Reactions to Customer and Competitor Orientations: The Case of Initial Public Offerings

Alok R. Saboo
J. Mack Robinson College of Business, Georgia State University, Atlanta, Georgia 30303, asaboo@gsu.edu

Rajdeep Grewal
Smeal College of Business, Pennsylvania State University, State College, Pennsylvania 16802, rgrewal@psu.edu

Recognizing that initial public offerings (IPOs) represent the debut of private firms on the public stage, this study investigates how pre-IPO customer and competitor orientations (CCOs) affect IPO outcomes. Building on information economics, we propose that CCOs influence investors' sentiments toward an IPO and that both IPO-specific variables (which influence the credibility of CCO information) and facets of the organizational institutional and task environments (which influence the appropriateness of CCO information) moderate this influence. We test the framework using data collected from computer-aided text analysis, expert coders, and secondary sources for 543 IPOs across 43 industries between 2000 and 2004. A Bayesian shrinkage model, which accounts for industry-specific effects and uses latent instrumental variables to address CCO endogeneity, shows that CCOs positively influence IPO outcomes. Furthermore, (1) underwriter reputation and venture funding positively moderate the effects of CCOs; (2) technological and market turbulence positively and institutional complexity negatively moderate the effect of customer orientation; and (3) technological turbulence, competitive intensity, and institutional complexity positively moderate the effect of competitor orientation. Also, accounting for endogeneity using latent instrumental variables substantially improves the predictive validity of the model, relative to alternative model specifications.

Key words: initial public offering; customer orientation; competitor orientation; institutional environment; information economics; cheap talk; costly state falsification; latent instrumental variables; hierarchical Bayesian analysis; content analysis

History: Received: October 20, 2010; accepted: September 4, 2012; Eric Bradlow and then Preyas Desai served as the editor-in-chief and Michel Wedel served as associate editor for this article. Published online in *Articles in Advance* November 30, 2012.

Introduction

In 2007 alone, initial public offerings (IPOs) on the New York Stock Exchange's Euronext markets raised $48 billion (NYSE Euronext 2007). With such economic significance, it is not surprising that IPOs have received scrutiny from scholars in accounting and finance (see Ritter and Welch 2002), management (Welbourne and Cyr 1999), and economics (Daines and Klausner 2001). However, marketing scholars are just beginning to get interested (DeKinder and Kohli 2008, Luo 2008, Xiong and Bharadwaj 2011). Noting that "marketing is intrinsically customer and competitor focused" (Hauser et al. 2006, p. 687), we posit that customer and competitor orientations (CCOs) may have implications for IPO outcomes, propose CCOs as a natural starting point to study the role of marketing in IPOs, and investigate their relationship to a firm's IPO outcomes. In so doing, we provide a strong justification for prioritizing "marketing enterprise" during the initial stages of organizational public life.

To relate CCOs to IPO outcomes, we build on information economics literature on costly state falsification (Lacker and Weinberg 1989) and cheap talk (Stocken 2000) and suggest that CCOs provide valuable information on IPOs. Based on this stream of research, as we elaborate subsequently, we conceptualize that the value of the CCO information would depend on its *credibility* and *appropriateness*; therefore, we include two set of moderators for the influence of CCOs on IPO outcomes, where we argue that IPO characteristics (underwriter reputation and venture capital funding) influence the credibility and that the IPO firm environment (institutional and task) influences the appropriateness of CCOs. Thus, we seek to address two critical research questions: What is the relationship between the pre-IPO CCOs of a firm and its IPO outcomes, and how do IPO characteristics (e.g., underwriter reputation) and environmental factors (e.g., institutional complexity) moderate this relationship?

To investigate these questions, we collate unique data from multiple sources for IPOs between 2000 and 2004. In addition to quantitative data on firm financials, we content analyze IPO prospectuses to code CCOs and then develop a Bayesian shrinkage model that accounts for industry heterogeneity and the potential endogeneity of CCOs through the latent instrumental variable (LIV) approach. We find a significant positive influence of both customer and competitor orientations on IPO outcomes. The main effects of CCOs are contingent on IPO characteristics and the organizational (institutional and task) environment. For example, as institutional complexity decreases, the positive effect of customer orientation on IPO outcomes increases. The IPO characteristics also positively moderate the effects of CCOs; for example, as the reputation of the underwriters associated with an IPO increases, the positive effects of CCOs increase. Finally, we show that accounting for endogeneity through LIV substantially improves the model's predictive validity.

As we detail in the final section, with this research we seek to contribute to literature on CCOs and IPOs. In addition to demonstrating the value of CCOs in the context of IPOs, we contribute by laying a foundation for describing the informational value of CCOs. Furthermore, we extend IPO literature by confirming the importance of marketing in a traditionally finance-oriented domain, particularly in the initial stages of organizational public life. In the next section, we provide a literature review, and we then develop our conceptual model and hypotheses. Subsequently, we detail our empirical model specifications, describe our data collection process and research methodology, and outline our results. Finally, we conclude with a discussion of the implications of our results.

Background

IPO Process and Terminologies

The complex and lengthy IPO process begins with the selection of an investment bank (or lead underwriter); the IPO itself may be managed by a single underwriter (sole-managed) or multiple underwriters (syndicate) (see Ritter 1998). The underwriter is responsible for any due diligence, preparation of filing documents, pricing, and stock distributions, and receives compensation for its efforts in accordance with the gross spread, which is the difference between the price at which the securities are bought from the issuer and the price at which they are sold to the public. A key element of the IPO marketing process is the "road show," during which firm managers and underwriters make presentations to (mainly) institutional investors. The road show serves two purposes: marketing the firm to potential investors and gauging demand for the firm's stock. The demand provides the underwriter and firm with the necessary information to determine the offer price and number of shares to offer.[1]

Once the stock starts trading, the market price reflects the information that was not incorporated in the offer price, which is determined by the confluence of all market participants, including investors not taking part in the IPO. Thus, the performance of the stock on the first trading day is extremely important and has received significant attention from scholars in basic fields such as accounting and finance (Ritter 2011), as well as from marketing scholars (Luo 2008, Xiong and Bharadwaj 2011); it thus forms the foundation for our outcome variables.

Informational Value of CCOs

CCOs of IPO firms provide information on organizational mind-set, strategic intent, and capabilities, which should help investors evaluate the IPOs. We assess these CCOs by content analyzing IPO prospectuses. There is ample empirical evidence that demonstrates the relevance of qualitative nonfinancial information gleaned through content analyses; for example, qualitative indicators, such as narratives (Martens et al. 2007) and nonfinancial information on knowledge resources (Bukh et al. 2005) in IPO prospectuses, and quantity of information content in IPO prospectus (Hanley and Hoberg 2010) influence organizational ability to secure external capital. As our theoretical development hinges on the value of CCO information, we lay the background for our arguments based on this information value.

Whereas the dominant paradigm in signaling is credited to Spence (1973), two broader classes of information transmission mechanisms have also been proposed: (1) costly state falsification and (2) cheap talk. Spence-style signals, such as education (Spence 1973) and advertising (Kirmani and Rao 2000), involve signaling costs, which limits their usage. Even though IPO prospectuses are legal documents and can invoke penalties for misleading or inaccurate information (Welbourne and Cyr 1999), it may be difficult to view qualitative CCO information as a Spence-style signal. We suggest, however, that CCOs serve a purpose of information transmission as costly state falsification that suggests distortions are costly and information can be verified at some cost (Lacker and

[1] Although an IPO is a one-time activity, it initiates the firm's existence in the public domain such that the firm and its managers continue to interact with market constituents. Other entities involved in the IPO process, such as underwriters or auditors, work with multiple firms and have their reputations to protect. Thus, the IPO firm, underwriters, and auditors function in a repeated interaction setting with the investor community; this setting becomes critical for the signals that the IPO provides to the investor community.

Weinberg 1989), as well as cheap talk, such that when multiple constituents observe information in a repeated setting, the information provider gains from a reputation for truthful reporting (Stocken 2000).

CCOs as Costly State Falsification. To be seen as costly state falsification, CCOs must be verifiable post hoc to encourage truthful reporting (Beyer et al. 2010). Indeed, customers, auditors, underwriters, and employees can easily validate many CCO claims in an IPO. For example, it is possible to verify claims such as the one made by ArrowPoint Communications Inc. (2000): "These investments included an increase in our sales, marketing and customer support personnel from 18 at December 31, 1998 to 73 at December 31, 1999 resulting in an increase in compensation expenses of $4.2 million, an increase in travel expenses of $839,000, and an increase in other sales and marketing activities resulting in increased expenses of $1.8 million." Moreover, IPO firms face more substantial public scrutiny and litigation risks than public firms in general; they are particularly scrutinized under §§11 and 12 of the Securities Act of 1933, which make the issuer liable for any untruths and place the burden on IPO firm managers to establish a due diligence defense against any claims of wrongdoing (Drake and Vetsuypens 1993, Spehr et al. 2006). Safe harbor rules protecting firm disclosures specifically exclude IPO firms (Choi 2007). The Stanford Law School Securities Class Action Clearinghouse has identified that out of the 3,510 firms that went public between 1996 and 2009, 648 were defendants in at least one class action over the same period (Cornerstone Research 2011). Lowry and Shu (2002) report that settlement payments, one of the most publicized costs of litigation, average around $3.3 million for IPO firms in their sample.[2] Thus, not only are the CCO claims verifiable, but there is a credible threat of legal actions for false reporting.

CCOs as Cheap Talk. Cheap talk models suggest that IPO firms benefit from building a reputation for truthful reporting as long as the objectives of IPO firm and investors are not completely misaligned and the two parties repeatedly interact (Gigler 1994, Stocken 2000). First, the presence of multiple market constituents (e.g., customers, competitors, regulators) with diverse objectives prevents a complete misalignment of objectives (Beyer et al. 2010, Newman and Sansing 1993). Second, an IPO is the beginning of firm existence in the public domain, and the firm will have repeated interactions with investors and so should benefit from a reputation of trustworthiness (Kim 1996, Mazzola et al. 2006).[3] As a result, the IPO prospectus has been suggested as a "role model" for reporting (Beattie 1999). Previous research in marketing explores trustworthiness in the context of product preannouncements, which can be distorted (e.g., vaporware; see Eliashberg and Robertson 1988). However, disciplinary market mechanisms prevent such distortions, and investors continue to react to product preannouncements (Sorescu et al. 2007).[4]

Conceptual Framework and Hypotheses

When firms go public, they release a wealth of information into the public domain, including information on prior performance and firm orientations. Based on the literature on costly state falsification (Lacker and Weinberg 1989) and cheap talk (Stocken 2000), we argue that investors' reaction to such information is influenced by two sets of moderators that influence the *credibility* and *appropriateness* of CCO information. Credibility relates to the degree to which the receiver of information believes the information to be reliable, whereas appropriateness refers to the extent to which the information is perceived to be relevant (Moenaert and Souder 1996, Sobel 1985). Although credibility is at the heart of cheap talk literature (Stocken 2000),[5] it is also implicit in the costly state falsification literature (Lacker and Weinberg 1989). For example, the

[2] In addition to settlement costs, other costs may be more difficult to measure, such as reputation costs to the IPO firm and its managers, legal fees, and the opportunity cost of management time. The loss of reputation is especially critical, because a key reason to go public is to obtain legitimacy among broader market constituents (Daily et al. 2003, Ritter 2011). Any misrepresentation in the prospectus also makes parties associated with the IPO (e.g., underwriters, auditors) vulnerable to litigation, further mitigating chances of misrepresentation.

[3] An organization's reputation for trustworthiness is a critical factor for its ability to attract financial resources or obtain shareholders' ratification of its strategies. Most firms do not want to alienate their new shareholders or investors (Krigman et al. 2001), which could prompt increased shareholder activism (Gillan and Starks 2007), lawsuits (Lowry and Shu 2002), or general shareholder dissatisfaction, all of which may significantly impede future operations.

[4] The importance of building reputation is well established in finance literature (Mazzola et al. 2006). Firms routinely use open market buyback programs that are simply authorizations, not commitments, to repurchase their stocks (Dittmar 2000). Repeated interactions and reputational costs prevent managers from engaging in misleading buyback announcements (Chan et al. 2010).

[5] Cheap talk literature suggests that under mild conditions, such as when the disclosures are public and can be observed by multiple constituents (e.g., investors, competitors, regulators), individuals consistently overcommunicate (i.e., messages are informative) even when the information cannot be verified post hoc (Cai and Wang 2006, Gigler 1994). The notion of credibility is deeply embedded in this stream of research and is necessary for distinguishing it from noise (Farrell 1995). For example, Sobel and colleagues (Crawford and Sobel 1982, Sobel 1985) show that when the interests of the parties are not completely misaligned, imprecise (cheap) talk may be necessary and sufficient to sustain credibility; Kim (1996) finds that repeated interaction enhances the credibility of cheap talk and improves efficiency in outcomes that would be infeasible without cheap talk, even in settings where the interests of the players are conflicting.

presence of reputed third parties (e.g., underwriters or venture capitalists) significantly increases the cost of falsification and hence can enhance information credibility (Beyer et al. 2010, Lacker and Weinberg 1989).

Similarly, the notion of appropriateness is implicit in costly state falsification and cheap talk literatures. For example, scholars have argued that only private information or information about future actions relevant for the decision context impact outcomes (Croson et al. 2003, Farrell and Rabin 1996); i.e., not all information is appropriate for a decision context. Similarly, literature on hypothetical bias (in which economic values are overstated) suggests that factors such as consumers' knowledge base (Lusk 2003), complexity of the experimental task (Silva et al. 2012), or product characteristics (Carlsson et al. 2005) influence the appropriateness of information communicated through cheap talk in removing hypothetical bias. We formalize the above logic and argue that the effectiveness of CCO information, and hence its value, is *contingent* on the credibility and appropriateness of CCO information.[6] First, third parties associated with IPOs (i.e., underwriters and venture capitalists) reveal private information about the issuing firm, which might alter the credibility of CCOs and their value in investors' minds. Thus, we investigate underwriter reputation and venture funding. Second, we consider how the IPO firm environment influences the appropriateness of CCO signals, including the task environment, which relates to efficiency (Kumar et al. 2011), and the institutional environment, which pertains to legitimacy (Grewal and Dharwadkar 2002). We lay out our conceptual framework in Figure 1, which includes these moderating effects.

Customer and Competitor Orientation

A customer orientation refers to the firm's understanding of its customers, which enables it to create superior value for them and thus for the firm (e.g., Narver and Slater 1990). Considerable evidence suggests that a customer orientation benefits the firm (Cano et al. 2004, Kirca et al. 2005); we reason in turn that when customer orientation signaled by the IPO firm increases, it is likely that investors gain insights into the future performance potential of the firm and increase their valuation of the firm. Competitor orientation is the organizational ability and willingness to identify, analyze, and respond to competitors' actions (Narver and Slater 1990). Again, considerable evidence suggests that it is beneficial for the firm (Cano et al. 2004, Kirca et al. 2005), so we reason that when competitor orientation indicated by the IPO firm increases, it increases the valuation of the firm.

By integrating customer insights with those of competitors (Narver and Slater 1990), an IPO firm might develop a more complete understanding of the marketplace than focusing on either customer or competitor orientation. Day and Wensley (1988) acknowledge this complementarity and conclude that an effective marketing strategy requires a balance, because in isolation, neither customer nor competitor analysis can deliver the desired results. Consistent with the notion that combining complementary information is better than duplicating investments in substitutable information (Kirmani and Rao 2000), we expect investors to respond favorably to firms that emphasize both customer and competitor orientations.

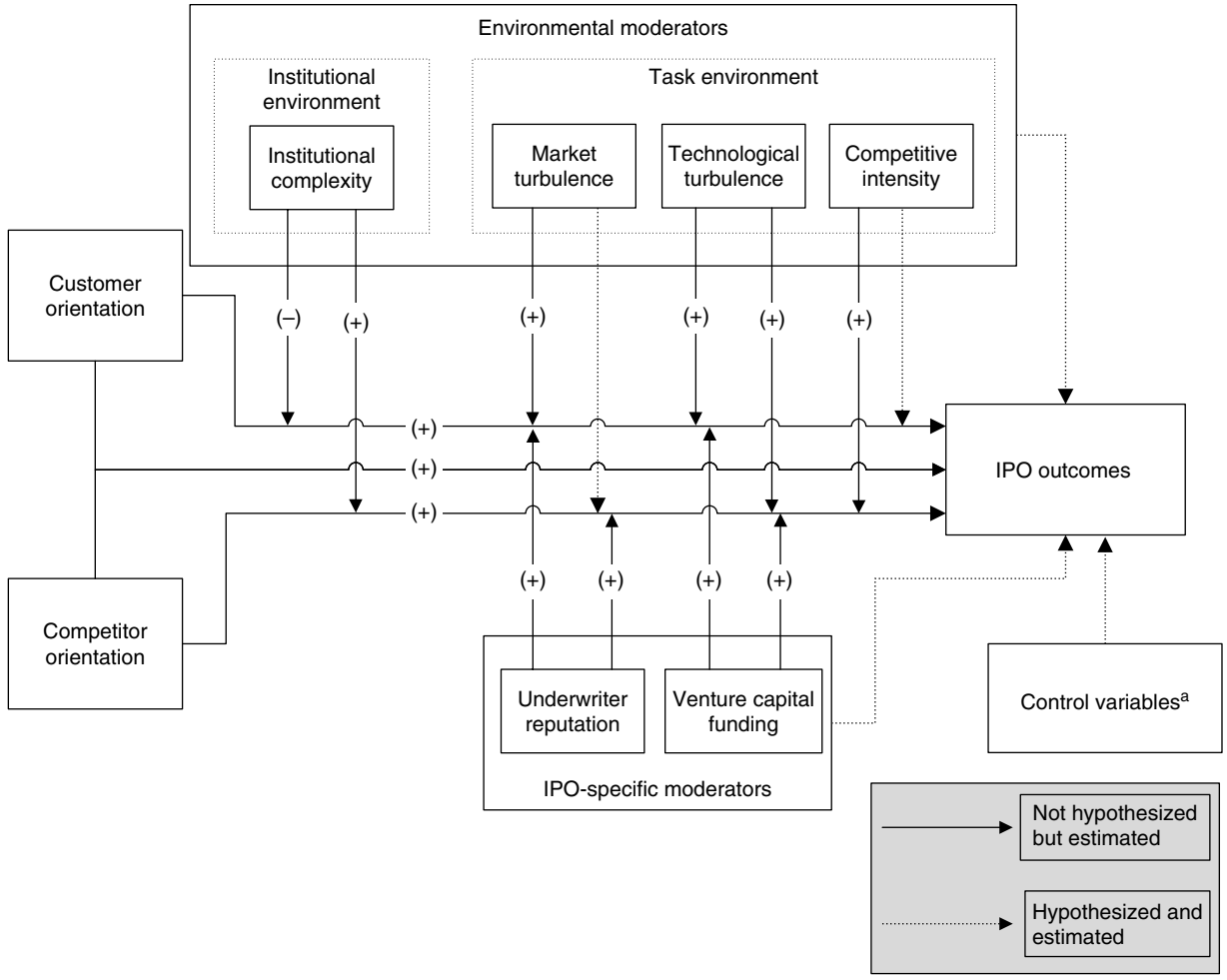
IPO-Specific Moderators

A relatively unknown IPO firm has little reputation to rely on (Gulati and Higgins 2003) and instead may communicate its credibility by partnering with an established partner; i.e., it may borrow the reputation of others (e.g., Pollock and Gulati 2007, Rao et al. 1999). Third parties associated with the IPO firm are likely to influence the credibility of its CCOs and thus can moderate the effect of CCO information on IPO outcomes. We consider *underwriter reputation* and *venture capital funding* (Ritter and Welch 2002), both of which should help signal the quality of the IPO firm (Carter et al. 1998).

Underwriter Reputation. When the IPO firm hires reputable underwriters such as Goldman Sachs and J.P. Morgan, it signals that the IPO firm is worthy of a reputable underwriter that has its own reputations to protect and should associate only with worthy IPOs (Carter and Manaster 1990, Ritter and Welch 2002). We suggest that this (positive) signal on underwriter reputation interacts positively with the information on CCOs. First, because litigation costs and risks increase with underwriter reputation (Carter et al. 1998), underwriters conduct careful due diligence to ensure that the IPO prospectus conforms to reality and reflects all aspects of the IPO firm's business, to protect their reputations (Daily et al. 2003). Thus, as underwriter reputation increases, we expect greater credibility for the CCO information in the IPO prospectus. Second, prestigious underwriters associate with high-quality IPOs (Carter and Manaster 1990), so underwriter reputation provides

[6] The notion of credibility and appropriateness has also been explored in the general information transmission literature. Extensive research on information utilization has documented that (even if the information is truthful) information-specific factors—specifically, credibility and usefulness or *appropriateness* or *relevance*—influence information usage (Moenaert and Souder 1996, Moorman 1995). Moenaert and Souder (1996) find that credibility and appropriateness are the most important dimensions that drive information use and are significantly more important than other characteristics (e.g., comprehensibility and novelty of information). Kirmani and Rao (2000) also suggest these two primary drivers of the value of information signals—credibility and appropriateness.

Figure 1 Conceptual Framework



[a]Control variables include *sales, total assets, age, R&D intensity, market conditions, bubble, IPO size, offer range, prospectus length, exchange, ownership dilution, and price adjustment.*

strong evidence of the quality of the IPO firm and its ability to execute its strategies. Similar to the assertion of Rao et al. (1999) that brands ally with other brands to gain credibility, we suggest that by associating with reputable underwriters, IPO firms gain credibility and thus increase the perceived value of CCOs. Thus, underwriter reputation should positively moderate the influence of CCOs on IPO outcomes.

Venture Capital Funding. Venture capitalists provide access to capital, but they also screen, monitor, and advise entrepreneurs (Fried and Hisrich 1995), which gives them significant influence over the firms in which they invest (Black and Gilson 1998). In turn, venture capital funding signals that organizational strategies have been vetted by knowledgeable investors who will continue to monitor the execution of these strategies. Venture capitalists act like mediators with skills to detect the true quality and the desire to associate with quality firms (Carayannis and Juneau 2003, Pollock and Gulati 2007). Therefore, venture capital funding should provide a signal of the quality of CCOs and the firm's ability such that it enhances the credibility of claims. Hence, we expect a positive moderating effect of venture capital funding on the effect of CCOs on IPO outcomes.

Environmental Moderators

Institutional environment refers to the institutions and related processes that give firms legitimacy (Grewal and Dharwadkar 2002). Gaining legitimacy enables IPO firms to generate desired response from investors and increases their survival likelihood (Pollock and Rindova 2003). We use institutional complexity, or the extent and severity of demands placed by institutional constituents on firms (Grewal et al. 2008), to assess the institutional environment. The task environment instead represents the setting "within which a product or service is exchanged in a market such that firms are rewarded for effective and efficient control of the work process" (Scott and Meyer 1983, p. 140); thus, organizations are systems

created to achieve economic goals (Baum and Rowley 2002), which earn rewards for their effective and efficient control of the work process (Scott and Meyer 1983). According to this perspective, firms are motivated by economic considerations and a desire to reduce uncertainty (Pfeffer and Salancik 1978). Consistent with extant research (Jaworski and Kohli 1993), we study three sources of uncertainty: market turbulence (instability of consumer preferences and expectations), competitive intensity (degree of competition), and technological turbulence (rate of technological advances).

For these four environmental facets (institutional complexity, market turbulence, competitive intensity, and technological turbulence), we posit moderating effects that depend on how appropriate the CCOs are for each environmental facet: investors consider an orientation appropriate if it appears beneficial for future firm performance.

Institutional Environment. As institutional complexity increases, organizational discretion decreases as a result of increasing legal constraints by regulators and normative pressures from trade associations or other institutional bodies (Hambrick and Abrahamson 1995). The resulting loss of organizational discretion introduces procedural delays, additional paperwork, and increased response time to environmental stimuli, including customers. Accordingly, we expect that increasing institutional complexity hampers the execution of customer orientation because the orientation relies heavily on processes involving external stakeholders (e.g., market sensing, customer linking). Because greater institutional complexity lowers the value of a customer orientation, it becomes less appropriate in such settings.[7]

DiMaggio and Powell (1983) suggest that firms mimic the behaviors of other successful firms that seem legitimate in an effort to reduce uncertainty created by institutional complexity (Grewal et al. 2008). Such behaviors also appear under the rubric of benchmarking, a process by which firms identify and imitate best practices to enhance their performance (Vorhies and Morgan 2005). In turn, organizational learning from competitors helps an IPO firm deal with the complex institutional environment. Such learning is facilitated by a competitor orientation; therefore, we predict that the value of a competitor orientation increases as institutional complexity increases.

[7] Note that we are not suggesting that customer orientation is inappropriate in institutionally complex environment. Instead, we are suggesting that in an institutionally complex environment, firms face other risks/challenges (e.g., regulatory) that are more important than those that can use customer orientation, and thus investors may not value customer orientation in institutionally complex environment; i.e., institutional complexity reduces the appropriateness of customer orientation.

Market Turbulence. Market turbulence represents the instability of consumer preferences and expectations (Kohli and Jaworski 1990), which tends to be high in industries such as motion pictures and requires firms to modify their offerings continuously and adapt to changing consumer preferences (Kumar et al. 2011). Modifications to offerings, in response to changing customer preferences, are facilitated by a customer orientation whose benefits increase with market turbulence. Building on this logic from classic (Kohli and Jaworski 1990) and contemporary (Kumar et al. 2011) market orientation theory, the appropriateness of customer orientation for an IPO firm should increase as market turbulence increases.[8]

Competitive Intensity. As competitive intensity—defined as the "behavior, resources and ability of competitors to differentiate" (Jaworski and Kohli 1993, p. 60)—increases, emphases on price cutting, promotions, and product alterations increase. The need to understand competitive dynamics increases with competitive intensity and therefore so should the value of a competitor orientation (Armstrong and Collopy 1996). Accordingly, the appropriateness of competitor orientation should also increase with greater competitive intensity.[9]

Technological Turbulence. Technological turbulence, which is the rate of technological advances in an industry, such as the highly turbulent pharmaceutical and software industries (Jaworski and Kohli 1993), creates uncertainty that can destroy organizational competencies (Weiss and Heide 1993). As technological turbulence increases, organizational memory and knowledge, including that for customers, deteriorates at a faster rate (Srinivasan et al. 2002) and increases the need to replenish deteriorating memory and knowledge (Grewal et al. 2012). Because customer orientation can replenish deteriorated customer memory and knowledge, the value of customer orientation should increase as technological turbulence increases. Therefore, the appropriateness of customer orientation for IPO firms should increase as technological turbulence increases.

We also argue that the value of competitor orientation increases with technological turbulence for at least two reasons. First, similar to the reasoning for customer orientation, as technological turbulence increases, the rate at which memory and knowledge about competitors deteriorates also speeds up, so as

[8] Consistent with extant research (e.g., Armstrong and Collopy 1996), we do not expect (although we estimate) any moderating effect of market turbulence for competitor orientation.

[9] Consistent with extant research (Slater and Narver 1994), we do not expect (although we estimate) any moderating effect of competitive intensity for customer orientation.

the organizational competitor orientation increases, the rate at which the firm replenishes this deteriorating memory and knowledge increases. Second, emphasis on competitor orientation facilitates learning from competitors (Slater and Narver 1995); the benefits of this learning increase with technological turbulence, because greater technological turbulence creates uncertainties that knowledge about competitors can help resolve. Specifically, competitors face technological challenges similar to those of the competing IPO firm, and the knowledge base of the community of competitors is likely greater than that of any single firm. Because a competitor orientation enables the firm to tap this knowledge base, with greater technological turbulence, the value of competitor orientation should increase. Both factors then enhance the appropriateness of competitor orientation for IPO firms when the surrounding technological turbulence increases.

Summary. Regarding the effects of customer orientation on IPO outcomes, we expect positive moderation by underwriter reputation, venture capital funding, market turbulence, and technological turbulence but a negative moderating effect of institutional complexity. For the effects of competitive orientation, we expect positive moderating influences of underwriter reputation, venture capital funding, institutional complexity, competitive intensity, and technological turbulence.

Model Development

The need to account for both industry heterogeneity and potential endogeneity in CCOs guided the development of our model. We begin by establishing a basic regression model that captures the hypothesized effects, along with industry-specific heterogeneity, and then we augment this model to account for the endogeneity of our focal variables. We specify IPO outcomes as a function of our independent variables, as follows:

$$perf_i = \sum_{j=1}^{J} [\beta_j I\{i \in j\}] x_i + \varepsilon_i, \tag{1}$$

where $perf_i$ is an m-vector of IPO outcome measures for firm i $(1, \ldots, N)$, β_j is an $m \times p$ matrix of regression coefficients for industry j $(1, \ldots, J)$, x_i is a p-vector of independent variables, the error term ε_i is assumed to be independent and homoskedastic, and the indicator function $I\{\}$ equals 1 for all $i \in j$ and 0 otherwise. For notational simplicity, and without any loss of generalization, for a firm i in industry j, we can expand this equation to indicate the effects of our focal variables:

$$\begin{aligned} perf_i = {} & \beta_j^0 + \beta_j^{CUS} CUS_i + \beta_j^{COM} COM_i + \gamma_j^{CUSUW} CUS_i UW_i \\ & + \gamma_j^{CUSVC} CUS_i VC_i + \gamma_j^{COMUW} COM_i UW_i \\ & + \gamma_j^{COMVC} COM_i VC_i + \varphi_j^{CUSCOM} CUS_i COM_i \\ & + \sum_{d=1}^{D} \delta_j^d Mod_{di} + \sum_{c=1}^{C} \alpha_j^c CTRL_{ci} + \varepsilon_i \end{aligned} \tag{2}$$

such that β_j in Equation (1) comprises β_j^0 through α_j^C in Equation (2), or $\beta_j = [\beta_j^0 \beta_j^{CUS} \beta_j^{COM} \gamma_j^{CUSUW} \gamma_j^{CUSVC} \gamma_j^{COMUW} \gamma_j^{COMVC} \varphi_j^{CUSCOM} \delta_j^1 \cdots \delta_j^D \alpha_j^1 \cdots \alpha_j^C]$; the acronyms *CUS* and *COM* indicate customer orientation and competitor orientation, respectively; *UW* refers to underwriter reputation; *VC* indicates venture capital funding; β_j^{CUS} refers to the effect of a customer orientation on firm i in industry j; γ captures the effect of the interaction between CCOs and IPO-specific moderators; D indicates the number of moderators (*Mod*) that represent the environmental and IPO-specific variables; C is the number of control variables (*CTRL*); α, β, and δ are vectors that capture the effects of the control variables, CCOs, and the moderators, respectively; and φ captures the effect of the interaction between CCOs.

To incorporate the moderating role of the environment, we further expand Equation (2):

$$\begin{aligned} \beta_j^{CUS} = {} & \gamma^{CUS} + \gamma^{CUSMT} MT_j + \gamma^{CUSTT} TT_j \\ & + \gamma^{CUSCI} CI_j + \gamma^{CUSIC} IC_j + \varepsilon_j^{CUS}, \end{aligned} \tag{3}$$

$$\begin{aligned} \beta_j^{COM} = {} & \gamma^{COM} + \gamma^{COMMT} MT_j + \gamma^{COMTT} TT_j \\ & + \gamma^{COMCI} CI_j + \gamma^{COMIC} IC_j + \varepsilon_j^{COM}, \end{aligned} \tag{4}$$

where γ^{CUS} and γ^{COM} capture the main effects of CCOs, γ^{CUSMT} captures the effect of the interaction between customer orientation and market turbulence (*MT*) on IPO outcomes, and the errors are normally and independently distributed. We adopt similar nomenclature for all the coefficients; *TT* refers to technological turbulence, *CI* refers to competitive intensity, and *IC* refers to institutional complexity. For ease of exposition, we drop the subscript j henceforth, unless it is ambiguous.

Accounting for Endogeneity

Because certain unobservable and/or uncontrolled firm characteristics and business processes (e.g., exceptional management, operating procedures) likely influence both CCOs and IPO outcomes, we must account for the potential endogeneity of CCOs. For example, an IPO firm may emphasize a particular orientation according to its organizational resources or capabilities, which also affect IPO outcomes, such that the CCOs are endogenous variables, and the relationship between the orientations and IPO outcomes might be an artifact of omitted variables.

An instrumental variable (IV) approach can help correct for the problems of endogeneity (Wooldridge 2009). Instruments are variables that mimic endogenous regressors but are not correlated with the error term. If valid instruments are available,

the regression coefficients can be estimated consistently; the challenge is finding valid instruments that are not directly associated with the dependent variable but offer good predictors of the endogenous regressors. Researchers propose "frugal" IV methods to address this problem (Ebbes et al. 2005), such as introducing a discrete unobserved IV that partitions the variance of the endogenous regressor into endogenous and exogenous components.

To deal with the potential endogeneity of CCOs, we introduce several equations in which the LIVs affect firm orientations. We specify the orientations as a function of the unobserved LIVs θ_i^{CUS} and θ_i^{COM}, as well as other exogenous regressors z_i (Zhang et al. 2009):[10]

$$CUS_i = \widetilde{CUS}_i + \eta_i^{CUS} = \theta_i^{CUS} + \phi_j^{CUS} z_i + \eta_i^{CUS}, \quad (5)$$

$$COM_i = \widetilde{COM}_i + \eta_i^{COM} = \theta_i^{COM} + \phi_j^{COM} z_i + \eta_i^{COM}.$$

With this specification, we can partition the possibly endogenous orientations into exogenous ($\widetilde{CUS}_i$ and $\widetilde{COM}_i$) and endogenous (η_i^{COM} and η_i^{CUS}) components. By including the endogenous parts explicitly in Equation (1), we investigate whether the structural error ε_i correlates with the reduced-form errors (η_i^{COM} and η_i^{CUS}) and correct for it using the following linear projection (Ebbes et al. 2005):

$$\varepsilon_i = \rho_{CUS}\eta_i^{CUS} + \rho_{COM}\eta_i^{COM} + \upsilon_i, \quad (6)$$

where the parameters ρ_{CUS} and ρ_{COM} measure the strength of respective regressor error dependencies. By design, the error term υ_i is uncorrelated with CUS_i, COM_i, η_i^{COM}, η_i^{CUS}, and all other regressors.

Methodology

Data

Our sample consists of all firms that went public between 2000 and 2004 but had no public presence before going public, which excludes spin-offs and firms whose parent company is already listed. The five-year window is long enough to provide a sufficiently large sample for our analysis, and it includes both a period of extreme exuberance (bubble) and the recession that followed, which ensures enough variability to support generalizable claims. The five-year time frame is also in line with several other IPO studies (e.g., Aggarwal et al. 2002). We use the SDC Platinum New Issues Database to develop the list of firms that went public during this period. In line with extant research (e.g., Luo 2008), we eliminate real estate investment trusts, closed-end funds, limited partnerships, and unit offerings. We also exclude rights issues, leveraged buyouts, equity carve-outs, and issues with proceeds of less than \$1.5 million. After excluding financial firms (Standard Industrial Classification (SIC) codes 6000–6999) and firms with extensive missing values, we obtain a sample of 543 firms across 43 industries.

Dependent Variables: IPO Outcomes

A successful IPO provides funds, increased publicity, and analyst coverage, among other benefits, and thus increases the firm's survival chances (Daily et al. 2003). Although there is no ambiguity about the importance of a good IPO, we find little agreement about how to measure its outcomes (Ritter and Welch 2002). A good IPO outcome measure must be easily observable, capture investors' sentiments toward the IPO, and be difficult or costly for the issuing firm to manipulate. We consider two measures for IPO outcomes: initial returns and trading volume at the end of first day.

Initial returns, also referred to as underpricing (Ritter and Welch 2002), equals the percentage difference between the offer price of the stock and the price of the stock at the end of the first trading day; it is the most widely used measure of initial IPO outcomes (Daily et al. 2003). Although some portion of the initial returns is deliberate, to reward investors for the risks they take, the measure also reveals investor interest and initial demand for the offering (Beatty and Ritter 1986). Behavioral finance scholars conclude that initial returns relate positively to "hype" and market sentiments (e.g., Baker and Wurgler 2006). If there is no increase in price on the first-day, the offering generally is considered a failure (Pollock and Rindova 2003); initial returns are also associated with pre-IPO excitement (Staikouras and Tsatsanis 2004), such that an enthusiastic response in the form of a high first-day bump in the stock price tends to receive a lot of attention and can yield other benefits, such as media attention, interest among potential customers, and analyst coverage (Demers and Lewellen 2003). We calculate initial returns using the first-day closing price obtained from the Center for Research in Security Prices (CRSP) and the offer price obtained from the SDC. The average initial returns for IPOs in our sample is 36.24%; the highest (507.5%) occurred for webMethods Inc., which closed at \$212.625 after an offer price of \$35.

Trading volume refers to the number of shares traded on the first day of listing. As trading volume increases, liquidity for and investor confidence in the stock also increase (Baker and Wurgler 2006). Although trading volume indicates increased buying and selling activity, greater volume also usually implies an oversubscribed offering, such that demand for securities exceeds the supply (Pollock

[10] Although we assume a single set of regressors z_i, the extension to different z_i is relatively straightforward.

and Rindova 2003), which implies strong levels of investor interest (Reese 1998). We obtain the number of shares traded from the CRSP and the number of shares offered from the IPO prospectus to compute trading volume. The IPO with the greatest trading volume was W-H Energy Services, Inc., with 325% more shares traded relative to the number of shares offered.

Independent Variables

Customer or competitor orientations originate with top management (Kohli and Jaworski 1990), so a detailed examination of the mental models of top managers should offer insights into the firm's orientation (Noble et al. 2002). Few investors have direct access to top management though, leaving them to infer the firm's orientation from information in its IPO filing documents. We content analyze these documents to make similar inferences, with the assumption that the words people use reflect their mind-sets (Cho and Hambrick 2006). Scholars have content analyzed letters to shareholders, annual reports, and other corporate documents to study a diverse set of strategic marketing issues, including strategic orientation (Noble et al. 2002) and CEO attention (Yadav et al. 2007). D'Aveni and Macmillan (1990) support the use of content analysis by demonstrating that top managers' cognitions, inferred through content analysis, correlate highly with measures derived from other types of data. Similarly, Fiol (1995) finds a good correlation between the cognitions expressed in letters to shareholders and private documents.

The Securities and Exchange Commission (SEC) issues strict prospectus guidelines and holds top managers legally responsible for any misinformation, so firms generally are unlikely to embellish their prospectus (Bhabra and Pettway 2003). This legal responsibility also ensures the close involvement of senior management, such that the documents should reflect management's beliefs and philosophy. If the documents were used solely to impress investors, with little correspondence with actual management philosophy, we would obtain null results (Yadav et al. 2007).

We adopt computer-aided text analysis guidelines (Popping 2000) to determine the orientation of the firm; that is, we count the relevant sentences for each orientation in the filing documents, which we obtained from the SDC, the SEC's EDGAR database, and SEC Info. We follow a conventional computer-based text analysis procedure to detect the frequencies of high-level concepts (Popping 2000). To begin, we developed a dictionary of phrases that define the constructs of interest, namely, CCOs. We turned to strategic orientation literature to generate a set of seed words that were closely identified with the desired constructs and then identified the synonyms of these seed words using a thesaurus. We manually tested the initial set of phrases for 15 company prospectuses across industries. In our iterative method, we next refined the initial dictionary through repeated cycles of manual validation with additional companies. We computed hits, misses, and false hits for each iteration and made changes accordingly; eventually, we achieved an automated procedure with acceptable levels of error. Complete accuracy is extremely difficult in an automated text analysis, however (Lehnert and Sundheim 1991), so we settled for an 80% hit rate and 5% false hits as acceptable, assuming any misses are random. To enhance validity, we asked two academic judges (familiar with strategic orientation literature) to evaluate the phrases in our dictionary and eliminated any that did not unambiguously capture the desired constructs. We offer illustrative phrases and coded sentences in Table 1; we present our dictionary phrases and map them onto the items of Narver and Slater (1990) in the Web appendix (available at http://dx.doi.org/10.1287/mksc.1120.0749).

In line with extant research, we rely on the Carter-Manaster (1990) score, as updated by Loughran and Ritter (2004), to measure *underwriter reputation* (Bhabra and Pettway 2003, Lowry et al. 2010). We measure *venture capital funding* with a dummy variable that equals 1 if the firm has been funded by venture capital and 0 otherwise (Pollock and Rindova 2003).

Following Grewal et al. (2008), we operationalize *institutional complexity* (*IC*) by assessing the extent and severity of institutional requirements in the organizational environment. We measure institutional complexity by relying on ratings provided by three academic raters. Academic raters can consider the industries in conceptual terms, using relatively few prompts, and they offer general objectivity (Hambrick and Abrahamson 1995). After explaining the purpose of the exercise and providing comprehensive industry descriptions, we explained the construct dimensions (i.e., institutional dependence and multiplicity) and gave the raters the following instructions: "Please find the industry descriptions below. Use the 10-point scale to indicate, in your estimation, the overall degree of institutional complexity experienced by the firms operating within those industries." The 10-point scale was anchored at 1 = extremely low and 10 = extremely high. They first individually examined the descriptions and rated 10 industries, then met and conducted a review of each coding decision. They reached agreement quickly about how to rate the industries. Next, they rated any remaining industries individually and again discussed their ratings to reach a consensus. The interrater reliability (Krippendorff's alpha) of the composite measure was a healthy 0.87.

Table 1 Illustrative Phrases and Coded Sentences from the Text Analysis

Orientation	Dictionary phrases	Example of coded sentence
Customer orientation	Support customer	"We have implemented an Internet-based software system that serves as a conduit for interactions between our customers and our support and research and development personnel for purposes of troubleshooting and facilitating customer requests for additional features or improvements" (Accord Networks 2000).
	Provide customer	"We provide our customers with access to advanced application engineers and design experts who work collaboratively with our customers to advance their product development efforts" (August Technology Corporation 2000).
	Customer need	"We have developed new, improved generations of each of our slurries as well as new slurries to keep pace with our customers' evolving needs" (Cabot Microelectronics Corporation 2000).
Competitor orientation	Compete	"A number of the largest companies in the world, including BP Solarex, which is a division of BP Amoco, Siemens Solar Group, Kyocera Corporation and Sharp Corporation, as well as a number of other large and small companies, including AstroPower, Inc., have developed or are developing solar power products that compete with ours" (Evergreen Solar 2000).
	Compare companies	"We believe that our integration or combination of the following multiple proprietary technologies provides us with competitive advantages in discovering chemical leads for new target proteins . . . , both over those pharmaceutical companies that have integrated discovery capabilities but lack our advanced technologies, and over biotechnology and drug discovery services companies that lack our integrated discovery capabilities" (3-Dimensional Pharmaceuticals 2000).
	Barriers entry	"Products which have patent related barriers to entry are those for which we file ANDAs with a 'Paragraph IV' certification asserting that the patents for the brand-name drugs are invalid, unenforceable or not infringed" (Eon Labs 2002).

We measure *market turbulence* using the ratio of sales and general administrative expenses to the sales of the firms in the same SIC code as the focal firm (e.g., Segarra and Callejón 2002). Industries with stable consumer preferences do not require heavy expenditures in marketing activities, such as product development, market research, and promotions. Thus, marketing expenses should increase as market turbulence increases. We measure *competitive intensity* using the well-known Herfindahl index, for which we square the market shares of the top four firms in the same SIC code as the focal firm (e.g., Lee and Grewal 2004). For *technological turbulence*, we take the ratio of research and development (R&D) expenditures to sales of the firms in the same SIC code as the focal firm (e.g., Osborn and Baughn 1990). A technologically stable environment obviates the need to invest in R&D (Terleckyj 1980), so such industries should exhibit lower R&D expenses.

Control Variables

The long tradition of research on IPOs enables us to glean some key insights. The meta-analysis by Daily et al. (2003) and surveys by Kennedy et al. (2006), Ritter (2011), Ritter and Welch (2002), Ljungqvist (2007), and Yong (2007) highlight that many factors influence IPO outcomes, most of which are based on asymmetric information. Asymmetric information models assume that one of the parties (typically the firm issuing the IPO) knows more than the others (i.e., investors), and the resulting information asymmetry gives rise to the initial returns (Ljungqvist 2007). Costly signaling theory thus has been the dominant theoretical perspective for examining IPO initial returns (Ritter and Welch 2002). Because owner-managers typically have detailed knowledge about the firm's quality that is not available to investors, they must find ways to communicate their firm's quality to potential investors and to reduce the uncertainty prior to their IPO. Other theoretical mechanisms proposed to explain initial returns include information production, changing issuer objective functions, and entrepreneurial losses (Kennedy et al. 2006, Ljungqvist 2007, Ritter 2011). We control for all these explanations.

We include the percentage of equity stake that managers relinquish at the time of an IPO, measured as *ownership dilution*, to reflect the owner-manager's valuations (Leland and Pyle 1977); investors should be willing to pay more for an IPO where the owners are willing to relinquish a smaller fraction of their ownership. Ownership dilution not only signals owners' valuations but also offers a mechanism to address adverse selection concerns, because the extent to which owners care about initial returns depends on how many shares they sell at the IPO (Habib and Ljungqvist 2001).

We include IPO-specific controls that might influence outcomes. Larger IPOs are associated with larger firms, and size correlates with risk (Pollock and Rindova 2003), so we control for *IPO size*, measured as the logarithm of the offer price multiplied by the number of shares offered. *Percentage width of offer range* is the offer width divided by the lowest offer price; underwriters who are uncertain about the price of an issue are likely to set a wider offer range to provide greater pricing flexibility (Hanley 1993). Moreover, we control for the *prospectus length* and the listing *exchange*.

Because market conditions may affect IPO outcomes, we control for *run-up*, or the compounded

return of an equally weighted market index 15 days before the IPO, to capture market sentiments (Chemmanur and Yan 2009), and a dummy variable, *bubble*, which indicates if the firm went public before August 2000 (Lowry et al. 2010).

We include *price adjustment* (i.e., the revision in the offer price from the midpoint of the original file price range), which Ritter (2011) argues is the single variable with the greatest explanatory power for IPO outcomes. After setting the initial offer price range, underwriters gather investors' private information during the road show and incorporate it into the final offer price. According to information acquisition models, IPOs for which the final offer price moves upward, relative to the file price range, experience greater initial returns than those for which the offer price gets revised downward (Benveniste and Spindt 1989).

Finally, we include firm-level variables related to unobserved firm quality. As firms grow larger and older, they establish and formalize relationships and standardize routines, which increases their structural stability and efficiency (Stinchcombe 1965). Thus, we include firm size and age as controls. To measure size, we use *pre-IPO sales* (natural logarithm of sales) and *total assets* (natural logarithm of book value of assets) (Bhabra and Pettway 2003); for age, we consider the firm's *age* in years at the time of its IPO (Lowry et al. 2010).[11] Finally, we also include *R&D intensity* (ratio of R&D expenditure to sales) to control for the growth opportunities and the inherent risks associated with R&D investments (Bhabra and Pettway 2003).

Model Estimation

To estimate the model, we use a hierarchical Bayesian multivariate regression method with a shrinkage specification to allow for industry-specific regression coefficients. This approach also lets the parameters to vary across industries, which makes it a popular marketing tool to model heterogeneity (Rossi and Allenby 2003). We normalize the skewed dependent variable (*initial returns*; see Figure 2) using the modified Box-Cox transformation, as suggested by Manly (1976). We also mean center all explanatory variables before creating the multiplicative terms to attain meaningful interpretations of the interaction coefficients. We then combine Equations (1) and (6):

$$perf_i = \beta_j X_i + \rho_{CUS}\eta_i^{CUS} + \rho_{COM}\eta_i^{COM} + \upsilon_i, \qquad (7)$$

where X_i is vector of independent variables (including the intercept). We assume normal priors for ρ_{CUS} and ρ_{COM} and a hierarchical shrinkage specification for β_j, such that $\beta_j \sim \text{MVN}(\bar{\beta}, \Lambda)$, where MVN is the multivariate normal density. With this specification, we can estimate industry-level coefficients (e.g., β_j) but still consider overall economy-level effects, $\bar{\beta}$. We assume a hierarchical shrinkage specification for the economy-level effects, $\bar{\beta} \sim \text{MVN}(\bar{\bar{\beta}}, 0)$.

The latent instrument θ_i (see Equation (5)) follows a discrete distribution with K support points $\omega_1, \ldots, \omega_K$ and probabilities $\lambda_1, \ldots, \lambda_K$, where each ω_k has a normal prior and λ has a Dirichlet prior.[12] We assume vague conjugate priors for ϕ_j^{CUS}, ϕ_j^{COM}, Λ, $\bar{\bar{\beta}}$, and all the parameters to be estimated; thus, the data primarily determine the posterior distributions. For the estimation, we use two Markov chain Monte Carlo chains with 40,000 draws, using the first 30,000 for each chain as the burn-in period and remaining 10,000 iterations from each chain for estimation. Our inferences are based on economy-level coefficients. The Web appendix provides the posterior distributions and other details of the model estimation.

Results

We provide the descriptive statistics and pairwise correlations in Table 2. The condition number of the correlation matrix (ratio of the largest to the smallest eigenvalue) is 23.03, less than the recommended cutoff value of 30. Therefore, multicollinearity is likely not an issue (Mason and Perreault 1991). We provide the kernel density plots of our key variables in Figure 2. The top panels contain the plot for the dependent variables, and the bottom panels depict the CCOs.

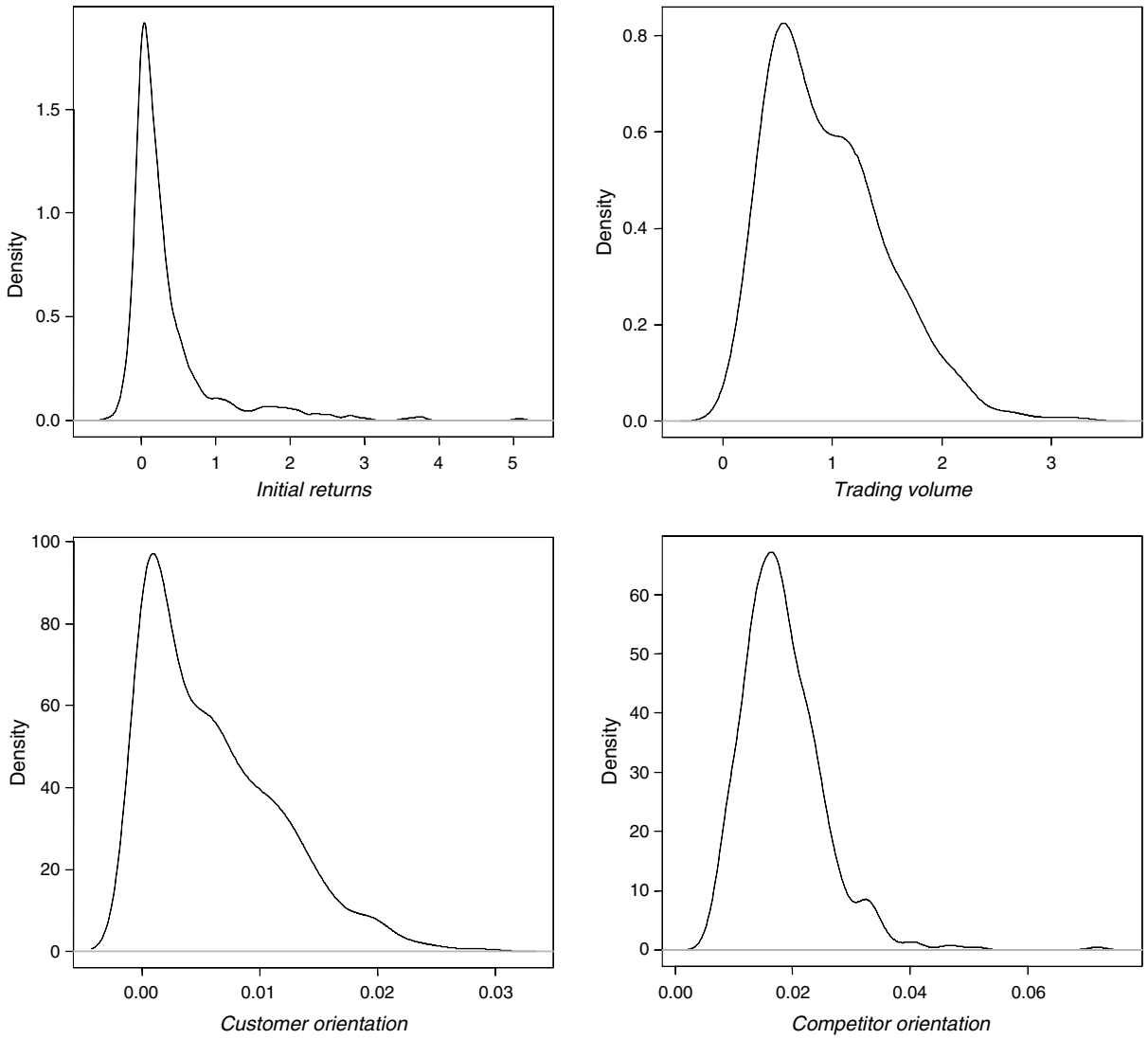
We report the estimated aggregate coefficients of our models in Table 3; because there are only a few firms in most industries, we use these aggregate coefficients to test our hypotheses. The number of effects and different variable scales may make it difficult to appreciate the relative importance and the implications of our findings,[13] so we also report the standardized estimates (Bring 1994). As expected, we find evidence of endogeneity for the orientations; both the LIV terms are statistically significant (i.e., the 95% posterior credible interval does not include 0); that is, CCOs are endogenous: $\rho_{CUS} = -19.05$ (SD = 1.21), and $\rho_{COM} = -25.21$ (SD = 0.69). The coefficients of the hypothesized model in Table 3 indicate that both customer and competitor orientations have a positive

[11] Our model also includes *venture capital funding* and *underwriter reputation*. Underwriter reputation accounts for the changing issuer objective function model for initial returns, which suggests that owner-managers are concerned with buying the reputable analyst coverage that accompanies prestigious underwriters (Cliff and Denis 2004, Loughran and Ritter 2004).

[12] We vary the number of mixture distributions (K) from two to seven and find statistically similar results in all cases. For this discussion, we report the results for the simplest case, $k = 2$.

[13] We thank an anonymous reviewer for this suggestion. We also acknowledge the potential pitfalls of using standardized coefficients (Bring 1994) and provide them simply as a measure of the relative importance of our effects.

Figure 2 Kernel Density Plots



Notes. The top panels provide the density plots of the dependent variables; the bottom panels reveal customer and competitor orientations. The *x* axis provides the range of values for the respective variable, and the *y* axis provides the density. *Initial returns* is the percentage difference between the offer price of the stock and the price of the stock at the end of the first trading day; *trading volume* is the volume of shares traded on the first day as a percentage of the total shares offered in our analysis; CCOs are measured as the number of sentences capturing the focal construct as a percentage of the total number of sentences in the prospectus.

impact. Thus, the benefits of CCOs are robust for IPO firms. As we anticipated, the interaction between CCOs is positive; the CCO signals tend to reinforce each other.

Moderating and Control Variable Effects

In support of our predictions, underwriter reputation and venture capital funding lend credibility to information on CCOs; the interactions of the two IPO-specific variables and CCOs for IPO outcomes are positive. In turn, these variables increase the perceived value of CCOs.

The interaction between customer orientation and institutional complexity is negative, which also supports our expectation that the appropriateness of customer orientation decreases as institutional complexity increases. Furthermore, the interaction between competitor orientation and institutional complexity shows that the appropriateness of competitor orientation increases with greater institutional complexity.

As expected, the interaction between market turbulence and customer orientation is positive for IPO outcomes; the appropriateness of customer orientation increases with greater market turbulence. Also, in line with our expectations, the appropriateness of competitor orientation increases with competitive intensity. Although we did not offer a prediction

Table 2 Bivariate Correlation Coefficients

Construct	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 *Customer orientation*																				
2 *Competitor orientation*	0.37[a]																			
3 *Market turbulence*	0.46[a]	0.23[a]																		
4 *Competitive intensity*	−0.12[a]	−0.17[a]	−0.31[a]																	
5 *Technological turbulence*	−0.34[a]	−0.09[b]	−0.28[a]	−0.23[a]																
6 *Institutional complexity*	−0.56[a]	−0.19[a]	−0.52[a]	−0.02	0.46[a]															
7 *Age*	−0.03	−0.07	−0.17[a]	0.20[a]	−0.17[a]	−0.05														
8 *Pre-IPO Sales*	0.01	−0.08	−0.15[a]	0.28[a]	−0.35[a]	−0.02	0.48[a]													
9 *Total assets*	−0.09[b]	−0.11[a]	−0.20[a]	0.24[a]	−0.23[a]	0.11[b]	0.42[a]	0.75[a]												
10 *Underwriter reputation*	0.09[b]	0.02	0.07	−0.02	0.00	−0.04	0.03	0.15[a]	0.38[a]											
11 *Run-up before IPO*	−0.01	0.00	−0.04	0.06	−0.09[b]	−0.05	0.00	0.05	0.07	−0.05										
12 *IPO size*	−0.01	−0.07	−0.07	0.13[a]	−0.14[a]	0.04	0.21[a]	0.47[a]	0.70[a]	0.54[a]	0.06									
13 *% width offer range*	0.08	0.06	0.12[a]	−0.11[b]	−0.04	−0.13[a]	−0.17[a]	−0.14[a]	−0.19[a]	−0.08	0	−0.22[a]								
14 *Prospectus length*	−0.18[a]	−0.16[a]	−0.21[a]	0.22[a]	−0.06	0.13[a]	0.16[a]	0.32[a]	0.45[a]	0.11[a]	0.08	0.36[a]	−0.15[a]							
15 *Ownership dilution*	0.28[a]	0.11[b]	0.27[b]	−0.07	−0.18[b]	−0.29[b]	−0.10[b]	−0.02	0.03	0.18[b]	0.15[b]	0.31[b]	0.13[b]	−0.15[b]						
16 *Price adjustment*	0.05	0.03	0.07	−0.11[b]	0.02	−0.06	−0.18[b]	−0.08	−0.04	0.15[b]	0.09[c]	0.01	−0.02	0.01	−0.11[b]					
17 *Venture capital funding*	0.06	0.12[a]	0.17[a]	−0.21[a]	0.21[a]	−0.05	−0.37[a]	−0.44[a]	−0.36[a]	0.13[a]	0.01	−0.19[a]	0.09[b]	−0.13[a]	0.12[a]	0.13[a]				
18 *R&D intensity*	−0.09[b]	−0.02	−0.07	−0.06	0.23[a]	0.11[b]	−0.06	−0.31[a]	−0.09[b]	0.03	−0.04	−0.04	−0.01	0.01	0.01	−0.05	0.08			
19 *Initial returns*	0.26[a]	0.14[a]	0.23[a]	−0.12[a]	−0.09[b]	−0.25[a]	−0.12[a]	−0.13[a]	−0.10[b]	0.19[a]	0.07	0.17[a]	0.06	−0.22[a]	−0.16[b]	0.63[b]	0.19[a]	−0.01		
20 *Trading volume*	0.29[a]	0.14[a]	0.34[a]	−0.15[a]	−0.14[a]	−0.33[a]	−0.18[a]	−0.22[a]	−0.20[a]	0.23[a]	0.06	0.05	0.05	−0.29[a]	−0.12[b]	0.51[b]	0.26[a]	−0.03	0.49[a]	
Mean	0.01	0.02	0.05	0.03	3.24	5.2	13.96	17.28	17.83	8.06	0.002	18.33	0.17	1,988	0.22	0.04	0.64	3.84	0.36	0.96
SD	0.01	0.01	0.03	0.04	5.12	2.27	18.53	2.27	1.64	1.35	0.03	0.83	0.08	617.53	0.2	0.31	0.48	32.11	0.21	0.54

[a]Correlation is significant at the 0.01 level (two-tailed).
[b]Correlation is significant at the 0.05 level (two-tailed).

Table 3 Parameter Estimates for the Hypothesized Model

		Hypothesized model		Standardized estimates	
	Coefficient	Initial returns	Trading volume	Initial returns	Trading volume
Customer orientation (*CUS*)	$\gamma^{CUS} > 0$	13.35	48.53[a]	—	0.51
Competitor orientation (*COM*)	$\gamma^{COM} > 0$	19.2[b]	43.37[a]	0.63	0.57
CUS × *COM*	$\phi^{CUSCOM} > 0$	22.64[a]	19.42[a]	0.00	0.00
Underwriter reputation (*UW*)		5.21[a]	8.32[a]	32.86	20.88
VC funded (*VC*)		95.04[a]	6.42[a]	212.86	5.72
Institutional complexity (*IC*)		−9.59[a]	−1.14	−101.65	—
Market turbulence (*MT*)		−196.5[a]	−504.7[a]	−25.34	−25.90
Competitive intensity (*CI*)		−1,351[a]	−266.3	−273.32	—
Technological turbulence (*TT*)		−9.17[a]	−3.44	−219.39	−32.76
CUS × *UW*	$\gamma^{CUSUW} > 0$	20.12[a]	15.79[a]	0.62	0.19
CUS × *VC*	$\gamma^{CUSVC} > 0$	29.8[a]	24.04[a]	0.64	0.21
COM × *UW*	$\gamma^{COMUW} > 0$	31.07[a]	17.41[a]	1.19	0.26
COM × *VC*	$\gamma^{COMVC} > 0$	19.98[a]	19.08[a]	0.54	0.21
CUS × *IC*	$\gamma^{CUSIC} < 0$	−13.31	−25.85[a]	−0.72	−0.55
CUS × *MT*	$\gamma^{CUSMT} > 0$	75.05[a]	2.67	0.04	—
CUS × *CI*	*NA*	−1.87	8.28[c]	—	0.00
CUS × *TT*	$\gamma^{CUSTT} > 0$	18.82[a]	43.55[a]	2.28	2.10
COM × *IC*	$\gamma^{COMIC} > 0$	19.91	13.91[a]	—	0.37
COM × *MT*	*NA*	23.65[a]	−17.41[c]	0.02	−0.01
COM × *CI*	$\gamma^{COMCI} > 0$	29.66[a]	1.97	0.04	—
COM × *TT*	$\gamma^{COMTT} > 0$	−4.84	22.97[a]	—	1.28
Age		0.01	2.64[a]	—	90.93
Sales		−21.68[a]	−9.10[a]	−229.33	−38.31
Total assets		9.72[a]	−50.1[a]	74.57	−152.97
R&D intensity		−2.82[a]	−9.76[a]	−432.04	−595.14
Run-up before IPO		19.99[a]	9.92[a]	3.20	0.63
IPO size		17.41[a]	−2.87[c]	67.86	−4.45
Offer range		−13.76[b]	−10.77[a]	−5.11	−1.59
Prospectus length		−0.31	−0.03	—	—
NYSE		−61.85[a]	−38.68[a]	−101.39	−25.24
AMEX		1.28	−0.47	—	—
Bubble period		6.42[a]	8.02[a]	15.00	7.46
Ownership dilution		−81.34[a]	−21.03[a]	−76.16	−7.84
Price adjustment		46.21[a]	356.3[a]	67.61	207.49

Note. We do not report standardized coefficients for statistically nonsignificant coefficients.
[a]More than 99% of the posterior distribution does not contain zero.
[b]More than 95% of the posterior distribution does not contain zero.
[c]More than 90% of the posterior distribution does not contain zero.

about the interaction between customer orientation and competitive intensity, the results suggest that the appropriateness of customer orientation increases as competitive intensity increases. Our results also confirm that the appropriateness of CCO information increases as technological turbulence increases.

Finally, the coefficients for the control variables are in the expected directions and consistent with prior research. Market conditions influence IPO outcomes; offerings in rising markets get good responses, and IPOs in the bubble period receive warm responses. The IPO-specific variables, such as offer range, price adjustment, and the exchange of listing, also influence IPO outcomes: a wider offer range indicates higher uncertainty about the pricing and results in a colder response, whereas a positive price adjustment indicates investors' confidence in the offering. The uncertainty and the risks associated with R&D investments lower investors' enthusiasm toward the IPO.

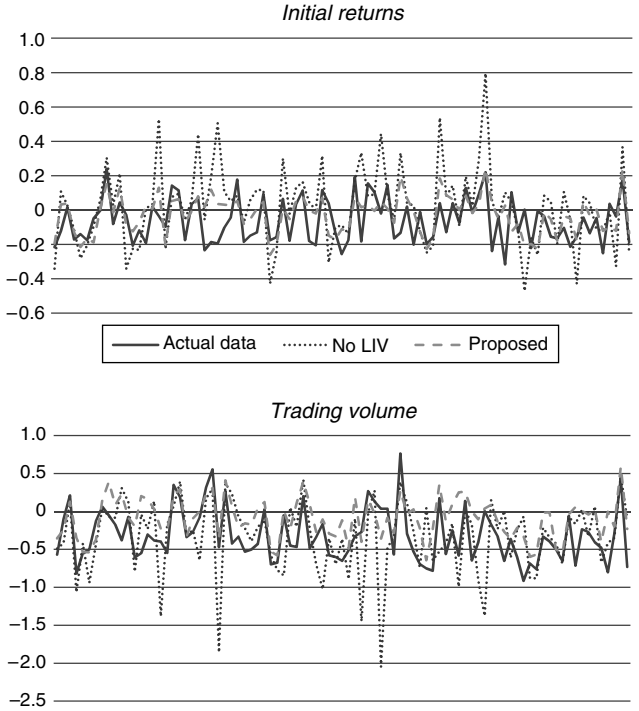
Predictive Validity

Using multiple dependent variables strengthens our results, but to enhance confidence in them even further, we also assess the predictive accuracy of our model relative to alternative model specifications. We compare our model with (1) a base model with no marketing variables, (2) a model with marketing variables but no interactions and no correction for endogeneity, and (3) a model with all the effects but no correction for endogeneity. As a measure of predictive accuracy, we use the root mean square error (RMSE) between the actual and predicted values for a holdout sample (Andrews et al. 2002), with the means

Table 4 Predictive Accuracy (RMSE Values) by Model Type

Prediction task	Dependent variable	Proposed model	No endogeneity correction	No interactions	Base model
Holdout 2004	*Initial returns*	1.38	2.40	4.20	4.26
	Trading volume	3.72	5.01	5.92	7.61
Random 20% holdout	*Initial returns*	0.95	1.91	3.47	3.59
	Trading volume	4.04	5.04	6.47	6.74

Figure 3 Plots of Actual and Predicted Values for the First Prediction Task



Notes. The charts for both prediction tasks are similar, so we only present one to conserve space. We also do not display the plots for the base model and the no-interaction model, because the poor predictive fit of these models would result in a larger range for the *y* axis. The solid lines are the actual values; the dotted lines are the predicted values from the alternative models.

of the posterior distributions as the point estimates for computing these RMSEs. For the first prediction task, we hold out all observations from 2004, the last year for which we have data; for the second, we randomly hold out about one-fourth of the observations.[14] The results in Table 4 provide strong support for our model relative to the other models, as confirmed by the plots in which we compare actual with predicted values across models (see Figure 3).

Discussion

To establish the importance of the marketing enterprise for IPO valuations, we study the relationships of pre-IPO CCOs of the firm with IPO outcomes. Recognizing the inherent complexities in such relationships, we examine the moderating roles of IPO characteristics and the organizational environment. Thus, our primary contribution is to marketing–finance literature, such that we integrate research on CCOs with the IPO literature in finance and accounting to establish that CCOs play a critical role in IPO outcomes, such as initial returns and trading volume.

In the process of linking CCOs to IPO outcomes, we rely on information economics to develop a rationale of the information value of CCOs. First, we reason that CCOs are unlikely to offer Spence-style signals, which involve explicit signaling costs (Spence 1973); nonetheless, they are valuable sources of information transmission from the costly state falsification and cheap talk perspectives. Costly state falsification signals are verifiable on a post hoc basis and promote truthful reporting (Crawford and Sobel 1982, Stocken 2000); several aspects of information on CCOs in IPO prospectuses can be verified by auditors, underwriters, and employees. In contrast, the cheap talk model in a repeated setting suggests that firms benefit from developing a reputation of truthfulness (Kim 1996, Stocken 2000); the IPO firm, auditors, and underwriters all function in public domains in which they have reputations to protect. Our results support these conjectures about the information value of CCOs, in that we find support for a main effect of customer orientation and for the interaction between customer orientation and competitor orientation. Thus, we establish a foundation for theorizing about CCOs from an informational perspective.

Second, we develop a conceptual framework that establishes that the value of information as per costly state falsification (Lacker and Weinberg 1989) and cheap talk (Stocken 2000) literature in information economics is influenced by its credibility and appropriateness. Using IPO characteristics to assess information credibility and facets of the environment to determine its appropriateness, we find support for moderating roles of IPO characteristics and the organizational institutional and task environments; thus, our results support our claims that credibility imbibes aspects of IPO characteristics, and appropriateness ordains environmental qualities. That is, we show that both credibility and appropriateness mechanisms facilitate informational value of CCOs.

Implications for Practice

Our study provides several insights for managers of issuing firms that might help them attain the most "bang for their buck." First, we note the importance of firm CCOs. Firms already pay substantial attention to the financial aspects of their IPOs, but they

[14] We excluded 132 firms, each with two dependent variables (264 predicted values), from the first prediction task; we excluded 142 firms (284 values) from the second prediction task.

also should include the marketing function in the process. Recognizing that CCOs add value to IPO outcomes, firms should devote resources to developing them well in advance of their public offerings.

Second, firms should be cognizant of the IPO characteristics that affect the credibility of the CCO information and the aspects of the organizational environment that dictate their appropriateness. More broadly, we suggest managers to evaluate their communications (disclosures) in light of the other factors that may influence the value of their disclosures. The results in Table 3 suggest that the impact of CCOs increases substantially when they appear together with signals of underwriter reputation and venture capital funding; for example, the standardized coefficient for competitor customer orientation is 0.63 whereas that for the interaction of this orientation with venture capital funding is 0.54—because venture capital funding is a dummy variable, we can conclude that the coefficient for competitor customer orientation when there is venture capital funding is 1.17 $(0.63 + 0.54)$ and in the absence of venture capital funding is 0.63, a twofold decrease. Regarding appropriateness, we find that firms that fail to align their strategies with their environment suffer penalties. For example, firms that emphasized a customer orientation in an institutionally complex environment (e.g., Cutera Inc., PeopleSupport Inc.) received lukewarm responses from investors, with first-day trading volumes of less than half the number of shares offered and closing prices below the offer price. In contrast, Blue Martini Software Inc. and Selectica Inc. emphasized their customer orientation in institutionally simple environments and received enthusiastic responses, with first-day trading volumes of almost twice the number of shares and closing prices of nearly three times the offer price. The standardized estimates in Table 3 indicate practical significance of these effects; the standardized coefficient for the interaction between customer orientation and institutional complexity is -0.55 for trading volume, such that customer orientation appears to reduce trading volume as institutional complexity increases. A firm operating in an institutionally complex environment might increase its first-day closing price by at least 3.5% if it adopts a competitor rather than a customer orientation. Thus, savvy investors should scrutinize IPO prospectuses for CCO signals to pick "good" stocks.

Limitations and Further Research

Although our study deepens understanding of the marketing–finance interface, our results are constrained by several issues related to the use of secondary data. Some measures (e.g., orientations and facets of the task environment) may be coarse. Extant research relies heavily on survey-based approaches to study orientations (Kirca et al. 2005), but an archival approach is extremely well suited to study the values, sentiment, intentions, and ideologies of managers in an unobtrusive and unbiased manner (Noble et al. 2002). Additional research might combine multiple data sources to develop a better measure of some constructs. To our knowledge, this study is the first attempt to examine the influence of CCOs on IPO outcomes. Thus replications in different markets and time periods should confirm the relationships we identify. Furthermore, we acknowledge that developing a particular orientation may entail changes in organizational structure, strategy, and processes, which should be empirically scrutinized. Constructs other than CCOs could play important roles in IPO outcomes too, which suggest fruitful avenues for research. Other constructs such as interfirm alliances, organizational learning, the presence of a chief marketing officer, innovation, and marketing of the IPO (e.g., road show) can provide further insights. Future research can also examine the mediating mechanisms through which CCOs influence IPO outcomes.

We investigate investors' sentiments toward an IPO (and thus only its immediate outcomes); we cannot comment on the role of CCOs for long-term firm valuation. The influence of institutional players immediately after the IPO (e.g., stabilization activities by underwriters) means immediate responses may not be a good indicator of the long-term fair value of the firm (Ritter and Welch 2002). Additional research should measure the role of marketing for long-term IPO outcomes.

Conclusion

As complex activities, IPOs require close coordination among all organizational functions. We attempt to clarify the relationship between the pre-IPO CCOs of a firm and its IPO outcomes; in so doing, we also attempt to demonstrate the relevance of the marketing function in an IPO context. We hope that our study motivates further research on this topic to highlight the importance of the marketing enterprise in the early stages of organizational public life.

Electronic Companion

An electronic companion to this paper is available as part of the online version at http://dx.doi.org/10.1287/mksc.1120.0749.

Acknowledgments

This paper is adapted from part of the first author's doctoral dissertation at Pennsylvania State University. The authors acknowledge financial support from the Institute for Study of Business Markets (ISBM) of the Pennsylvania State University and the beneficial comments from Jade DeKinder, Peter Ebbes, Gary Lilien, Xueming Luo, and William Ross.

References

Accord Networks (2000) Form F-1 registration statement. Accord Networks, Atlanta. http://www.sec.gov/Archives/edgar/data/1116152/000093176300001502/0000931763-00-001502-0001.txt.

Aggarwal RK, Krigman L, Womacka KL (2002) Strategic IPO underpricing, information momentum, and lockup expiration selling. *J. Financial Econom.* 66(1):105–137.

Andrews R, Ansari A, Currim I (2002) Hierarchical Bayes versus finite mixture conjoint analysis models: A comparison of fit, prediction, and partworth recovery. *J. Marketing Res.* 39(1):87–98.

ArrowPoint Communications Inc. (2000) Prospectus. ArrowPoint Communications, Westford, MA. http://www.sec.gov/Archives/edgar/data/1039198/0000950135-00-001917.txt.

Armstrong JS, Collopy F (1996) Competitor orientation: Effects of objectives and information on managerial decisions and profitability. *J. Marketing Res.* 33(2):188–199.

August Technology Corporation (2000) Form S-1 registration statement. August Technology, Bloomington, MN. http://www.nasdaq.com/markets/ipos/filing.ashx?filingid=1128584.

Baker M, Wurgler J (2006) Investor sentiment and the cross-section of stock returns. *J. Finance* 61(4):1645–1680.

Baum JAC, Rowley TJ (2002) *Companion to Organizations: An Introduction* (Blackwell, Oxford, UK).

Beattie V (1999) *Business Reporting*: *The Inevitable Change*? (Institute of Chartered Accountants of Scotland, Edinburgh, UK).

Beatty RP, Ritter JR (1986) Investment banking, reputation, and the underpricing of initial public offerings. *J. Financial Econom.* 15(1–2):213–232.

Benveniste LM, Spindt PA (1989) How investment bankers determine the offer price and allocation of new issues. *J. Financial Econom.* 24(2):343–361.

Beyer A, Cohen DA, Lys TZ, Walther BR (2010) The financial reporting environment: Review of the recent literature. *J. Accounting Econom.* 50(2–3):296–343.

Bhabra HS, Pettway RH (2003) IPO prospectus information and subsequent performance. *Financial Rev.* 38(3):369–397.

Black BS, Gilson RJ (1998) Venture capital and the structure of capital markets: Banks versus stock markets. *J. Financial Econom.* 47(3):243–277.

Bring J (1994) How to standardize regression coefficients. *Amer. Statistician* 48(3):209–213.

Bukh PN, Nielsen C, Gormsen P, Mouritsen J (2005) Disclosure of information on intellectual capital in Danish IPO prospectuses. *Accounting, Auditing Accountability J.* 18(6):713–732.

Cabot Microelectronics Corporation (2000) Form S-1 registration statement. Cabot Microelectronics, Aurora, IL. http://www.nasdaq.com/markets/ipos/filing.ashx?filingid=1126022.

Cai H, Wang JTY (2006) Overcommunication in strategic information transmission games. *Games Econom. Behav.* 56(1):7–36.

Cano CR, Carrillat FA, Jaramillo F (2004) A meta-analysis of the relationship between market orientation and business performance: Evidence from five continents. *Internat. J. Res. Marketing* 21(2):179–200.

Carayannis EG, Juneau TL (2003) *Idea Makers and Idea Brokers in High-Technology Entrepreneurship: Fee vs. Equity Compensation for Intellectual Venture Capitalists* (Praeger Publishers, Westport, CT).

Carlsson F, Frykblom P, Lagerkvist CJ (2005) Using cheap talk as a test of validity in choice experiments. *Econom. Lett.* 89(2):147–152.

Carter R, Manaster S (1990) Initial public offerings and underwriter reputation. *J. Finance* 45(4):1045–1067.

Carter RB, Dark FH, Singh AK (1998) Underwriter reputation, initial returns, and the long-run performance of IPO stocks. *J. Finance* 53(1):285–311.

Chan K, Ikenberry DL, Lee I, Wang Y (2010) Share repurchases as a potential tool to mislead investors. *J. Corporate Finance* 16(2):137–158.

Chemmanur TJ, Yan A (2009) Product market advertising and new equity issues. *J. Financial Econom.* 92(1):40–65.

Cho TS, Hambrick DC (2006) Attention as the mediator between top management team characteristics and strategic change: The case of airline deregulation. *Organ. Sci.* 17(4):453–469.

Choi SJ (2007) Do the merits matter *less* after the Private Securities Litigation Reform Act? *J. Law, Econom., Organ.* 23(3):598–626.

Cliff MT, Denis DJ (2004) Do initial public offering firms purchase analyst coverage with underpricing? *J. Finance* 59(6):2871–2901.

Cornerstone Research (2011) Securities class action filings: 2010 year in review. Report, Cornerstone Research, Boston. http://securities.stanford.edu/clearinghouse_research/2010_YIR/Cornerstone_Research_Filings_2010_YIR.pdf.

Crawford VP, Sobel J (1982) Strategic information transmission. *Econometrica* 50(6):1431–1451.

Croson R, Boles T, Murnighan JK (2003) Cheap talk in bargaining experiments: Lying and threats in ultimatum games. *J. Econom. Behav. Organ.* 51(2):143–159.

Daily CM, Certo T, Dalton DR, Roengpitya R (2003) IPO underpricing: A meta-analysis and research synthesis. *Entrepreneurship: Theory Practice* 27(3):271–296.

Daines R, Klausner M (2001) Do IPO charters maximize firm value? Antitakeover protection in IPOs. *J. Law, Econom., Organ.* 17(1):83–120.

D'Aveni RA, Macmillan IC (1990) Crisis and the content of managerial communications: A study of the focus of attention of top managers in surviving and failing firms. *Admin. Sci. Quart.* 35(4):634–657.

Day GS, Wensley R (1988) Assessing advantage: A framework for diagnosing competitive superiority. *J. Marketing* 52(2):1–20.

DeKinder JS, Kohli AK (2008) Flow signals: How patterns over time affect the acceptance of start-up firms. *J. Marketing* 72(5):84–97.

Demers E, Lewellen K (2003) The marketing role of IPOs: Evidence from internet stocks. *J. Financial Econom.* 68(3):413–437.

DiMaggio PJ, Powell WW (1983) The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *Amer. Sociol. Rev.* 48(2):147–160.

Dittmar AK (2000) Why do firms repurchase stock? *J. Bus.* 73(3):331–355.

Drake PD, Vetsuypens MR (1993) IPO underpricing and insurance against legal liability. *Financial Management* 22(1):64–73.

Ebbes P, Wedel M, Böckenholt U, Steerneman T (2005) Solving and testing for regressor-error (in)dependence when no instrumental variables are available: With new evidence for the effect of education on income. *Quant. Marketing Econom.* 3(4):365–392.

Eliashberg J, Robertson TS (1988) New product preannouncing behavior: A market signaling study. *J. Marketing Res.* 25(3):282–292.

Eon Labs (2002) Prospectus. Eon Labs, Wilson, NC. http://www.nasdaq.com/markets/ipos/filing.ashx?filingid=1773897.

Evergreen Solar (2000) Form S-1 registration statement. Evergreen Solar, Waltham, MA. http://www.nasdaq.com/markets/ipos/filing.ashx?filingid=1235195.

Farrell J (1995) Talk is cheap. *Amer. Econom. Rev.* 85(2):186–190.

Farrell J, Rabin M (1996) Cheap talk. *J. Econom. Perspect.* 10(3):103–118.

Fiol CM (1995) Corporate communications: Comparing executives' private and public statements. *Acad. Management J.* 38(2):522–536.

Fried VH, Hisrich RD (1995) The venture capitalist: A relationship investor. *Calif. Management Rev.* 37(2):101–113.

Gigler F (1994) Self-enforcing voluntary disclosures. *J. Accounting Res.* 32(2):224–240.

Gillan SL, Starks LT (2007) The evolution of shareholder activism in the United States. *J. Appl. Corporate Finance* 19(1):55–73.

Grewal R, Dharwadkar R (2002) The role of the institutional environment in marketing channels. *J. Marketing* 66(3):82–97.

Grewal R, Chandrashekaran M, Dwyer FR (2008) Navigating local environments with global strategies: A contingency model of multinational subsidiary performance. *Marketing Sci.* 27(5):886–902.

Grewal R, Chandrashekaran M, Johnson J, Mallapragada G (2011) Environments, unobserved heterogeneity, and the effect of market orientation on outcomes for high-tech firms. *J. Acad. Marketing Sci.*, ePub ahead of print December 13.

Gulati R, Higgins MC (2003) Which ties matter when? The contingent effects of interorganizational partnerships on IPO success. *Strategic Management J.* 24(2):127–144.

Habib MA, Ljungqvist AP (2001) Underpricing and entrepreneurial wealth losses in IPOs: Theory and evidence. *Rev. Financial Stud.* 14(2):433–458.

Hambrick DC, Abrahamson E (1995) Assessing managerial discretion across industries: A multimethod approach. *Acad. Management J.* 38(5):1427–1441.

Hanley KW (1993) The underpricing of initial public offerings and the partial adjustment phenomenon. *J. Financial Econom.* 34(2):231–250.

Hanley KW, Hoberg G (2010) The information content of IPO prospectuses. *Rev. Financial Stud.* 23(7):2821–2864.

Hauser J, Tellis GJ, Griffin A (2006) Research on innovation: A review and agenda for *Marketing Science*. *Marketing Sci.* 25(6):687–717.

Jaworski BJ, Kohli AK (1993) Market orientation: Antecedents and consequences. *J. Marketing* 57(3):53–70.

Kennedy DB, Sivakumar R, Vetzal KR (2006) The implications of IPO underpricing for the firm and insiders: Tests of asymmetric information theories. *J. Empirical Finance* 13(1):49–78.

Kim JY (1996) Cheap talk and reputation in repeated pretrial negotiation. *RAND J. Econom.* 27(4):787–802.

Kirca AH, Jayachandran S, Bearden WO (2005) Market orientation: A meta-analytic review and assessment of its antecedents and impact on performance. *J. Marketing* 69(2):24–41.

Kirmani A, Rao AR (2000) No pain, no gain: A critical review of the literature on signaling unobservable product quality. *J. Marketing* 64(2):66–79.

Kohli AK, Jaworski BJ (1990) Market orientation: The construct, research propositions, and managerial implications. *J. Marketing* 54(2):1–18.

Krigman L, Shaw WH, Womack KL (2001) Why do firms switch underwriters? *J. Financial Econom.* 60(2–3):245–284.

Kumar V, Jones E, Venkatesan R, Leone RP (2011) Is market orientation a source of sustainable competitive advantage or simply the cost of competing? *J. Marketing* 75(1):16–30.

Lacker JM, Weinberg JA (1989) Optimal contracts under costly state falsification. *J. Political Econom.* 97(6):1345–1363.

Lee RP, Grewal R (2004) Strategic responses to new technologies and their impact on firm performance. *J. Marketing* 68(4):157–171.

Lehnert WG, Sundheim B (1991) A performance evaluation of text analysis technologies. *AI Magazine* 12(3):81–94.

Leland HE, Pyle DH (1977) Information asymmetries, financial structure and financial intermediation. *J. Finance* 32(2):371–387.

Ljungqvist AP (2007) IPO underpricing. Eckbo E, ed. *Handbook of Corporate Finance: Empirical Corporate Finance* (North-Holland, Amsterdam), 375–422.

Loughran T, Ritter JR (2004) Why has IPO underpricing increased over time? *Financial Management* 33(3):5–37.

Lowry M, Shu S (2002) Litigation risk and IPO underpricing. *J. Financial Econom.* 65(3):309–335.

Lowry M, Officer MS, Schwert GW (2010) The variability of IPO initial returns. *J. Finance* 65(2):425–465.

Luo X (2008) When marketing strategy first meets Wall Street: Marketing spendings and firms' initial public offerings (IPOs). *J. Marketing* 72(5):98–109.

Lusk JL (2003) Effects of cheap talk on consumer willingness-to-pay for golden rice. *Amer. J. Agricultural Econom.* 85(4):840–856.

Manly BFJ (1976) Exponential data transformations. *Statistician* 25(1):37–42.

Martens ML, Jennings JE, Jennings PD (2007) Do the stories they tell get them the money they need? The role of entrepreneurial narratives in resource acquisition. *Acad. Management J.* 50(5):1107–1132.

Mason CH, Perreault WD (1991) Collinearity, power, and interpretation of multiple regression analysis. *J. Marketing Res.* 28(3):268–280.

Mazzola P, Ravasi D, Gabbioneta C (2006) How to build reputation in financial markets. *Long-Range Planning* 39(4):385–407.

Moenaert RK, Souder WE (1996) Context and antecedents of information utility at the R&D/marketing interface. *Management Sci.* 42(11):1592–1610.

Moorman C (1995) Organizational market information processes: Cultural antecedents and new product outcomes. *J. Marketing Res.* 32(3):318–335.

Narver JC, Slater SF (1990) The effect of a market orientation on business profitability. *J. Marketing* 54(4):20–35.

Newman P, Sansing R (1993) Disclosure policies with multiple users. *J. Accounting Res.* 31(1):92–112.

Noble CH, Sinha RK, Kumar A (2002) Market orientation and alternative strategic orientations: A longitudinal assessment of performance implications. *J. Marketing* 66(4):25–39.

NYSE Euronext (2007) NYSE Euronext preliminary summary of 2007 listings and IPO activity. News release (December 28), NYSE Euronext, New York. http://www.nyse.com/press/1198840019865.html.

Osborn RN, Baughn CC (1990) Forms of interorganizational governance for multinational alliances. *Acad. Management J.* 33(3):503–519.

Pfeffer J, Salancik GR (1978) *The External Control of Organizations* (Harper & Row, New York).

Pollock TG, Gulati R (2007) Standing out from the crowd: The visibility-enhancing effects of IPO-related signals on alliance formation by entrepreneurial firms. *Strategic Organ.* 5(4):339–372.

Pollock TG, Rindova VP (2003) Media legitimation effects in the market for initial public offerings. *Acad. Management J.* 46(5):631–642.

Popping R (2000) *Computer-Assisted Text Analysis* (Sage Publications, Thousand Oaks, CA).

Rao AR, Qu L, Ruekert RW (1999) Signaling unobservable product quality through a brand ally. *J. Marketing Res.* 36(2):258–268.

Reese WA Jr (1998) IPO underpricing, trading volume, and investor interest. Working paper, Tulane University, New Orleans.

Ritter JR (1998) Initial public offerings. *Contemp. Finance Digest* 2(1):5–30.

Ritter JR (2011) Equilibrium in the IPO market. *Annual Rev. Financial Econom.* 3(1):347–374.

Ritter JR, Welch I (2002) A review of IPO activity, pricing, and allocations. *J. Finance* 57(4):1795–1828.

Rossi PE, Allenby GM (2003) Bayesian statistics and marketing. *Marketing Sci.* 22(3):304–328.

Scott WR, Meyer JW (1983) The organization of societal sectors. Meyer JW, Scott WR, eds. *Organizational Environments: Ritual and Rationality* (Sage, Beverly Hills, CA), 129–153.

Segarra A, Callejón M (2002) New firms' survival and market turbulence: New evidence from Spain. *Rev. Indust. Organ.* 20(1): 1–14.

Silva A, Nayga RM Jr, Campbell BL, Park JL (2012) Can perceived task complexity influence cheap talk's effectiveness in reducing hypothetical bias in stated choice studies? *Appl. Econom. Lett.* 19(17):1711–1714.

Slater SF, Narver JC (1994) Does competitive environment moderate the market orientation-performance relationship? *J. Marketing* 58(1):46–55.

Slater SF, Narver JC (1995) Market orientation and the learning organization. *J. Marketing* 59(3):63–74.

Sobel J (1985) A theory of credibility. *Rev. Econom. Stud.* 52(4): 557–573.

Sorescu AB, Chandy RK, Prabhu JC (2007) Why some acquisitions do better than others: Product capital as a driver of long-term stock returns. *J. Marketing Res.* 44(1):57–72.

Spehr RA, Simone JD, Calica AJ (2006) Securities Act Section 11: A primer and update of recent trends. *Contemp. Legal Note Ser.* 49(January):http://www.wlf.org/upload/0106CLNSPehr.pdf.

Spence MA (1973) Job market signaling. *Quart. J. Econom.* 87(3): 355–374.

Srinivasan R, Lilien GL, Rangaswamy A (2002) Technological opportunism and radical technology adoption: An application to e-business. *J. Marketing* 66(3):47–60.

Staikouras C, Tsatsanis D (2004) The impact of media exposure and market psychology on the underpricing of initial public offerings: The UK case. Working paper, Cass Business School, London.

Stinchcombe AL, ed. (1965) *Social Structure and Organizations* (Rand McNally, Chicago).

Stocken PC (2000) Credibility of voluntary disclosure. *RAND J. Econom.* 31(2):359–374.

Terleckyj NE (1980) What do R&D numbers tell us about technological change? *Amer. Econom. Rev.* 70(2):55–61.

3-Dimensional Pharmaceuticals (2000) Amendment 6 to Form S-1 registration statement. 3-Dimensional Pharmaceuticals, Exton, PA. http://www.sec.gov/Archives/edgar/data/914201/000094018000000928/0000940180-00-000928-0001.txt.

Vorhies DW, Morgan NA (2005) Benchmarking marketing capabilities for sustainable competitive advantage. *J. Marketing* 69(1):80–94.

Weiss AM, Heide JB (1993) The nature of organizational search in high technology markets. *J. Marketing Res.* 30(2): 220–233.

Welbourne TM, Cyr LA (1999) The human resource executive effect in initial public offering firms. *Acad. Management J.* 42(6):616–629.

Wooldridge J (2009) *Introductory Econometrics: A Modern Approach*, 4th ed. (South Western Cengage Learning, Mason, OH).

Xiong G, Bharadwaj S (2011) Social capital of young technology firms and their IPO values: The complementary role of relevant absorptive capacity. *J. Marketing* 75(6):87–104.

Yadav MS, Prabhu JC, Chandy RK (2007) Managing the future: CEO attention and innovation outcomes. *J. Marketing* 71(4):84–101.

Yong O (2007) A review of IPO research in Asia: What's next? *Pacific Basin Finance J.* 15(3):253–275.

Zhang J, Wedel M, Pieters R (2009) Sales effects of attention to feature advertisements: A Bayesian mediation analysis. *J. Marketing Res.* 46(5):669–681.